JACOBS

Operable Unit 2 Remedial Investigation
700 South 1600 East PCE Plume,
Salt Lake City, Utah

2019 Expanded Source Area Investigation Data Summary Report

Final

25 October 2019

U.S. Army Corps of Engineers
Kansas City District
601 East 12th Street
CENWK-PM-ES
Kansas City, MO 64106-2824

Department of Veterans Affairs
Veterans Health Administration
Salt Lake City Health Care System
500 Foothill Drive
Salt Lake City, UT 84148

Appendix A
Analytical Data Packages

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889

Date: 07-23-2019
EMAX Batch No.: 19G035

Attn: Mark Cichy

JACOBS/CH2M HILL
2525 Airpark Drive
Redding CA 96001

Subject: Laboratory Report
Project: VHA-SLC

Enclosed is the Laboratory report for samples received on 07/03/19.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
OU2-SB46	G035-01	06/25/19	SOIL	VOCS BY 8260C
OU2-SB45	G035-02	06/26/19	SOIL	VOCS BY 8260C
OU2-SB48	G035-03	06/26/19	SOIL	VOCS BY 8260C
OU2-SB49	G035-04	06/27/19	SOIL	VOCS BY 8260C
OU2-SB50	G035-05	06/27/19	SOIL	VOCS BY 8260C
OU2-SB52	G035-06	06/27/19	SOIL	VOCS BY 8260C
OU2-SB51	G035-07	06/28/19	SOIL	VOCS BY 8260C
OU2-SB93	G035-08	06/28/19	SOIL	VOCS BY 8260C
OU2-SB55	G035-09	07/02/19	SOIL	VOCS BY 8260C
OU2-SB50MS	G035-05M	06/27/19	SOIL	VOCS BY 8260C
OU2-SB50MSD	G035-05S	06/27/19	SOIL	VOCS BY 8260C

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912018-14
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

19G035

CH2MHILL

CHAIN OF CUSTODY RECORD

7/2/2019 9:34:19 AM

Project Name VHA-SLC
Location Salt Lake City, UT
Project Number 697496CH.SL.03.0J
Project Manager David Waite
Sample Manager Sandy Schut

Task Order 3015
Project SOIL SAMPLING ROUND 2
Turnaround Time 21 Days
Shipping Date:
COC Number: EMXT70119A

		DATE	TIME	Matrix	Container: 4 oz jar; Preservatives: 4°C (± 2°C); Filtered: Lab; Holding Time: 28; Percent Moisture	Container: 5 Gram Encore; Preservatives: 4°C (± 2°C); Filtered: Lab; Holding Time: 14; VOC (SW8260C/5035)		Number of Containers	COMMENTS
1	OU2-SB46	6/25/2019	14:30	Soil	X	X	Sample Frozen 6-25-19 at 16:00	4	
2	OU2-SB45	6/26/2019	10:30	Soil	X	X	Sample Frozen 6-26-19 at 11:00	4	
3	OU2-SB48	6/26/2019	14:15	Soil	X	X	Sample Frozen 6-26-19 at 14:40	4	
4	OU2-SB49	6/27/2019	9:30	Soil	X	X	Sample Frozen 6-27-19 at 10:20	4	
5	OU2-SB50	6/27/2019	15:40	Soil	X	X	Sample Frozen 6-27-19 at 16:20	4	
	OU2-SB50MS	6/27/2019	15:40	Soil	X	X	Sample Frozen 6-27-19 at 16:20	4	
	OU2-SB50SD	6/27/2019	15:40	Soil	X	X	Sample Frozen 6-27-19 at 16:20	4	
6	OU2-SB52	6/27/2019	12:55	Soil	X	X	Sample Frozen 6-27-19 at 16:20	4	
7	OU2-SB51	6/28/2019	12:45	Soil	X	X	Sample Frozen 6-28-19 at 13:45	4	
8	OU2-SB93	6/28/2019	9:00	Soil	X	X	Sample Frozen 6-28-19 at 13:45	4	
9	OU2-SB55	7/2/2019	1205	Soil	X	X	Sample Frozen 7-2-19@ 12:10	4	
							TOTAL NUMBER OF CONTAINERS	44	

Temp ① 5.2
② 0.5

Signatures	Date/Time
Approved by	
Sampled by	7-2-19 1700
Relinquished by	
Received by	
Relinquished by	
Received by VEDA COMIA	7-3-19 0930

Shipping Details
Method of Shipment: FedEx
On Ice: (yes) / no
Airbill No:
Lab Name: EMAX Labs., Inc.
Lab Phone: (310) 618-8889

ATTN:
Sample Custody
and
Raman Singh

Special Instructions:

Report Copy to
Mark Cichy
(530) 229-3274
Mark.Cichy@jacobs.com

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 19G035
☑ Fedex ☐ UPS ☐ GSO ☐ Others	775618759967	Recipient VCOMLA
☐ EMAX Courier ☐ Client Delivery		Date 7-3-19 Time 0930

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 5.2 °C	☑ Cooler 2 0.5 °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N 170324872*	*(B) - S/N 150555522*	*C - S/N 170324888*	*D - S/N_____*	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
3,5,6	10,24,30	D10		R1

7/3/19

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: All samples were frozen, per COC.

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling VCOMLA — Date 7-3-19 7/3/19

SRF — Date 7/3/19

PM — Date 7/3/19

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 2

SAMPLES RECEIVED FOR ECN: 19G035

pH paper Lot #: N/A

LAB SAMPLE ID (*)	LAB SAMPLE CONTAINER ID	COOLER#	CONTAINER TYPE								CHEMICAL PRESERVATIVE											Filtered	
			Jar	Amber	HDPE	Encore	Vial	Tube	Bag	Other	NONE	HCl (pH<2)	HNO_3 (pH<2)	H_2SO_4 (pH<2)	ZnAc +NaOH (pH>9)	ZnAc +NaOH (pH>12)	NaOH (pH>10)	$Na_2S_2O_3$	Methanol	NaHSO4	Other FROZEN	Yes	No
1	* 1	1	✓								✓												
	* 2	2				1															✓		
	* 3	2				1															✓		
	* 4	2				1															✓		
2	* 5	1	✓								✓												
	* 6	2				1															✓		
	* 7	2				1															✓		
	* 8	2				1															✓		
3	* 9	1	✓								✓												
	* 10	2				1															✓		
	* 1	2				1															✓		
	* 2	2				1															✓		
4	* 3	1	✓								✓												
	* 4	2				1															✓		
	* 5	2				1															✓		
	* 6	2				1															✓		
5	* 7	1	✓								✓												
	* 8	2				1															✓		
	* 9	2				1															✓		
	* 20	2				1															✓		
	* 1	1	✓								✓												
	* 2	2				1															✓		
	* 3	2				1															✓		
	* 4	2				1															✓		
13-19	* 5	1	✓								✓												
6	* 6	2				1															✓		
	* 7	2				1															✓		
	* 8	2				1															✓		
6	* 9	1									✓												
	* 30	2				1															✓		

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 2

SAMPLES RECEIVED FOR ECN: 190635

pH paper Lot #: N/A

LAB SAMPLE ID (*)	LAB SAMPLE CONTAINER ID	COOLER#	CONTAINER TYPE: Jar	Amber	HDPE	Encore	Vial	Tube	Bag	Other	CHEMICAL PRESERVATIVE: NONE	HCl (pH<2)	HNO_3 (pH<2)	H_2SO_4 (pH<2)	ZnAc +NaOH (pH>9)	ZnAc +NaOH (pH>12)	NaOH (pH>10)	$Na_2S_2O_3$	Methanol	NaHSO4	Other FROZEN	Filtered: Yes	No
6	*31	2				1															/		
	* 2	2				1															/		
7	* 3	1	/								/												
	* 4	2				1															/		
	* 5	2				1															/		
	* 6	2				1															/		
8	* 7	1	/								/												
	* 8	2				1															/		
	* 9	2				1															/		
	*40	2	9			1															/		
9	* 1	1	/			1					/												
	* 2					1															/		
	* 3					1															/		
9	*44					1															/		
	* 5																						
	* 6																						
	* 7																						
	* 8																						
	* 9																						
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	* 6																						
	* 7																						
	* 8																						
	* 9																						
	* 0																						

VCOMMA 7-3-19

Raman Singh

From: Cichy, Mark/RDD <Mark.Cichy@jacobs.com>
Sent: Wednesday, July 03, 2019 11:44 AM
To: Raman Singh; Cox, Jeremy/SLC
Cc: Schut, Sandra/SLC; Cecilia Chavez
Subject: RE: VHA chains of custody EMXT70119A and B

Hi Raman,
These samples have been stored frozen in the field and for shipment. The date and time of freezing will be included on the CoC. This should be it for the soil sampling this month, with the exception of an IDW sample to be sent later in the month.

Mark

From: Raman Singh [mailto:RSingh@emaxlabs.com]
Sent: Wednesday, July 03, 2019 11:14 AM
To: Cox, Jeremy/SLC <Jeremy.Cox@jacobs.com>
Cc: Cichy, Mark/RDD <Mark.Cichy@jacobs.com>; Schut, Sandra/SLC <Sandra.Schut@jacobs.com>; Cecilia Chavez <CChavez@emaxlabs.com>
Subject: [EXTERNAL] RE: chains of custody EMXT70119A and B

Hi Jeremy,

Thanks for the heads up! I will inform the lab.

Thanks,

Raman Singh
Project Manager
EMAX Laboratories, Inc.
1835 W 205th St
Torrance, CA 90501
Tel: 310-618-8889 ext. 119

EMAX is interested in your feedback; please provide your comments to: customerservice@emaxlabs.com.

EMAX will be closed in observance of the upcoming holidays:
Independence Day- 07/04/2019 (Thursday)

From: Cox, Jeremy/SLC [mailto:Jeremy.Cox@jacobs.com]
Sent: Wednesday, July 03, 2019 9:27 AM
To: Raman Singh <RSingh@emaxlabs.com>
Cc: Cichy, Mark/RDD <Mark.Cichy@jacobs.com>; Schut, Sandra/SLC <Sandra.Schut@jacobs.com>
Subject: chains of custody EMXT70119A and B

Raman –

Good morning. You will receive two coolers from us this morning, for VOC analysis.
The chain of custody numbers are EMXT70119A and EMXT70119B.
Some of these samples were collected on June 25, so they will need to be analyzed by mid-day Tuesday, July 9.
But the results can be reported on the standard turn-around time.
I just wanted to let you know due to the holiday. Thanks.

Jeremy Cox | Jacobs | Environmental Engineer | Global Environmental Solutions | (385) 474-8513 office | (801) 712-1768 mobile | (385) 474-8613 fax
jeremy.cox@jacobs.com | www.jacobs.com

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ORIGIN ID:BTFA (385) 474-8502
EMILEE EDGINTON
CH2M HILL, INC
4246 SOUTH RIVERBOAT ROAD
STE 210
TAYLORSVILLE, UT 84123
UNITED STATES US

SHIP DATE: 02JUL19
ACTWGT: 55.00 LB
CAD: 4309842/INET4100
DIMS: 28x15x14 IN

BILL SENDER

TO SAMPLE RECEIVING
EMAX LABORATORIES INC
1835 W 205TH ST

TORRANCE CA 90501
(310) 618-8889 REF: 697496CH.03.0C
INV:
PO: DEPT:

565J2/A6F9/23AD

FedEx Express

J191019010701uv

2 of 2
MPS# 0263 7756 1875 9614
Mstr# 7756 1875 9967

0201

WED - 03 JUL 10:30A
PRIORITY OVERNIGHT

WZ HHRA

90501
CA-US LAX

B 5.2°C

0930

0

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
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Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
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EMILEE EDGINTON
CH2M HILL, INC
4246 SOUTH RIVERBOAT ROAD
STE 210
TAYLORSVILLE, UT 84123
UNITED STATES US

SHIP DATE: 02JUL19
ACTWGT: 55.00 LB
CAD: 4309842/INET4100
DIMS: 28x15x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
EMAX LABORATORIES INC
1835 W 205TH ST

TORRANCE CA 90501
(310) 618-8889 REF: 697496CH.03.0C
INV:
PO: DEPT:

565.I2/A6F9/23AD

FedEx Express

J19101901070 1uu

1 of 2

WED - 03 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7756 1875 9967**
MASTER

WZ HHRA

90501
CA-US **LAX**

T-0.5

6930

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REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

SUMMARY PACKAGE
VOLATILE ORGANICS

CASE NARRATIVE

Client : JACOBS/CH2M HILL

Project: VHA-SLC

SDG : 19G035

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

A total of nine (9) soil samples were received on 07/03/19 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5035A/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time. Encores are frozen upon receipt.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. All calibration requirements were satisfied. Average response factors for all analytes were within method recommended response factors with the exception of Acetone and 2-Butanone. However, percent recoveries for all target analytes were within 70-130% on all calibration points. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. VPG015SB and VS02G06B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. VS02G06L/VS02G06C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of MS/MSD (G035-05M/G035-05S) was analyzed. all analytes were within project QC limits except for percent recovery for Vinyl Acetate was not within MS/MSD QC limits. No reanalysis was performed because same result was observed in MS/MSD, which is indicative that sample reanalysis will provide similar results. All RPD'S were within limits. Refer to Matrix QC summary form for details.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL
Project : VHA-SLC

SDG NO. : 19G035
Instrument ID : 02

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Prep. Data FN	Batch	Notes
MBLK1S	VS02G06B	1	NA	07/08/1912:23	07/08/1912:23	RGP137	RFP447	VS02G06	Method Blank
LCS1S	VS02G06L	1	NA	07/08/1911:08	07/08/1911:08	RGP134	RFP447	VS02G06	Lab Control Sample (LCS)
LCD1S	VS02G06C	1	NA	07/08/1911:33	07/08/1911:33	RGP135	RFP447	VS02G06	LCS Duplicate
MBLK2S	VPG015SB	0.98	NA	07/08/1913:38	07/08/1913:38	RGP140	RFP447	VS02G06	Method Blank
OU2-SB50	G035-05	0.81	15.8	07/08/1914:03	07/08/1914:03	RGP141	RFP447	VS02G06	Field Sample
OU2-SB46	G035-01	0.86	21.8	07/08/1914:28	07/08/1914:28	RGP142	RFP447	VS02G06	Field Sample
OU2-SB45	G035-02	0.81	15.9	07/08/1915:18	07/08/1915:18	RGP144	RFP447	VS02G06	Field Sample
OU2-SB48	G035-03	0.91	16.1	07/08/1915:43	07/08/1915:43	RGP145	RFP447	VS02G06	Field Sample
OU2-SB49	G035-04	0.83	17.9	07/08/1916:08	07/08/1916:08	RGP146	RFP447	VS02G06	Field Sample
OU2-SB52	G035-06	0.75	14.3	07/08/1916:32	07/08/1916:32	RGP147	RFP447	VS02G06	Field Sample
OU2-SB51	G035-07	0.8	17.1	07/08/1916:57	07/08/1916:57	RGP148	RFP447	VS02G06	Field Sample
OU2-SB93	G035-08	0.83	17.5	07/08/1917:22	07/08/1917:22	RGP149	RFP447	VS02G06	Field Sample
OU2-SB55	G035-09	0.89	7.1	07/08/1917:47	07/08/1917:47	RGP150	RFP447	VS02G06	Field Sample
OU2-SB50MS	G035-05M	0.8	15.8	07/08/1919:02	07/08/1919:02	RGP153	RFP447	VS02G06	Matrix Spike Sample (MS)
OU2-SB50MSD	G035-05S	0.86	15.8	07/08/1919:27	07/08/1919:27	RGP154	RFP447	VS02G06	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/25/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 14:28
Sample ID: OU2-SB46	Date Analyzed: 07/08/19 14:28
Lab Samp ID: G035-01	Dilution Factor: 0.86
Lab File ID: RGP142	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 21.8
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0055	0.00055
1,1,2,2-TETRACHLOROETHANE	ND	0.0055	0.00055
1,1,2-TRICHLOROETHANE	ND	0.0055	0.00055
1,1-DICHLOROETHANE	ND	0.0055	0.00055
1,1-DICHLOROETHENE	ND	0.0055	0.00055
1,2,3-TRICHLOROBENZENE	ND	0.0055	0.0011
1,2,4-TRICHLOROBENZENE	ND	0.0055	0.0011
1,2,4-TRIMETHYLBENZENE	ND	0.0055	0.00060
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0055	0.0011
1,2-DICHLOROBENZENE	ND	0.0055	0.00055
1,2-DICHLOROETHANE	ND	0.0055	0.00055
1,2-DICHLOROPROPANE	ND	0.0055	0.00055
1,3,5-TRIMETHYLBENZENE	ND	0.0055	0.00065
1,3-DICHLOROBENZENE	ND	0.0055	0.00057
1,4-DICHLOROBENZENE	ND	0.0055	0.00055
2-BUTANONE	ND	0.011	0.0027
2-HEXANONE	ND	0.011	0.0032
ACETONE	ND	0.011	0.0034
BENZENE	ND	0.0055	0.00055
BROMOCHLOROMETHANE	ND	0.0055	0.00055
BROMODICHLOROMETHANE	ND	0.0055	0.00055
BROMOFORM	ND	0.0055	0.0011
BROMOMETHANE	ND	0.011	0.0020
CARBON DISULFIDE	ND	0.0055	0.00055
CARBON TETRACHLORIDE	ND	0.0055	0.00059
CHLOROBENZENE	ND	0.0055	0.00055
CHLOROETHANE	ND	0.0055	0.0014
CHLOROFORM	ND	0.0055	0.00055
CHLOROMETHANE	ND	0.0055	0.0011
CIS-1,2-DICHLOROETHYLENE	ND	0.0055	0.00055
DIBROMOCHLOROMETHANE	ND	0.0055	0.00055
DICHLORODIFLUOROMETHANE	ND	0.0055	0.0013
ETHYLBENZENE	ND	0.0055	0.00055
ISOPROPYLBENZENE	ND	0.0055	0.00070
M,P-XYLENE	ND	0.011	0.0011
4-METHYL-2-PENTANONE	ND	0.011	0.0031
METHYLENE CHLORIDE	ND	0.011	0.0011
TERT-BUTYL METHYL ETHER	ND	0.0055	0.00055
O-XYLENE	ND	0.0055	0.00055
STYRENE	ND	0.0055	0.00055
TETRACHLOROETHENE	ND	0.0055	0.00055
TOLUENE	ND	0.0055	0.00055
TRANS-1,2-DCE	ND	0.0055	0.00055
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0055	0.0011
CIS-1,3-DICHLOROPROPENE	ND	0.0055	0.0011
TRANS-1,3-DICHLOROPROPENE	ND	0.0055	0.0011
TCE	ND	0.0055	0.00055
TRICHLOROFLUOROMETHANE	ND	0.0055	0.0012
VINYL CHLORIDE	ND	0.0055	0.0015
1,2-DIBROMOETHANE	ND	0.0055	0.00055
VINYL ACETATE	ND	0.0055	0.0014
TRICHLOROTRIFLUOROETHANE	ND	0.0055	0.0011
METHYL ACETATE	ND	0.0055	0.0016

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0460	0.05499	83.7	70-130
BROMOFLUOROBENZENE	0.0500	0.05499	90.9	70-130
TOLUENE-D8	0.0511	0.05499	92.9	70-130
DIBROMOFLUOROMETHANE	0.0537	0.05499	97.7	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 15:18
Sample ID: OU2-SB45	Date Analyzed: 07/08/19 15:18
Lab Samp ID: G035-02	Dilution Factor: 0.81
Lab File ID: RGP144	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 15.9
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0048	0.00048
1,1,2,2-TETRACHLOROETHANE	ND	0.0048	0.00048
1,1,2-TRICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHENE	ND	0.0048	0.00048
1,2,3-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRIMETHYLBENZENE	ND	0.0048	0.00053
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0048	0.00096
1,2-DICHLOROBENZENE	ND	0.0048	0.00048
1,2-DICHLOROETHANE	ND	0.0048	0.00048
1,2-DICHLOROPROPANE	ND	0.0048	0.00048
1,3,5-TRIMETHYLBENZENE	ND	0.0048	0.00057
1,3-DICHLOROBENZENE	ND	0.0048	0.00050
1,4-DICHLOROBENZENE	ND	0.0048	0.00048
2-BUTANONE	ND	0.0096	0.0024
2-HEXANONE	ND	0.0096	0.0028
ACETONE	0.051	0.0096	0.0030
BENZENE	ND	0.0048	0.00048
BROMOCHLOROMETHANE	ND	0.0048	0.00048
BROMODICHLOROMETHANE	ND	0.0048	0.00048
BROMOFORM	ND	0.0048	0.00096
BROMOMETHANE	ND	0.0096	0.0017
CARBON DISULFIDE	ND	0.0048	0.00048
CARBON TETRACHLORIDE	ND	0.0048	0.00052
CHLOROBENZENE	ND	0.0048	0.00048
CHLOROETHANE	ND	0.0048	0.0013
CHLOROFORM	ND	0.0048	0.00048
CHLOROMETHANE	ND	0.0048	0.00096
CIS-1,2-DICHLOROETHYLENE	ND	0.0048	0.00048
DIBROMOCHLOROMETHANE	ND	0.0048	0.00048
DICHLORODIFLUOROMETHANE	ND	0.0048	0.0012
ETHYLBENZENE	ND	0.0048	0.00048
ISOPROPYLBENZENE	ND	0.0048	0.00062
M,P-XYLENE	ND	0.0096	0.00096
4-METHYL-2-PENTANONE	ND	0.0096	0.0027
METHYLENE CHLORIDE	ND	0.0096	0.00096
TERT-BUTYL METHYL ETHER	ND	0.0048	0.00048
O-XYLENE	ND	0.0048	0.00048
STYRENE	ND	0.0048	0.00048
TETRACHLOROETHENE	ND	0.0048	0.00048
TOLUENE	ND	0.0048	0.00048
TRANS-1,2-DCE	ND	0.0048	0.00048
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0048	0.00096
CIS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TRANS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TCE	ND	0.0048	0.00048
TRICHLOROFLUOROMETHANE	ND	0.0048	0.0011
VINYL CHLORIDE	ND	0.0048	0.0013
1,2-DIBROMOETHANE	ND	0.0048	0.00048
VINYL ACETATE	ND	0.0048	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0048	0.00096
METHYL ACETATE	ND	0.0048	0.0014

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0409	0.04816	84.9	70-130
BROMOFLUOROBENZENE	0.0450	0.04816	93.5	70-130
TOLUENE-D8	0.0442	0.04816	91.7	70-130
DIBROMOFLUOROMETHANE	0.0465	0.04816	96.6	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 15:43
Sample ID: OU2-SB48	Date Analyzed: 07/08/19 15:43
Lab Samp ID: G035-03	Dilution Factor: 0.91
Lab File ID: RGP145	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 16.1
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0054	0.00054
1,1,2,2-TETRACHLOROETHANE	ND	0.0054	0.00054
1,1,2-TRICHLOROETHANE	ND	0.0054	0.00054
1,1-DICHLOROETHANE	ND	0.0054	0.00054
1,1-DICHLOROETHENE	ND	0.0054	0.00054
1,2,3-TRICHLOROBENZENE	ND	0.0054	0.0011
1,2,4-TRICHLOROBENZENE	ND	0.0054	0.0011
1,2,4-TRIMETHYLBENZENE	ND	0.0054	0.00060
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0054	0.0011
1,2-DICHLOROBENZENE	ND	0.0054	0.00054
1,2-DICHLOROETHANE	ND	0.0054	0.00054
1,2-DICHLOROPROPANE	ND	0.0054	0.00054
1,3,5-TRIMETHYLBENZENE	ND	0.0054	0.00064
1,3-DICHLOROBENZENE	ND	0.0054	0.00056
1,4-DICHLOROBENZENE	ND	0.0054	0.00054
2-BUTANONE	ND	0.011	0.0027
2-HEXANONE	ND	0.011	0.0031
ACETONE	ND	0.011	0.0034
BENZENE	ND	0.0054	0.00054
BROMOCHLOROMETHANE	ND	0.0054	0.00054
BROMODICHLOROMETHANE	ND	0.0054	0.00054
BROMOFORM	ND	0.0054	0.0011
BROMOMETHANE	ND	0.011	0.0020
CARBON DISULFIDE	ND	0.0054	0.00054
CARBON TETRACHLORIDE	ND	0.0054	0.00059
CHLOROBENZENE	ND	0.0054	0.00054
CHLOROETHANE	ND	0.0054	0.0014
CHLOROFORM	ND	0.0054	0.00054
CHLOROMETHANE	ND	0.0054	0.0011
CIS-1,2-DICHLOROETHYLENE	ND	0.0054	0.00054
DIBROMOCHLOROMETHANE	ND	0.0054	0.00054
DICHLORODIFLUOROMETHANE	ND	0.0054	0.0013
ETHYLBENZENE	ND	0.0054	0.00054
ISOPROPYLBENZENE	ND	0.0054	0.00069
M,P-XYLENE	ND	0.011	0.0011
4-METHYL-2-PENTANONE	ND	0.011	0.0030
METHYLENE CHLORIDE	ND	0.011	0.0011
TERT-BUTYL METHYL ETHER	ND	0.0054	0.00054
O-XYLENE	ND	0.0054	0.00054
STYRENE	ND	0.0054	0.00054
TETRACHLOROETHENE	ND	0.0054	0.00054
TOLUENE	ND	0.0054	0.00054
TRANS-1,2-DCE	ND	0.0054	0.00054
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0054	0.0011
CIS-1,3-DICHLOROPROPENE	ND	0.0054	0.0011
TRANS-1,3-DICHLOROPROPENE	ND	0.0054	0.0011
TCE	ND	0.0054	0.00054
TRICHLOROFLUOROMETHANE	ND	0.0054	0.0012
VINYL CHLORIDE	ND	0.0054	0.0015
1,2-DIBROMOETHANE	ND	0.0054	0.00054
VINYL ACETATE	ND	0.0054	0.0014
TRICHLOROTRIFLUOROETHANE	ND	0.0054	0.0011
METHYL ACETATE	ND	0.0054	0.0016

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0458	0.05423	84.5	70-130
BROMOFLUOROBENZENE	0.0492	0.05423	90.7	70-130
TOLUENE-D8	0.0499	0.05423	91.9	70-130
DIBROMOFLUOROMETHANE	0.0524	0.05423	96.6	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/27/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 16:08
Sample ID: OU2-SB49	Date Analyzed: 07/08/19 16:08
Lab Samp ID: G035-04	Dilution Factor: 0.83
Lab File ID: RGP146	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 17.9
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0051	0.00051
1,1,2,2-TETRACHLOROETHANE	ND	0.0051	0.00051
1,1,2-TRICHLOROETHANE	ND	0.0051	0.00051
1,1-DICHLOROETHANE	ND	0.0051	0.00051
1,1-DICHLOROETHENE	ND	0.0051	0.00051
1,2,3-TRICHLOROBENZENE	ND	0.0051	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0051	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0051	0.00056
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0051	0.0010
1,2-DICHLOROBENZENE	ND	0.0051	0.00051
1,2-DICHLOROETHANE	ND	0.0051	0.00051
1,2-DICHLOROPROPANE	ND	0.0051	0.00051
1,3,5-TRIMETHYLBENZENE	ND	0.0051	0.00060
1,3-DICHLOROBENZENE	ND	0.0051	0.00053
1,4-DICHLOROBENZENE	ND	0.0051	0.00051
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	ND	0.010	0.0031
BENZENE	ND	0.0051	0.00051
BROMOCHLOROMETHANE	ND	0.0051	0.00051
BROMODICHLOROMETHANE	ND	0.0051	0.00051
BROMOFORM	ND	0.0051	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0051	0.00051
CARBON TETRACHLORIDE	ND	0.0051	0.00055
CHLOROBENZENE	ND	0.0051	0.00051
CHLOROETHANE	ND	0.0051	0.0013
CHLOROFORM	ND	0.0051	0.00051
CHLOROMETHANE	ND	0.0051	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0051	0.00051
DIBROMOCHLOROMETHANE	ND	0.0051	0.00051
DICHLORODIFLUOROMETHANE	ND	0.0051	0.0012
ETHYLBENZENE	ND	0.0051	0.00051
ISOPROPYLBENZENE	ND	0.0051	0.00065
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0051	0.00051
O-XYLENE	ND	0.0051	0.00051
STYRENE	ND	0.0051	0.00051
TETRACHLOROETHENE	ND	0.0051	0.00051
TOLUENE	ND	0.0051	0.00051
TRANS-1,2-DCE	ND	0.0051	0.00051
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0051	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0051	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0051	0.0010
TCE	ND	0.0051	0.00051
TRICHLOROFLUOROMETHANE	ND	0.0051	0.0011
VINYL CHLORIDE	ND	0.0051	0.0014
1,2-DIBROMOETHANE	ND	0.0051	0.00051
VINYL ACETATE	ND	0.0051	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0051	0.0010
METHYL ACETATE	ND	0.0051	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0423	0.05055	83.6	70-130
BROMOFLUOROBENZENE	0.0476	0.05055	94.2	70-130
TOLUENE-D8	0.0473	0.05055	93.6	70-130
DIBROMOFLUOROMETHANE	0.0488	0.05055	96.5	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/27/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 14:03
Sample ID: OU2-SB50	Date Analyzed: 07/08/19 14:03
Lab Samp ID: G035-05	Dilution Factor: 0.81
Lab File ID: RGP141	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 15.8
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0048	0.00048
1,1,2,2-TETRACHLOROETHANE	ND	0.0048	0.00048
1,1,2-TRICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHENE	ND	0.0048	0.00048
1,2,3-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRIMETHYLBENZENE	ND	0.0048	0.00053
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0048	0.00096
1,2-DICHLOROBENZENE	ND	0.0048	0.00048
1,2-DICHLOROETHANE	ND	0.0048	0.00048
1,2-DICHLOROPROPANE	ND	0.0048	0.00048
1,3,5-TRIMETHYLBENZENE	ND	0.0048	0.00057
1,3-DICHLOROBENZENE	ND	0.0048	0.00050
1,4-DICHLOROBENZENE	ND	0.0048	0.00048
2-BUTANONE	ND	0.0096	0.0024
2-HEXANONE	ND	0.0096	0.0028
ACETONE	ND	0.0096	0.0030
BENZENE	ND	0.0048	0.00048
BROMOCHLOROMETHANE	ND	0.0048	0.00048
BROMODICHLOROMETHANE	ND	0.0048	0.00048
BROMOFORM	ND	0.0048	0.00096
BROMOMETHANE	ND	0.0096	0.0017
CARBON DISULFIDE	ND	0.0048	0.00048
CARBON TETRACHLORIDE	ND	0.0048	0.00052
CHLOROBENZENE	ND	0.0048	0.00048
CHLOROETHANE	ND	0.0048	0.0013
CHLOROFORM	ND	0.0048	0.00048
CHLOROMETHANE	ND	0.0048	0.00096
CIS-1,2-DICHLOROETHYLENE	ND	0.0048	0.00048
DIBROMOCHLOROMETHANE	ND	0.0048	0.00048
DICHLORODIFLUOROMETHANE	ND	0.0048	0.0012
ETHYLBENZENE	ND	0.0048	0.00048
ISOPROPYLBENZENE	ND	0.0048	0.00062
M,P-XYLENE	ND	0.0096	0.00096
4-METHYL-2-PENTANONE	ND	0.0096	0.0027
METHYLENE CHLORIDE	ND	0.0096	0.00096
TERT-BUTYL METHYL ETHER	ND	0.0048	0.00048
O-XYLENE	ND	0.0048	0.00048
STYRENE	ND	0.0048	0.00048
TETRACHLOROETHENE	ND	0.0048	0.00048
TOLUENE	ND	0.0048	0.00048
TRANS-1,2-DCE	ND	0.0048	0.00048
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0048	0.00096
CIS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TRANS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TCE	ND	0.0048	0.00048
TRICHLOROFLUOROMETHANE	ND	0.0048	0.0011
VINYL CHLORIDE	ND	0.0048	0.0013
1,2-DIBROMOETHANE	ND	0.0048	0.00048
VINYL ACETATE	ND	0.0048	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0048	0.00096
METHYL ACETATE	ND	0.0048	0.0014

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0414	0.04810	86.2	70-130
BROMOFLUOROBENZENE	0.0438	0.04810	91.2	70-130
TOLUENE-D8	0.0444	0.04810	92.3	70-130
DIBROMOFLUOROMETHANE	0.0464	0.04810	96.5	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/27/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 16:32
Sample ID: OU2-SB52	Date Analyzed: 07/08/19 16:32
Lab Samp ID: G035-06	Dilution Factor: 0.75
Lab File ID: RGP147	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 14.3
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0044	0.00044
1,1,2,2-TETRACHLOROETHANE	ND	0.0044	0.00044
1,1,2-TRICHLOROETHANE	ND	0.0044	0.00044
1,1-DICHLOROETHANE	ND	0.0044	0.00044
1,1-DICHLOROETHENE	ND	0.0044	0.00044
1,2,3-TRICHLOROBENZENE	ND	0.0044	0.00088
1,2,4-TRICHLOROBENZENE	ND	0.0044	0.00088
1,2,4-TRIMETHYLBENZENE	ND	0.0044	0.00048
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0044	0.00088
1,2-DICHLOROBENZENE	ND	0.0044	0.00044
1,2-DICHLOROETHANE	ND	0.0044	0.00044
1,2-DICHLOROPROPANE	ND	0.0044	0.00044
1,3,5-TRIMETHYLBENZENE	ND	0.0044	0.00052
1,3-DICHLOROBENZENE	ND	0.0044	0.00046
1,4-DICHLOROBENZENE	ND	0.0044	0.00044
2-BUTANONE	ND	0.0088	0.0022
2-HEXANONE	ND	0.0088	0.0025
ACETONE	0.0084J	0.0088	0.0027
BENZENE	ND	0.0044	0.00044
BROMOCHLOROMETHANE	ND	0.0044	0.00044
BROMODICHLOROMETHANE	ND	0.0044	0.00044
BROMOFORM	ND	0.0044	0.00088
BROMOMETHANE	ND	0.0088	0.0016
CARBON DISULFIDE	ND	0.0044	0.00044
CARBON TETRACHLORIDE	ND	0.0044	0.00047
CHLOROBENZENE	ND	0.0044	0.00044
CHLOROETHANE	ND	0.0044	0.0011
CHLOROFORM	ND	0.0044	0.00044
CHLOROMETHANE	ND	0.0044	0.00088
CIS-1,2-DICHLOROETHYLENE	ND	0.0044	0.00044
DIBROMOCHLOROMETHANE	ND	0.0044	0.00044
DICHLORODIFLUOROMETHANE	ND	0.0044	0.0011
ETHYLBENZENE	ND	0.0044	0.00044
ISOPROPYLBENZENE	ND	0.0044	0.00056
M,P-XYLENE	ND	0.0088	0.00088
4-METHYL-2-PENTANONE	ND	0.0088	0.0025
METHYLENE CHLORIDE	ND	0.0088	0.00088
TERT-BUTYL METHYL ETHER	ND	0.0044	0.00044
O-XYLENE	ND	0.0044	0.00044
STYRENE	ND	0.0044	0.00044
TETRACHLOROETHENE	ND	0.0044	0.00044
TOLUENE	ND	0.0044	0.00044
TRANS-1,2-DCE	ND	0.0044	0.00044
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0044	0.00088
CIS-1,3-DICHLOROPROPENE	ND	0.0044	0.00088
TRANS-1,3-DICHLOROPROPENE	ND	0.0044	0.00088
TCE	ND	0.0044	0.00044
TRICHLOROFLUOROMETHANE	ND	0.0044	0.00096
VINYL CHLORIDE	ND	0.0044	0.0012
1,2-DIBROMOETHANE	ND	0.0044	0.00044
VINYL ACETATE	ND	0.0044	0.0011
TRICHLOROTRIFLUOROETHANE	ND	0.0044	0.00088
METHYL ACETATE	ND	0.0044	0.0013

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0368	0.04376	84.2	70-130
BROMOFLUOROBENZENE	0.0393	0.04376	89.8	70-130
TOLUENE-D8	0.0394	0.04376	90.1	70-130
DIBROMOFLUOROMETHANE	0.0423	0.04376	96.6	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/28/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 16:57
Sample ID: OU2-SB51	Date Analyzed: 07/08/19 16:57
Lab Samp ID: G035-07	Dilution Factor: 0.8
Lab File ID: RGP148	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 17.1
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0048	0.00048
1,1,2,2-TETRACHLOROETHANE	ND	0.0048	0.00048
1,1,2-TRICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHENE	ND	0.0048	0.00048
1,2,3-TRICHLOROBENZENE	ND	0.0048	0.00097
1,2,4-TRICHLOROBENZENE	ND	0.0048	0.00097
1,2,4-TRIMETHYLBENZENE	ND	0.0048	0.00053
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0048	0.00097
1,2-DICHLOROBENZENE	ND	0.0048	0.00048
1,2-DICHLOROETHANE	ND	0.0048	0.00048
1,2-DICHLOROPROPANE	ND	0.0048	0.00048
1,3,5-TRIMETHYLBENZENE	ND	0.0048	0.00057
1,3-DICHLOROBENZENE	ND	0.0048	0.00050
1,4-DICHLOROBENZENE	ND	0.0048	0.00048
2-BUTANONE	ND	0.0097	0.0024
2-HEXANONE	ND	0.0097	0.0028
ACETONE	ND	0.0097	0.0030
BENZENE	ND	0.0048	0.00048
BROMOCHLOROMETHANE	ND	0.0048	0.00048
BROMODICHLOROMETHANE	ND	0.0048	0.00048
BROMOFORM	ND	0.0048	0.00097
BROMOMETHANE	ND	0.0097	0.0017
CARBON DISULFIDE	ND	0.0048	0.00048
CARBON TETRACHLORIDE	ND	0.0048	0.00052
CHLOROBENZENE	ND	0.0048	0.00048
CHLOROETHANE	ND	0.0048	0.0013
CHLOROFORM	ND	0.0048	0.00048
CHLOROMETHANE	ND	0.0048	0.00097
CIS-1,2-DICHLOROETHYLENE	ND	0.0048	0.00048
DIBROMOCHLOROMETHANE	ND	0.0048	0.00048
DICHLORODIFLUOROMETHANE	ND	0.0048	0.0012
ETHYLBENZENE	ND	0.0048	0.00048
ISOPROPYLBENZENE	ND	0.0048	0.00062
M,P-XYLENE	ND	0.0097	0.00097
4-METHYL-2-PENTANONE	ND	0.0097	0.0027
METHYLENE CHLORIDE	ND	0.0097	0.00097
TERT-BUTYL METHYL ETHER	ND	0.0048	0.00048
O-XYLENE	ND	0.0048	0.00048
STYRENE	ND	0.0048	0.00048
TETRACHLOROETHENE	ND	0.0048	0.00048
TOLUENE	ND	0.0048	0.00048
TRANS-1,2-DCE	ND	0.0048	0.00048
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0048	0.00097
CIS-1,3-DICHLOROPROPENE	ND	0.0048	0.00097
TRANS-1,3-DICHLOROPROPENE	ND	0.0048	0.00097
TCE	ND	0.0048	0.00048
TRICHLOROFLUOROMETHANE	ND	0.0048	0.0011
VINYL CHLORIDE	ND	0.0048	0.0014
1,2-DIBROMOETHANE	ND	0.0048	0.00048
VINYL ACETATE	ND	0.0048	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0048	0.00097
METHYL ACETATE	ND	0.0048	0.0014

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0406	0.04825	84.1	70-130
BROMOFLUOROBENZENE	0.0471	0.04825	97.7	70-130
TOLUENE-D8	0.0450	0.04825	93.2	70-130
DIBROMOFLUOROMETHANE	0.0481	0.04825	99.6	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/28/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 17:22
Sample ID: OU2-SB93	Date Analyzed: 07/08/19 17:22
Lab Samp ID: G035-08	Dilution Factor: 0.83
Lab File ID: RGP149	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 17.5
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0050	0.00050
1,1,2,2-TETRACHLOROETHANE	ND	0.0050	0.00050
1,1,2-TRICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHENE	ND	0.0050	0.00050
1,2,3-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0050	0.00055
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0050	0.0010
1,2-DICHLOROBENZENE	ND	0.0050	0.00050
1,2-DICHLOROETHANE	ND	0.0050	0.00050
1,2-DICHLOROPROPANE	ND	0.0050	0.00050
1,3,5-TRIMETHYLBENZENE	ND	0.0050	0.00059
1,3-DICHLOROBENZENE	ND	0.0050	0.00052
1,4-DICHLOROBENZENE	ND	0.0050	0.00050
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	0.0094J	0.010	0.0031
BENZENE	ND	0.0050	0.00050
BROMOCHLOROMETHANE	ND	0.0050	0.00050
BROMODICHLOROMETHANE	ND	0.0050	0.00050
BROMOFORM	ND	0.0050	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0050	0.00050
CARBON TETRACHLORIDE	ND	0.0050	0.00054
CHLOROBENZENE	ND	0.0050	0.00050
CHLOROETHANE	ND	0.0050	0.0013
CHLOROFORM	ND	0.0050	0.00050
CHLOROMETHANE	ND	0.0050	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0050	0.00050
DIBROMOCHLOROMETHANE	ND	0.0050	0.00050
DICHLORODIFLUOROMETHANE	ND	0.0050	0.0012
ETHYLBENZENE	ND	0.0050	0.00050
ISOPROPYLBENZENE	ND	0.0050	0.00064
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0050	0.00050
O-XYLENE	ND	0.0050	0.00050
STYRENE	ND	0.0050	0.00050
TETRACHLOROETHENE	ND	0.0050	0.00050
TOLUENE	ND	0.0050	0.00050
TRANS-1,2-DCE	ND	0.0050	0.00050
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0050	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TCE	ND	0.0050	0.00050
TRICHLOROFLUOROMETHANE	ND	0.0050	0.0011
VINYL CHLORIDE	ND	0.0050	0.0014
1,2-DIBROMOETHANE	ND	0.0050	0.00050
VINYL ACETATE	ND	0.0050	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0050	0.0010
METHYL ACETATE	ND	0.0050	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0449	0.05030	89.3	70-130
BROMOFLUOROBENZENE	0.0510	0.05030	101	70-130
TOLUENE-D8	0.0467	0.05030	92.9	70-130
DIBROMOFLUOROMETHANE	0.0510	0.05030	101	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/02/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 17:47
Sample ID: OU2-SB55	Date Analyzed: 07/08/19 17:47
Lab Samp ID: G035-09	Dilution Factor: 0.89
Lab File ID: RGP150	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 7.1
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0048	0.00048
1,1,2,2-TETRACHLOROETHANE	ND	0.0048	0.00048
1,1,2-TRICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHENE	ND	0.0048	0.00048
1,2,3-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRIMETHYLBENZENE	ND	0.0048	0.00053
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0048	0.00096
1,2-DICHLOROBENZENE	ND	0.0048	0.00048
1,2-DICHLOROETHANE	ND	0.0048	0.00048
1,2-DICHLOROPROPANE	ND	0.0048	0.00048
1,3,5-TRIMETHYLBENZENE	ND	0.0048	0.00057
1,3-DICHLOROBENZENE	ND	0.0048	0.00050
1,4-DICHLOROBENZENE	ND	0.0048	0.00048
2-BUTANONE	ND	0.0096	0.0024
2-HEXANONE	ND	0.0096	0.0028
ACETONE	0.0082J	0.0096	0.0030
BENZENE	ND	0.0048	0.00048
BROMOCHLOROMETHANE	ND	0.0048	0.00048
BROMODICHLOROMETHANE	ND	0.0048	0.00048
BROMOFORM	ND	0.0048	0.00096
BROMOMETHANE	ND	0.0096	0.0017
CARBON DISULFIDE	ND	0.0048	0.00048
CARBON TETRACHLORIDE	ND	0.0048	0.00052
CHLOROBENZENE	ND	0.0048	0.00048
CHLOROETHANE	ND	0.0048	0.0012
CHLOROFORM	ND	0.0048	0.00048
CHLOROMETHANE	ND	0.0048	0.00096
CIS-1,2-DICHLOROETHYLENE	ND	0.0048	0.00048
DIBROMOCHLOROMETHANE	ND	0.0048	0.00048
DICHLORODIFLUOROMETHANE	ND	0.0048	0.0011
ETHYLBENZENE	ND	0.0048	0.00048
ISOPROPYLBENZENE	ND	0.0048	0.00061
M,P-XYLENE	ND	0.0096	0.00096
4-METHYL-2-PENTANONE	ND	0.0096	0.0027
METHYLENE CHLORIDE	ND	0.0096	0.00096
TERT-BUTYL METHYL ETHER	ND	0.0048	0.00048
O-XYLENE	ND	0.0048	0.00048
STYRENE	ND	0.0048	0.00048
TETRACHLOROETHENE	ND	0.0048	0.00048
TOLUENE	ND	0.0048	0.00048
TRANS-1,2-DCE	ND	0.0048	0.00048
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0048	0.00096
CIS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TRANS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TCE	ND	0.0048	0.00048
TRICHLOROFLUOROMETHANE	ND	0.0048	0.0011
VINYL CHLORIDE	ND	0.0048	0.0013
1,2-DIBROMOETHANE	ND	0.0048	0.00048
VINYL ACETATE	ND	0.0048	0.0012
TRICHLOROTRIFLUOROETHANE	ND	0.0048	0.00096
METHYL ACETATE	ND	0.0048	0.0014

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0407	0.04790	85.1	70-130
BROMOFLUOROBENZENE	0.0466	0.04790	97.2	70-130
TOLUENE-D8	0.0438	0.04790	91.4	70-130
DIBROMOFLUOROMETHANE	0.0467	0.04790	97.4	70-130

QC SUMMARIES

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/08/19
Batch No. : 19G035	Date Extracted: 07/08/19 12:23
Sample ID: MBLK1S	Date Analyzed: 07/08/19 12:23
Lab Samp ID: VS02G06B	Dilution Factor: 1
Lab File ID: RGP137	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : NA
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0050	0.00050
1,1,2,2-TETRACHLOROETHANE	ND	0.0050	0.00050
1,1,2-TRICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHENE	ND	0.0050	0.00050
1,2,3-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0050	0.00055
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0050	0.0010
1,2-DICHLOROBENZENE	ND	0.0050	0.00050
1,2-DICHLOROETHANE	ND	0.0050	0.00050
1,2-DICHLOROPROPANE	ND	0.0050	0.00050
1,3,5-TRIMETHYLBENZENE	ND	0.0050	0.00059
1,3-DICHLOROBENZENE	ND	0.0050	0.00052
1,4-DICHLOROBENZENE	ND	0.0050	0.00050
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	ND	0.010	0.0031
BENZENE	ND	0.0050	0.00050
BROMOCHLOROMETHANE	ND	0.0050	0.00050
BROMODICHLOROMETHANE	ND	0.0050	0.00050
BROMOFORM	ND	0.0050	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0050	0.00050
CARBON TETRACHLORIDE	ND	0.0050	0.00054
CHLOROBENZENE	ND	0.0050	0.00050
CHLOROETHANE	ND	0.0050	0.0013
CHLOROFORM	ND	0.0050	0.00050
CHLOROMETHANE	ND	0.0050	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0050	0.00050
DIBROMOCHLOROMETHANE	ND	0.0050	0.00050
DICHLORODIFLUOROMETHANE	ND	0.0050	0.0012
ETHYLBENZENE	ND	0.0050	0.00050
ISOPROPYLBENZENE	ND	0.0050	0.00064
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0050	0.00050
O-XYLENE	ND	0.0050	0.00050
STYRENE	ND	0.0050	0.00050
TETRACHLOROETHENE	ND	0.0050	0.00050
TOLUENE	ND	0.0050	0.00050
TRANS-1,2-DCE	ND	0.0050	0.00050
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0050	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TCE	ND	0.0050	0.00050
TRICHLOROFLUOROMETHANE	ND	0.0050	0.0011
VINYL CHLORIDE	ND	0.0050	0.0014
1,2-DIBROMOETHANE	ND	0.0050	0.00050
VINYL ACETATE	ND	0.0050	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0050	0.0010
METHYL ACETATE	ND	0.0050	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0426	0.05000	85.3	70-130
BROMOFLUOROBENZENE	0.0447	0.05000	89.5	70-130
TOLUENE-D8	0.0454	0.05000	90.8	70-130
DIBROMOFLUOROMETHANE	0.0504	0.05000	101	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G035
METHOD: SW5035A/8260C

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: VS02G06B VS02G06L VS02G06C
LAB FILE ID: RGP137 RGP134 RGP135
DATE EXTRACTED: 07/08/1912:23 07/08/1911:08 07/08/1911:33 DATE COLLECTED: NA
DATE ANALYZED: 07/08/1912:23 07/08/1911:08 07/08/1911:33 DATE RECEIVED: 07/08/19
PREP. BATCH: VS02G06 VS02G06 VS02G06
CALIB. REF: RFP447 RFP447 RFP447

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	0.0500	0.0563	113	0.0500	0.0566	113	0	73-125	30
1,1,2,2-Tetrachloroethane	ND	0.0500	0.0442	88	0.0500	0.0449	90	2	70-124	30
1,1,2-Trichloroethane	ND	0.0500	0.0470	94	0.0500	0.0463	93	2	78-121	30
1,1-Dichloroethane	ND	0.0500	0.0522	104	0.0500	0.0506	101	3	76-125	30
1,1-Dichloroethene	ND	0.0500	0.0490	98	0.0500	0.0489	98	0	70-131	30
1,2,3-Trichlorobenzene	ND	0.0500	0.0496	99	0.0500	0.0497	99	0	66-130	30
1,2,4-Trichlorobenzene	ND	0.0500	0.0518	104	0.0500	0.0519	104	0	67-129	30
1,2,4-Trimethylbenzene	ND	0.0500	0.0481	96	0.0500	0.0471	94	2	75-123	30
1,2-Dibromo-3-chloropropane	ND	0.0500	0.0432	86	0.0500	0.0431	86	0	61-132	30
1,2-Dichlorobenzene	ND	0.0500	0.0484	97	0.0500	0.0471	94	3	78-121	30
1,2-Dichloroethane	ND	0.0500	0.0491	98	0.0500	0.0498	100	1	73-128	30
1,2-Dichloropropane	ND	0.0500	0.0496	99	0.0500	0.0493	99	1	76-123	30
1,3,5-Trimethylbenzene	ND	0.0500	0.0474	95	0.0500	0.0462	92	3	73-124	30
1,3-Dichlorobenzene	ND	0.0500	0.0491	98	0.0500	0.0479	96	2	77-121	30
1,4-Dichlorobenzene	ND	0.0500	0.0490	98	0.0500	0.0471	94	4	75-120	30
2-Butanone	ND	0.250	0.243	97	0.250	0.257	103	6	51-148	30
2-Hexanone	ND	0.250	0.209	84	0.250	0.221	88	5	53-145	30
Acetone	ND	0.250	0.224	90	0.250	0.235	94	5	36-164	30
Benzene	ND	0.0500	0.0512	102	0.0500	0.0514	103	0	77-121	30
Bromochloromethane	ND	0.0500	0.0484	97	0.0500	0.0485	97	0	78-125	30
Bromodichloromethane	ND	0.0500	0.0533	107	0.0500	0.0536	107	1	75-127	30
Bromoform	ND	0.0500	0.0446	89	0.0500	0.0442	88	1	67-132	30
Bromomethane	ND	0.0500	0.0522	104	0.0500	0.0515	103	2	53-143	30
Carbon Disulfide	ND	0.0500	0.0567	113	0.0500	0.0571	114	1	63-132	30
Carbon Tetrachloride	ND	0.0500	0.0588	118	0.0500	0.0587	117	0	70-135	30
Chlorobenzene	ND	0.0500	0.0503	101	0.0500	0.0502	100	0	79-120	30
Chloroethane	ND	0.0500	0.0537	107	0.0500	0.0517	103	4	59-139	30
Chloroform	ND	0.0500	0.0501	100	0.0500	0.0499	100	0	78-123	30
Chloromethane	ND	0.0500	0.0510	102	0.0500	0.0504	101	1	50-136	30
cis-1,2-Dichloroethylene	ND	0.0500	0.0540	108	0.0500	0.0533	107	1	77-123	30
Dibromochloromethane	ND	0.0500	0.0459	92	0.0500	0.0456	91	1	74-126	30

Dichlorodifluoromethane	ND	0.0500	0.0535	107	0.0500	0.0535	107	0	29-149	30
Ethylbenzene	ND	0.0500	0.0475	95	0.0500	0.0475	95	0	76-122	30
Isopropylbenzene	ND	0.0500	0.0493	99	0.0500	0.0484	97	2	68-134	30
m,p-Xylene	ND	0.100	0.0998	100	0.100	0.0943	94	6	77-124	30
4-Methyl-2-Pentanone	ND	0.250	0.227	91	0.250	0.236	95	4	65-135	30
Methylene Chloride	ND	0.0500	0.0480	96	0.0500	0.0488	98	2	70-128	30
tert-Butyl Methyl Ether	ND	0.0500	0.0516	103	0.0500	0.0507	101	2	73-125	30
o-Xylene	ND	0.0500	0.0485	97	0.0500	0.0470	94	3	77-123	30
Styrene	ND	0.0500	0.0482	96	0.0500	0.0474	95	2	76-124	30
Tetrachloroethene	ND	0.0500	0.0530	106	0.0500	0.0492	98	7	73-128	30
Toluene	ND	0.0500	0.0497	99	0.0500	0.0467	93	6	77-121	30
Trans-1,2-DCE	ND	0.0500	0.0538	108	0.0500	0.0528	106	2	74-125	30
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.100	0.0969	97	0.100	0.0962	96	1	71-130	30
cis-1,3-Dichloropropene	ND	0.0500	0.0516	103	0.0500	0.0509	102	1	74-126	30
Trans-1,3-Dichloropropene	ND	0.0500	0.0453	91	0.0500	0.0453	91	0	71-130	30
TCE	ND	0.0500	0.0571	114	0.0500	0.0561	112	2	77-123	30
Trichlorofluoromethane	ND	0.0500	0.0560	112	0.0500	0.0553	111	1	62-140	30
Vinyl Chloride	ND	0.0500	0.0549	110	0.0500	0.0544	109	1	56-135	30
1,2-Dibromoethane	ND	0.0500	0.0476	95	0.0500	0.0483	97	1	78-122	30
Vinyl Acetate	ND	0.0500	0.0497	99	0.0500	0.0486	97	2	50-151	30
Trichlorotrifluoroethane	ND	0.0500	0.0547	109	0.0500	0.0534	107	2	66-136	30
Methyl Acetate	ND	0.0500	0.0477	95	0.0500	0.0507	101	6	53-144	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	0.0500	0.0443	89	0.0500	0.0443	89	70-130
Bromofluorobenzene	0.0500	0.0461	92	0.0500	0.0459	92	70-130
Toluene-d8	0.0500	0.0441	88	0.0500	0.0446	89	70-130
Dibromofluoromethane	0.0500	0.0500	100	0.0500	0.0508	102	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/08/19
Batch No. : 19G035	Date Extracted: 07/08/19 13:38
Sample ID: MBLK2S	Date Analyzed: 07/08/19 13:38
Lab Samp ID: VPG015SB	Dilution Factor: 0.98
Lab File ID: RGP140	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : NA
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0049	0.00049
1,1,2,2-TETRACHLOROETHANE	ND	0.0049	0.00049
1,1,2-TRICHLOROETHANE	ND	0.0049	0.00049
1,1-DICHLOROETHANE	ND	0.0049	0.00049
1,1-DICHLOROETHENE	ND	0.0049	0.00049
1,2,3-TRICHLOROBENZENE	ND	0.0049	0.00098
1,2,4-TRICHLOROBENZENE	ND	0.0049	0.00098
1,2,4-TRIMETHYLBENZENE	ND	0.0049	0.00054
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0049	0.00098
1,2-DICHLOROBENZENE	ND	0.0049	0.00049
1,2-DICHLOROETHANE	ND	0.0049	0.00049
1,2-DICHLOROPROPANE	ND	0.0049	0.00049
1,3,5-TRIMETHYLBENZENE	ND	0.0049	0.00058
1,3-DICHLOROBENZENE	ND	0.0049	0.00051
1,4-DICHLOROBENZENE	ND	0.0049	0.00049
2-BUTANONE	ND	0.0098	0.0025
2-HEXANONE	ND	0.0098	0.0028
ACETONE	ND	0.0098	0.0030
BENZENE	ND	0.0049	0.00049
BROMOCHLOROMETHANE	ND	0.0049	0.00049
BROMODICHLOROMETHANE	ND	0.0049	0.00049
BROMOFORM	ND	0.0049	0.00098
BROMOMETHANE	ND	0.0098	0.0018
CARBON DISULFIDE	ND	0.0049	0.00049
CARBON TETRACHLORIDE	ND	0.0049	0.00053
CHLOROBENZENE	ND	0.0049	0.00049
CHLOROETHANE	ND	0.0049	0.0013
CHLOROFORM	ND	0.0049	0.00049
CHLOROMETHANE	ND	0.0049	0.00098
CIS-1,2-DICHLOROETHYLENE	ND	0.0049	0.00049
DIBROMOCHLOROMETHANE	ND	0.0049	0.00049
DICHLORODIFLUOROMETHANE	ND	0.0049	0.0012
ETHYLBENZENE	ND	0.0049	0.00049
ISOPROPYLBENZENE	ND	0.0049	0.00063
M,P-XYLENE	ND	0.0098	0.00098
4-METHYL-2-PENTANONE	ND	0.0098	0.0027
METHYLENE CHLORIDE	ND	0.0098	0.00098
TERT-BUTYL METHYL ETHER	ND	0.0049	0.00049
O-XYLENE	ND	0.0049	0.00049
STYRENE	ND	0.0049	0.00049
TETRACHLOROETHENE	ND	0.0049	0.00049
TOLUENE	ND	0.0049	0.00049
TRANS-1,2-DCE	ND	0.0049	0.00049
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0049	0.00098
CIS-1,3-DICHLOROPROPENE	ND	0.0049	0.00098
TRANS-1,3-DICHLOROPROPENE	ND	0.0049	0.00098
TCE	ND	0.0049	0.00049
TRICHLOROFLUOROMETHANE	ND	0.0049	0.0011
VINYL CHLORIDE	ND	0.0049	0.0014
1,2-DIBROMOETHANE	ND	0.0049	0.00049
VINYL ACETATE	ND	0.0049	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0049	0.00098
METHYL ACETATE	ND	0.0049	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0421	0.04900	85.9	70-130
BROMOFLUOROBENZENE	0.0442	0.04900	90.2	70-130
TOLUENE-D8	0.0438	0.04900	89.4	70-130
DIBROMOFLUOROMETHANE	0.0472	0.04900	96.4	70-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G035
METHOD: SW5035A/8260C

MATRIX: SOIL % MOISTURE: 15.8

DILUTION FACTOR:	0.81	0.8	0.86		
SAMPLE ID:	OU2-SB50				
LAB SAMP ID:	G035-05	G035-05M	G035-05S		
LAB FILE ID:	RGP141	RGP153	RGP154		
DATE EXTRACTED:	07/08/1914:03	07/08/1919:02	07/08/1919:27	DATE COLLECTED:	06/27/19
DATE ANALYZED:	07/08/1914:03	07/08/1919:02	07/08/1919:27	DATE RECEIVED:	07/03/19
PREP. BATCH:	VS02G06	VS02G06	VS02G06		
CALIB. REF:	RFP447	RFP447	RFP447		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	0.0475	0.0517	109	0.0511	0.0579	113	4	73-125	30
1,1,2,2-Tetrachloroethane	ND	0.0475	0.0467	98	0.0511	0.0481	94	4	70-124	30
1,1,2-Trichloroethane	ND	0.0475	0.0475	100	0.0511	0.0516	101	1	78-121	30
1,1-Dichloroethane	ND	0.0475	0.0491	103	0.0511	0.0551	108	5	76-125	30
1,1-Dichloroethene	ND	0.0475	0.0447	94	0.0511	0.0500	98	4	70-131	30
1,2,3-Trichlorobenzene	ND	0.0475	0.0366	77	0.0511	0.0388	76	1	66-130	30
1,2,4-Trichlorobenzene	ND	0.0475	0.0397	84	0.0511	0.0407	80	5	67-129	30
1,2,4-Trimethylbenzene	ND	0.0475	0.0463	97	0.0511	0.0503	99	2	75-123	30
1,2-Dibromo-3-chloropropane	ND	0.0475	0.0447	94	0.0511	0.0454	89	5	61-132	30
1,2-Dichlorobenzene	ND	0.0475	0.0469	99	0.0511	0.0499	98	1	78-121	30
1,2-Dichloroethane	ND	0.0475	0.0480	101	0.0511	0.0534	105	4	73-128	30
1,2-Dichloropropane	ND	0.0475	0.0487	102	0.0511	0.0537	105	3	76-123	30
1,3,5-Trimethylbenzene	ND	0.0475	0.0477	100	0.0511	0.0509	100	0	73-124	30
1,3-Dichlorobenzene	ND	0.0475	0.0466	98	0.0511	0.0506	99	1	77-121	30
1,4-Dichlorobenzene	ND	0.0475	0.0467	98	0.0511	0.0477	93	5	75-120	30
2-Butanone	ND	0.238	0.248	104	0.255	0.286	112	7	51-148	30
2-Hexanone	ND	0.238	0.223	94	0.255	0.233	91	3	53-145	30
Acetone	ND	0.238	0.227	96	0.255	0.237	93	3	36-164	30
Benzene	ND	0.0475	0.0488	103	0.0511	0.0547	107	4	77-121	30
Bromochloromethane	ND	0.0475	0.0475	100	0.0511	0.0525	103	3	78-125	30
Bromodichloromethane	ND	0.0475	0.0505	106	0.0511	0.0556	109	3	75-127	30
Bromoform	ND	0.0475	0.0447	94	0.0511	0.0460	90	4	67-132	30
Bromomethane	ND	0.0475	0.0461	97	0.0511	0.0496	97	0	53-143	30
Carbon Disulfide	ND	0.0475	0.0473	100	0.0511	0.0532	104	4	63-132	30
Carbon Tetrachloride	ND	0.0475	0.0535	113	0.0511	0.0612	120	6	70-135	30
Chlorobenzene	ND	0.0475	0.0488	103	0.0511	0.0523	102	1	79-120	30
Chloroethane	ND	0.0475	0.0463	98	0.0511	0.0490	96	2	59-139	30
Chloroform	ND	0.0475	0.0484	102	0.0511	0.0537	105	3	78-123	30
Chloromethane	ND	0.0475	0.0464	98	0.0511	0.0477	93	5	50-136	30
cis-1,2-Dichloroethylene	ND	0.0475	0.0494	104	0.0511	0.0574	112	7	77-123	30
Dibromochloromethane	ND	0.0475	0.0465	98	0.0511	0.0506	99	1	74-126	30
Dichlorodifluoromethane	ND	0.0475	0.0462	97	0.0511	0.0482	94	3	29-149	30
Ethylbenzene	ND	0.0475	0.0473	100	0.0511	0.0511	100	0	76-122	30
Isopropylbenzene	ND	0.0475	0.0485	102	0.0511	0.0518	101	1	68-134	30
m,p-Xylene	ND	0.0950	0.0942	99	0.102	0.101	99	0	77-124	30
4-Methyl-2-Pentanone	ND	0.238	0.228	96	0.255	0.250	98	2	65-135	30
Methylene Chloride	ND	0.0475	0.0474	100	0.0511	0.0516	101	1	70-128	30
tert-Butyl Methyl Ether	ND	0.0475	0.0485	102	0.0511	0.0535	105	3	73-125	30
o-Xylene	ND	0.0475	0.0478	101	0.0511	0.0512	100	1	77-123	30
Styrene	ND	0.0475	0.0465	98	0.0511	0.0500	98	0	76-124	30
Tetrachloroethene	ND	0.0475	0.0490	103	0.0511	0.0557	109	6	73-128	30
Toluene	ND	0.0475	0.0470	99	0.0511	0.0504	99	0	77-121	30
Trans-1,2-DCE	ND	0.0475	0.0504	106	0.0511	0.0547	107	1	74-125	30
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0950	0.0923	97	0.102	0.0997	98	1	71-130	30
cis-1,3-Dichloropropene	ND	0.0475	0.0478	101	0.0511	0.0524	103	2	74-126	30
Trans-1,3-Dichloropropene	ND	0.0475	0.0445	94	0.0511	0.0473	93	1	71-130	30

TCE	ND	0.0475	0.0498	105	0.0511	0.0568	111	6	77-123	30
Trichlorofluoromethane	ND	0.0475	0.0470	99	0.0511	0.0495	97	2	62-140	30
Vinyl Chloride	ND	0.0475	0.0474	100	0.0511	0.0498	97	3	56-135	30
1,2-Dibromoethane	ND	0.0475	0.0485	102	0.0511	0.0514	101	1	78-122	30
Vinyl Acetate	ND	0.0475	ND	0*	0.0511	ND	0*	0	50-151	30
Trichlorotrifluoroethane	ND	0.0475	0.0488	103	0.0511	0.0538	105	2	66-136	30
Methyl Acetate	ND	0.0475	0.0576	121	0.0511	0.0583	114	6	53-144	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	0.0475	0.0402	85	0.0511	0.0464	91	70-130
Bromofluorobenzene	0.0475	0.0453	95	0.0511	0.0475	93	70-130
Toluene-d8	0.0475	0.0428	90	0.0511	0.0470	92	70-130
Dibromofluoromethane	0.0475	0.0444	93	0.0511	0.0490	96	70-130

INITIAL CALIBRATION

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RFP441
Instrument ID: 02
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G035
BFB Injection Date : 06/29/19
BFB Injection Time : 11:36
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.94
75	30.0 - 60.0% of mass 95	48.25
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.67
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	80.72
175	5.0 - 9.0% of mass 174	6.28(7.8)1
176	95.0 - 101.0% of mass 174	77.18(95.6)1
177	5.0 - 9.0% of mass 176	4.95(6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD01	VO02F291	RFP442	06/29/19	12:07
2	VSTD02	VO02F292	RFP443	06/29/19	12:32
3	VSTD04	VO02F293	RFP444	06/29/19	12:57
4	VSTD010	VO02F294	RFP445	06/29/19	13:22
5	VSTD020	VO02F295	RFP446	06/29/19	13:46
6	VSTD050	VO02F296	RFP447	06/29/19	14:11
7	VSTD100	VO02F297	RFP448	06/29/19	14:36
8	VSTD200	VO02F298	RFP449	06/29/19	15:00
9	VSTD300	VO02F299	RFP450	06/29/19	15:26
10	VSTD500	VO02F2910	RFP451	06/29/19	15:51
11	VSTD050	IVO02F2901	RFP454	06/29/19	17:06

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :02
Beginning DateTime :06/29/19 12:07
Spike Units :PPB
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :06/29/19 15:51
HPChem Method :V002F29

M	IDX	Parameters	1 12:07 RFP442	2 12:32 RFP443	4 12:57 RFP444	10 13:22 RFP445	20 13:46 RFP446	50 14:11 RFP447	100 14:36 RFP448	200 15:00 RFP449	300 15:26 RFP450	500 15:51 RFP451	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.6646
	2	Dichlorodifluoromethane	------	------	0.227	0.269	0.263	0.307	0.301	0.291	0.300	0.303	0.283	9.82	1.7287
	3	Chloromethane	0.354	0.355	0.445	0.478	0.434	0.494	0.481	0.466	0.465	0.486	0.446	11.51	1.9895
	4	Vinyl chloride	------	------	0.354	0.410	0.391	0.454	0.414	0.309	------	------	0.389	13.10	2.1089
	5	Bromomethane	------	------	0.281	0.320	0.297	0.351	0.345	0.333	0.338	0.350	0.327	7.90	2.5804
	6	Chloroethane	------	------	0.221	0.261	0.246	0.286	0.288	0.277	0.276	0.277	0.267	8.50	2.6771
	7	Dichlorofluoromethane	0.669	0.681	0.705	0.742	0.671	0.708	0.716	0.719	0.728	0.736	0.708	3.70	2.7140
	8	Trichlorofluoromethane	------	------	0.276	0.315	0.297	0.344	0.347	0.333	0.328	0.335	0.322	7.67	2.9578
5	9	Acrolein	------	0.062	0.080	0.073	0.063	0.061	0.068	0.064	0.069	------	0.068	9.30	3.4403
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	0.187	0.204	0.208	0.223	0.202	0.215	0.223	0.221	0.227	0.225	0.213	6.03	3.4756
5	11	Acetone	------	0.127	0.136	0.121	0.104	0.106	0.105	0.114	0.114	0.099	0.114	10.74	3.5159
	12	1,1-Dichloroethene	0.522	0.591	0.582	0.618	0.562	0.578	0.602	0.598	0.601	0.631	0.589	5.16	3.6705
5	13	tert-Butyl alcohol	0.049	0.036	0.043	0.043	0.042	0.043	0.043	0.047	0.049	0.042	0.044	8.94	3.7687
10	14	Acetonitrile	0.044	0.039	0.045	0.046	0.040	0.041	0.045	0.053	0.054	0.047	0.045	11.06	3.8371
	15	Iodomethane	0.470	0.502	0.526	0.584	0.517	0.542	0.564	0.568	0.569	0.585	0.543	7.02	4.0498
	16	Methyl Acetate	------	------	0.307	0.368	0.375	0.411	0.388	0.406	0.388	0.402	0.381	8.76	4.0642
	17	Allyl Chloride	------	0.178	0.198	0.213	0.185	0.205	0.196	0.205	0.195	0.190	0.196	5.48	4.1076
	18	Methylene chloride	0.539	0.546	0.555	0.566	0.508	0.522	0.544	0.536	0.541	0.556	0.541	3.12	4.2730
	19	Carbon disulfide	------	------	1.143	1.337	1.294	1.420	1.459	1.405	1.417	1.482	1.370	8.04	4.2595
5	20	Acrylonitrile	0.149	0.137	0.155	0.178	0.157	0.170	0.178	0.186	0.190	0.177	0.168	10.29	4.4068
	21	tert-Butyl methyl ether (MTBE)	0.882	0.925	0.948	0.997	0.884	0.827	0.959	1.040	1.084	1.046	0.959	8.61	4.4381
	22	trans-1,2-Dichloroethene	0.478	0.566	0.585	0.638	0.583	0.624	0.642	0.639	0.637	0.639	0.603	8.72	4.6032
	23	Isopropyl ether (DIPE)	1.461	1.694	1.719	1.834	1.686	1.780	1.815	1.849	1.879	1.838	1.755	7.04	5.0153
	24	1,1-Dichloroethane	0.704	0.787	0.834	0.899	0.790	0.840	0.849	0.864	0.889	0.874	0.833	7.07	5.1506
	25	Vinyl acetate	------	------	0.861	0.967	0.939	1.058	1.147	1.055	1.128	1.040	1.024	9.45	5.1595
5	26	2-Butanol	------	------	0.038	0.042	0.042	0.049	0.047	0.052	0.051	0.048	0.046	10.56	5.4402
	27	tert-Butyl ethyl ether (ETBE)	1.181	1.264	1.308	1.399	1.229	1.248	1.327	1.450	1.468	1.423	1.330	7.55	5.5389
5	28	2-Butanone	0.038	0.038	0.044	0.047	0.043	0.049	0.049	0.052	0.052	0.049	0.046	10.89	5.7010
10	29	Propionitrile	0.048	0.049	0.054	0.061	0.053	0.060	0.061	0.066	0.067	0.063	0.058	11.74	5.8037
	30	2,2-Dichloropropane	------	0.297	0.304	0.304	0.272	0.281	0.274	0.264	0.250	------	0.281	7.05	5.8781
	31	cis-1,2-Dichloroethene	0.317	0.366	0.389	0.431	0.389	0.419	0.429	0.450	0.447	0.465	0.410	11.04	5.9391
10	32	Methylacrynonitrile	0.055	0.055	0.062	0.069	0.063	0.068	0.069	0.072	0.074	0.069	0.066	10.16	6.0625
20	33	Isobutyl Alcohol	0.028	0.028	0.020	0.021	0.020	0.022	0.024	0.026	0.026	0.023	0.024	12.72	6.0908
	34	Chloroform	0.602	0.684	0.681	0.726	0.672	0.685	0.714	0.712	0.740	0.747	0.696	6.02	6.1473
	35	Bromochloromethane	0.354	0.379	0.423	0.447	0.414	0.446	0.449	0.459	0.471	0.485	0.433	9.45	6.3630
	36	Tetrahydrofuran	------	0.138	0.143	0.151	0.128	0.139	0.140	0.148	0.150	0.137	0.142	5.24	6.4134
	37	Dibromofluoromethane	------	0.256	0.300	0.350	0.348	0.394	0.371	------	------	------	0.337	14.89	6.4313
	38	1,1,1-Trichloroethane	0.319	0.350	0.372	0.399	0.354	0.374	0.391	0.387	0.386	0.383	0.372	6.52	6.6828
	39	Cyclohexane	------	0.375	0.465	0.545	0.528	0.590	0.585	0.578	0.567	------	0.529	14.11	6.6981
	40	1,1-Dichloropropene	0.131	0.144	0.152	0.170	0.155	0.168	0.174	0.177	0.184	0.180	0.164	10.56	6.8911
	41	Carbon tetrachloride	------	0.229	0.260	0.288	0.266	0.292	0.317	0.330	0.334	0.338	0.295	12.91	7.0250
	42	tert-Amyl methyl ether (TAME)	------	0.165	0.183	0.197	0.177	0.182	0.194	0.211	0.213	0.209	0.192	8.75	7.0564
	43	1,2-Dichloroethane-d4	------	0.257	0.307	0.350	0.340	0.393	0.368	------	------	------	0.336	14.28	7.1156
	44	1,2-Dichloroethane	0.354	0.371	0.420	0.469	0.431	0.458	0.484	0.487	0.490	0.525	0.449	12.20	7.2481
	45	Benzene	1.482	1.645	1.749	1.831	1.641	1.740	1.836	1.879	1.909	------	1.746	7.86	7.2634
	46	Trichloroethene	0.301	0.335	0.360	0.403	0.355	0.386	0.390	0.407	0.412	0.424	0.377	10.28	8.1258
	47	Methylcyclohexane	0.488	0.523	0.610	0.698	0.687	0.762	0.715	0.729	0.719	0.723	0.665	14.04	8.2017
	48	1,2-Dichloropropane	0.420	0.434	0.478	0.528	0.454	0.494	0.518	0.511	0.524	0.533	0.489	8.41	8.3787
	49	Methyl Methacrylate	0.251	0.252	0.287	0.308	0.293	0.325	0.332	0.346	0.355	0.336	0.309	12.05	8.4828
	50	Bromodichloromethane	0.378	0.387	0.411	0.463	0.431	0.472	0.498	0.506	0.515	------	0.451	11.45	8.7229
20	51	1,4-Dioxane	------	0.002	0.002	0.003	0.002	0.003	0.004	0.004	0.004	------	0.003	28.06	8.7659
	52	Dibromomethane	------	0.196	0.221	0.257	0.238	0.263	0.284	0.286	0.290	0.294	0.259	13.33	8.8001
	53	2-Chloroethyl vinyl ether	------	------	0.093	0.128	0.121	0.146	0.142	0.138	0.146	0.148	0.133	13.97	9.2020
5	54	4-Methyl-2-pentanone	0.463	0.446	0.474	0.538	0.483	0.540	0.544	0.573	0.539	------	0.511	8.73	9.2419
	55	cis-1,3-Dichloropropene	------	0.554	0.592	0.694	0.638	0.698	0.725	0.741	0.763	0.792	0.689	11.54	9.5539
	56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3490
	57	Toluene-d8	------	1.095	1.356	1.480	1.515	1.713	1.582	------	------	------	1.457	14.59	9.9123
	58	Toluene	1.762	1.834	1.940	2.023	1.904	1.953	1.965	1.962	2.171	------	1.946	5.89	10.0353

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59	Ethyl methacrylate	------	0.534	0.591	0.648	0.634	0.677	0.742	0.738	0.785	0.803	0.684	13.28	10.3373
60	trans-1,3-Dichloropropene	------	------	0.576	0.649	0.631	0.687	0.743	0.745	0.784	0.836	0.706	12.21	10.3362
61	1,1,2-Trichloroethane	0.329	0.324	0.382	0.391	0.369	0.388	0.411	0.401	0.422	0.442	0.386	9.73	10.5788
5 62	2-Hexanone	0.381	0.338	0.388	0.418	0.401	0.446	0.468	0.465	0.495	------	0.422	11.94	10.6055
63	1,3-Dichloropropane	0.629	0.653	0.765	0.806	0.746	0.785	0.801	0.819	0.845	0.873	0.772	10.17	10.9820
64	Tetrachloroethene	0.306	0.331	0.381	0.394	0.352	0.369	0.374	0.377	0.391	0.418	0.369	8.75	11.0667
65	Dibromochloromethane	------	------	0.363	0.407	0.390	0.432	0.467	0.479	0.498	0.508	0.443	11.97	11.3869
66	1,2-Dibromoethane	0.279	0.319	0.353	0.398	0.372	0.399	0.410	0.429	0.447	0.451	0.386	14.43	11.7124
67	1-Chlorohexane	0.562	0.587	0.683	0.713	0.663	0.702	0.748	0.734	0.750	0.763	0.690	9.98	12.0144
68	Chlorobenzene	0.943	0.963	1.083	1.170	1.131	1.162	1.176	1.178	1.219	1.281	1.131	9.47	12.4100
69	1,1,1,2-Tetrachloroethane	0.259	0.324	0.348	0.385	0.350	0.378	0.402	0.400	0.420	0.434	0.370	13.96	12.4904
70	Ethylbenzene	1.819	1.853	2.019	2.183	1.945	2.062	2.161	2.171	2.252	------	2.052	7.51	12.5129
2 71	m-Xylene & p-Xylene	1.319	1.378	1.512	1.549	1.417	1.568	1.598	1.616	1.524	------	1.498	6.89	12.6402
72	o-Xylene	1.242	1.351	1.485	1.582	1.397	1.525	1.528	1.560	1.605	1.612	1.489	8.18	13.3770
73	Styrene	1.094	1.052	1.057	1.172	1.096	1.195	1.215	1.200	1.290	1.296	1.167	7.64	13.4409
74	Isopropylbenzene	1.438	1.489	1.646	1.798	1.697	1.782	1.819	1.845	1.892	------	1.712	9.32	14.0038
75	Cis-1,4-Dichloro-2-Butene	------	------	0.123	0.137	0.139	0.151	0.160	0.166	0.172	0.164	0.152	11.25	14.1054
76	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.1837
77	Bromoform	------	------	0.552	0.613	0.594	0.667	0.691	0.776	0.808	0.815	0.689	14.68	13.9994
78	1,1,2,2-Tetrachloroethane	1.378	1.442	1.508	1.619	1.510	1.532	1.577	1.640	1.683	1.637	1.553	6.22	14.3126
79	4-Bromofluorobenzene	------	0.924	1.044	1.159	1.217	1.291	1.230	------	------	------	1.144	11.93	14.4320
80	1,2,3-Trichloropropane	------	0.239	0.277	0.315	0.275	0.286	0.289	0.312	0.322	0.314	0.292	9.06	14.5670
81	trans-1,4-Dichloro-2-butene	------	------	0.276	0.326	0.308	0.333	0.351	0.381	0.390	0.375	0.342	11.51	14.7079
82	n-Propylbenzene	4.994	5.418	5.710	6.350	5.747	6.077	6.206	6.619	6.817	------	5.993	9.73	14.7046
83	Bromobenzene	0.927	1.113	1.139	1.240	1.145	1.199	1.222	1.308	1.348	1.373	1.201	10.90	14.7470
84	1,3,5-Trimethylbenzene	2.762	3.189	3.281	3.685	3.435	3.526	3.552	3.733	3.915	4.010	3.509	10.47	14.9910
85	2-Chlorotoluene	0.866	1.014	1.035	1.180	1.075	1.070	1.102	1.163	1.198	1.229	1.093	9.84	14.9984
86	4-Chlorotoluene	0.721	0.881	0.953	1.000	0.948	0.988	1.031	1.072	1.124	1.144	0.986	12.52	15.0862
87	tert-Butylbenzene	0.490	0.649	0.678	0.761	0.684	0.700	0.727	0.755	0.773	0.764	0.698	12.12	15.6188
88	1,2,4-Trimethylbenzene	2.642	2.957	3.135	3.599	3.267	3.413	3.432	3.569	3.687	3.771	3.347	10.54	15.6812
89	sec-Butylbenzene	3.951	4.427	4.584	5.128	4.688	4.726	4.931	4.990	5.064	5.166	4.765	7.91	15.9966
90	p-Isopropyltoluene	3.020	3.240	3.419	3.777	3.571	3.750	3.687	3.861	4.008	3.966	3.630	8.81	16.2525
91	1,3-Dichlorobenzene	1.667	1.771	1.868	2.052	1.925	1.991	2.025	2.121	2.150	2.215	1.978	8.73	16.3819
92	1,2,3-Trimethylbenzene	2.659	2.947	3.127	3.482	3.164	3.264	3.345	3.426	3.486	3.635	3.254	8.94	16.5247
93	1,4-Dichlorobenzene	1.702	1.810	1.815	2.024	1.941	1.965	2.057	2.058	2.158	2.220	1.975	8.23	16.5767
94	n-Butylbenzene	2.776	3.159	3.248	3.764	3.398	3.543	3.708	3.812	3.807	3.933	3.515	10.42	16.9918
95	1,2-Dichlorobenzene	1.516	1.675	1.737	1.865	1.742	1.812	1.875	1.853	1.902	2.003	1.798	7.59	17.2298
96	1,2-Dibromo-3-chloropropane	------	------	0.169	0.182	0.170	0.184	0.200	0.212	0.220	0.216	0.194	10.65	18.5272
97	1,2,4-Trichlorobenzene	0.695	0.753	0.723	0.851	0.761	0.811	0.865	0.903	0.920	------	0.809	9.96	19.5723
98	Hexachlorobutadiene	0.373	0.383	0.373	0.419	0.383	0.403	0.419	0.439	0.441	0.480	0.411	8.51	19.7289
99	Naphthalene	1.970	1.873	1.961	2.078	1.964	2.076	2.199	2.424	2.491	------	2.115	10.20	19.8252
100	1,2,3-Trichlorobenzene	0.597	0.650	0.684	0.763	0.668	0.732	0.755	0.807	0.827	------	0.720	10.58	20.0715

Spike Amount = Nominal Amount * M
Ave_%RSD : 10 Max_%RSD : 28.1

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
51	1,4-Dioxane	-0.00297	0.00375	0.9947*

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Use Quadratic Regression of inv conc w.f. for comps of linear reg of inv conc w.f. with CCF < .995
Resp_Ratio = xo + x1 * Amt_Ratio + x2 * Amt_Ratio * Amt_Ratio

IDX	Parameter	x0	x1	x2	CCF2
51	1,4-Dioxane	-0.00134	0.00297	0.00001	0.9984

PROGRAM: ICALMAX

Input: R:RFP447.ICL Output: R:RFP447.MAX

IDX	Parameter	x0	x1	x2	CCF2	MaxMinAmtRatio	MaxMinRespRatio	MaxMinRRF	MaxMinConc
51	1,4-Dioxane	-0.00134	0.00297	0.00001	0.9984	%-148.50000	-0.22186	0.00149	-7425.0

SW
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INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :02
Beginning DateTime :06/29/19 12:07
Spike Units :PPB
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :06/29/19 15:51
HPChem Method :VO02F29

M	IDX	Parameters	1 12:07 RFP442	2 12:32 RFP443	4 12:57 RFP444	10 13:22 RFP445	20 13:46 RFP446	50 14:11 RFP447	100 14:36 RFP448	200 15:00 RFP449	300 15:26 RFP450	500 15:51 RFP451	AvDRec	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.6646
	2	Dichlorodifluoromethane	------	------	80	95	93	108	106	103	106	107	7.8	9.82	1.7287
	3	Chloromethane	79	80	100	107	97	111	108	104	104	109	8.7	11.51	1.9895
	4	Vinyl chloride	------	------	91	105	101	117	106	79	------	------	9.8	13.10	2.1089
	5	Bromomethane	------	------	86	98	91	107	106	102	103	107	6.3	7.90	2.5804
	6	Chloroethane	------	------	83	98	92	107	108	104	103	104	6.6	8.50	2.6771
	7	Dichlorofluoromethane	94	96	100	105	95	100	101	102	103	104	2.9	3.70	2.7140
	8	Trichlorofluoromethane	------	------	86	98	92	107	108	103	102	104	6	7.67	2.9578
5	9	Acrolein	------	91	118	107	93	90	100	94	101	------	7.4	9.30	3.4403
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	88	96	98	105	95	101	105	104	107	106	5	6.03	3.4756
5	11	Acetone	------	111	119	106	91	93	92	100	100	87	8.2	10.74	3.5159
	12	1,1-Dichloroethene	89	100	99	105	95	98	102	102	102	107	3.7	5.16	3.6705
5	13	tert-Butyl alcohol	111	82	98	98	95	98	98	107	111	95	6.6	8.94	3.7687
10	14	Acetonitrile	98	87	100	102	89	91	100	118	120	104	8	11.06	3.8371
	15	Iodomethane	87	92	97	108	95	100	104	105	105	108	5.8	7.02	4.0498
	16	Methyl Acetate	------	------	81	97	98	108	102	107	102	106	6	8.76	4.0642
	17	Allyl Chloride	------	91	101	109	94	105	100	105	99	97	4.1	5.48	4.1076
	18	Methylene chloride	100	101	103	105	94	96	101	99	100	103	2.2	3.12	4.2730
	19	Carbon disulfide	------	------	83	98	94	104	106	103	103	108	6.1	8.04	4.2595
5	20	Acrylonitrile	89	82	92	106	93	101	106	111	113	105	8.6	10.29	4.4068
	21	tert-Butyl methyl ether (MTBE)	92	96	99	104	92	86	100	108	113	109	6.9	8.61	4.4381
	22	trans-1,2-Dichloroethene	79	94	97	106	97	103	106	106	106	106	6.7	8.72	4.6032
	23	Isopropyl ether (DIPE)	83	97	98	105	96	101	103	105	107	105	5.3	7.04	5.0153
	24	1,1-Dichloroethane	85	94	100	108	95	101	102	104	107	105	5.2	7.07	5.1506
	25	Vinyl acetate	------	------	84	94	92	103	112	103	110	102	7.5	9.45	5.1595
5	26	2-Butanol	------	------	83	91	91	107	102	113	111	104	9	10.56	5.4402
	27	tert-Butyl ethyl ether (ETBE)	89	95	98	105	92	94	100	109	110	107	6.3	7.55	5.5389
5	28	2-Butanone	83	83	96	102	93	107	107	113	113	107	9.3	10.89	5.7010
10	29	Propionitrile	83	84	93	105	91	103	105	114	116	109	10	11.74	5.8037
	30	2,2-Dichloropropane	------	106	108	108	97	100	98	94	89	------	5.6	7.05	5.8781
	31	cis-1,2-Dichloroethene	77	89	95	105	95	102	105	110	109	113	8.8	11.04	5.9391
10	32	Methylacrynonitrile	83	83	94	105	95	103	105	109	112	105	8.2	10.16	6.0625
20	33	Isobutyl Alcohol	117	117	83	88	83	92	100	108	108	96	10.8	12.72	6.0908
	34	Chloroform	86	98	98	104	97	98	103	102	106	107	4.5	6.02	6.1473
	35	Bromochloromethane	82	88	98	103	96	103	104	106	109	112	7.4	9.45	6.3630
	36	Tetrahydrofuran	------	97	101	106	90	98	99	104	106	96	4.1	5.24	6.4134
	37	Dibromofluoromethane	------	76	89	104	103	117	110	------	------	------	11.5	14.89	6.4313
	38	1,1,1-Trichloroethane	86	94	100	107	95	101	105	104	104	103	4.9	6.52	6.6828
	39	Cyclohexane	------	71	88	103	100	112	111	109	107	------	10.4	14.11	6.6981
	40	1,1-Dichloropropene	80	88	93	104	95	102	106	108	112	110	8.7	10.56	6.8911
	41	Carbon tetrachloride	------	78	88	98	90	99	107	112	113	115	10.5	12.91	7.0250
	42	tert-Amyl methyl ether (TAME)	------	86	95	103	92	95	101	110	111	109	7.2	8.75	7.0564
	43	1,2-Dichloroethane-d4	------	76	91	104	101	117	110	------	------	------	10.7	14.28	7.1156
	44	1,2-Dichloroethane	79	83	94	104	96	102	108	108	109	117	9.8	12.20	7.2481
	45	Benzene	85	94	100	105	94	100	105	108	109	------	6	7.86	7.2634
	46	Trichloroethene	80	89	95	107	94	102	103	108	109	112	8.4	10.28	8.1258
	47	Methylcyclohexane	73	79	92	105	103	115	108	110	108	109	11.3	14.04	8.2017
	48	1,2-Dichloropropane	86	89	98	108	93	101	106	104	107	109	7	8.41	8.3787

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49	Methyl Methacrylate	81	82	93	100	95	105	107	112	115	109	9.8	12.05	8.4828
50	Bromodichloromethane	84	86	91	103	96	105	110	112	114	------	9.8	11.45	8.7229
20 51	1,4-Dioxane	------	114	102	107	82	87	107	103	099	------	15.5	28.06	8.7659
52	Dibromomethane	------	76	85	99	92	102	110	110	112	114	10.6	13.33	8.8001
53	2-Chloroethyl vinyl ether	------	------	70	96	91	110	107	104	110	111	10.5	13.97	9.2020
5 54	4-Methyl-2-pentanone	91	87	93	105	95	106	106	112	105	------	7.8	8.73	9.2419
55	cis-1,3-Dichloropropene	------	80	86	101	93	101	105	108	111	115	9.1	11.54	9.5539
56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3490
57	Toluene-d8	------	75	93	102	104	118	109	------	------	------	10.6	14.59	9.9123
58	Toluene	91	94	100	104	98	100	101	101	112	------	3.9	5.89	10.0353
59	Ethyl methacrylate	------	78	86	95	93	99	108	108	115	117	10.9	13.28	10.3373
60	trans-1,3-Dichloropropene	------	------	82	92	89	97	105	106	111	118	10	12.21	10.3362
61	1,1,2-Trichloroethane	85	84	99	101	96	101	106	104	109	115	7.2	9.73	10.5788
5 62	2-Hexanone	90	80	92	99	95	106	111	110	117	------	9.7	11.94	10.6055
63	1,3-Dichloropropane	81	85	99	104	97	102	104	106	109	113	7.7	10.17	10.9820
64	Tetrachloroethene	83	90	103	107	95	100	101	102	106	113	6.5	8.75	11.0667
65	Dibromochloromethane	------	------	82	92	88	98	105	108	112	115	10.2	11.97	11.3869
66	1,2-Dibromoethane	72	83	91	103	96	103	106	111	116	117	11.4	14.43	11.7124
67	1-Chlorohexane	81	85	99	103	96	102	108	106	109	111	7.8	9.98	12.0144
68	Chlorobenzene	83	85	96	103	100	103	104	104	108	113	7.1	9.47	12.4100
69	1,1,1,2-Tetrachloroethane	70	88	94	104	95	102	109	108	114	117	10.8	13.96	12.4904
70	Ethylbenzene	89	90	98	106	95	100	105	106	110	------	6.2	7.51	12.5129
2 71	m-Xylene & p-Xylene	88	92	101	103	95	105	107	108	102	------	5.6	6.89	12.6402
72	o-Xylene	83	91	100	106	94	102	103	105	108	108	6.4	8.18	13.3770
73	Styrene	94	90	91	100	94	102	104	103	111	111	6.3	7.64	13.4409
74	Isopropylbenzene	84	87	96	105	99	104	106	108	111	------	7.5	9.32	14.0038
75	Cis-1,4-Dichloro-2-Butene	------	------	81	90	91	99	105	109	113	108	9.2	11.25	14.1054
76	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.1837
77	Bromoform	------	------	80	89	86	97	100	113	117	118	12	14.68	13.9994
78	1,1,2,2-Tetrachloroethane	89	93	97	104	97	99	102	106	108	105	5.1	6.22	14.3126
79	4-Bromofluorobenzene	------	81	91	101	106	113	108	------	------	------	9.3	11.93	14.4320
80	1,2,3-Trichloropropane	------	82	95	108	94	98	99	107	110	108	7.2	9.06	14.5670
81	trans-1,4-Dichloro-2-butene	------	------	81	95	90	97	103	111	114	110	9.3	11.51	14.7079
82	n-Propylbenzene	83	90	95	106	96	101	104	110	114	------	7.8	9.73	14.7046
83	Bromobenzene	77	93	95	103	95	100	102	109	112	114	8.1	10.90	14.7470
84	1,3,5-Trimethylbenzene	79	91	94	105	98	100	101	106	112	114	7.8	10.47	14.9910
85	2-Chlorotoluene	79	93	95	108	98	98	101	106	110	112	7.4	9.84	14.9984
86	4-Chlorotoluene	73	89	97	101	96	100	105	109	114	116	9	12.52	15.0862
87	tert-Butylbenzene	70	93	97	109	98	100	104	108	111	109	8.4	12.12	15.6188
88	1,2,4-Trimethylbenzene	79	88	94	108	98	102	103	107	110	113	8.3	10.54	15.6812
89	sec-Butylbenzene	83	93	96	108	98	99	103	105	106	108	6.1	7.91	15.9966
90	p-Isopropyltoluene	83	89	94	104	98	103	102	106	110	109	7	8.81	16.2525
91	1,3-Dichlorobenzene	84	90	94	104	97	101	102	107	109	112	6.9	8.73	16.3819
92	1,2,3-Trimethylbenzene	82	91	96	107	97	100	103	105	107	112	6.9	8.94	16.5247
93	1,4-Dichlorobenzene	86	92	92	102	98	99	104	104	109	112	6.5	8.23	16.5767
94	n-Butylbenzene	79	90	92	107	97	101	105	108	108	112	8.4	10.42	16.9918
95	1,2-Dichlorobenzene	84	93	97	104	97	101	104	103	106	111	5.8	7.59	17.2298
96	1,2-Dibromo-3-chloropropane	------	------	87	94	88	95	103	109	113	111	9.2	10.65	18.5272
97	1,2,4-Trichlorobenzene	86	93	89	105	94	100	107	112	114	------	8.4	9.96	19.5723
98	Hexachlorobutadiene	91	93	91	102	93	98	102	107	107	117	6.9	8.51	19.7289
99	Naphthalene	93	89	93	98	93	98	104	115	118	------	8.1	10.20	19.8252
100	1,2,3-Trichlorobenzene	83	90	95	106	93	102	105	112	115	------	8.7	10.58	20.0715

For 8260C
SM
7/31/19

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :02
IC Beginning DateTime :06/29/19 12:07
Spike Amount :50 PPB
CC/CV File :RFP454
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
IC Ending DateTime :06/29/19 15:51
HPChem Method :VO02F29
Date_Time :06/29/19 17:06

M	IDX	Parameters	CC Con	CC% D	CC Resp	CCRRF	AVRRF	CC Rtm	AVRtm	% RSD	Co X0	Co X1	Co X2	Co Cor
	1	1,4-DIFLUOROBENZENE	50.000	0	1411705	1	1	7.663	7.665	0				
	2	Dichlorodifluoromethane	52.021	4.0	415371	0.294	0.283	1.743	1.729	9.82				
	3	Chloromethane	52.481	5.0	660697	0.468	0.446	1.996	1.990	11.51				
	4	Vinyl chloride	54.767	9.5	601087	0.426	0.389	2.115	2.109	13.10				
	5	Bromomethane	50.448	0.9	465833	0.330	0.327	2.591	2.580	7.90				
	6	Chloroethane	51.796	3.6	389805	0.276	0.267	2.680	2.677	8.50				
	7	Dichlorofluoromethane	47.748	-4.5	953880	0.676	0.708	2.724	2.714	3.70				
	8	Trichlorofluoromethane	50.524	1.0	459273	0.325	0.322	2.963	2.958	7.67				
5	9	Acrolein	231.836	-7.3	442006	0.063	0.068	3.438	3.440	9.30				
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	48.643	-2.7	292952	0.208	0.213	3.483	3.476	6.03				
5	11	Acetone	235.904	-5.6	759405	0.108	0.114	3.513	3.516	10.74				
	12	1,1-Dichloroethene	48.554	-2.9	806798	0.572	0.589	3.677	3.671	5.16				
5	13	tert-Butyl alcohol	265.347	6.1	329435	0.047	0.044	3.766	3.769	8.94				
10	14	Acetonitrile	504.754	1.0	648218	0.046	0.045	3.840	3.837	11.06				
	15	Iodomethane	48.701	-2.6	746322	0.529	0.543	4.048	4.050	7.02				
	16	Methyl Acetate	52.016	4.0	559039	0.396	0.381	4.063	4.064	8.76				
	17	Allyl Chloride	51.181	2.4	283406	0.201	0.196	4.108	4.108	5.48				
	18	Methylene chloride	48.348	-3.3	739107	0.524	0.541	4.272	4.273	3.12				
	19	Carbon disulfide	51.944	3.9	2008555	1.423	1.370	4.272	4.260	8.04				
5	20	Acrylonitrile	250.322	0.1	1185542	0.168	0.168	4.405	4.407	10.29				
	21	tert-Butyl methyl ether (MTBE)	49.820	-0.4	1349275	0.956	0.959	4.435	4.438	8.61				
	22	trans-1,2-Dichloroethene	50.181	0.4	854408	0.605	0.603	4.614	4.603	8.72				
	23	Isopropyl ether (DIPE)	49.709	-0.6	2463804	1.745	1.755	5.015	5.015	7.04				
	24	1,1-Dichloroethane	49.643	-0.7	1167487	0.827	0.833	5.149	5.151	7.07				
	25	Vinyl acetate	49.517	-1.0	1432091	1.014	1.024	5.164	5.160	9.45				
5	26	2-Butanol	249.329	-0.3	323658	0.046	0.046	5.447	5.440	10.56				
	27	tert-Butyl ethyl ether (ETBE)	49.569	-0.9	1860941	1.318	1.330	5.536	5.539	7.55				
5	28	2-Butanone	257.261	2.9	334788	0.047	0.046	5.700	5.701	10.89				
10	29	Propionitrile	500.981	0.2	822985	0.058	0.058	5.804	5.804	11.74				
	30	2,2-Dichloropropane	47.914	-4.2	379700	0.269	0.281	5.878	5.878	7.05				
	31	cis-1,2-Dichloroethene	50.439	0.9	584173	0.414	0.410	5.938	5.939	11.04				
10	32	Methylacrynonitrile	516.270	3.3	957614	0.068	0.066	6.057	6.063	10.16				
20	33	Isobutyl Alcohol	928.760	-7.1	627174	0.022	0.024	6.086	6.091	12.72				
	34	Chloroform	48.283	-3.4	949214	0.672	0.696	6.146	6.147	6.02				
	35	Bromochloromethane	50.207	0.4	613320	0.434	0.433	6.369	6.363	9.45				
	36	Tetrahydrofuran	48.413	-3.2	193895	0.137	0.142	6.414	6.413	5.24				
	37	Dibromofluoromethane	56.817	13.6	539892	0.382	0.337	6.444	6.431	14.89				
	38	1,1,1-Trichloroethane	49.465	-1.1	519092	0.368	0.372	6.681	6.683	6.52				
	39	Cyclohexane	53.422	6.8	798060	0.565	0.529	6.696	6.698	14.11				
	40	1,1-Dichloropropene	50.083	0.2	231338	0.164	0.164	6.905	6.891	10.56				
	41	Carbon tetrachloride	50.631	1.3	421654	0.299	0.295	7.024	7.025	12.91				
	42	tert-Amyl methyl ether (TAME)	50.809	1.6	275953	0.195	0.192	7.068	7.056	8.75				
	43	1,2-Dichloroethane-d4	57.616	15.2	546352	0.387	0.336	7.113	7.116	14.28				
	44	1,2-Dichloroethane	49.528	-0.9	627675	0.445	0.449	7.247	7.248	12.20				
	45	Benzene	48.513	-3.0	2391130	1.694	1.746	7.262	7.263	7.86				
	46	Trichloroethene	49.409	-1.2	526303	0.373	0.377	8.124	8.126	10.28				
	47	Methylcyclohexane	55.147	10.3	1035993	0.734	0.665	8.199	8.202	14.04				
	48	1,2-Dichloropropane	48.818	-2.4	674605	0.478	0.489	8.392	8.379	8.41				
	49	Methyl Methacrylate	52.353	4.7	456026	0.323	0.309	8.481	8.483	12.05				
	50	Bromodichloromethane	52.340	4.7	666891	0.472	0.451	8.719	8.723	11.45				
20	51	1,4-Dioxane	923.635	-7.6	79822	0.003	0.003	8.764	8.766	28.06	-0.0013	0.0030	0.0000	0.9984
	52	Dibromomethane	49.560	-0.9	362254	0.257	0.259	8.809	8.800	13.33				
	53	2-Chloroethyl vinyl ether	45.828	-8.3	171632	0.122	0.133	9.210	9.202	13.97				
5	54	4-Methyl-2-pentanone	253.515	1.4	3658719	0.518	0.511	9.240	9.242	8.73				
	55	cis-1,3-Dichloropropene	49.189	-1.6	956338	0.677	0.689	9.552	9.554	11.54				
	56	CHLOROBENZENE-D5	50.000	0	1059739	1	1	12.349	12.349	0				
	57	Toluene-d8	56.710	13.4	1750996	1.652	1.457	9.910	9.912	14.59				
	58	Toluene	50.107	0.2	2066574	1.950	1.946	10.043	10.035	5.89				
	59	Ethyl methacrylate	53.127	6.3	769738	0.726	0.684	10.341	10.337	13.28				
	60	trans-1,3-Dichloropropene	50.760	1.5	760048	0.717	0.706	10.341	10.336	12.21				
	61	1,1,2-Trichloroethane	51.062	2.1	417719	0.394	0.386	10.579	10.579	9.73				
5	62	2-Hexanone	255.740	2.3	2288403	0.432	0.422	10.609	10.606	11.94				
	63	1,3-Dichloropropane	52.690	5.4	862238	0.814	0.772	10.981	10.982	10.17				
	64	Tetrachloroethene	51.182	2.4	400721	0.378	0.369	11.070	11.067	8.75				
	65	Dibromochloromethane	51.389	2.8	482473	0.455	0.443	11.397	11.387	11.97				
	66	1,2-Dibromoethane	54.446	8.9	445131	0.420	0.386	11.724	11.712	14.43				
	67	1-Chlorohexane	51.469	2.9	753196	0.711	0.690	12.022	12.014	9.98				
	68	Chlorobenzene	49.893	-0.2	1195608	1.128	1.131	12.409	12.410	9.47				
	69	1,1,1,2-Tetrachloroethane	52.187	4.4	409116	0.386	0.370	12.498	12.490	13.96				
	70	Ethylbenzene	50.721	1.4	2205763	2.081	2.052	12.513	12.513	7.51				
2	71	m-Xylene & p-Xylene	102.732	2.7	3261462	1.539	1.498	12.647	12.640	6.89				
	72	o-Xylene	51.197	2.4	1615208	1.524	1.489	13.376	13.377	8.18				
	73	Styrene	50.507	1.0	1248796	1.178	1.167	13.450	13.441	7.64				
	74	Isopropylbenzene	50.965	1.9	1849051	1.745	1.712	14.000	14.004	9.32				
	75	Cis-1,4-Dichloro-2-Butene	50.445	0.9	162028	0.153	0.152	14.104	14.105	11.25				
	76	1,2-DICHLOROBENZENE-D4	50.000	0	397817	1	1	17.184	17.184	0				
	77	Bromoform	47.926	-4.1	262903	0.661	0.689	14.000	13.999	14.63				
	78	1,1,2,2-Tetrachloroethane	50.013	0.0	617825	1.553	1.553	14.313	14.313	6.22				
	79	4-Bromofluorobenzene	59.552	19.1	542141	1.363	1.144	14.432	14.432	11.93				
	80	1,2,3-Trichloropropane	50.756	1.5	118006	0.297	0.292	14.566	14.567	9.06				
	81	trans-1,4-Dichloro-2-butene	47.351	-5.3	129013	0.324	0.342	14.714	14.708	11.51				
	82	n-Propylbenzene	50.563	1.1	2410965	6.060	5.993	14.714	14.705	9.73				
	83	Bromobenzene	51.027	2.1	487755	1.226	1.201	14.744	14.747	10.90				
	84	1,3,5-Trimethylbenzene	49.894	-0.2	1392923	3.501	3.509	14.997	14.991	10.47				
	85	2-Chlorotoluene	48.431	-3.1	421221	1.059	1.093	14.997	14.998	9.84				
	86	4-Chlorotoluene	51.788	3.6	406397	1.022	0.986	15.086	15.086	12.52				
	87	tert-Butylbenzene	51.031	2.1	283457	0.713	0.698	15.622	15.619	12.12				
	88	1,2,4-Trimethylbenzene	49.883	-0.2	1328404	3.339	3.347	15.681	15.681	10.54				
	89	sec-Butylbenzene	51.493	3.0	1952356	4.908	4.765	15.994	15.997	7.91				
	90	p-Isopropyltoluene	52.303	4.6	1510490	3.797	3.630	16.261	16.253	8.81				
	91	1,3-Dichlorobenzene	51.658	3.3	813182	2.044	1.978	16.381	16.382	8.73				
	92	1,2,3-Trimethylbenzene	50.232	0.5	1300351	3.269	3.254	16.529	16.525	8.94				
	93	1,4-Dichlorobenzene	49.584	-0.8	779111	1.958	1.975	16.574	16.577	8.23				
	94	n-Butylbenzene	51.284	2.6	1434111	3.605	3.515	16.990	16.992	10.42				
	95	1,2-Dichlorobenzene	50.197	0.4	718162	1.805	1.798	17.228	17.230	7.59				
	96	1,2-Dibromo-3-chloropropane	48.362	-3.3	74687	0.188	0.194	18.538	18.527	10.65				
	97	1,2,4-Trichlorobenzene	48.765	-2.5	313908	0.789	0.809	19.579	19.572	9.96				
	98	Hexachlorobutadiene	48.058	-3.9	157269	0.395	0.411	19.728	19.729	8.51				
	99	Naphthalene	48.680	-2.6	819320	2.060	2.115	19.832	19.825	10.20				
	100	1,2,3-Trichlorobenzene	49.498	-1.0	283740	0.713	0.720	20.070	20.072	10.58				

Spike Amount = Nominal Amount * M

SM 7/3/19

DAILY CALIBRATIONS

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RGP132
Instrument ID: 02
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G035
BFB Injection Date : 07/08/19
BFB Injection Time : 10:16
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.71
75	30.0 - 60.0% of mass 95	45.64
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.55
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	93.79
175	5.0 - 9.0% of mass 174	6.95(7.4)1
176	95.0 - 101.0% of mass 174	89.40(95.3)1
177	5.0 - 9.0% of mass 176	5.24(5.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002F2903	RGP133	07/08/19	10:40
2	MBLK1S	VS02G06B	RGP137	07/08/19	12:23
3	LCS1S	VS02G06L	RGP134	07/08/19	11:08
4	LCD1S	VS02G06C	RGP135	07/08/19	11:33
5	MBLK2S	VPG015SB	RGP140	07/08/19	13:38
6	OU2-SB50	G035-05	RGP141	07/08/19	14:03
7	OU2-SB46	G035-01	RGP142	07/08/19	14:28
8	OU2-SB45	G035-02	RGP144	07/08/19	15:18
9	OU2-SB48	G035-03	RGP145	07/08/19	15:43
10	OU2-SB49	G035-04	RGP146	07/08/19	16:08
11	OU2-SB52	G035-06	RGP147	07/08/19	16:32
12	OU2-SB51	G035-07	RGP148	07/08/19	16:57
13	OU2-SB93	G035-08	RGP149	07/08/19	17:22
14	OU2-SB55	G035-09	RGP150	07/08/19	17:47
15	OU2-SB50MS	G035-05M	RGP153	07/08/19	19:02
16	OU2-SB50MSD	G035-05S	RGP154	07/08/19	19:27

FORM 8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX Inc
Lab Code : EMXT
Lab File ID : RFP447
Instrument ID: 02
GC Column : RTX502.2ID:0.25mm (mm)

Project: VHA-SLC
SDG No: 19G035
Date Analyzed: 06/29/2019
Time Analyzed: 14:11
Heated Purge (Y/N): Y

		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5		1,2-DICHLOROBENZENE-D4	
		AREA #	RT(min)	AREA #	RT(min)	AREA #	RT(min)
	12 HOUR STD	1427074	7.66	1107798	12.35	413985	17.18
	UPPER LIMIT	2854148	7.83	2215596	12.52	827970	17.35
	LOWER LIMIT	713537	7.49	553899	12.18	206993	17.01
	SAMPLE ID						
1	VSTD050	2126885	7.68	1767694	12.35	706155	17.18
2	MBLK1S	1892041	7.66	1497935	12.35	557269	17.18
3	LCS1S	2046153	7.66	1705843	12.35	644259	17.18
4	LCD1S	1976600	7.66	1695642	12.35	652611	17.18
5	MBLK2S	2076584	7.67	1652043	12.34	598267	17.17
6	OU2-SB50	1886758	7.67	1449617	12.35	509930	17.19
7	OU2-SB46	1814946	7.66	1380534	12.35	500825	17.18
8	OU2-SB45	1879541	7.66	1429575	12.35	485170	17.18
9	OU2-SB48	1876924	7.67	1455903	12.35	515811	17.19
10	OU2-SB49	1807780	7.67	1369432	12.35	471687	17.19
11	OU2-SB52	1755759	7.66	1391042	12.35	506021	17.18
12	OU2-SB51	1834318	7.66	1400340	12.35	455089	17.18
13	OU2-SB93	1789836	7.66	1381904	12.35	432300	17.18
14	OU2-SB55	1856423	7.67	1456824	12.34	477363	17.19
15	OU2-SB50MS	1938590	7.66	1527017	12.35	561429	17.18
16	OU2-SB50MSD	1870032	7.67	1542592	12.35	575757	17.19

Area Upper Limit = + 100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 0.167 min. (10 sec.) of internal standard RT
RT Lower Limit = - 0.167 min. (10 sec.) of internal standard RT

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D
Acq On : 8 Jul 2019 10:40 am
Sample : CVO02F2903
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I 1,4-DIFLUOROBENZENE	50.000	50.000	0.0	149	0.04
2	P,T,M Dichlorodifluoromethane	50.000	51.828	-3.7	142	0.01
3	P,T,M Chloromethane	50.000	49.563	0.9	133	0.01
4	P,C,T,M Vinyl chloride	50.000	53.712	-7.4	137	0.00
5	P,T,M Bromomethane	50.000	49.909	0.2	139	0.01
6	P,T,M Chloroethane	50.000	50.719	-1.4	141	0.03
7	T,M Dichlorofluoromethane	50.000	46.031	7.9	137	0.01
8	P,T,M Trichlorofluoromethane	50.000	53.674	-7.3	150	0.01
9	T,M Acrolein	250.000	225.142	9.9	148	0.03
10	P,T,M 1,1,2-Trichloro-1,2,2-trifl	50.000	50.326	-0.7	149	0.03
11	P,T,M Acetone	250.000	213.903	14.4	137	0.03
12	P,C,T,M 1,1-Dichloroethene	50.000	45.662	8.7	139	0.03
13	T,M tert-Butyl alcohol	250.000	246.925	1.2	149	0.03
14	T,M Acetonitrile	500.000	450.493	9.9	149	0.03
15	T,M Iodomethane	50.000	50.507	-1.0	151	0.03
16	P,T,M Methyl Acetate	50.000	47.041	5.9	130	0.03
17	T,M Allyl Chloride	50.000	50.437	-0.9	144	0.03
18	P,T,M Methylene chloride	50.000	44.761	10.5	138	0.06
19	P,T,M Carbon disulfide	50.000	52.107	-4.2	150	0.03
20	T,M Acrylonitrile	250.000	236.465	5.4	139	0.04
21	P,T,M tert-Butyl methyl ether (MT	50.000	46.939	6.1	162	0.03
22	P,T,M trans-1,2-Dichloroethene	50.000	50.227	-0.5	145	0.03
23	T,M Isopropyl ether (DIPE)	50.000	46.595	6.8	137	0.04
24	P,T,M 1,1-Dichloroethane	50.000	49.338	1.3	146	0.04
25	T,M Vinyl acetate	50.000	50.613	-1.2	146	0.03
26	T,M 2-Butanol	250.000	242.176	3.1	137	0.03
27	T,M tert-Butyl ethyl ether (ETB	50.000	46.293	7.4	147	0.03
28	P,T,M 2-Butanone	250.000	242.379	3.0	136	0.04
29	T,M Propionitrile	500.000	464.986	7.0	135	0.03
30	T,M 2,2-Dichloropropane	50.000	52.434	-4.9	156	0.04
31	P,T,M cis-1,2-Dichloroethene	50.000	50.526	-1.1	148	0.04
32	T,M Methylacrynonitrile	500.000	455.469	8.9	131	0.04
33	T,M Isobutyl Alcohol	1000.000	890.367	11.0	141	0.04
34	P,C,T,M Chloroform	50.000	47.892	4.2	145	0.04
35	T,M Bromochloromethane	50.000	46.372	7.3	134	0.03
36	T,M Tetrahydrofuran	50.000	44.379	11.2	135	0.03
37	S Dibromofluoromethane	50.000	50.199	-0.4	128	0.03
38	P,T,M 1,1,1-Trichloroethane	50.000	54.257	-8.5	161	0.04
39	P,T,M Cyclohexane	50.000	55.565	-11.1	148	0.04
40	T,M 1,1-Dichloropropene	50.000	52.267	-4.5	151	0.04
41	P,T,M Carbon tetrachloride	50.000	54.488	-9.0	164	0.04

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D
Acq On : 8 Jul 2019 10:40 am
Sample : CVO02F2903
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M tert-Amyl methyl ether (TAM	50.000	48.574	2.9	153	0.04
43	S 1,2-Dichloroethane-d4	50.000	43.588	12.8	111	0.04
44	P,T,M 1,2-Dichloroethane	50.000	49.083	1.8	143	0.04
45	P,T,M Benzene	50.000	50.327	-0.7	151	0.04
46	P,T,M Trichloroethene	50.000	52.043	-4.1	152	0.04
47	P,T,M Methylcyclohexane	50.000	55.119	-10.2	144	0.04
48	P,C,T,M 1,2-Dichloropropane	50.000	48.388	3.2	143	0.04
49	T,M Methyl Methacrylate	50.000	49.393	1.2	140	0.04
50	P,T,M Bromodichloromethane	50.000	52.115	-4.2	148	0.04
51	T,M 1,4-Dioxane	1000.000	968.916	3.1	168	0.04
52	T,M Dibromomethane	50.000	50.502	-1.0	148	0.04
53	T,M 2-Chloroethyl vinyl ether	50.000	41.285	17.4	112	0.04
54	P,T,M 4-Methyl-2-pentanone	250.000	236.029	5.6	133	0.04
55	P,T,M cis-1,3-Dichloropropene	50.000	48.907	2.2	144	0.03
56	I CHLOROBENZENE-D5	50.000	50.000	0.0	160	0.03
57	S Toluene-d8	50.000	44.589	10.8	121	0.04
58	P,C,T,M Toluene	50.000	45.866	8.3	146	0.04
59	T,M Ethyl methacrylate	50.000	44.104	11.8	142	0.03
60	P,T,M trans-1,3-Dichloropropene	50.000	44.516	11.0	146	0.04
61	P,T,M 1,1,2-Trichloroethane	50.000	46.285	7.4	147	0.03
62	P,T,M 2-Hexanone	250.000	226.726	9.3	137	0.03
63	T,M 1,3-Dichloropropane	50.000	45.619	8.8	143	0.04
64	P,T,M Tetrachloroethene	50.000	49.710	0.6	159	0.03
65	P,T,M Dibromochloromethane	50.000	44.605	10.8	146	0.04
66	P,T,M 1,2-Dibromoethane	50.000	47.261	5.5	146	0.04
67	T,M 1-Chlorohexane	50.000	50.659	-1.3	159	0.04
68	P,T,M Chlorobenzene	50.000	46.725	6.5	145	0.04
69	T,M 1,1,1,2-Tetrachloroethane	50.000	49.025	2.0	153	0.04
70	P,C,T,M Ethylbenzene	50.000	45.654	8.7	145	0.03
71	P,T,M m-Xylene & p-Xylene	100.000	99.326	0.7	151	0.04
72	P,T,M o-Xylene	50.000	46.539	6.9	145	0.03
73	P,T,M Styrene	50.000	46.314	7.4	144	0.04
74	P,T,M Isopropylbenzene	50.000	50.455	-0.9	155	0.04
75	T,M Cis-1,4-Dichloro-2-Butene	50.000	45.798	8.4	147	0.04
76	I 1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	171	0.03
77	P,T,M Bromoform	50.000	43.720	12.6	154	0.03
78	P,T,M 1,1,2,2-Tetrachloroethane	50.000	42.349	15.3	146	0.03
79	S 4-Bromofluorobenzene	50.000	42.962	14.1	130	0.03
80	T,M 1,2,3-Trichloropropane	50.000	42.459	15.1	148	0.04

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D
Acq On : 8 Jul 2019 10:40 am
Sample : CVO02F2903
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	50.000	41.505	17.0	146	0.04
82	T,M	n-Propylbenzene	50.000	44.386	11.2	149	0.04
83	T,M	Bromobenzene	50.000	45.385	9.2	155	0.04
84	T,M	1,3,5-Trimethylbenzene	50.000	45.257	9.5	154	0.04
85	T,M	2-Chlorotoluene	50.000	44.466	11.1	155	0.03
86	T,M	4-Chlorotoluene	50.000	46.266	7.5	158	0.03
87	T,M	tert-Butylbenzene	50.000	46.070	7.9	157	0.03
88	T,M	1,2,4-Trimethylbenzene	50.000	44.880	10.2	150	0.03
89	T,M	sec-Butylbenzene	50.000	44.277	11.4	152	0.04
90	T,M	p-Isopropyltoluene	50.000	46.424	7.2	153	0.04
91	P,T,M	1,3-Dichlorobenzene	50.000	45.438	9.1	154	0.03
92	T,M	1,2,3-Trimethylbenzene	50.000	45.005	10.0	153	0.04
93	P,T,M	1,4-Dichlorobenzene	50.000	45.641	8.7	157	0.04
94	T,M	n-Butylbenzene	50.000	45.679	8.6	155	0.03
95	P,T,M	1,2-Dichlorobenzene	50.000	44.843	10.3	152	0.03
96	P,T,M	1,2-Dibromo-3-chloropropane	50.000	44.382	11.2	160	0.03
97	P,T,M	1,2,4-Trichlorobenzene	50.000	52.599	-5.2	179	0.03
98	T,M	Hexachlorobutadiene	50.000	49.064	1.9	171	0.01
99	T,M	Naphthalene	50.000	43.976	12.0	153	0.03
100	T,M	1,2,3-Trichlorobenzene	50.000	49.371	1.3	166	0.01

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D
Acq On : 8 Jul 2019 10:40 am
Sample : CVO02F2903
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I 1,4-DIFLUOROBENZENE	1.000	1.000	0.0	149	0.04
2	P,T,M Dichlorodifluoromethane	0.283	0.293	-3.5	142	0.01
3	P,T,M Chloromethane	0.446	0.442	0.9	133	0.01
4	P,C,T,M Vinyl chloride	0.389	0.418	-7.5	137	0.00
5	P,T,M Bromomethane	0.327	0.326	0.3	139	0.01
6	P,T,M Chloroethane	0.267	0.270	-1.1	141	0.03
7	T,M Dichlorofluoromethane	0.708	0.651	8.1	137	0.01
8	P,T,M Trichlorofluoromethane	0.322	0.346	-7.5	150	0.01
9	T,M Acrolein	0.068	0.061	10.3	148	0.03
10	P,T,M 1,1,2-Trichloro-1,2,2-trifl	0.213	0.215	-0.9	149	0.03
11	P,T,M Acetone	0.114	0.098#	14.0	137	0.03
12	P,C,T,M 1,1-Dichloroethene	0.589	0.537	8.8	139	0.03
13	T,M tert-Butyl alcohol	0.044	0.043	2.3	149	0.03
14	T,M Acetonitrile	0.045	0.041	8.9	149	0.03
15	T,M Iodomethane	0.543	0.548	-0.9	151	0.03
16	P,T,M Methyl Acetate	0.381	0.358	6.0	130	0.03
17	T,M Allyl Chloride	0.196	0.198	-1.0	144	0.03
18	P,T,M Methylene chloride	0.541	0.485	10.4	138	0.06
19	P,T,M Carbon disulfide	1.370	1.427	-4.2	150	0.03
20	T,M Acrylonitrile	0.168	0.159	5.4	139	0.04
21	P,T,M tert-Butyl methyl ether (MT	0.959	0.901	6.0	162	0.03
22	P,T,M trans-1,2-Dichloroethene	0.603	0.606	-0.5	145	0.03
23	T,M Isopropyl ether (DIPE)	1.755	1.636	6.8	137	0.04
24	P,T,M 1,1-Dichloroethane	0.833	0.822	1.3	146	0.04
25	T,M Vinyl acetate	1.024	1.037	-1.3	146	0.03
26	T,M 2-Butanol	0.046	0.045	2.2	137	0.03
27	T,M tert-Butyl ethyl ether (ETB	1.330	1.231	7.4	147	0.03
28	P,T,M 2-Butanone	0.046	0.045#	2.2	136	0.04
29	T,M Propionitrile	0.058	0.054	6.9	135	0.03
30	T,M 2,2-Dichloropropane	0.281	0.294	-4.6	156	0.04
31	P,T,M cis-1,2-Dichloroethene	0.410	0.415	-1.2	148	0.04
32	T,M Methylacrynonitrile	0.066	0.060	9.1	131	0.04
33	T,M Isobutyl Alcohol	0.024	0.021	12.5	141	0.04
34	P,C,T,M Chloroform	0.696	0.667	4.2	145	0.04
35	T,M Bromochloromethane	0.433	0.401	7.4	134	0.03
36	T,M Tetrahydrofuran	0.142	0.126	11.3	135	0.03
37	S Dibromofluoromethane	0.337	0.338	-0.3	128	0.03
38	P,T,M 1,1,1-Trichloroethane	0.372	0.403	-8.3	161	0.04
39	P,T,M Cyclohexane	0.529	0.588	-11.2	148	0.04
40	T,M 1,1-Dichloropropene	0.164	0.171	-4.3	151	0.04
41	P,T,M Carbon tetrachloride	0.295	0.321	-8.8	164	0.04

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D
Acq On : 8 Jul 2019 10:40 am
Sample : CVO02F2903
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M tert-Amyl methyl ether (TAM	0.192	0.187	2.6	153	0.04
43	S 1,2-Dichloroethane-d4	0.336	0.293	12.8	111	0.04
44	P,T,M 1,2-Dichloroethane	0.449	0.441	1.8	143	0.04
45	P,T,M Benzene	1.746	1.757	-0.6	151	0.04
46	P,T,M Trichloroethene	0.377	0.393	-4.2	152	0.04
47	P,T,M Methylcyclohexane	0.665	0.733	-10.2	144	0.04
48	P,C,T,M 1,2-Dichloropropane	0.489	0.474	3.1	143	0.04
49	T,M Methyl Methacrylate	0.309	0.305	1.3	140	0.04
50	P,T,M Bromodichloromethane	0.451	0.470	-4.2	148	0.04
51	T,M 1,4-Dioxane	0.003	0.003	0.0	168	0.04
52	T,M Dibromomethane	0.259	0.261	-0.8	148	0.04
53	T,M 2-Chloroethyl vinyl ether	0.133	0.110	17.3	112	0.04
54	P,T,M 4-Methyl-2-pentanone	0.511	0.483	5.5	133	0.04
55	P,T,M cis-1,3-Dichloropropene	0.689	0.674	2.2	144	0.03
56	I CHLOROBENZENE-D5	1.000	1.000	0.0	160	0.03
57	S Toluene-d8	1.457	1.299	10.8	121	0.04
58	P,C,T,M Toluene	1.946	1.785	8.3	146	0.04
59	T,M Ethyl methacrylate	0.684	0.603	11.8	142	0.03
60	P,T,M trans-1,3-Dichloropropene	0.706	0.629	10.9	146	0.04
61	P,T,M 1,1,2-Trichloroethane	0.386	0.357	7.5	147	0.03
62	P,T,M 2-Hexanone	0.422	0.383	9.2	137	0.03
63	T,M 1,3-Dichloropropane	0.772	0.704	8.8	143	0.04
64	P,T,M Tetrachloroethene	0.369	0.367	0.5	159	0.03
65	P,T,M Dibromochloromethane	0.443	0.395	10.8	146	0.04
66	P,T,M 1,2-Dibromoethane	0.386	0.365	5.4	146	0.04
67	T,M 1-Chlorohexane	0.690	0.700	-1.4	159	0.04
68	P,T,M Chlorobenzene	1.131	1.057	6.5	145	0.04
69	T,M 1,1,1,2-Tetrachloroethane	0.370	0.363	1.9	153	0.04
70	P,C,T,M Ethylbenzene	2.052	1.874	8.7	145	0.03
71	P,T,M m-Xylene & p-Xylene	1.498	1.488	0.7	151	0.04
72	P,T,M o-Xylene	1.489	1.385	7.0	145	0.03
73	P,T,M Styrene	1.167	1.081	7.4	144	0.04
74	P,T,M Isopropylbenzene	1.712	1.727	-0.9	155	0.04
75	T,M Cis-1,4-Dichloro-2-Butene	0.152	0.139	8.6	147	0.04
76	I 1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	171	0.03
77	P,T,M Bromoform	0.689	0.603	12.5	154	0.03
78	P,T,M 1,1,2,2-Tetrachloroethane	1.553	1.315	15.3	146	0.03
79	S 4-Bromofluorobenzene	1.144	0.983	14.1	130	0.03
80	T,M 1,2,3-Trichloropropane	0.292	0.248	15.1	148	0.04

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D
Acq On : 8 Jul 2019 10:40 am
Sample : CVO02F2903
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	0.342	0.284	17.0	146	0.04
82	T,M	n-Propylbenzene	5.993	5.320	11.2	149	0.04
83	T,M	Bromobenzene	1.201	1.091	9.2	155	0.04
84	T,M	1,3,5-Trimethylbenzene	3.509	3.176	9.5	154	0.04
85	T,M	2-Chlorotoluene	1.093	0.972	11.1	155	0.03
86	T,M	4-Chlorotoluene	0.986	0.913	7.4	158	0.03
87	T,M	tert-Butylbenzene	0.698	0.643	7.9	157	0.03
88	T,M	1,2,4-Trimethylbenzene	3.347	3.004	10.2	150	0.03
89	T,M	sec-Butylbenzene	4.765	4.220	11.4	152	0.04
90	T,M	p-Isopropyltoluene	3.630	3.370	7.2	153	0.04
91	P,T,M	1,3-Dichlorobenzene	1.978	1.798	9.1	154	0.03
92	T,M	1,2,3-Trimethylbenzene	3.254	2.929	10.0	153	0.04
93	P,T,M	1,4-Dichlorobenzene	1.975	1.803	8.7	157	0.04
94	T,M	n-Butylbenzene	3.515	3.211	8.6	155	0.03
95	P,T,M	1,2-Dichlorobenzene	1.798	1.613	10.3	152	0.03
96	P,T,M	1,2-Dibromo-3-chloropropane	0.194	0.172	11.3	160	0.03
97	P,T,M	1,2,4-Trichlorobenzene	0.809	0.851	-5.2	179	0.03
98	T,M	Hexachlorobutadiene	0.411	0.404	1.7	171	0.01
99	T,M	Naphthalene	2.115	1.861	12.0	153	0.03
100	T,M	1,2,3-Trichlorobenzene	0.720	0.711	1.3	166	0.01

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 6/29/19 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge

Book #: A02-050

BATCH VO02F291

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RFP441	BFB02F18						
02		442	VO02F291	A .02µL B .1mL	NA	NA	NA		1.0ppb 5.0ppb
03		443	2	.04 .2					2 10
04		444	3	.08 .4					4 20
05		445	4	.2 1					10 50
06		446	5	.4 2					20 100
07		447	6	1 5					50 250
08		448	7	2 10					100 500
09		449	8	4 20					200 1000
10		450	9	6 30					300 1500
11		451	10	10 50					500 2500
12		452	RINSE						
13		453	RINSE						
14		454	IVO02F291						50 250
15		455	RINSE						
16		456	LOD VERF-01						0.5
17		457	-02						1 5
18		458	-03						2.5
19		459	LOD/LOQ						5 25
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									IR 7/02/19

Instrument No.	02		
INITIAL CALIBRATION REFERENCE			
DATE	6/29/19		
ICAL ID	VO02F29		
STANDARDS			
NAME	ID	Amount (µl)	Conc. (mg/L)
DCC CS_2	SVI-32-26-02	*	
KET-AA DCC 8260	-45 -01 -41 -02	↓	
DCC GAS	-39 -02		
DCC 4-ADD	-40 -02		
BFB	-44 -03	↓	
IS/SURR. IS SS	-48 -01 -42 -02	1 *	50/250
ICV/LCS CS_2	-05 -02	1	
KET-AA ICV/LCS 8260	-34 -01 -36 -02	5 5	
ICV/LCS GAS	-15 -03	1	
2 BUTANOL ICV/LCS 3 ADD	-32 -03 SVI-31-95-01	5 5	
Data File Folder	19F29		
	LOT #	Syringe Lot #	
pH strip		MSV-01-03-13	
Chlorine strip		-02-11	
Methanol		-02-10-2	
$NaHSO_4$		↓ -04-08	
Reagent Water	RW4-17-002		
Sand	SW1B-004-02-4		
Electronic Data Archival Location		Date	
HPCHEM_VOA/TO02			

Comments: * Varried Amt.
A: CS_2, GAS, 4-Add'l.
B: KET-AA, 8260

☐ Refer to sample weight log

Analyzed By: IR

Date Disposed: 7/01/19 Disposed By: [illegible]

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/08/19 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge

Book #: A02-050

BATCH EV002F2903

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RGP132	BFB02G06						10:16
02		133	CV002F2903						
03		134	VS02G06L						
04		135	↓ C						
05		136	MWSE						
06		137	VS02G06B	5.0g					
07		138	VSG0015B	↓	↓			✓	
08		139	19G022-01I					✓	
09		140	VPG015SB					✓	
10		141	19G035-05					✓	
11		142	↓ -01					✓	
12		143	19G022_01					✓	
13		144	19G035_02					✓	
14		145	-03					✓	
15		146	-04					✓	
16		147	-06					✓	
17		148	-07					✓	
18		149	-08					✓	
19		150	↓ -09					✓	
20		151	19G039_01					✓	
21		152	↓ -02					✓	
22		153	19G035-05M					✓	
23		154	↓ -05S	↓	↓			✓	
24		155	MWSE						
25		156	MWSE						
26		157	19G039-03	↓	↓			✓	
27		158	↓ -04	↓	↓			✓	
28		159	EV002F2903						21:31
29		160	MWSE						
30	↓	161	MWSE						

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	4/04/19
ICAL ID	V002D04F29
	IR 7/10/19 STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-32-26-02	1	
DCC	-45-01 -41-02	5 5	
DCC	-39-02	1	
DCC	-40-02	1	
BFB	-44-03	1	
IS/SURR.	-49-02	1	
ICV/LCS	-05-02	1	50/250
ICV/LCS	-34-01 -32-02	5 5	
ICV/LCS	-15-03	1	
ICV/LCS	SV1-31 -32-03 -95-01	5 5	
Data File Folder	1908		

	LOT #	Syringe Lot #
pH strip		MSV-01-03-13
Chlorine strip		↓ -02-10-2
Methanol		NO1-F5046
$NaHSO_4$		
Reagent Water	RW4-17-002	
Sand	SW13-004-02-24	
Electronic Data Archival Location		Date
HPCHEM_VOA/TO02		

Comments:

☑ Refer to sample weight log

Analyzed By: IR

Date Disposed: 7/09/19 Disposed By: IR

EXTRACTION LOGS

EMAX LABORATORIES, INC.

PRESERVATION LOG FOR VOLATILES

19VPG015

PrepBatchID	Lab Sample ID	W1 (g)	DateTime	Wf (g)	DateTime	ExpWs(g)	Ws(g)	Prep□Factor	Comments
19VPG01501	VPG015SB	30.55	7/8/19 11:26	35.67	7/8/19 11:27	5	5.12	0.98	
19VPG01502	VPG015SQ	30.42	7/8/19 11:28	35.55	7/8/19 11:28	5	5.13	0.97	
19VPG01503	19G035-01	30.71	7/8/19 11:29	36.50	7/8/19 11:30	5	5.79	0.86	
19VPG01504	19G035-02	30.51	7/8/19 11:30	36.72	7/8/19 11:31	5	6.21	0.81	
19VPG01505	19G035-03	30.46	7/8/19 11:31	35.98	7/8/19 11:31	5	5.52	0.91	
19VPG01506	19G035-04	30.58	7/8/19 11:32	36.59	7/8/19 11:32	5	6.01	0.83	
19VPG01507	19G035-05	30.37	7/8/19 11:32	36.58	7/8/19 11:33	5	6.21	0.81	
19VPG01508	19G035-05M	30.41	7/8/19 11:33	36.67	7/8/19 11:34	5	6.26	0.8	
19VPG01509	19G035-05S	30.75	7/8/19 11:34	36.59	7/8/19 11:35	5	5.84	0.86	
19VPG01510	19G035-06	30.79	7/8/19 11:35	37.44	7/8/19 11:36	5	6.65	0.75	
19VPG01511	19G035-07	30.30	7/8/19 11:36	36.54	7/8/19 11:37	5	6.24	0.8	
19VPG01512	19G035-08	30.42	7/8/19 11:37	36.47	7/8/19 11:38	5	6.05	0.83	
19VPG01513	19G035-09	30.78	7/8/19 11:38	36.42	7/8/19 11:39	5	5.64	0.89	

☑ EMAX-5035 Rev. 3 ☑ Balance Calibration Check performed prior to use Surrogate ID: Prepared By: RTorra

☐ Encore+$NaHSO_4 \cdot H_2O$ ☑ BalanceID 25451062 ☐ BalanceID 25650797 BlankSoil Lot#: SW1B-004-02-21 Standard Added By: N/A

☑ Frozen Sample ☐ Pre-weighed vial w/ H2O NaHSO4H2O: Witnessed By: N\A

☐ Pre-weighed vial w/ NaHSO4•H2O soln Expected Ws(g): 5 Extract Rcvd By: IRagas

☐ Volumetric dispenser was checked with 5-ml volumetric flask Sample Location: N/A Checked By: IRagas

W1=Weight of Vial + Stirrer+NaHSO4•H2O+Solvent Wf=W1 + Sample

RAW DATA
VOLATILE ORGANICS

LABORATORY REPORT FOR

JACOBS/CH2M HILL

VHA-SLC

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

SDG#: 19G035

CASE NARRATIVE

Client : JACOBS/CH2M HILL

Project: VHA-SLC

SDG : 19G035

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

A total of nine (9) soil samples were received on 07/03/19 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5035A/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time. Encores are frozen upon receipt.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. All calibration requirements were satisfied. Average response factors for all analytes were within method recommended response factors with the exception of Acetone and 2-Butanone. However, percent recoveries for all target analytes were within 70-130% on all calibration points. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. VPG015SB and VS02G06B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. VS02G06L/VS02G06C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of MS/MSD (G035-05M/G035-05S) was analyzed. all analytes were within project QC limits except for percent recovery for Vinyl Acetate was not within MS/MSD QC limits. No reanalysis was performed because same result was observed in MS/MSD, which is indicative that sample reanalysis will provide similar results. All RPD'S were within limits. Refer to Matrix QC summary form for details.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL
Project : VHA-SLC

SDG NO. : 19G035
Instrument ID : 02

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	VS02G06B	1	NA	07/08/1912:23	07/08/1912:23	RGP137	RFP447	VS02G06	Method Blank
LCS1S	VS02G06L	1	NA	07/08/1911:08	07/08/1911:08	RGP134	RFP447	VS02G06	Lab Control Sample (LCS)
LCD1S	VS02G06C	1	NA	07/08/1911:33	07/08/1911:33	RGP135	RFP447	VS02G06	LCS Duplicate
MBLK2S	VPG015SB	0.98	NA	07/08/1913:38	07/08/1913:38	RGP140	RFP447	VS02G06	Method Blank
OU2-SB50	G035-05	0.81	15.8	07/08/1914:03	07/08/1914:03	RGP141	RFP447	VS02G06	Field Sample
OU2-SB46	G035-01	0.86	21.8	07/08/1914:28	07/08/1914:28	RGP142	RFP447	VS02G06	Field Sample
OU2-SB45	G035-02	0.81	15.9	07/08/1915:18	07/08/1915:18	RGP144	RFP447	VS02G06	Field Sample
OU2-SB48	G035-03	0.91	16.1	07/08/1915:43	07/08/1915:43	RGP145	RFP447	VS02G06	Field Sample
OU2-SB49	G035-04	0.83	17.9	07/08/1916:08	07/08/1916:08	RGP146	RFP447	VS02G06	Field Sample
OU2-SB52	G035-06	0.75	14.3	07/08/1916:32	07/08/1916:32	RGP147	RFP447	VS02G06	Field Sample
OU2-SB51	G035-07	0.8	17.1	07/08/1916:57	07/08/1916:57	RGP148	RFP447	VS02G06	Field Sample
OU2-SB93	G035-08	0.83	17.5	07/08/1917:22	07/08/1917:22	RGP149	RFP447	VS02G06	Field Sample
OU2-SB55	G035-09	0.89	7.1	07/08/1917:47	07/08/1917:47	RGP150	RFP447	VS02G06	Field Sample
OU2-SB50MS	G035-05M	0.8	15.8	07/08/1919:02	07/08/1919:02	RGP153	RFP447	VS02G06	Matrix Spike Sample (MS)
OU2-SB50MSD	G035-05S	0.86	15.8	07/08/1919:27	07/08/1919:27	RGP154	RFP447	VS02G06	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/25/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 14:28
Sample ID: OU2-SB46	Date Analyzed: 07/08/19 14:28
Lab Samp ID: G035-01	Dilution Factor: 0.86
Lab File ID: RGP142	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 21.8
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0055	0.00055
1,1,2,2-TETRACHLOROETHANE	ND	0.0055	0.00055
1,1,2-TRICHLOROETHANE	ND	0.0055	0.00055
1,1-DICHLOROETHANE	ND	0.0055	0.00055
1,1-DICHLOROETHENE	ND	0.0055	0.00055
1,2,3-TRICHLOROBENZENE	ND	0.0055	0.0011
1,2,4-TRICHLOROBENZENE	ND	0.0055	0.0011
1,2,4-TRIMETHYLBENZENE	ND	0.0055	0.00060
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0055	0.0011
1,2-DICHLOROBENZENE	ND	0.0055	0.00055
1,2-DICHLOROETHANE	ND	0.0055	0.00055
1,2-DICHLOROPROPANE	ND	0.0055	0.00055
1,3,5-TRIMETHYLBENZENE	ND	0.0055	0.00065
1,3-DICHLOROBENZENE	ND	0.0055	0.00057
1,4-DICHLOROBENZENE	ND	0.0055	0.00055
2-BUTANONE	ND	0.011	0.0027
2-HEXANONE	ND	0.011	0.0032
ACETONE	ND	0.011	0.0034
BENZENE	ND	0.0055	0.00055
BROMOCHLOROMETHANE	ND	0.0055	0.00055
BROMODICHLOROMETHANE	ND	0.0055	0.00055
BROMOFORM	ND	0.0055	0.0011
BROMOMETHANE	ND	0.011	0.0020
CARBON DISULFIDE	ND	0.0055	0.00055
CARBON TETRACHLORIDE	ND	0.0055	0.00059
CHLOROBENZENE	ND	0.0055	0.00055
CHLOROETHANE	ND	0.0055	0.0014
CHLOROFORM	ND	0.0055	0.00055
CHLOROMETHANE	ND	0.0055	0.0011
CIS-1,2-DICHLOROETHYLENE	ND	0.0055	0.00055
DIBROMOCHLOROMETHANE	ND	0.0055	0.00055
DICHLORODIFLUOROMETHANE	ND	0.0055	0.0013
ETHYLBENZENE	ND	0.0055	0.00055
ISOPROPYLBENZENE	ND	0.0055	0.00070
M,P-XYLENE	ND	0.011	0.0011
4-METHYL-2-PENTANONE	ND	0.011	0.0031
METHYLENE CHLORIDE	ND	0.011	0.0011
TERT-BUTYL METHYL ETHER	ND	0.0055	0.00055
O-XYLENE	ND	0.0055	0.00055
STYRENE	ND	0.0055	0.00055
TETRACHLOROETHENE	ND	0.0055	0.00055
TOLUENE	ND	0.0055	0.00055
TRANS-1,2-DCE	ND	0.0055	0.00055
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0055	0.0011
CIS-1,3-DICHLOROPROPENE	ND	0.0055	0.0011
TRANS-1,3-DICHLOROPROPENE	ND	0.0055	0.0011
TCE	ND	0.0055	0.00055
TRICHLOROFLUOROMETHANE	ND	0.0055	0.0012
VINYL CHLORIDE	ND	0.0055	0.0015
1,2-DIBROMOETHANE	ND	0.0055	0.00055
VINYL ACETATE	ND	0.0055	0.0014
TRICHLOROTRIFLUOROETHANE	ND	0.0055	0.0011
METHYL ACETATE	ND	0.0055	0.0016

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0460	0.05499	83.7	70-130
BROMOFLUOROBENZENE	0.0500	0.05499	90.9	70-130
TOLUENE-D8	0.0511	0.05499	92.9	70-130
DIBROMOFLUOROMETHANE	0.0537	0.05499	97.7	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP142.D Vial: 11
Acq On : 8 Jul 2019 2:28 pm Operator: IRagas
Sample : 19G035-01 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:23 2019 Quant Results File: VO02F29.RES

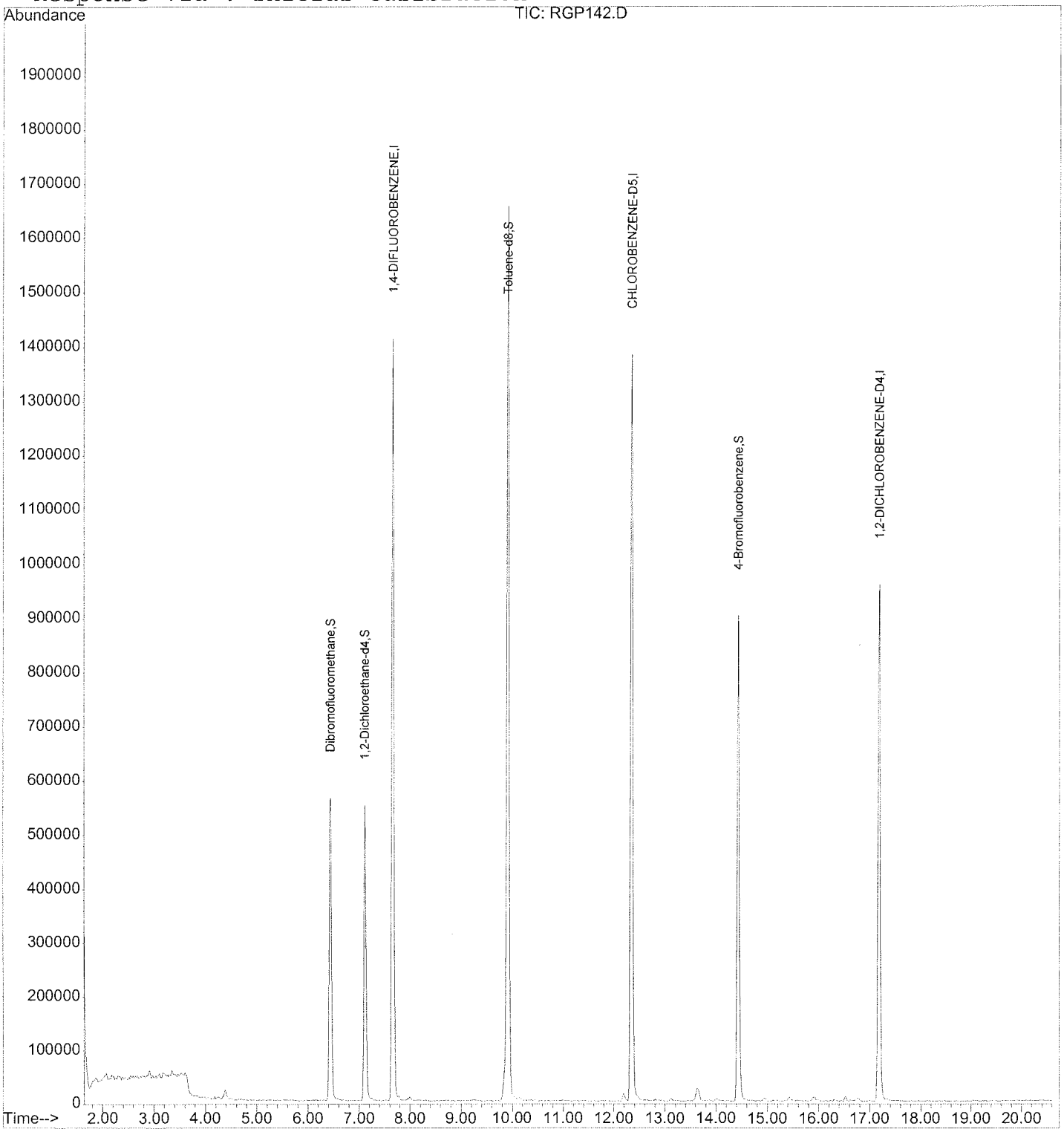
Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1814946	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1380534	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	500825	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	596773	48.85	ug/l	0.03
Spiked Amount 50.000			Recovery =	97.70%		
43) 1,2-Dichloroethane-d4	7.11	65	510329	41.86	ug/l	0.03
Spiked Amount 50.000			Recovery =	83.72%		
57) Toluene-d8	9.91	98	1868481	46.45	ug/l	0.03
Spiked Amount 50.000			Recovery =	92.90%		
79) 4-Bromofluorobenzene	14.43	95	520964	45.46	ug/l	0.03
Spiked Amount 50.000			Recovery =	90.92%		
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration
RGP142.D VO02F29.M Tue Jul 09 14:05:52 2019 Page 1

Data File : D:\HPCHEM\1\DATA\19G08\RGP142.D Vial: 11
Acq On : 8 Jul 2019 2:28 pm Operator: IRagas
Sample : 19G035-01 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:23 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 15:18
Sample ID: OU2-SB45	Date Analyzed: 07/08/19 15:18
Lab Samp ID: G035-02	Dilution Factor: 0.81
Lab File ID: RGP144	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 15.9
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0048	0.00048
1,1,2,2-TETRACHLOROETHANE	ND	0.0048	0.00048
1,1,2-TRICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHENE	ND	0.0048	0.00048
1,2,3-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRIMETHYLBENZENE	ND	0.0048	0.00053
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0048	0.00096
1,2-DICHLOROBENZENE	ND	0.0048	0.00048
1,2-DICHLOROETHANE	ND	0.0048	0.00048
1,2-DICHLOROPROPANE	ND	0.0048	0.00048
1,3,5-TRIMETHYLBENZENE	ND	0.0048	0.00057
1,3-DICHLOROBENZENE	ND	0.0048	0.00050
1,4-DICHLOROBENZENE	ND	0.0048	0.00048
2-BUTANONE	ND	0.0096	0.0024
2-HEXANONE	ND	0.0096	0.0028
ACETONE	0.051	0.0096	0.0030
BENZENE	ND	0.0048	0.00048
BROMOCHLOROMETHANE	ND	0.0048	0.00048
BROMODICHLOROMETHANE	ND	0.0048	0.00048
BROMOFORM	ND	0.0048	0.00096
BROMOMETHANE	ND	0.0096	0.0017
CARBON DISULFIDE	ND	0.0048	0.00048
CARBON TETRACHLORIDE	ND	0.0048	0.00052
CHLOROBENZENE	ND	0.0048	0.00048
CHLOROETHANE	ND	0.0048	0.0013
CHLOROFORM	ND	0.0048	0.00048
CHLOROMETHANE	ND	0.0048	0.00096
CIS-1,2-DICHLOROETHYLENE	ND	0.0048	0.00048
DIBROMOCHLOROMETHANE	ND	0.0048	0.00048
DICHLORODIFLUOROMETHANE	ND	0.0048	0.0012
ETHYLBENZENE	ND	0.0048	0.00048
ISOPROPYLBENZENE	ND	0.0048	0.00062
M,P-XYLENE	ND	0.0096	0.00096
4-METHYL-2-PENTANONE	ND	0.0096	0.0027
METHYLENE CHLORIDE	ND	0.0096	0.00096
TERT-BUTYL METHYL ETHER	ND	0.0048	0.00048
O-XYLENE	ND	0.0048	0.00048
STYRENE	ND	0.0048	0.00048
TETRACHLOROETHENE	ND	0.0048	0.00048
TOLUENE	ND	0.0048	0.00048
TRANS-1,2-DCE	ND	0.0048	0.00048
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0048	0.00096
CIS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TRANS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TCE	ND	0.0048	0.00048
TRICHLOROFLUOROMETHANE	ND	0.0048	0.0011
VINYL CHLORIDE	ND	0.0048	0.0013
1,2-DIBROMOETHANE	ND	0.0048	0.00048
VINYL ACETATE	ND	0.0048	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0048	0.00096
METHYL ACETATE	ND	0.0048	0.0014

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0409	0.04816	84.9	70-130
BROMOFLUOROBENZENE	0.0450	0.04816	93.5	70-130
TOLUENE-D8	0.0442	0.04816	91.7	70-130
DIBROMOFLUOROMETHANE	0.0465	0.04816	96.6	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP144.D Vial: 13
Acq On : 8 Jul 2019 3:18 pm Operator: IRagas
Sample : 19G035-02 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:41 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1879541	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1429575	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	485170	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	610878	48.29	ug/l	0.03
Spiked Amount 50.000			Recovery =	96.58%		
43) 1,2-Dichloroethane-d4	7.11	65	535849	42.44	ug/l	0.03
Spiked Amount 50.000			Recovery =	84.88%		
57) Toluene-d8	9.91	98	1909755	45.85	ug/l	0.03
Spiked Amount 50.000			Recovery =	91.70%		
79) 4-Bromofluorobenzene	14.43	95	519239	46.77	ug/l	0.03
Spiked Amount 50.000			Recovery =	93.54%		
Target Compounds						Qvalue
11) Acetone	3.51	43	225670	52.65	ug/l	96

(#) = qualifier out of range (m) = manual integration
RGP144.D VO02F29.M Tue Jul 09 14:06:07 2019 Page 1

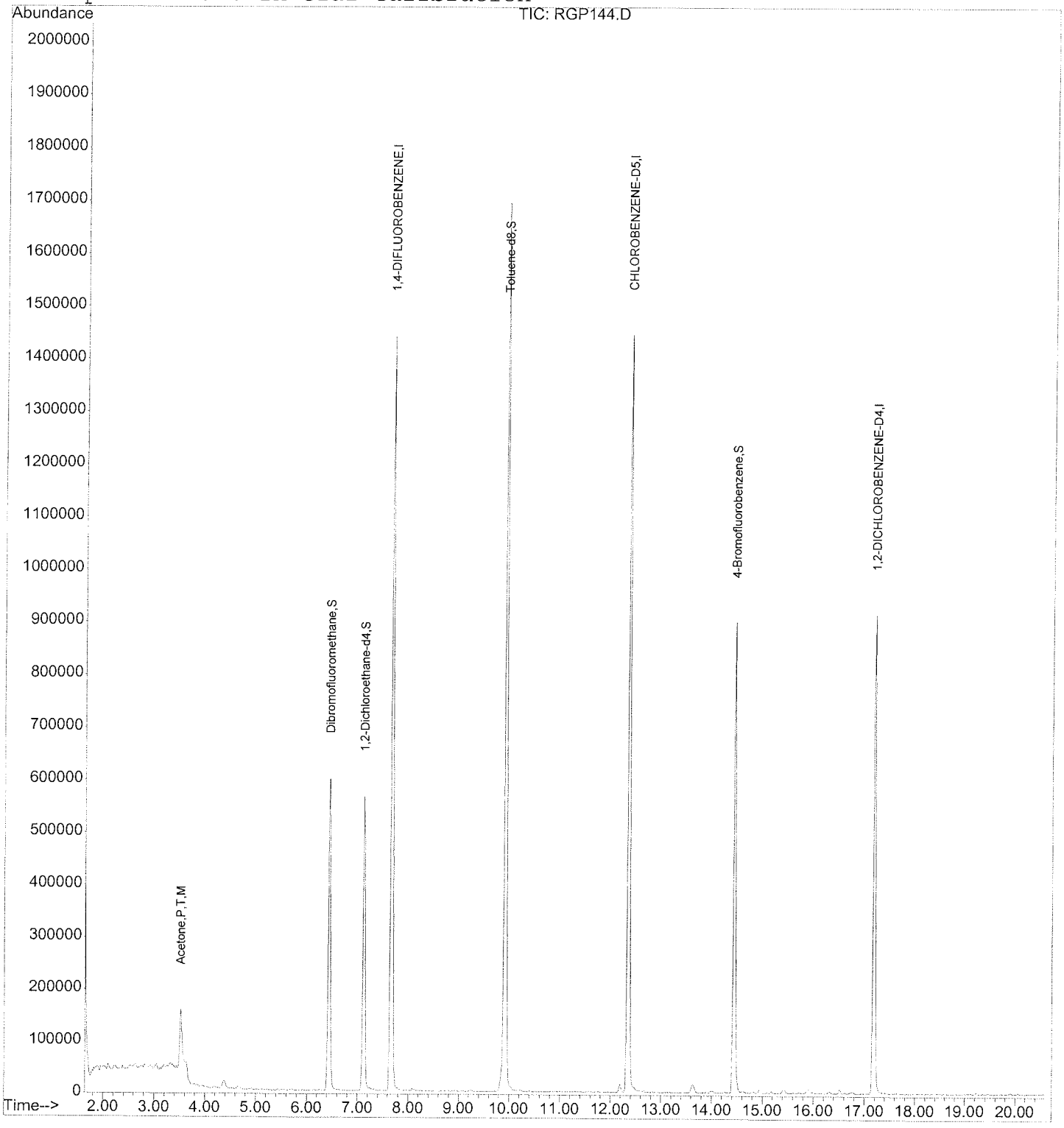
Quantitation Report

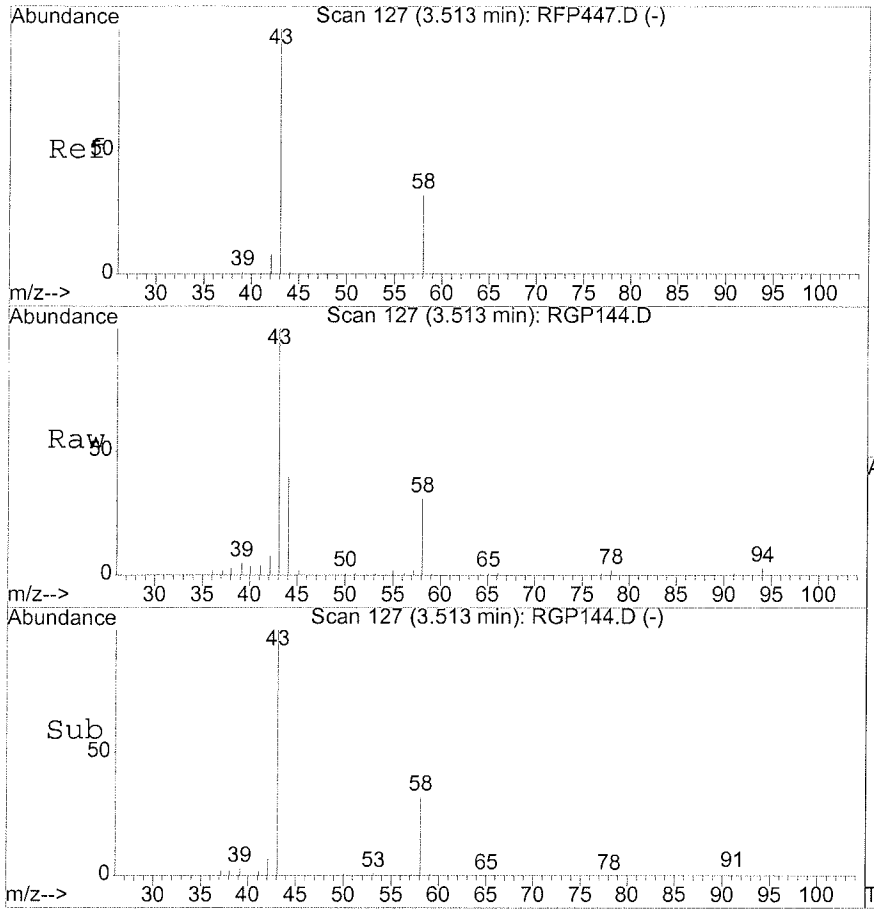
Data File : D:\HPCHEM\1\DATA\19G08\RGP144.D
Acq On : 8 Jul 2019 3:18 pm
Sample : 19G035-02
Misc :
MS Integration Params: RTE.P
Quant Time: Jul 9 10:41 2019

Vial: 13
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration

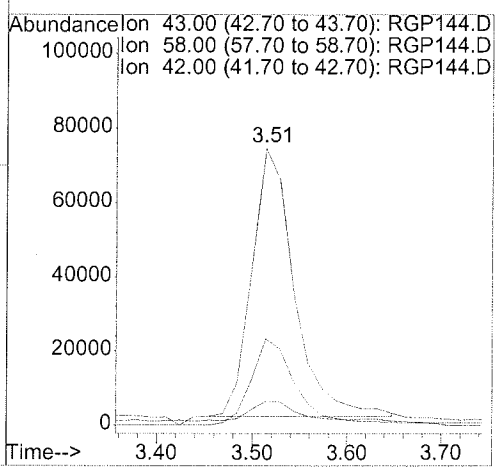




#11
Acetone
Concen: 52.65 ug/l
RT: 3.51 min Scan# 127
Delta R.T. 0.01 min
Lab File: RGP144.D
Acq: 8 Jul 2019 3:18 pm

Tgt Ion: 43 Resp: 225670

Ion	Ratio	Lower	Upper
43	100		
58	34.0	1.6	61.6
42	7.1	0.0	37.7



METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 15:43
Sample ID: OU2-SB48	Date Analyzed: 07/08/19 15:43
Lab Samp ID: G035-03	Dilution Factor: 0.91
Lab File ID: RGP145	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 16.1
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0054	0.00054
1,1,2,2-TETRACHLOROETHANE	ND	0.0054	0.00054
1,1,2-TRICHLOROETHANE	ND	0.0054	0.00054
1,1-DICHLOROETHANE	ND	0.0054	0.00054
1,1-DICHLOROETHENE	ND	0.0054	0.00054
1,2,3-TRICHLOROBENZENE	ND	0.0054	0.0011
1,2,4-TRICHLOROBENZENE	ND	0.0054	0.0011
1,2,4-TRIMETHYLBENZENE	ND	0.0054	0.00060
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0054	0.0011
1,2-DICHLOROBENZENE	ND	0.0054	0.00054
1,2-DICHLOROETHANE	ND	0.0054	0.00054
1,2-DICHLOROPROPANE	ND	0.0054	0.00054
1,3,5-TRIMETHYLBENZENE	ND	0.0054	0.00064
1,3-DICHLOROBENZENE	ND	0.0054	0.00056
1,4-DICHLOROBENZENE	ND	0.0054	0.00054
2-BUTANONE	ND	0.011	0.0027
2-HEXANONE	ND	0.011	0.0031
ACETONE	ND	0.011	0.0034
BENZENE	ND	0.0054	0.00054
BROMOCHLOROMETHANE	ND	0.0054	0.00054
BROMODICHLOROMETHANE	ND	0.0054	0.00054
BROMOFORM	ND	0.0054	0.0011
BROMOMETHANE	ND	0.011	0.0020
CARBON DISULFIDE	ND	0.0054	0.00054
CARBON TETRACHLORIDE	ND	0.0054	0.00059
CHLOROBENZENE	ND	0.0054	0.00054
CHLOROETHANE	ND	0.0054	0.0014
CHLOROFORM	ND	0.0054	0.00054
CHLOROMETHANE	ND	0.0054	0.0011
CIS-1,2-DICHLOROETHYLENE	ND	0.0054	0.00054
DIBROMOCHLOROMETHANE	ND	0.0054	0.00054
DICHLORODIFLUOROMETHANE	ND	0.0054	0.0013
ETHYLBENZENE	ND	0.0054	0.00054
ISOPROPYLBENZENE	ND	0.0054	0.00069
M,P-XYLENE	ND	0.011	0.0011
4-METHYL-2-PENTANONE	ND	0.011	0.0030
METHYLENE CHLORIDE	ND	0.011	0.0011
TERT-BUTYL METHYL ETHER	ND	0.0054	0.00054
O-XYLENE	ND	0.0054	0.00054
STYRENE	ND	0.0054	0.00054
TETRACHLOROETHENE	ND	0.0054	0.00054
TOLUENE	ND	0.0054	0.00054
TRANS-1,2-DCE	ND	0.0054	0.00054
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0054	0.0011
CIS-1,3-DICHLOROPROPENE	ND	0.0054	0.0011
TRANS-1,3-DICHLOROPROPENE	ND	0.0054	0.0011
TCE	ND	0.0054	0.00054
TRICHLOROFLUOROMETHANE	ND	0.0054	0.0012
VINYL CHLORIDE	ND	0.0054	0.0015
1,2-DIBROMOETHANE	ND	0.0054	0.00054
VINYL ACETATE	ND	0.0054	0.0014
TRICHLOROTRIFLUOROETHANE	ND	0.0054	0.0011
METHYL ACETATE	ND	0.0054	0.0016

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0458	0.05423	84.5	70-130
BROMOFLUOROBENZENE	0.0492	0.05423	90.7	70-130
TOLUENE-D8	0.0499	0.05423	91.9	70-130
DIBROMOFLUOROMETHANE	0.0524	0.05423	96.6	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP145.D Vial: 14
Acq On : 8 Jul 2019 3:43 pm Operator: IRagas
Sample : 19G035-03 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:41 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1876924	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1455903	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	515811	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.45	111	610336	48.31	ug/l	0.03
Spiked Amount 50.000			Recovery =	96.62%		
43) 1,2-Dichloroethane-d4	7.11	65	532896	42.27	ug/l	0.03
Spiked Amount 50.000			Recovery =	84.54%		
57) Toluene-d8	9.91	98	1950056	45.97	ug/l	0.03
Spiked Amount 50.000			Recovery =	91.94%		
79) 4-Bromofluorobenzene	14.43	95	535452	45.36	ug/l	0.03
Spiked Amount 50.000			Recovery =	90.72%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
RGP145.D VO02F29.M Tue Jul 09 14:06:19 2019 Page 1

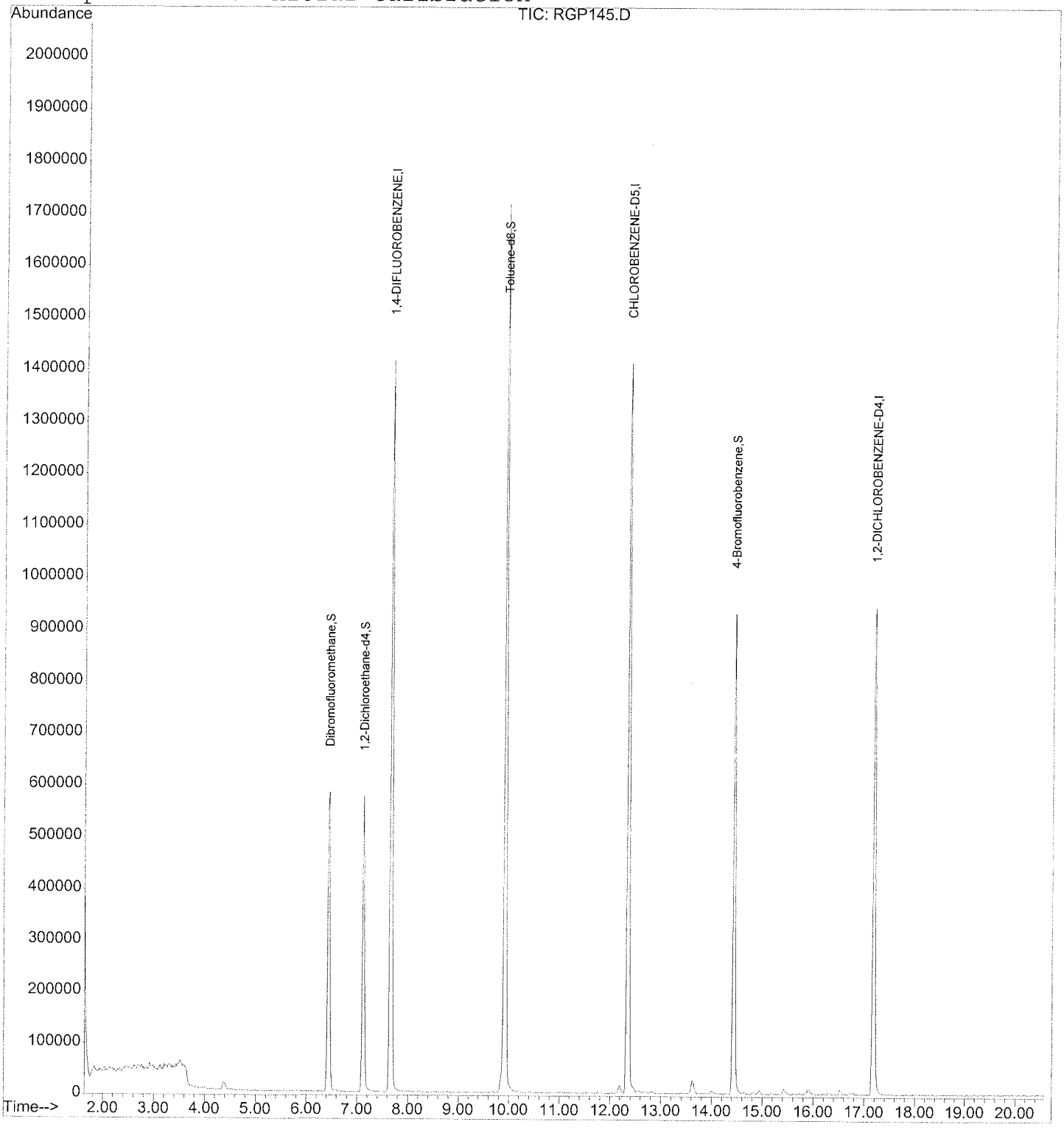
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP145.D
Acq On : 8 Jul 2019 3:43 pm
Sample : 19G035-03
Misc :
MS Integration Params: RTE.P
Quant Time: Jul 9 10:41 2019

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/27/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 16:08
Sample ID: OU2-SB49	Date Analyzed: 07/08/19 16:08
Lab Samp ID: G035-04	Dilution Factor: 0.83
Lab File ID: RGP146	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 17.9
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0051	0.00051
1,1,2,2-TETRACHLOROETHANE	ND	0.0051	0.00051
1,1,2-TRICHLOROETHANE	ND	0.0051	0.00051
1,1-DICHLOROETHANE	ND	0.0051	0.00051
1,1-DICHLOROETHENE	ND	0.0051	0.00051
1,2,3-TRICHLOROBENZENE	ND	0.0051	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0051	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0051	0.00056
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0051	0.0010
1,2-DICHLOROBENZENE	ND	0.0051	0.00051
1,2-DICHLOROETHANE	ND	0.0051	0.00051
1,2-DICHLOROPROPANE	ND	0.0051	0.00051
1,3,5-TRIMETHYLBENZENE	ND	0.0051	0.00060
1,3-DICHLOROBENZENE	ND	0.0051	0.00053
1,4-DICHLOROBENZENE	ND	0.0051	0.00051
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	ND	0.010	0.0031
BENZENE	ND	0.0051	0.00051
BROMOCHLOROMETHANE	ND	0.0051	0.00051
BROMODICHLOROMETHANE	ND	0.0051	0.00051
BROMOFORM	ND	0.0051	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0051	0.00051
CARBON TETRACHLORIDE	ND	0.0051	0.00055
CHLOROBENZENE	ND	0.0051	0.00051
CHLOROETHANE	ND	0.0051	0.0013
CHLOROFORM	ND	0.0051	0.00051
CHLOROMETHANE	ND	0.0051	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0051	0.00051
DIBROMOCHLOROMETHANE	ND	0.0051	0.00051
DICHLORODIFLUOROMETHANE	ND	0.0051	0.0012
ETHYLBENZENE	ND	0.0051	0.00051
ISOPROPYLBENZENE	ND	0.0051	0.00065
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0051	0.00051
O-XYLENE	ND	0.0051	0.00051
STYRENE	ND	0.0051	0.00051
TETRACHLOROETHENE	ND	0.0051	0.00051
TOLUENE	ND	0.0051	0.00051
TRANS-1,2-DCE	ND	0.0051	0.00051
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0051	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0051	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0051	0.0010
TCE	ND	0.0051	0.00051
TRICHLOROFLUOROMETHANE	ND	0.0051	0.0011
VINYL CHLORIDE	ND	0.0051	0.0014
1,2-DIBROMOETHANE	ND	0.0051	0.00051
VINYL ACETATE	ND	0.0051	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0051	0.0010
METHYL ACETATE	ND	0.0051	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0423	0.05055	83.6	70-130
BROMOFLUOROBENZENE	0.0476	0.05055	94.2	70-130
TOLUENE-D8	0.0473	0.05055	93.6	70-130
DIBROMOFLUOROMETHANE	0.0488	0.05055	96.5	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP146.D Vial: 15
Acq On : 8 Jul 2019 4:08 pm Operator: IRagas
Sample : 19G035-04 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:42 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

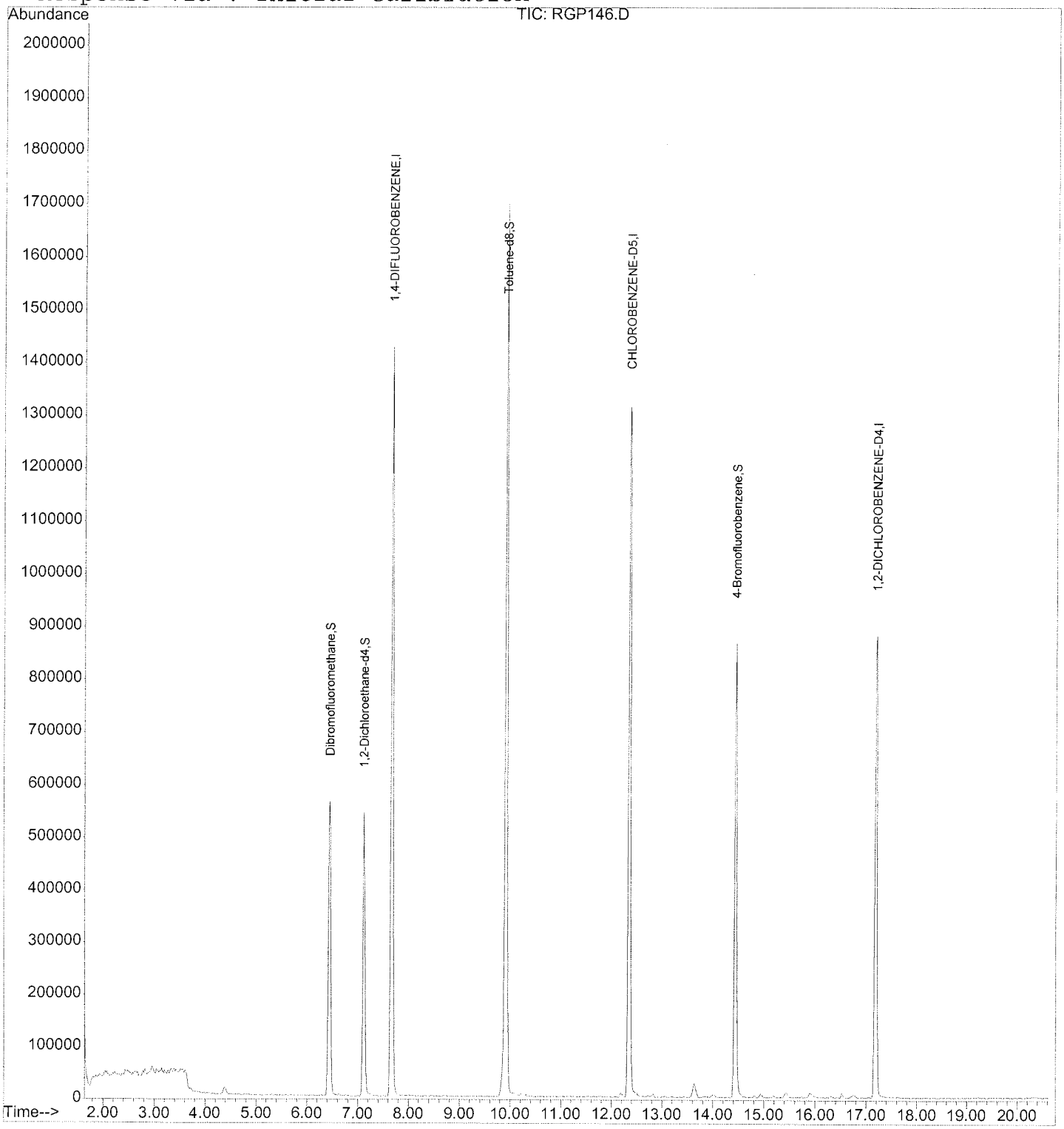
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1807780	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1369432	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	471687	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.45	111	587234	48.26	ug/l	0.03
Spiked Amount 50.000			Recovery =	96.52%		
43) 1,2-Dichloroethane-d4	7.12	65	507624	41.80	ug/l	0.03
Spiked Amount 50.000			Recovery =	83.60%		
57) Toluene-d8	9.91	98	1868069	46.82	ug/l	0.03
Spiked Amount 50.000			Recovery =	93.64%		
79) 4-Bromofluorobenzene	14.43	95	508251	47.09	ug/l	0.03
Spiked Amount 50.000			Recovery =	94.18%		
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration
RGP146.D VO02F29.M Tue Jul 09 14:06:45 2019 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP146.D Vial: 15
Acq On : 8 Jul 2019 4:08 pm Operator: IRagas
Sample : 19G035-04 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:42 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/27/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 14:03
Sample ID: OU2-SB50	Date Analyzed: 07/08/19 14:03
Lab Samp ID: G035-05	Dilution Factor: 0.81
Lab File ID: RGP141	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 15.8
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0048	0.00048
1,1,2,2-TETRACHLOROETHANE	ND	0.0048	0.00048
1,1,2-TRICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHENE	ND	0.0048	0.00048
1,2,3-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRIMETHYLBENZENE	ND	0.0048	0.00053
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0048	0.00096
1,2-DICHLOROBENZENE	ND	0.0048	0.00048
1,2-DICHLOROETHANE	ND	0.0048	0.00048
1,2-DICHLOROPROPANE	ND	0.0048	0.00048
1,3,5-TRIMETHYLBENZENE	ND	0.0048	0.00057
1,3-DICHLOROBENZENE	ND	0.0048	0.00050
1,4-DICHLOROBENZENE	ND	0.0048	0.00048
2-BUTANONE	ND	0.0096	0.0024
2-HEXANONE	ND	0.0096	0.0028
ACETONE	ND	0.0096	0.0030
BENZENE	ND	0.0048	0.00048
BROMOCHLOROMETHANE	ND	0.0048	0.00048
BROMODICHLOROMETHANE	ND	0.0048	0.00048
BROMOFORM	ND	0.0048	0.00096
BROMOMETHANE	ND	0.0096	0.0017
CARBON DISULFIDE	ND	0.0048	0.00048
CARBON TETRACHLORIDE	ND	0.0048	0.00052
CHLOROBENZENE	ND	0.0048	0.00048
CHLOROETHANE	ND	0.0048	0.0013
CHLOROFORM	ND	0.0048	0.00048
CHLOROMETHANE	ND	0.0048	0.00096
CIS-1,2-DICHLOROETHYLENE	ND	0.0048	0.00048
DIBROMOCHLOROMETHANE	ND	0.0048	0.00048
DICHLORODIFLUOROMETHANE	ND	0.0048	0.0012
ETHYLBENZENE	ND	0.0048	0.00048
ISOPROPYLBENZENE	ND	0.0048	0.00062
M,P-XYLENE	ND	0.0096	0.00096
4-METHYL-2-PENTANONE	ND	0.0096	0.0027
METHYLENE CHLORIDE	ND	0.0096	0.00096
TERT-BUTYL METHYL ETHER	ND	0.0048	0.00048
O-XYLENE	ND	0.0048	0.00048
STYRENE	ND	0.0048	0.00048
TETRACHLOROETHENE	ND	0.0048	0.00048
TOLUENE	ND	0.0048	0.00048
TRANS-1,2-DCE	ND	0.0048	0.00048
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0048	0.00096
CIS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TRANS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TCE	ND	0.0048	0.00048
TRICHLOROFLUOROMETHANE	ND	0.0048	0.0011
VINYL CHLORIDE	ND	0.0048	0.0013
1,2-DIBROMOETHANE	ND	0.0048	0.00048
VINYL ACETATE	ND	0.0048	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0048	0.00096
METHYL ACETATE	ND	0.0048	0.0014

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0414	0.04810	86.2	70-130
BROMOFLUOROBENZENE	0.0438	0.04810	91.2	70-130
TOLUENE-D8	0.0444	0.04810	92.3	70-130
DIBROMOFLUOROMETHANE	0.0464	0.04810	96.5	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP141.D Vial: 10
Acq On : 8 Jul 2019 2:03 pm Operator: IRagas
Sample : 19G035-05 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:22 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

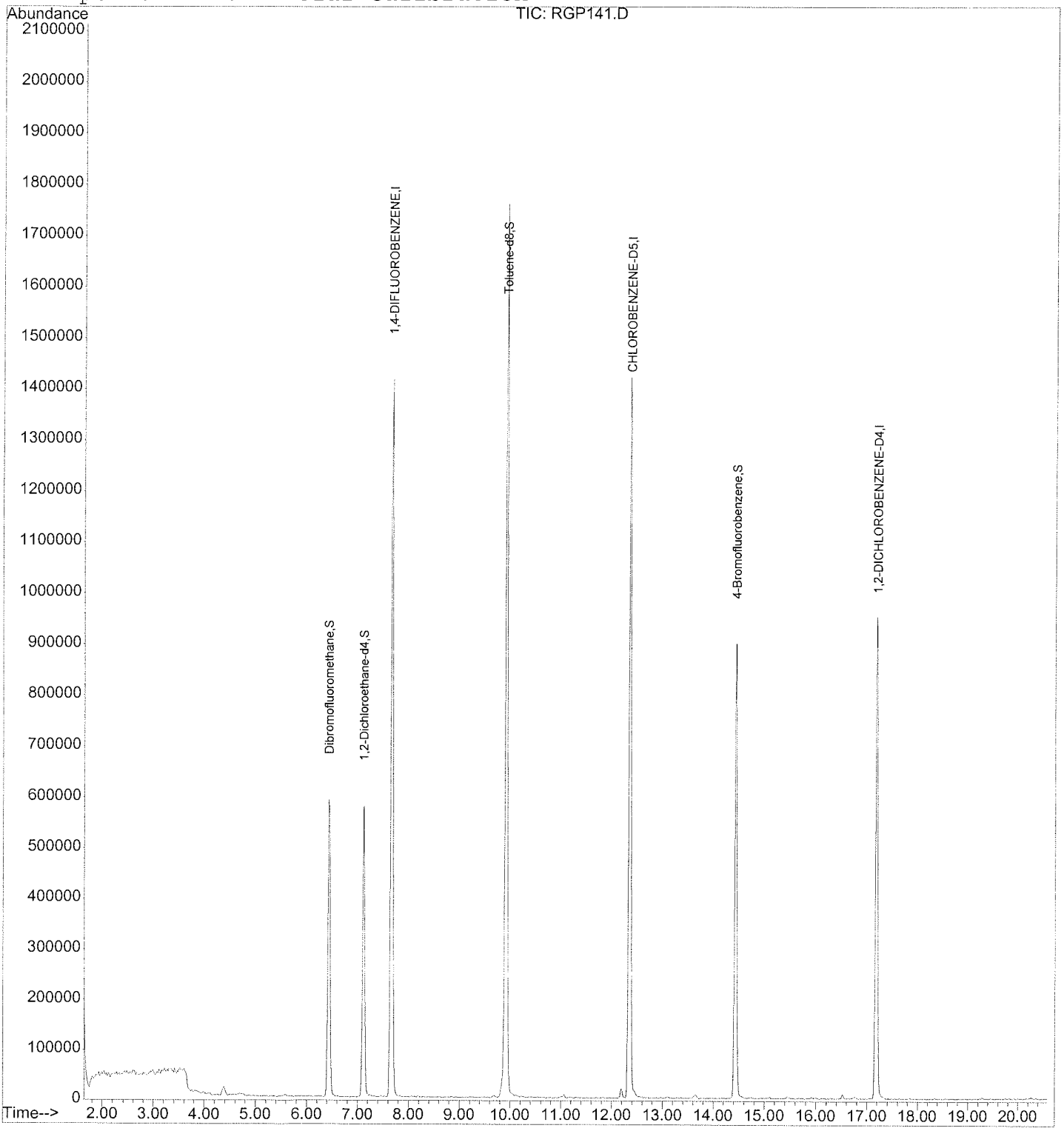
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1886758	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1449617	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	509930	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	612767	48.25	ug/l	0.02
Spiked Amount 50.000			Recovery =	96.50%		
43) 1,2-Dichloroethane-d4	7.12	65	546060	43.09	ug/l	0.03
Spiked Amount 50.000			Recovery =	86.18%		
57) Toluene-d8	9.91	98	1949817	46.16	ug/l	0.03
Spiked Amount 50.000			Recovery =	92.32%		
79) 4-Bromofluorobenzene	14.43	95	531858	45.58	ug/l	0.03
Spiked Amount 50.000			Recovery =	91.16%		
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration
RGP141.D VO02F29.M Tue Jul 09 14:05:38 2019 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP141.D Vial: 10
Acq On : 8 Jul 2019 2:03 pm Operator: IRagas
Sample : 19G035-05 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:22 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/27/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 16:32
Sample ID: OU2-SB52	Date Analyzed: 07/08/19 16:32
Lab Samp ID: G035-06	Dilution Factor: 0.75
Lab File ID: RGP147	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 14.3
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0044	0.00044
1,1,2,2-TETRACHLOROETHANE	ND	0.0044	0.00044
1,1,2-TRICHLOROETHANE	ND	0.0044	0.00044
1,1-DICHLOROETHANE	ND	0.0044	0.00044
1,1-DICHLOROETHENE	ND	0.0044	0.00044
1,2,3-TRICHLOROBENZENE	ND	0.0044	0.00088
1,2,4-TRICHLOROBENZENE	ND	0.0044	0.00088
1,2,4-TRIMETHYLBENZENE	ND	0.0044	0.00048
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0044	0.00088
1,2-DICHLOROBENZENE	ND	0.0044	0.00044
1,2-DICHLOROETHANE	ND	0.0044	0.00044
1,2-DICHLOROPROPANE	ND	0.0044	0.00044
1,3,5-TRIMETHYLBENZENE	ND	0.0044	0.00052
1,3-DICHLOROBENZENE	ND	0.0044	0.00046
1,4-DICHLOROBENZENE	ND	0.0044	0.00044
2-BUTANONE	ND	0.0088	0.0022
2-HEXANONE	ND	0.0088	0.0025
ACETONE	0.0084J	0.0088	0.0027
BENZENE	ND	0.0044	0.00044
BROMOCHLOROMETHANE	ND	0.0044	0.00044
BROMODICHLOROMETHANE	ND	0.0044	0.00044
BROMOFORM	ND	0.0044	0.00088
BROMOMETHANE	ND	0.0088	0.0016
CARBON DISULFIDE	ND	0.0044	0.00044
CARBON TETRACHLORIDE	ND	0.0044	0.00047
CHLOROBENZENE	ND	0.0044	0.00044
CHLOROETHANE	ND	0.0044	0.0011
CHLOROFORM	ND	0.0044	0.00044
CHLOROMETHANE	ND	0.0044	0.00088
CIS-1,2-DICHLOROETHYLENE	ND	0.0044	0.00044
DIBROMOCHLOROMETHANE	ND	0.0044	0.00044
DICHLORODIFLUOROMETHANE	ND	0.0044	0.0011
ETHYLBENZENE	ND	0.0044	0.00044
ISOPROPYLBENZENE	ND	0.0044	0.00056
M,P-XYLENE	ND	0.0088	0.00088
4-METHYL-2-PENTANONE	ND	0.0088	0.0025
METHYLENE CHLORIDE	ND	0.0088	0.00088
TERT-BUTYL METHYL ETHER	ND	0.0044	0.00044
O-XYLENE	ND	0.0044	0.00044
STYRENE	ND	0.0044	0.00044
TETRACHLOROETHENE	ND	0.0044	0.00044
TOLUENE	ND	0.0044	0.00044
TRANS-1,2-DCE	ND	0.0044	0.00044
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0044	0.00088
CIS-1,3-DICHLOROPROPENE	ND	0.0044	0.00088
TRANS-1,3-DICHLOROPROPENE	ND	0.0044	0.00088
TCE	ND	0.0044	0.00044
TRICHLOROFLUOROMETHANE	ND	0.0044	0.00096
VINYL CHLORIDE	ND	0.0044	0.0012
1,2-DIBROMOETHANE	ND	0.0044	0.00044
VINYL ACETATE	ND	0.0044	0.0011
TRICHLOROTRIFLUOROETHANE	ND	0.0044	0.00088
METHYL ACETATE	ND	0.0044	0.0013

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0368	0.04376	84.2	70-130
BROMOFLUOROBENZENE	0.0393	0.04376	89.8	70-130
TOLUENE-D8	0.0394	0.04376	90.1	70-130
DIBROMOFLUOROMETHANE	0.0423	0.04376	96.6	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP147.D Vial: 16
Acq On : 8 Jul 2019 4:32 pm Operator: IRagas
Sample : 19G035-06 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:44 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

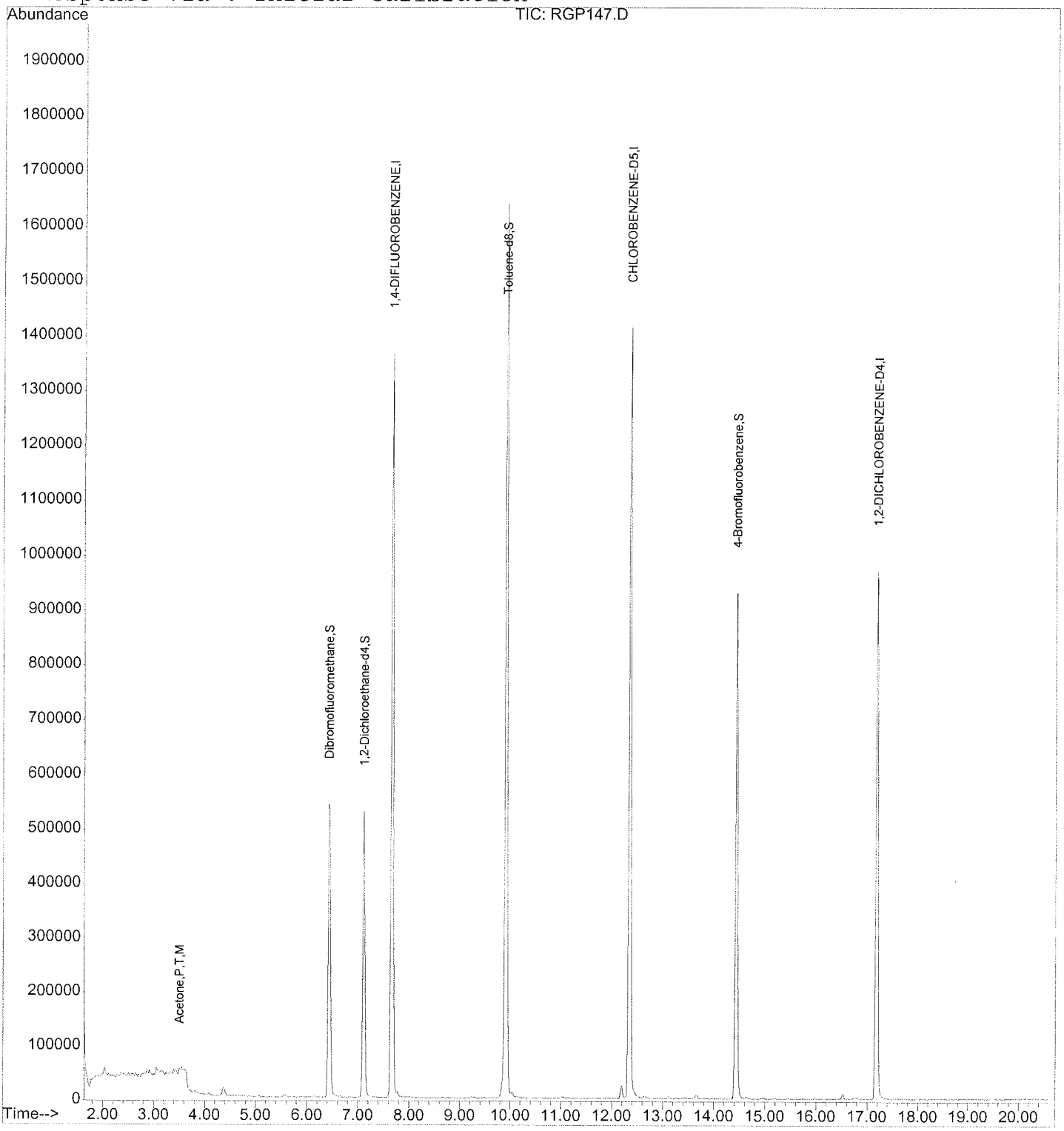
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1755759	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1391042	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	506021	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	570636	48.28	ug/l	0.01
Spiked Amount 50.000			Recovery =	96.56%		
43) 1,2-Dichloroethane-d4	7.11	65	496400	42.09	ug/l	0.03
Spiked Amount 50.000			Recovery =	84.18%		
57) Toluene-d8	9.91	98	1826503	45.07	ug/l	0.03
Spiked Amount 50.000			Recovery =	90.14%		
79) 4-Bromofluorobenzene	14.43	95	520003	44.91	ug/l	0.03
Spiked Amount 50.000			Recovery =	89.82%		
Target Compounds						Qvalue
11) Acetone	3.51	43	38457	9.61	ug/l #	79

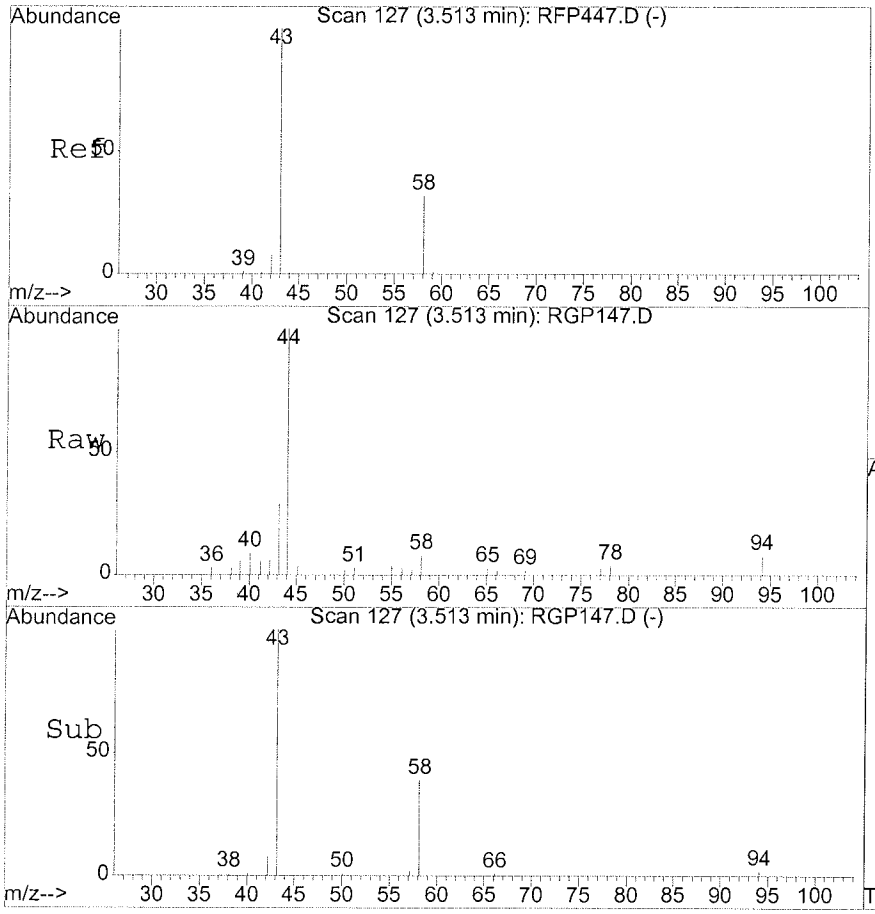
(#) = qualifier out of range (m) = manual integration
RGP147.D VO02F29.M Tue Jul 09 14:06:58 2019 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP147.D Vial: 16
Acq On : 8 Jul 2019 4:32 pm Operator: IRagas
Sample : 19G035-06 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:44 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration

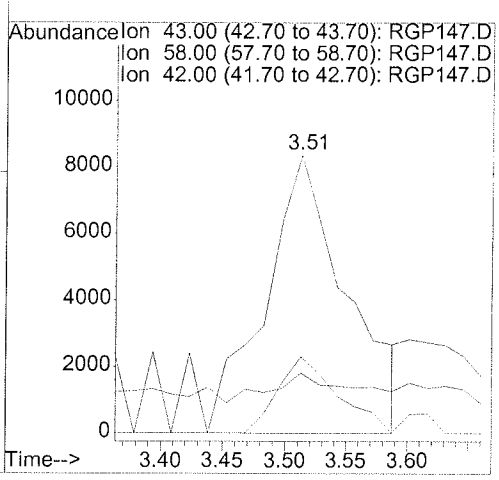




#11
Acetone
Concen: 9.61 ug/l
RT: 3.51 min Scan# 127
Delta R.T. 0.01 min
Lab File: RGP147.D
Acq: 8 Jul 2019 4:32 pm

Tgt Ion: 43 Resp: 38457

Ion	Ratio	Lower	Upper
43	100		
58	20.4	1.6	61.6
42	0.0	0.0	37.7



METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/28/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 16:57
Sample ID: OU2-SB51	Date Analyzed: 07/08/19 16:57
Lab Samp ID: G035-07	Dilution Factor: 0.8
Lab File ID: RGP148	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 17.1
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0048	0.00048
1,1,2,2-TETRACHLOROETHANE	ND	0.0048	0.00048
1,1,2-TRICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHENE	ND	0.0048	0.00048
1,2,3-TRICHLOROBENZENE	ND	0.0048	0.00097
1,2,4-TRICHLOROBENZENE	ND	0.0048	0.00097
1,2,4-TRIMETHYLBENZENE	ND	0.0048	0.00053
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0048	0.00097
1,2-DICHLOROBENZENE	ND	0.0048	0.00048
1,2-DICHLOROETHANE	ND	0.0048	0.00048
1,2-DICHLOROPROPANE	ND	0.0048	0.00048
1,3,5-TRIMETHYLBENZENE	ND	0.0048	0.00057
1,3-DICHLOROBENZENE	ND	0.0048	0.00050
1,4-DICHLOROBENZENE	ND	0.0048	0.00048
2-BUTANONE	ND	0.0097	0.0024
2-HEXANONE	ND	0.0097	0.0028
ACETONE	ND	0.0097	0.0030
BENZENE	ND	0.0048	0.00048
BROMOCHLOROMETHANE	ND	0.0048	0.00048
BROMODICHLOROMETHANE	ND	0.0048	0.00048
BROMOFORM	ND	0.0048	0.00097
BROMOMETHANE	ND	0.0097	0.0017
CARBON DISULFIDE	ND	0.0048	0.00048
CARBON TETRACHLORIDE	ND	0.0048	0.00052
CHLOROBENZENE	ND	0.0048	0.00048
CHLOROETHANE	ND	0.0048	0.0013
CHLOROFORM	ND	0.0048	0.00048
CHLOROMETHANE	ND	0.0048	0.00097
CIS-1,2-DICHLOROETHYLENE	ND	0.0048	0.00048
DIBROMOCHLOROMETHANE	ND	0.0048	0.00048
DICHLORODIFLUOROMETHANE	ND	0.0048	0.0012
ETHYLBENZENE	ND	0.0048	0.00048
ISOPROPYLBENZENE	ND	0.0048	0.00062
M,P-XYLENE	ND	0.0097	0.00097
4-METHYL-2-PENTANONE	ND	0.0097	0.0027
METHYLENE CHLORIDE	ND	0.0097	0.00097
TERT-BUTYL METHYL ETHER	ND	0.0048	0.00048
O-XYLENE	ND	0.0048	0.00048
STYRENE	ND	0.0048	0.00048
TETRACHLOROETHENE	ND	0.0048	0.00048
TOLUENE	ND	0.0048	0.00048
TRANS-1,2-DCE	ND	0.0048	0.00048
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0048	0.00097
CIS-1,3-DICHLOROPROPENE	ND	0.0048	0.00097
TRANS-1,3-DICHLOROPROPENE	ND	0.0048	0.00097
TCE	ND	0.0048	0.00048
TRICHLOROFLUOROMETHANE	ND	0.0048	0.0011
VINYL CHLORIDE	ND	0.0048	0.0014
1,2-DIBROMOETHANE	ND	0.0048	0.00048
VINYL ACETATE	ND	0.0048	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0048	0.00097
METHYL ACETATE	ND	0.0048	0.0014

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0406	0.04825	84.1	70-130
BROMOFLUOROBENZENE	0.0471	0.04825	97.7	70-130
TOLUENE-D8	0.0450	0.04825	93.2	70-130
DIBROMOFLUOROMETHANE	0.0481	0.04825	99.6	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP148.D Vial: 17
Acq On : 8 Jul 2019 4:57 pm Operator: IRagas
Sample : 19G035-07 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:50 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1834318	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1400340	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	455089	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	615021	49.81	ug/l	0.03
Spiked Amount 50.000			Recovery =	99.62%		
43) 1,2-Dichloroethane-d4	7.11	65	517937	42.04	ug/l	0.03
Spiked Amount 50.000			Recovery =	84.08%		
57) Toluene-d8	9.91	98	1901358	46.60	ug/l	0.03
Spiked Amount 50.000			Recovery =	93.20%		
79) 4-Bromofluorobenzene	14.43	95	508670	48.84	ug/l	0.03
Spiked Amount 50.000			Recovery =	97.68%		

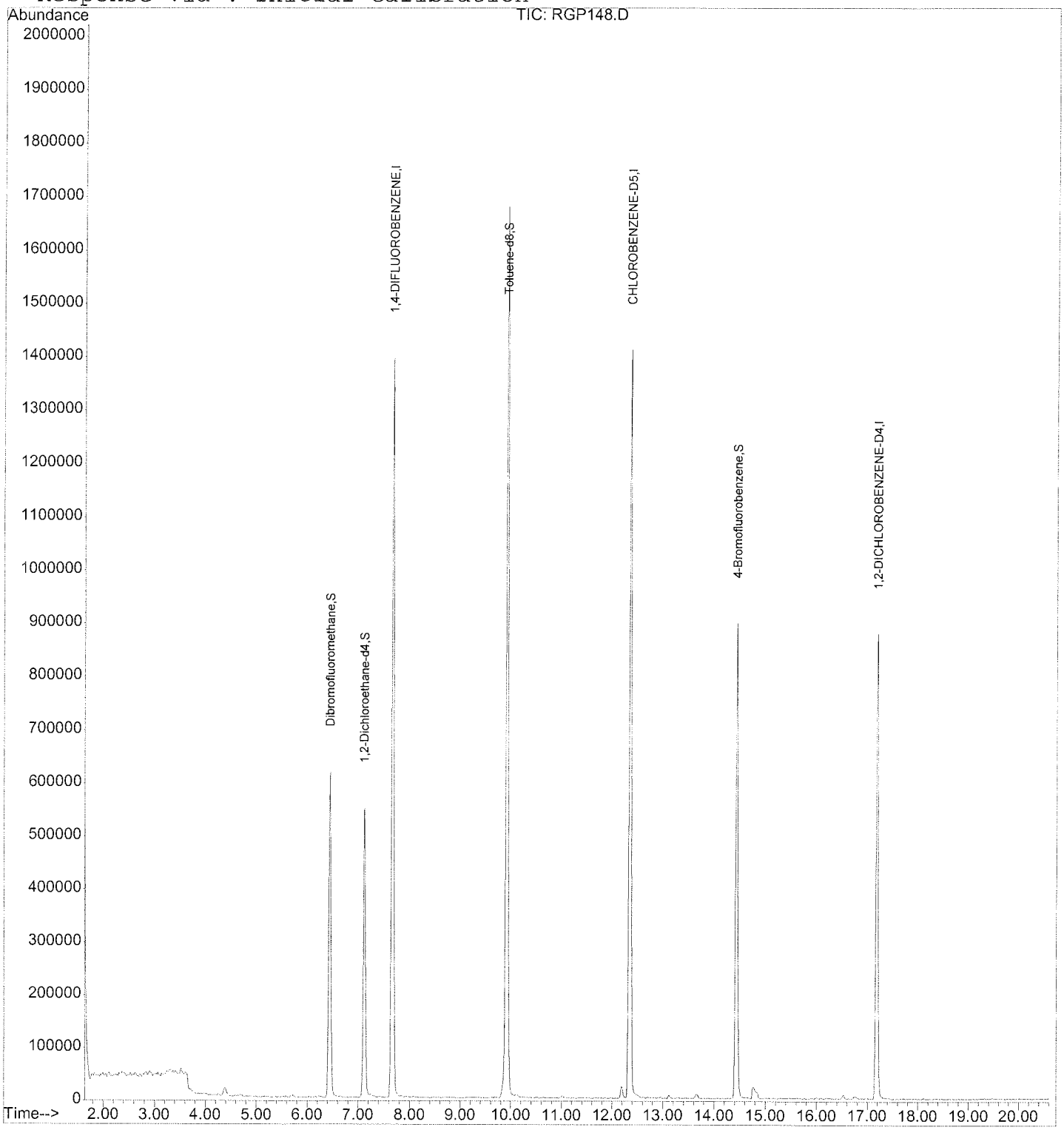
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
RGP148.D VO02F29.M Tue Jul 09 14:07:09 2019 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP148.D Vial: 17
Acq On : 8 Jul 2019 4:57 pm Operator: IRagas
Sample : 19G035-07 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:50 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/28/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 17:22
Sample ID: OU2-SB93	Date Analyzed: 07/08/19 17:22
Lab Samp ID: G035-08	Dilution Factor: 0.83
Lab File ID: RGP149	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 17.5
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0050	0.00050
1,1,2,2-TETRACHLOROETHANE	ND	0.0050	0.00050
1,1,2-TRICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHENE	ND	0.0050	0.00050
1,2,3-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0050	0.00055
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0050	0.0010
1,2-DICHLOROBENZENE	ND	0.0050	0.00050
1,2-DICHLOROETHANE	ND	0.0050	0.00050
1,2-DICHLOROPROPANE	ND	0.0050	0.00050
1,3,5-TRIMETHYLBENZENE	ND	0.0050	0.00059
1,3-DICHLOROBENZENE	ND	0.0050	0.00052
1,4-DICHLOROBENZENE	ND	0.0050	0.00050
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	0.0094J	0.010	0.0031
BENZENE	ND	0.0050	0.00050
BROMOCHLOROMETHANE	ND	0.0050	0.00050
BROMODICHLOROMETHANE	ND	0.0050	0.00050
BROMOFORM	ND	0.0050	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0050	0.00050
CARBON TETRACHLORIDE	ND	0.0050	0.00054
CHLOROBENZENE	ND	0.0050	0.00050
CHLOROETHANE	ND	0.0050	0.0013
CHLOROFORM	ND	0.0050	0.00050
CHLOROMETHANE	ND	0.0050	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0050	0.00050
DIBROMOCHLOROMETHANE	ND	0.0050	0.00050
DICHLORODIFLUOROMETHANE	ND	0.0050	0.0012
ETHYLBENZENE	ND	0.0050	0.00050
ISOPROPYLBENZENE	ND	0.0050	0.00064
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0050	0.00050
O-XYLENE	ND	0.0050	0.00050
STYRENE	ND	0.0050	0.00050
TETRACHLOROETHENE	ND	0.0050	0.00050
TOLUENE	ND	0.0050	0.00050
TRANS-1,2-DCE	ND	0.0050	0.00050
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0050	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TCE	ND	0.0050	0.00050
TRICHLOROFLUOROMETHANE	ND	0.0050	0.0011
VINYL CHLORIDE	ND	0.0050	0.0014
1,2-DIBROMOETHANE	ND	0.0050	0.00050
VINYL ACETATE	ND	0.0050	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0050	0.0010
METHYL ACETATE	ND	0.0050	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0449	0.05030	89.3	70-130
BROMOFLUOROBENZENE	0.0510	0.05030	101	70-130
TOLUENE-D8	0.0467	0.05030	92.9	70-130
DIBROMOFLUOROMETHANE	0.0510	0.05030	101	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP149.D Vial: 18
Acq On : 8 Jul 2019 5:22 pm Operator: IRagas
Sample : 19G035-08 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:51 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

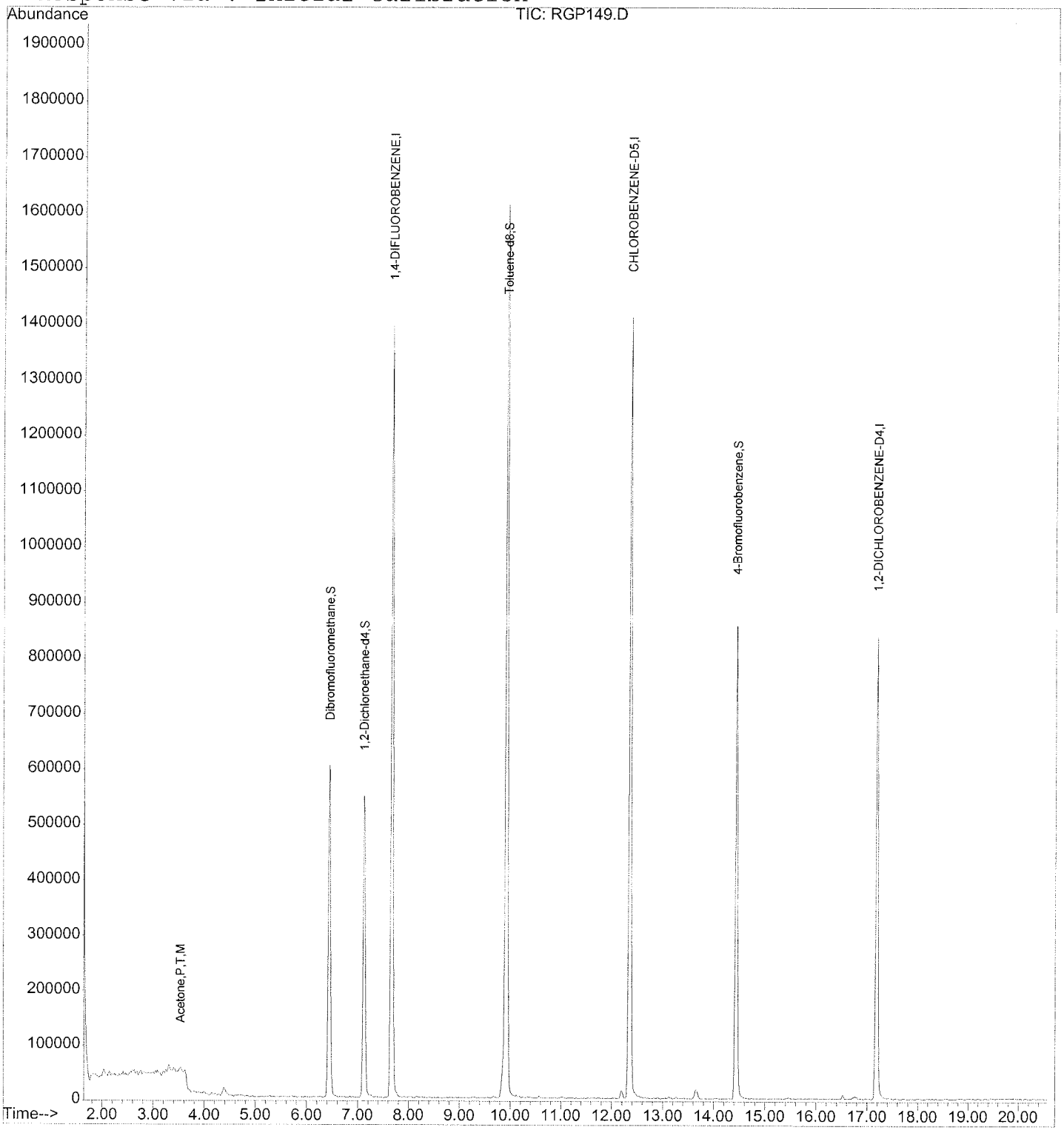
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1789836	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1381904	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	432300	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	610475	50.67	ug/l	0.03
Spiked Amount 50.000			Recovery =	101.34%		
43) 1,2-Dichloroethane-d4	7.11	65	536661	44.64	ug/l	0.03
Spiked Amount 50.000			Recovery =	89.28%		
57) Toluene-d8	9.91	98	1869475	46.43	ug/l	0.03
Spiked Amount 50.000			Recovery =	92.86%		
79) 4-Bromofluorobenzene	14.43	95	501275	50.67	ug/l	0.03
Spiked Amount 50.000			Recovery =	101.34%		
Target Compounds						Qvalue
11) Acetone	3.53	43	38024	9.32	ug/l #	84

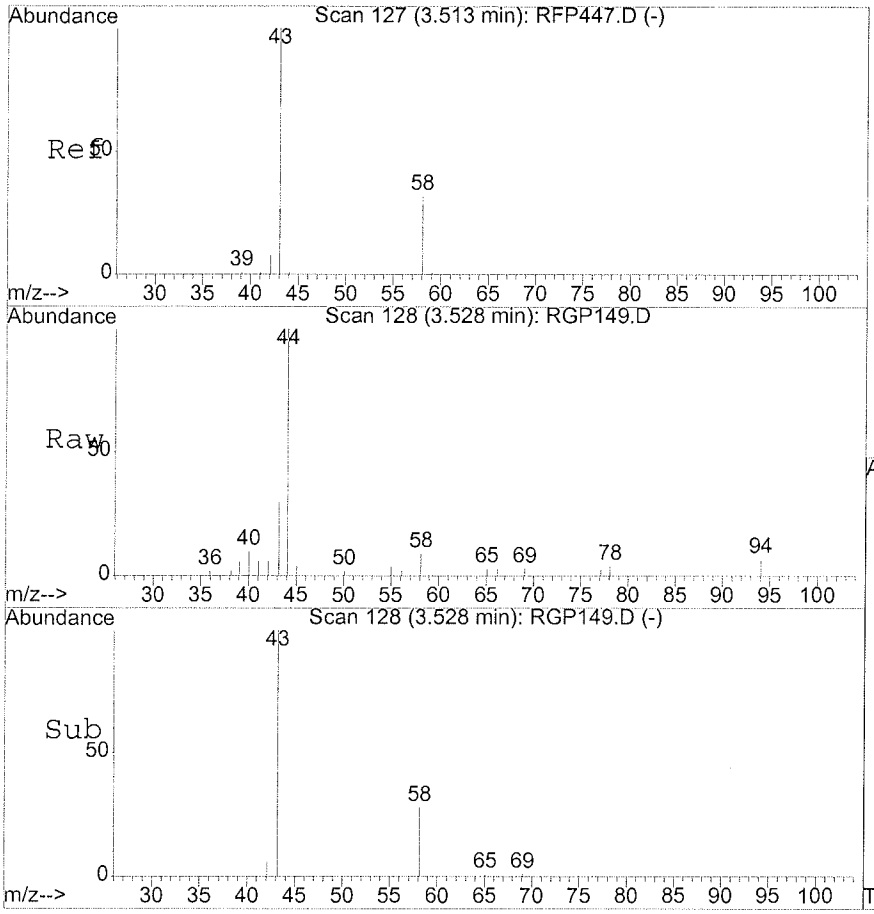
(#) = qualifier out of range (m) = manual integration
RGP149.D VO02F29.M Tue Jul 09 14:07:59 2019 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP149.D Vial: 18
Acq On : 8 Jul 2019 5:22 pm Operator: IRagas
Sample : 19G035-08 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:51 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration

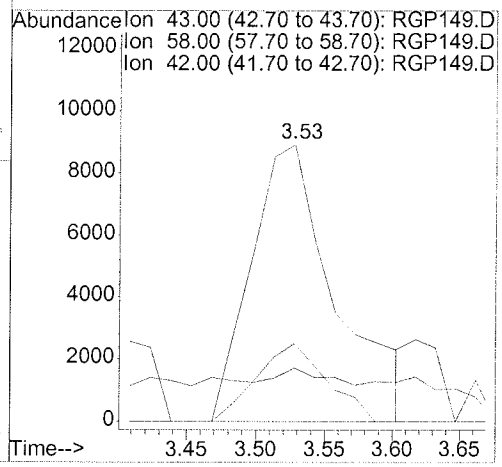




#11
Acetone
Concen: 9.32 ug/l
RT: 3.53 min Scan# 128
Delta R.T. 0.03 min
Lab File: RGP149.D
Acq: 8 Jul 2019 5:22 pm

Tgt Ion: 43 Resp: 38024

Ion	Ratio	Lower	Upper
43	100		
58	23.5	1.6	61.6
42	0.0	0.0	37.7



METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/02/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G035	Date Extracted: 07/08/19 17:47
Sample ID: OU2-SB55	Date Analyzed: 07/08/19 17:47
Lab Samp ID: G035-09	Dilution Factor: 0.89
Lab File ID: RGP150	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : 7.1
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0048	0.00048
1,1,2,2-TETRACHLOROETHANE	ND	0.0048	0.00048
1,1,2-TRICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHANE	ND	0.0048	0.00048
1,1-DICHLOROETHENE	ND	0.0048	0.00048
1,2,3-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRICHLOROBENZENE	ND	0.0048	0.00096
1,2,4-TRIMETHYLBENZENE	ND	0.0048	0.00053
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0048	0.00096
1,2-DICHLOROBENZENE	ND	0.0048	0.00048
1,2-DICHLOROETHANE	ND	0.0048	0.00048
1,2-DICHLOROPROPANE	ND	0.0048	0.00048
1,3,5-TRIMETHYLBENZENE	ND	0.0048	0.00057
1,3-DICHLOROBENZENE	ND	0.0048	0.00050
1,4-DICHLOROBENZENE	ND	0.0048	0.00048
2-BUTANONE	ND	0.0096	0.0024
2-HEXANONE	ND	0.0096	0.0028
ACETONE	0.0082J	0.0096	0.0030
BENZENE	ND	0.0048	0.00048
BROMOCHLOROMETHANE	ND	0.0048	0.00048
BROMODICHLOROMETHANE	ND	0.0048	0.00048
BROMOFORM	ND	0.0048	0.00096
BROMOMETHANE	ND	0.0096	0.0017
CARBON DISULFIDE	ND	0.0048	0.00048
CARBON TETRACHLORIDE	ND	0.0048	0.00052
CHLOROBENZENE	ND	0.0048	0.00048
CHLOROETHANE	ND	0.0048	0.0012
CHLOROFORM	ND	0.0048	0.00048
CHLOROMETHANE	ND	0.0048	0.00096
CIS-1,2-DICHLOROETHYLENE	ND	0.0048	0.00048
DIBROMOCHLOROMETHANE	ND	0.0048	0.00048
DICHLORODIFLUOROMETHANE	ND	0.0048	0.0011
ETHYLBENZENE	ND	0.0048	0.00048
ISOPROPYLBENZENE	ND	0.0048	0.00061
M,P-XYLENE	ND	0.0096	0.00096
4-METHYL-2-PENTANONE	ND	0.0096	0.0027
METHYLENE CHLORIDE	ND	0.0096	0.00096
TERT-BUTYL METHYL ETHER	ND	0.0048	0.00048
O-XYLENE	ND	0.0048	0.00048
STYRENE	ND	0.0048	0.00048
TETRACHLOROETHENE	ND	0.0048	0.00048
TOLUENE	ND	0.0048	0.00048
TRANS-1,2-DCE	ND	0.0048	0.00048
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0048	0.00096
CIS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TRANS-1,3-DICHLOROPROPENE	ND	0.0048	0.00096
TCE	ND	0.0048	0.00048
TRICHLOROFLUOROMETHANE	ND	0.0048	0.0011
VINYL CHLORIDE	ND	0.0048	0.0013
1,2-DIBROMOETHANE	ND	0.0048	0.00048
VINYL ACETATE	ND	0.0048	0.0012
TRICHLOROTRIFLUOROETHANE	ND	0.0048	0.00096
METHYL ACETATE	ND	0.0048	0.0014

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0407	0.04790	85.1	70-130
BROMOFLUOROBENZENE	0.0466	0.04790	97.2	70-130
TOLUENE-D8	0.0438	0.04790	91.4	70-130
DIBROMOFLUOROMETHANE	0.0467	0.04790	97.4	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP150.D Vial: 19
Acq On : 8 Jul 2019 5:47 pm Operator: IRagas
Sample : 19G035-09 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:52 2019 Quant Results File: VO02F29.RES

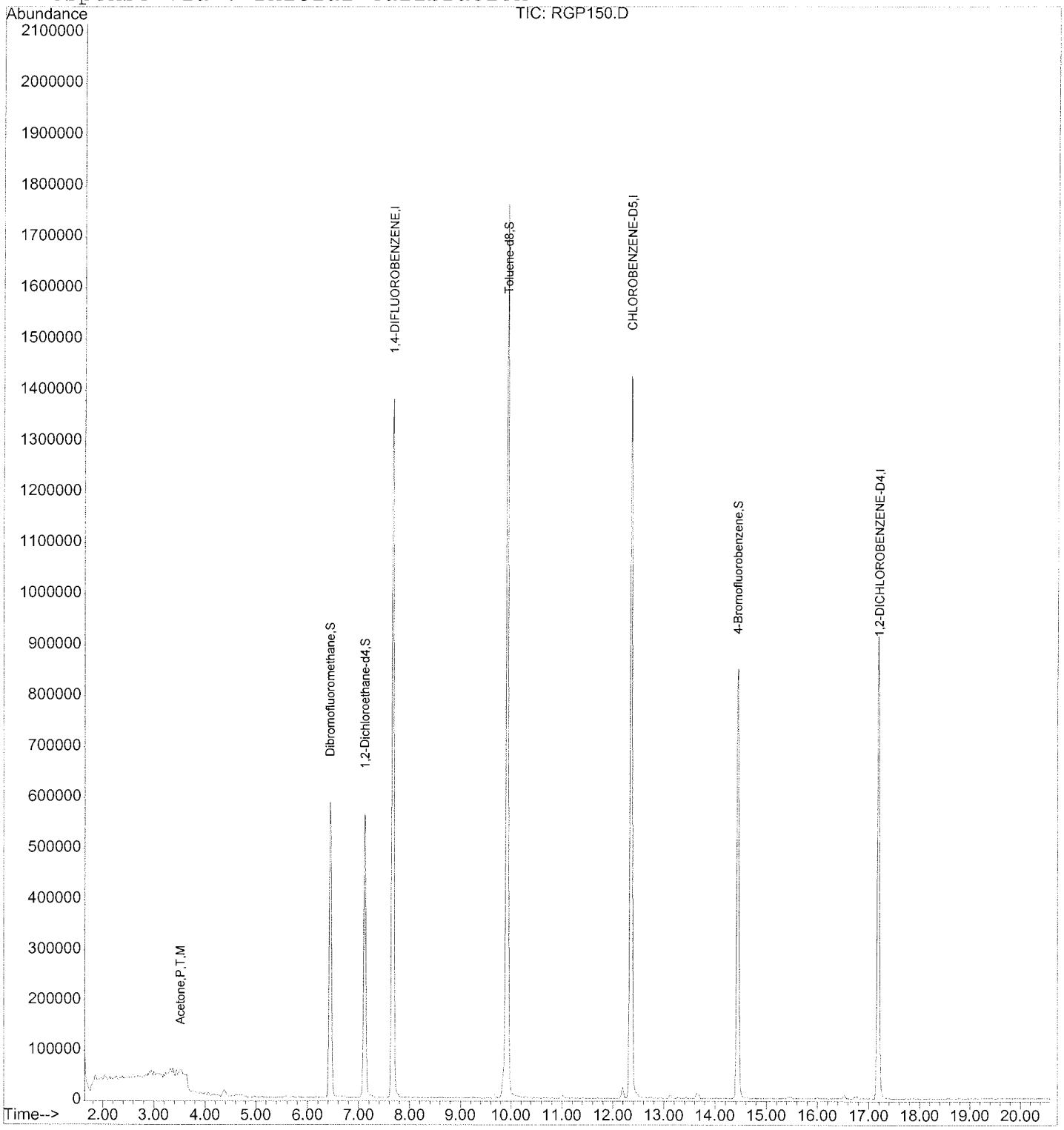
Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

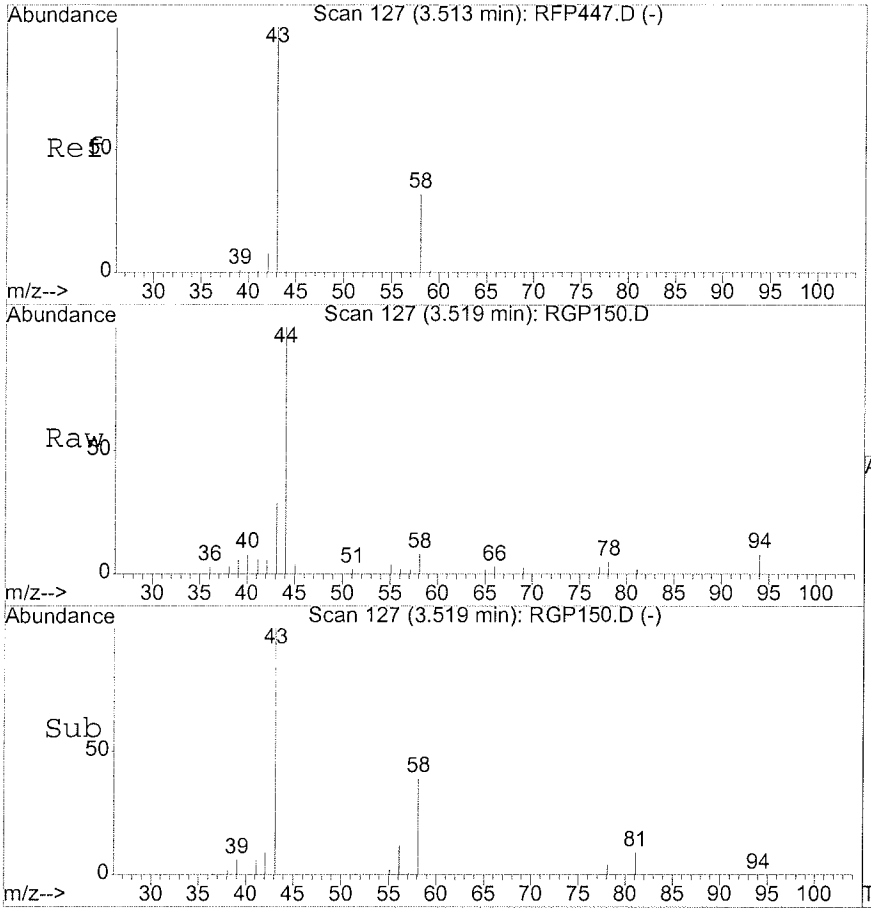
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1856423	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.34	117	1456824	50.00	ug/l	0.02
76) 1,2-DICHLOROBENZENE-D4	17.19	152	477363	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	608748	48.72	ug/l	0.02
Spiked Amount 50.000			Recovery =	97.44%		
43) 1,2-Dichloroethane-d4	7.12	65	530330	42.53	ug/l	0.03
Spiked Amount 50.000			Recovery =	85.06%		
57) Toluene-d8	9.92	98	1939391	45.69	ug/l	0.03
Spiked Amount 50.000			Recovery =	91.38%		
79) 4-Bromofluorobenzene	14.42	95	530933	48.60	ug/l	0.02
Spiked Amount 50.000			Recovery =	97.20%		
Target Compounds						Qvalue
11) Acetone	3.52	43	36164	8.54	ug/l #	84

(#) = qualifier out of range (m) = manual integration
RGP150.D VO02F29.M Tue Jul 09 14:08:12 2019 Page 1

Data File : D:\HPCHEM\1\DATA\19G08\RGP150.D Vial: 19
Acq On : 8 Jul 2019 5:47 pm Operator: IRagas
Sample : 19G035-09 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:52 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration

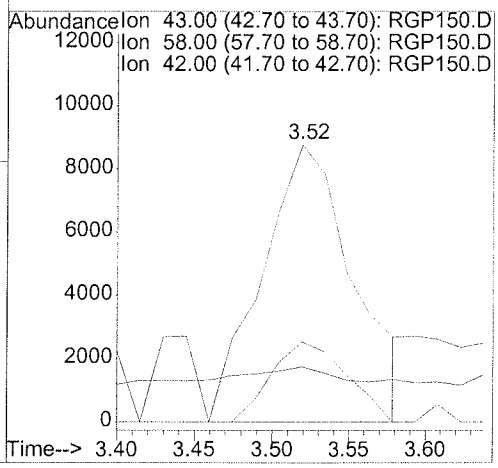




#11
Acetone
Concen: 8.54 ug/l
RT: 3.52 min Scan# 127
Delta R.T. 0.02 min
Lab File: RGP150.D
Acq: 8 Jul 2019 5:47 pm

Tgt Ion: 43 Resp: 36164

Ion	Ratio	Lower	Upper
43	100		
58	23.8	1.6	61.6
42	0.0	0.0	37.7



QC SUMMARIES

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/08/19
Batch No. : 19G035	Date Extracted: 07/08/19 12:23
Sample ID: MBLK1S	Date Analyzed: 07/08/19 12:23
Lab Samp ID: VS02G06B	Dilution Factor: 1
Lab File ID: RGP137	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : NA
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0050	0.00050
1,1,2,2-TETRACHLOROETHANE	ND	0.0050	0.00050
1,1,2-TRICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHENE	ND	0.0050	0.00050
1,2,3-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0050	0.00055
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0050	0.0010
1,2-DICHLOROBENZENE	ND	0.0050	0.00050
1,2-DICHLOROETHANE	ND	0.0050	0.00050
1,2-DICHLOROPROPANE	ND	0.0050	0.00050
1,3,5-TRIMETHYLBENZENE	ND	0.0050	0.00059
1,3-DICHLOROBENZENE	ND	0.0050	0.00052
1,4-DICHLOROBENZENE	ND	0.0050	0.00050
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	ND	0.010	0.0031
BENZENE	ND	0.0050	0.00050
BROMOCHLOROMETHANE	ND	0.0050	0.00050
BROMODICHLOROMETHANE	ND	0.0050	0.00050
BROMOFORM	ND	0.0050	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0050	0.00050
CARBON TETRACHLORIDE	ND	0.0050	0.00054
CHLOROBENZENE	ND	0.0050	0.00050
CHLOROETHANE	ND	0.0050	0.0013
CHLOROFORM	ND	0.0050	0.00050
CHLOROMETHANE	ND	0.0050	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0050	0.00050
DIBROMOCHLOROMETHANE	ND	0.0050	0.00050
DICHLORODIFLUOROMETHANE	ND	0.0050	0.0012
ETHYLBENZENE	ND	0.0050	0.00050
ISOPROPYLBENZENE	ND	0.0050	0.00064
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0050	0.00050
O-XYLENE	ND	0.0050	0.00050
STYRENE	ND	0.0050	0.00050
TETRACHLOROETHENE	ND	0.0050	0.00050
TOLUENE	ND	0.0050	0.00050
TRANS-1,2-DCE	ND	0.0050	0.00050
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0050	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TCE	ND	0.0050	0.00050
TRICHLOROFLUOROMETHANE	ND	0.0050	0.0011
VINYL CHLORIDE	ND	0.0050	0.0014
1,2-DIBROMOETHANE	ND	0.0050	0.00050
VINYL ACETATE	ND	0.0050	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0050	0.0010
METHYL ACETATE	ND	0.0050	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0426	0.05000	85.3	70-130
BROMOFLUOROBENZENE	0.0447	0.05000	89.5	70-130
TOLUENE-D8	0.0454	0.05000	90.8	70-130
DIBROMOFLUOROMETHANE	0.0504	0.05000	101	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G035
METHOD: SW5035A/8260C

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: VS02G06B VS02G06L VS02G06C
LAB FILE ID: RGP137 RGP134 RGP135
DATE EXTRACTED: 07/08/1912:23 07/08/1911:08 07/08/1911:33 DATE COLLECTED: NA
DATE ANALYZED: 07/08/1912:23 07/08/1911:08 07/08/1911:33 DATE RECEIVED: 07/08/19
PREP. BATCH: VS02G06 VS02G06 VS02G06
CALIB. REF: RFP447 RFP447 RFP447

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	0.0500	0.0563	113	0.0500	0.0566	113	0	73-125	30
1,1,2,2-Tetrachloroethane	ND	0.0500	0.0442	88	0.0500	0.0449	90	2	70-124	30
1,1,2-Trichloroethane	ND	0.0500	0.0470	94	0.0500	0.0463	93	2	78-121	30
1,1-Dichloroethane	ND	0.0500	0.0522	104	0.0500	0.0506	101	3	76-125	30
1,1-Dichloroethene	ND	0.0500	0.0490	98	0.0500	0.0489	98	0	70-131	30
1,2,3-Trichlorobenzene	ND	0.0500	0.0496	99	0.0500	0.0497	99	0	66-130	30
1,2,4-Trichlorobenzene	ND	0.0500	0.0518	104	0.0500	0.0519	104	0	67-129	30
1,2,4-Trimethylbenzene	ND	0.0500	0.0481	96	0.0500	0.0471	94	2	75-123	30
1,2-Dibromo-3-chloropropane	ND	0.0500	0.0432	86	0.0500	0.0431	86	0	61-132	30
1,2-Dichlorobenzene	ND	0.0500	0.0484	97	0.0500	0.0471	94	3	78-121	30
1,2-Dichloroethane	ND	0.0500	0.0491	98	0.0500	0.0498	100	1	73-128	30
1,2-Dichloropropane	ND	0.0500	0.0496	99	0.0500	0.0493	99	1	76-123	30
1,3,5-Trimethylbenzene	ND	0.0500	0.0474	95	0.0500	0.0462	92	3	73-124	30
1,3-Dichlorobenzene	ND	0.0500	0.0491	98	0.0500	0.0479	96	2	77-121	30
1,4-Dichlorobenzene	ND	0.0500	0.0490	98	0.0500	0.0471	94	4	75-120	30
2-Butanone	ND	0.250	0.243	97	0.250	0.257	103	6	51-148	30
2-Hexanone	ND	0.250	0.209	84	0.250	0.221	88	5	53-145	30
Acetone	ND	0.250	0.224	90	0.250	0.235	94	5	36-164	30
Benzene	ND	0.0500	0.0512	102	0.0500	0.0514	103	0	77-121	30
Bromochloromethane	ND	0.0500	0.0484	97	0.0500	0.0485	97	0	78-125	30
Bromodichloromethane	ND	0.0500	0.0533	107	0.0500	0.0536	107	1	75-127	30
Bromoform	ND	0.0500	0.0446	89	0.0500	0.0442	88	1	67-132	30
Bromomethane	ND	0.0500	0.0522	104	0.0500	0.0515	103	2	53-143	30
Carbon Disulfide	ND	0.0500	0.0567	113	0.0500	0.0571	114	1	63-132	30
Carbon Tetrachloride	ND	0.0500	0.0588	118	0.0500	0.0587	117	0	70-135	30
Chlorobenzene	ND	0.0500	0.0503	101	0.0500	0.0502	100	0	79-120	30
Chloroethane	ND	0.0500	0.0537	107	0.0500	0.0517	103	4	59-139	30
Chloroform	ND	0.0500	0.0501	100	0.0500	0.0499	100	0	78-123	30
Chloromethane	ND	0.0500	0.0510	102	0.0500	0.0504	101	1	50-136	30
cis-1,2-Dichloroethylene	ND	0.0500	0.0540	108	0.0500	0.0533	107	1	77-123	30
Dibromochloromethane	ND	0.0500	0.0459	92	0.0500	0.0456	91	1	74-126	30

Dichlorodifluoromethane	ND	0.0500	0.0535	107	0.0500	0.0535	107	0	29-149	30
Ethylbenzene	ND	0.0500	0.0475	95	0.0500	0.0475	95	0	76-122	30
Isopropylbenzene	ND	0.0500	0.0493	99	0.0500	0.0484	97	2	68-134	30
m,p-Xylene	ND	0.100	0.0998	100	0.100	0.0943	94	6	77-124	30
4-Methyl-2-Pentanone	ND	0.250	0.227	91	0.250	0.236	95	4	65-135	30
Methylene Chloride	ND	0.0500	0.0480	96	0.0500	0.0488	98	2	70-128	30
tert-Butyl Methyl Ether	ND	0.0500	0.0516	103	0.0500	0.0507	101	2	73-125	30
o-Xylene	ND	0.0500	0.0485	97	0.0500	0.0470	94	3	77-123	30
Styrene	ND	0.0500	0.0482	96	0.0500	0.0474	95	2	76-124	30
Tetrachloroethene	ND	0.0500	0.0530	106	0.0500	0.0492	98	7	73-128	30
Toluene	ND	0.0500	0.0497	99	0.0500	0.0467	93	6	77-121	30
Trans-1,2-DCE	ND	0.0500	0.0538	108	0.0500	0.0528	106	2	74-125	30
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.100	0.0969	97	0.100	0.0962	96	1	71-130	30
cis-1,3-Dichloropropene	ND	0.0500	0.0516	103	0.0500	0.0509	102	1	74-126	30
Trans-1,3-Dichloropropene	ND	0.0500	0.0453	91	0.0500	0.0453	91	0	71-130	30
TCE	ND	0.0500	0.0571	114	0.0500	0.0561	112	2	77-123	30
Trichlorofluoromethane	ND	0.0500	0.0560	112	0.0500	0.0553	111	1	62-140	30
Vinyl Chloride	ND	0.0500	0.0549	110	0.0500	0.0544	109	1	56-135	30
1,2-Dibromoethane	ND	0.0500	0.0476	95	0.0500	0.0483	97	1	78-122	30
Vinyl Acetate	ND	0.0500	0.0497	99	0.0500	0.0486	97	2	50-151	30
Trichlorotrifluoroethane	ND	0.0500	0.0547	109	0.0500	0.0534	107	2	66-136	30
Methyl Acetate	ND	0.0500	0.0477	95	0.0500	0.0507	101	6	53-144	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	0.0500	0.0443	89	0.0500	0.0443	89	70-130
Bromofluorobenzene	0.0500	0.0461	92	0.0500	0.0459	92	70-130
Toluene-d8	0.0500	0.0441	88	0.0500	0.0446	89	70-130
Dibromofluoromethane	0.0500	0.0500	100	0.0500	0.0508	102	70-130

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/08/19
Batch No. : 19G035	Date Extracted: 07/08/19 13:38
Sample ID: MBLK2S	Date Analyzed: 07/08/19 13:38
Lab Samp ID: VPG015SB	Dilution Factor: 0.98
Lab File ID: RGP140	Matrix : SOIL
Ext Btch ID: VS02G06	% Moisture : NA
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0049	0.00049
1,1,2,2-TETRACHLOROETHANE	ND	0.0049	0.00049
1,1,2-TRICHLOROETHANE	ND	0.0049	0.00049
1,1-DICHLOROETHANE	ND	0.0049	0.00049
1,1-DICHLOROETHENE	ND	0.0049	0.00049
1,2,3-TRICHLOROBENZENE	ND	0.0049	0.00098
1,2,4-TRICHLOROBENZENE	ND	0.0049	0.00098
1,2,4-TRIMETHYLBENZENE	ND	0.0049	0.00054
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0049	0.00098
1,2-DICHLOROBENZENE	ND	0.0049	0.00049
1,2-DICHLOROETHANE	ND	0.0049	0.00049
1,2-DICHLOROPROPANE	ND	0.0049	0.00049
1,3,5-TRIMETHYLBENZENE	ND	0.0049	0.00058
1,3-DICHLOROBENZENE	ND	0.0049	0.00051
1,4-DICHLOROBENZENE	ND	0.0049	0.00049
2-BUTANONE	ND	0.0098	0.0025
2-HEXANONE	ND	0.0098	0.0028
ACETONE	ND	0.0098	0.0030
BENZENE	ND	0.0049	0.00049
BROMOCHLOROMETHANE	ND	0.0049	0.00049
BROMODICHLOROMETHANE	ND	0.0049	0.00049
BROMOFORM	ND	0.0049	0.00098
BROMOMETHANE	ND	0.0098	0.0018
CARBON DISULFIDE	ND	0.0049	0.00049
CARBON TETRACHLORIDE	ND	0.0049	0.00053
CHLOROBENZENE	ND	0.0049	0.00049
CHLOROETHANE	ND	0.0049	0.0013
CHLOROFORM	ND	0.0049	0.00049
CHLOROMETHANE	ND	0.0049	0.00098
CIS-1,2-DICHLOROETHYLENE	ND	0.0049	0.00049
DIBROMOCHLOROMETHANE	ND	0.0049	0.00049
DICHLORODIFLUOROMETHANE	ND	0.0049	0.0012
ETHYLBENZENE	ND	0.0049	0.00049
ISOPROPYLBENZENE	ND	0.0049	0.00063
M,P-XYLENE	ND	0.0098	0.00098
4-METHYL-2-PENTANONE	ND	0.0098	0.0027
METHYLENE CHLORIDE	ND	0.0098	0.00098
TERT-BUTYL METHYL ETHER	ND	0.0049	0.00049
O-XYLENE	ND	0.0049	0.00049
STYRENE	ND	0.0049	0.00049
TETRACHLOROETHENE	ND	0.0049	0.00049
TOLUENE	ND	0.0049	0.00049
TRANS-1,2-DCE	ND	0.0049	0.00049
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0049	0.00098
CIS-1,3-DICHLOROPROPENE	ND	0.0049	0.00098
TRANS-1,3-DICHLOROPROPENE	ND	0.0049	0.00098
TCE	ND	0.0049	0.00049
TRICHLOROFLUOROMETHANE	ND	0.0049	0.0011
VINYL CHLORIDE	ND	0.0049	0.0014
1,2-DIBROMOETHANE	ND	0.0049	0.00049
VINYL ACETATE	ND	0.0049	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0049	0.00098
METHYL ACETATE	ND	0.0049	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0421	0.04900	85.9	70-130
BROMOFLUOROBENZENE	0.0442	0.04900	90.2	70-130
TOLUENE-D8	0.0438	0.04900	89.4	70-130
DIBROMOFLUOROMETHANE	0.0472	0.04900	96.4	70-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G035
METHOD: SW5035A/8260C

MATRIX: SOIL % MOISTURE: 15.8
DILUTION FACTOR: 0.81 0.8 0.86
SAMPLE ID: OU2-SB50
LAB SAMP ID: G035-05 G035-05M G035-05S
LAB FILE ID: RGP141 RGP153 RGP154
DATE EXTRACTED: 07/08/1914:03 07/08/1919:02 07/08/1919:27 DATE COLLECTED: 06/27/19
DATE ANALYZED: 07/08/1914:03 07/08/1919:02 07/08/1919:27 DATE RECEIVED: 07/03/19
PREP. BATCH: VS02G06 VS02G06 VS02G06
CALIB. REF: RFP447 RFP447 RFP447

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	0.0475	0.0517	109	0.0511	0.0579	113	4	73-125	30
1,1,2,2-Tetrachloroethane	ND	0.0475	0.0467	98	0.0511	0.0481	94	4	70-124	30
1,1,2-Trichloroethane	ND	0.0475	0.0475	100	0.0511	0.0516	101	1	78-121	30
1,1-Dichloroethane	ND	0.0475	0.0491	103	0.0511	0.0551	108	5	76-125	30
1,1-Dichloroethene	ND	0.0475	0.0447	94	0.0511	0.0500	98	4	70-131	30
1,2,3-Trichlorobenzene	ND	0.0475	0.0366	77	0.0511	0.0388	76	1	66-130	30
1,2,4-Trichlorobenzene	ND	0.0475	0.0397	84	0.0511	0.0407	80	5	67-129	30
1,2,4-Trimethylbenzene	ND	0.0475	0.0463	97	0.0511	0.0503	99	2	75-123	30
1,2-Dibromo-3-chloropropane	ND	0.0475	0.0447	94	0.0511	0.0454	89	5	61-132	30
1,2-Dichlorobenzene	ND	0.0475	0.0469	99	0.0511	0.0499	98	1	78-121	30
1,2-Dichloroethane	ND	0.0475	0.0480	101	0.0511	0.0534	105	4	73-128	30
1,2-Dichloropropane	ND	0.0475	0.0487	102	0.0511	0.0537	105	3	76-123	30
1,3,5-Trimethylbenzene	ND	0.0475	0.0477	100	0.0511	0.0509	100	0	73-124	30
1,3-Dichlorobenzene	ND	0.0475	0.0466	98	0.0511	0.0506	99	1	77-121	30
1,4-Dichlorobenzene	ND	0.0475	0.0467	98	0.0511	0.0477	93	5	75-120	30
2-Butanone	ND	0.238	0.248	104	0.255	0.286	112	7	51-148	30
2-Hexanone	ND	0.238	0.223	94	0.255	0.233	91	3	53-145	30
Acetone	ND	0.238	0.227	96	0.255	0.237	93	3	36-164	30
Benzene	ND	0.0475	0.0488	103	0.0511	0.0547	107	4	77-121	30
Bromochloromethane	ND	0.0475	0.0475	100	0.0511	0.0525	103	3	78-125	30
Bromodichloromethane	ND	0.0475	0.0505	106	0.0511	0.0556	109	3	75-127	30
Bromoform	ND	0.0475	0.0447	94	0.0511	0.0460	90	4	67-132	30
Bromomethane	ND	0.0475	0.0461	97	0.0511	0.0496	97	0	53-143	30
Carbon Disulfide	ND	0.0475	0.0473	100	0.0511	0.0532	104	4	63-132	30
Carbon Tetrachloride	ND	0.0475	0.0535	113	0.0511	0.0612	120	6	70-135	30
Chlorobenzene	ND	0.0475	0.0488	103	0.0511	0.0523	102	1	79-120	30
Chloroethane	ND	0.0475	0.0463	98	0.0511	0.0490	96	2	59-139	30
Chloroform	ND	0.0475	0.0484	102	0.0511	0.0537	105	3	78-123	30
Chloromethane	ND	0.0475	0.0464	98	0.0511	0.0477	93	5	50-136	30
cis-1,2-Dichloroethylene	ND	0.0475	0.0494	104	0.0511	0.0574	112	7	77-123	30
Dibromochloromethane	ND	0.0475	0.0465	98	0.0511	0.0506	99	1	74-126	30
Dichlorodifluoromethane	ND	0.0475	0.0462	97	0.0511	0.0482	94	3	29-149	30
Ethylbenzene	ND	0.0475	0.0473	100	0.0511	0.0511	100	0	76-122	30
Isopropylbenzene	ND	0.0475	0.0485	102	0.0511	0.0518	101	1	68-134	30
m,p-Xylene	ND	0.0950	0.0942	99	0.102	0.101	99	0	77-124	30
4-Methyl-2-Pentanone	ND	0.238	0.228	96	0.255	0.250	98	2	65-135	30
Methylene Chloride	ND	0.0475	0.0474	100	0.0511	0.0516	101	1	70-128	30
tert-Butyl Methyl Ether	ND	0.0475	0.0485	102	0.0511	0.0535	105	3	73-125	30
o-Xylene	ND	0.0475	0.0478	101	0.0511	0.0512	100	1	77-123	30
Styrene	ND	0.0475	0.0465	98	0.0511	0.0500	98	0	76-124	30
Tetrachloroethene	ND	0.0475	0.0490	103	0.0511	0.0557	109	6	73-128	30
Toluene	ND	0.0475	0.0470	99	0.0511	0.0504	99	0	77-121	30
Trans-1,2-DCE	ND	0.0475	0.0504	106	0.0511	0.0547	107	1	74-125	30
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0950	0.0923	97	0.102	0.0997	98	1	71-130	30
cis-1,3-Dichloropropene	ND	0.0475	0.0478	101	0.0511	0.0524	103	2	74-126	30
Trans-1,3-Dichloropropene	ND	0.0475	0.0445	94	0.0511	0.0473	93	1	71-130	30

TCE	ND	0.0475	0.0498	105	0.0511	0.0568	111	6	77-123	30
Trichlorofluoromethane	ND	0.0475	0.0470	99	0.0511	0.0495	97	2	62-140	30
Vinyl Chloride	ND	0.0475	0.0474	100	0.0511	0.0498	97	3	56-135	30
1,2-Dibromoethane	ND	0.0475	0.0485	102	0.0511	0.0514	101	1	78-122	30
Vinyl Acetate	ND	0.0475	ND	0*	0.0511	ND	0*	0	50-151	30
Trichlorotrifluoroethane	ND	0.0475	0.0488	103	0.0511	0.0538	105	2	66-136	30
Methyl Acetate	ND	0.0475	0.0576	121	0.0511	0.0583	114	6	53-144	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	0.0475	0.0402	85	0.0511	0.0464	91	70-130
Bromofluorobenzene	0.0475	0.0453	95	0.0511	0.0475	93	70-130
Toluene-d8	0.0475	0.0428	90	0.0511	0.0470	92	70-130
Dibromofluoromethane	0.0475	0.0444	93	0.0511	0.0490	96	70-130

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP137.D Vial: 6
Acq On : 8 Jul 2019 12:23 pm Operator: IRagas
Sample : VS02G06B 5.0g Inst : 02
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:15 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1892041	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1497935	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	557269	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	641545	50.37	ug/l	0.03
Spiked Amount 50.000			Recovery =	100.74%		
43) 1,2-Dichloroethane-d4	7.11	65	541918	42.64	ug/l	0.03
Spiked Amount 50.000			Recovery =	85.28%		
57) Toluene-d8	9.91	98	1982481	45.42	ug/l	0.03
Spiked Amount 50.000			Recovery =	90.84%		
79) 4-Bromofluorobenzene	14.43	95	570633	44.75	ug/l	0.03
Spiked Amount 50.000			Recovery =	89.50%		

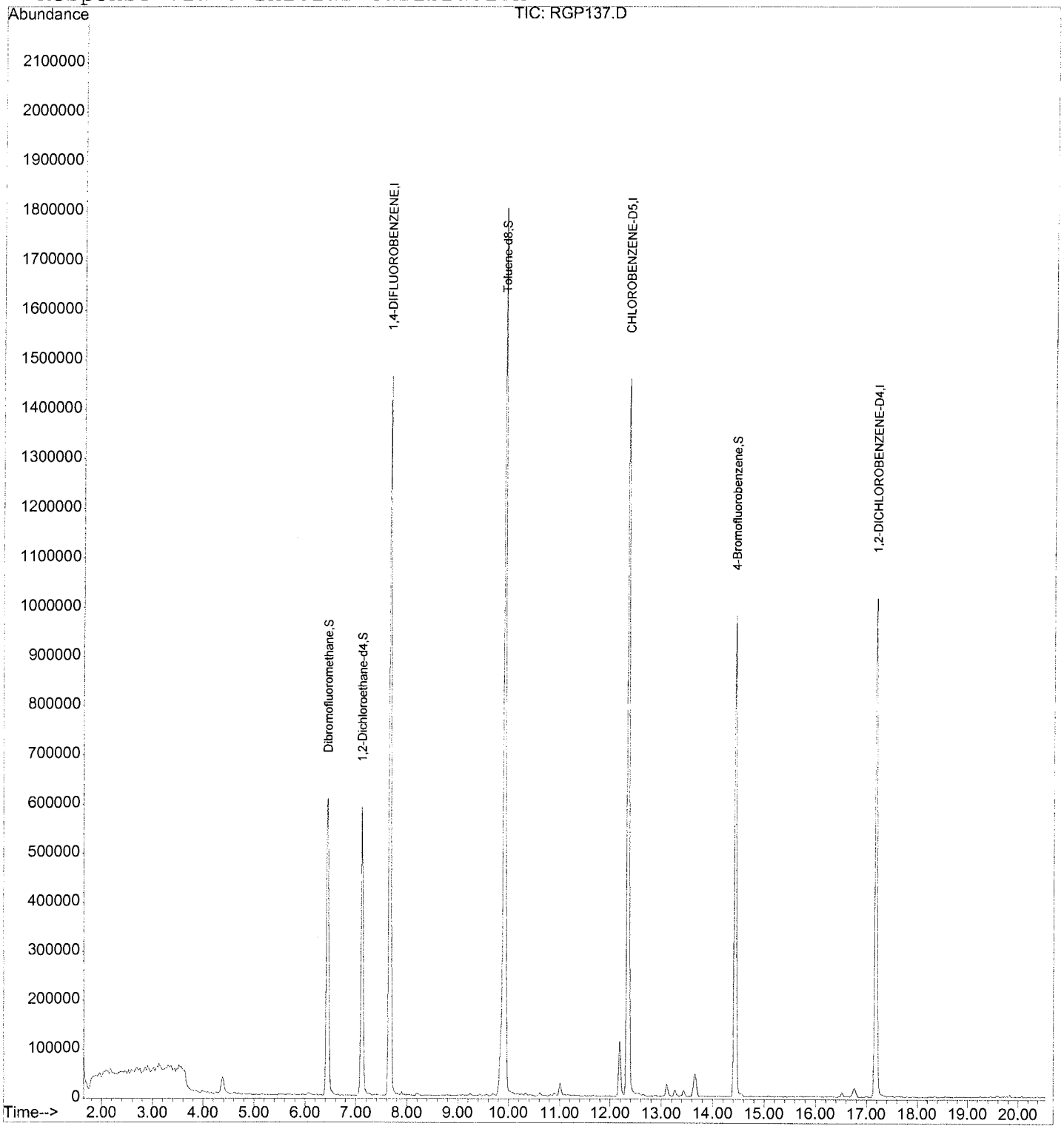
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP137.D Vial: 6
Acq On : 8 Jul 2019 12:23 pm Operator: IRagas
Sample : VS02G06B 5.0g Inst : 02
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:15 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP134.D Vial: 3
Acq On : 8 Jul 2019 11:08 am Operator: IRagas
Sample : VS02G06L Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:29 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	2046153	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1705843	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	644259	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	688347	49.98	ug/l	0.03
Spiked Amount 50.000			Recovery = 99.96%			
43) 1,2-Dichloroethane-d4	7.11	65	608354	44.26	ug/l	0.03
Spiked Amount 50.000			Recovery = 88.52%			
57) Toluene-d8	9.91	98	2189961	44.06	ug/l	0.03
Spiked Amount 50.000			Recovery = 88.12%			
79) 4-Bromofluorobenzene	14.43	95	679696	46.10	ug/l	0.03
Spiked Amount 50.000			Recovery = 92.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.73	85	619006	53.49	ug/l	99
3) Chloromethane	1.99	50	930227	50.98	ug/l	98
4) Vinyl chloride	2.11	62	872640	54.86	ug/l	99
5) Bromomethane	2.59	94	699172	52.24	ug/l	99
6) Chloroethane	2.68	64	585597	53.69	ug/l	99
7) Dichlorofluoromethane	2.72	67	1449964	50.08	ug/l	99
8) Trichlorofluoromethane	2.96	101	737635	55.99	ug/l	99
9) Acrolein	3.44	56	623460	225.61	ug/l	100
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	477886	54.75	ug/l	99
11) Acetone	3.51	43	1044323	223.82	ug/l	99
12) 1,1-Dichloroethene	3.68	61	1181049	49.04	ug/l	98
13) tert-Butyl alcohol	3.76	59	475794	264.40	ug/l	93
14) Acetonitrile	3.84	41	945286	507.84	ug/l	96
15) Iodomethane	4.05	142	1217561	54.82	ug/l	98
16) Methyl Acetate	4.06	43	742883	47.69	ug/l	95
17) Allyl Chloride	4.11	76	455957	56.81	ug/l	100
18) Methylene chloride	4.27	49	1063193	47.98	ug/l	96
19) Carbon disulfide	4.26	76	3175157	56.65	ug/l	100
20) Acrylonitrile	4.40	53	1610424	234.60	ug/l	100
21) tert-Butyl methyl ether (M	4.43	73	2024029	51.56	ug/l	99
22) trans-1,2-Dichloroethene	4.61	61	1328187	53.82	ug/l	96
23) Isopropyl ether (DIPE)	5.01	45	3465446	48.24	ug/l	98
24) 1,1-Dichloroethane	5.15	63	1780888	52.25	ug/l	100
25) Vinyl acetate	5.16	43	2082789	49.69	ug/l	100
26) 2-Butanol	5.43	45	459290	244.11	ug/l #	100
27) tert-Butyl ethyl ether (ET	5.54	59	2776491	51.02	ug/l	97
28) 2-Butanone	5.70	72	458445	243.05	ug/l	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP134.D Vial: 3
Acq On : 8 Jul 2019 11:08 am Operator: IRagas
Sample : VS02G06L Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:29 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.80	54	1130051	474.61	ug/l	100
30)	2,2-Dichloropropane	5.88	77	652965	56.85	ug/l	99
31)	cis-1,2-Dichloroethene	5.94	96	906311	53.99	ug/l	95
32)	Methylacrynonitrile	6.06	52	1245789	463.38	ug/l	98
33)	Isobutyl Alcohol	6.09	43	853475	871.99	ug/l	98
34)	Chloroform	6.14	83	1426716	50.07	ug/l	99
35)	Bromochloromethane	6.37	49	857141	48.41	ug/l	94
36)	Tetrahydrofuran	6.41	42	250078	43.08	ug/l	98
38)	1,1,1-Trichloroethane	6.68	97	856987	56.34	ug/l	98
39)	Cyclohexane	6.70	84	1269245	58.62	ug/l	96
40)	1,1-Dichloropropene	6.89	110	366323	54.72	ug/l	99
41)	Carbon tetrachloride	7.02	119	710100	58.83	ug/l	100
42)	tert-Amyl methyl ether (TA	7.05	87	408516	51.89	ug/l	95
44)	1,2-Dichloroethane	7.25	62	901674	49.09	ug/l	99
45)	Benzene	7.26	78	3655720	51.17	ug/l	99
46)	Trichloroethene	8.12	130	881613	57.10	ug/l	99
47)	Methylcyclohexane	8.20	83	1645633	60.44	ug/l	97
48)	1,2-Dichloropropane	8.38	63	993455	49.60	ug/l	99
49)	Methyl Methacrylate	8.48	69	600239	47.54	ug/l	96
50)	Bromodichloromethane	8.72	83	984624	53.32	ug/l	99
51)	1,4-Dioxane	8.76	88	125207	993.89	ug/l	93
52)	Dibromomethane	8.79	93	521911	49.26	ug/l	96
53)	2-Chloroethyl vinyl ether	9.19	63	179576	33.08	ug/l	97
54)	4-Methyl-2-pentanone	9.24	43	4754762	227.31	ug/l	98
55)	cis-1,3-Dichloropropene	9.55	75	1455347	51.65	ug/l	99
58)	Toluene	10.03	91	3298284	49.68	ug/l	100
59)	Ethyl methacrylate	10.34	69	1029697	44.15	ug/l	96
60)	trans-1,3-Dichloropropene	10.34	75	1091363	45.28	ug/l	97
61)	1,1,2-Trichloroethane	10.58	97	619537	47.05	ug/l	97
62)	2-Hexanone	10.61	43	3012109	209.12	ug/l	98
63)	1,3-Dichloropropane	10.98	76	1182852	44.90	ug/l	98
64)	Tetrachloroethene	11.07	164	667351	52.95	ug/l	98
65)	Dibromochloromethane	11.38	129	693001	45.86	ug/l	99
66)	1,2-Dibromoethane	11.71	107	626262	47.59	ug/l	100
67)	1-Chlorohexane	12.02	91	1213775	51.53	ug/l	96
68)	Chlorobenzene	12.41	112	1941383	50.33	ug/l	98
69)	1,1,1,2-Tetrachloroethane	12.50	131	638573	50.60	ug/l	100
70)	Ethylbenzene	12.51	91	3322050	47.46	ug/l	99
71)	m-Xylene & p-Xylene	12.65	91	5101828	99.83	ug/l	100
72)	o-Xylene	13.37	91	2462152	48.48	ug/l	100
73)	Styrene	13.43	104	1917288	48.17	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G08\RGP134.D Vial: 3
Acq On : 8 Jul 2019 11:08 am Operator: IRagas
Sample : VS02G06L Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:29 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

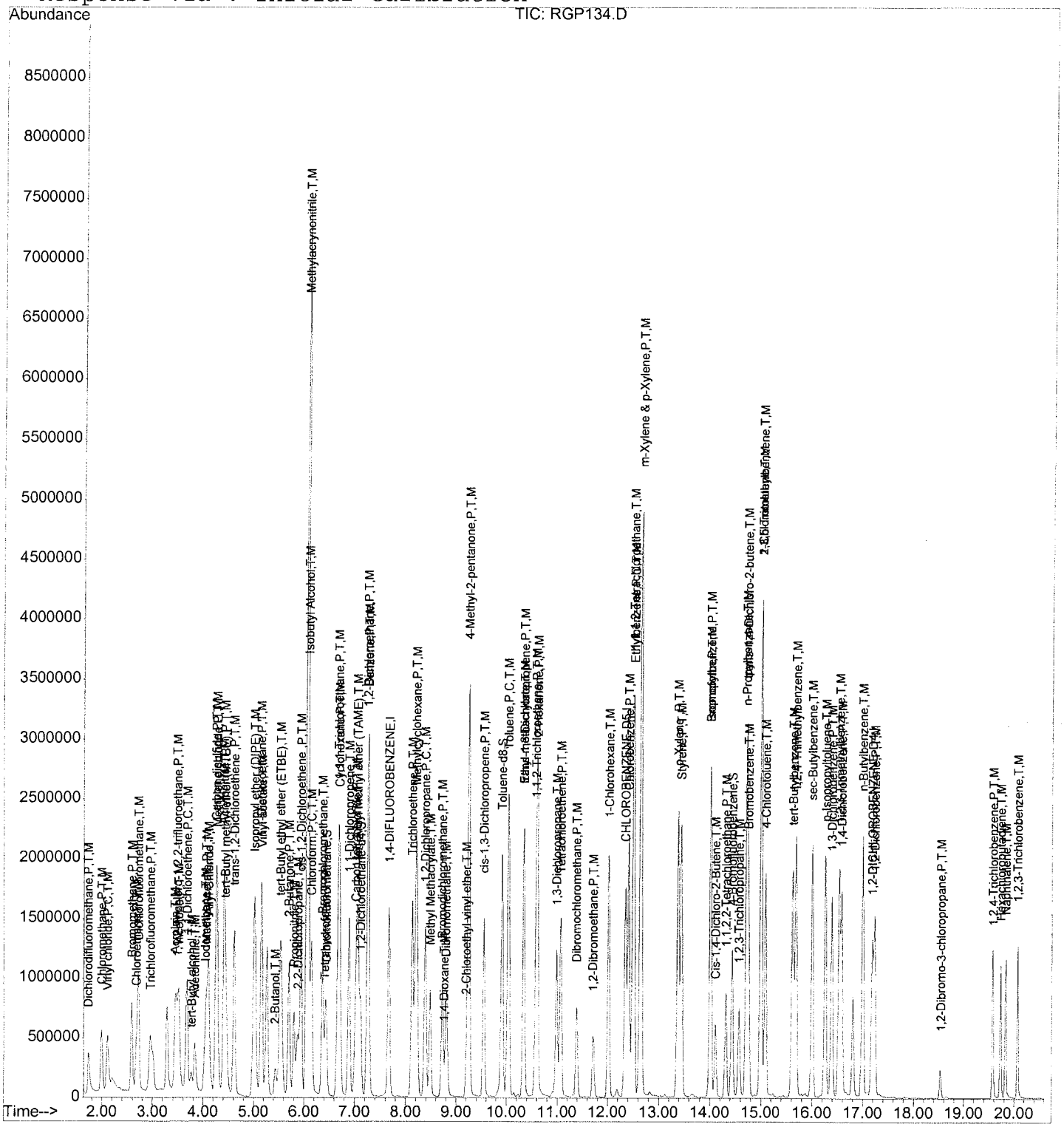
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	2877347	49.27	ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	222396	43.01	ug/l	98
77)	Bromoform	14.00	173	395975	44.57	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	885126	44.24	ug/l	99
80)	1,2,3-Trichloropropane	14.56	110	167815	44.57	ug/l	95
81)	trans-1,4-Dichloro-2-buten	14.71	53	181452	41.12	ug/l	99
82)	n-Propylbenzene	14.70	91	3682172	47.68	ug/l	99
83)	Bromobenzene	14.74	156	739561	47.77	ug/l	95
84)	1,3,5-Trimethylbenzene	15.00	105	2144474	47.43	ug/l	99
85)	2-Chlorotoluene	15.00	126	659450	46.82	ug/l	96
86)	4-Chlorotoluene	15.09	126	621393	48.90	ug/l	95
87)	tert-Butylbenzene	15.62	134	443600	49.31	ug/l	96
88)	1,2,4-Trimethylbenzene	15.68	105	2075435	48.12	ug/l	98
89)	sec-Butylbenzene	15.99	105	2881239	46.92	ug/l	99
90)	p-Isopropyltoluene	16.26	119	2323167	49.67	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	1250716	49.06	ug/l	99
92)	1,2,3-Trimethylbenzene	16.53	105	1944906	46.39	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	1247225	49.01	ug/l	99
94)	n-Butylbenzene	16.99	91	2189978	48.36	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	1121694	48.41	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.54	157	107984	43.18	ug/l	98
97)	1,2,4-Trichlorobenzene	19.58	180	539774	51.78	ug/l	99
98)	Hexachlorobutadiene	19.73	225	266340	50.26	ug/l	99
99)	Naphthalene	19.83	128	1173547	43.06	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	460210	49.57	ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP134.D Vial: 3
Acq On : 8 Jul 2019 11:08 am Operator: IRagas
Sample : VS02G06L Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:29 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP135.D Vial: 4
Acq On : 8 Jul 2019 11:33 am Operator: IRagas
Sample : VS02G06C Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:54 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1976600	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1695642	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	652611	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	675418	50.77	ug/l	0.01
Spiked Amount 50.000			Recovery =	101.54%		
43) 1,2-Dichloroethane-d4	7.11	65	588581	44.33	ug/l	0.03
Spiked Amount 50.000			Recovery =	88.66%		
57) Toluene-d8	9.91	98	2201138	44.55	ug/l	0.03
Spiked Amount 50.000			Recovery =	89.10%		
79) 4-Bromofluorobenzene	14.43	95	685165	45.88	ug/l	0.03
Spiked Amount 50.000			Recovery =	91.76%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.73	85	598595	53.54	ug/l	100
3) Chloromethane	1.98	50	889165	50.44	ug/l	98
4) Vinyl chloride	2.12	62	836597	54.44	ug/l	99
5) Bromomethane	2.58	94	665264	51.46	ug/l	99
6) Chloroethane	2.68	64	544715	51.69	ug/l	98
7) Dichlorofluoromethane	2.71	67	1383374	49.46	ug/l	100
8) Trichlorofluoromethane	2.95	101	703825	55.30	ug/l	100
9) Acrolein	3.44	56	575550	215.61	ug/l	87
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	450404	53.41	ug/l	99
11) Acetone	3.51	43	1058136	234.76	ug/l	100
12) 1,1-Dichloroethene	3.66	61	1136816	48.86	ug/l	98
13) tert-Butyl alcohol	3.77	59	488497	281.02	ug/l	96
14) Acetonitrile	3.83	41	953076	530.04	ug/l	100
15) Iodomethane	4.05	142	1155049	53.83	ug/l	98
16) Methyl Acetate	4.06	43	762803	50.69	ug/l	98
17) Allyl Chloride	4.11	76	438499	56.56	ug/l	99
18) Methylene chloride	4.26	49	1044865	48.82	ug/l	96
19) Carbon disulfide	4.26	76	3092228	57.11	ug/l	100
20) Acrylonitrile	4.41	53	1635094	246.58	ug/l	99
21) tert-Butyl methyl ether (M	4.44	73	1921086	50.66	ug/l	99
22) trans-1,2-Dichloroethene	4.60	61	1258478	52.79	ug/l	96
23) Isopropyl ether (DIPE)	5.02	45	3356995	48.37	ug/l	99
24) 1,1-Dichloroethane	5.15	63	1665320	50.57	ug/l	99
25) Vinyl acetate	5.15	43	1967243	48.58	ug/l	99
26) 2-Butanol	5.43	45	501000	275.64	ug/l #	100
27) tert-Butyl ethyl ether (ET	5.54	59	2598014	49.42	ug/l	98
28) 2-Butanone	5.70	72	469181	257.50	ug/l	94

(#) = qualifier out of range (m) = manual integration
RGP135.D VO02F29.M Tue Jul 09 11:49:35 2019 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP135.D Vial: 4
Acq On : 8 Jul 2019 11:33 am Operator: IRagas
Sample : VS02G06C Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:54 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.79	54	1158596	503.72	ug/l	100
30)	2,2-Dichloropropane	5.88	77	624192	56.26	ug/l	100
31)	cis-1,2-Dichloroethene	5.94	96	864530	53.31	ug/l	96
32)	Methylacrynonitrile	6.06	52	1287778	495.85	ug/l	96
33)	Isobutyl Alcohol	6.09	43	937002	991.02	ug/l	97
34)	Chloroform	6.15	83	1374032	49.92	ug/l	99
35)	Bromochloromethane	6.35	49	829675	48.51	ug/l	94
36)	Tetrahydrofuran	6.40	42	256563	45.75	ug/l	99
38)	1,1,1-Trichloroethane	6.68	97	831413	56.58	ug/l	98
39)	Cyclohexane	6.70	84	1270137	60.72	ug/l	95
40)	1,1-Dichloropropene	6.89	110	351348	54.33	ug/l	99
41)	Carbon tetrachloride	7.02	119	684681	58.72	ug/l	100
42)	tert-Amyl methyl ether (TA	7.05	87	397471	52.27	ug/l	94
44)	1,2-Dichloroethane	7.25	62	883163	49.77	ug/l	99
45)	Benzene	7.26	78	3544796	51.37	ug/l	99
46)	Trichloroethene	8.12	130	836219	56.07	ug/l	99
47)	Methylcyclohexane	8.20	83	1612674	61.31	ug/l	97
48)	1,2-Dichloropropane	8.38	63	954647	49.34	ug/l	98
49)	Methyl Methacrylate	8.48	69	614457	50.38	ug/l	98
50)	Bromodichloromethane	8.72	83	956993	53.64	ug/l	100
51)	1,4-Dioxane	8.76	88	141324	1147.84	ug/l	94
52)	Dibromomethane	8.79	93	523087	51.11	ug/l	97
53)	2-Chloroethyl vinyl ether	9.20	63	176147	33.59	ug/l	94
54)	4-Methyl-2-pentanone	9.24	43	4778197	236.46	ug/l	99
55)	cis-1,3-Dichloropropene	9.55	75	1386085	50.92	ug/l	99
58)	Toluene	10.03	91	3083101	46.72	ug/l	100
59)	Ethyl methacrylate	10.33	69	1060768	45.76	ug/l	97
60)	trans-1,3-Dichloropropene	10.33	75	1085484	45.31	ug/l	98
61)	1,1,2-Trichloroethane	10.58	97	605825	46.28	ug/l	98
62)	2-Hexanone	10.59	43	3162752	220.90	ug/l	98
63)	1,3-Dichloropropane	10.98	76	1200995	45.87	ug/l	99
64)	Tetrachloroethene	11.06	164	615977	49.17	ug/l	99
65)	Dibromochloromethane	11.38	129	684512	45.57	ug/l	100
66)	1,2-Dibromoethane	11.71	107	631660	48.29	ug/l	100
67)	1-Chlorohexane	12.01	91	1136260	48.53	ug/l	96
68)	Chlorobenzene	12.41	112	1923363	50.16	ug/l	99
69)	1,1,1,2-Tetrachloroethane	12.48	131	625343	49.85	ug/l	100
70)	Ethylbenzene	12.51	91	3304915	47.50	ug/l	99
71)	m-Xylene & p-Xylene	12.63	91	4792452	94.34	ug/l	99
72)	o-Xylene	13.38	91	2375000	47.05	ug/l	100
73)	Styrene	13.44	104	1874088	47.37	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G08\RGP135.D Vial: 4
Acq On : 8 Jul 2019 11:33 am Operator: IRagas
Sample : VS02G06C Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:54 2019 Quant Results File: VO02F29.RES

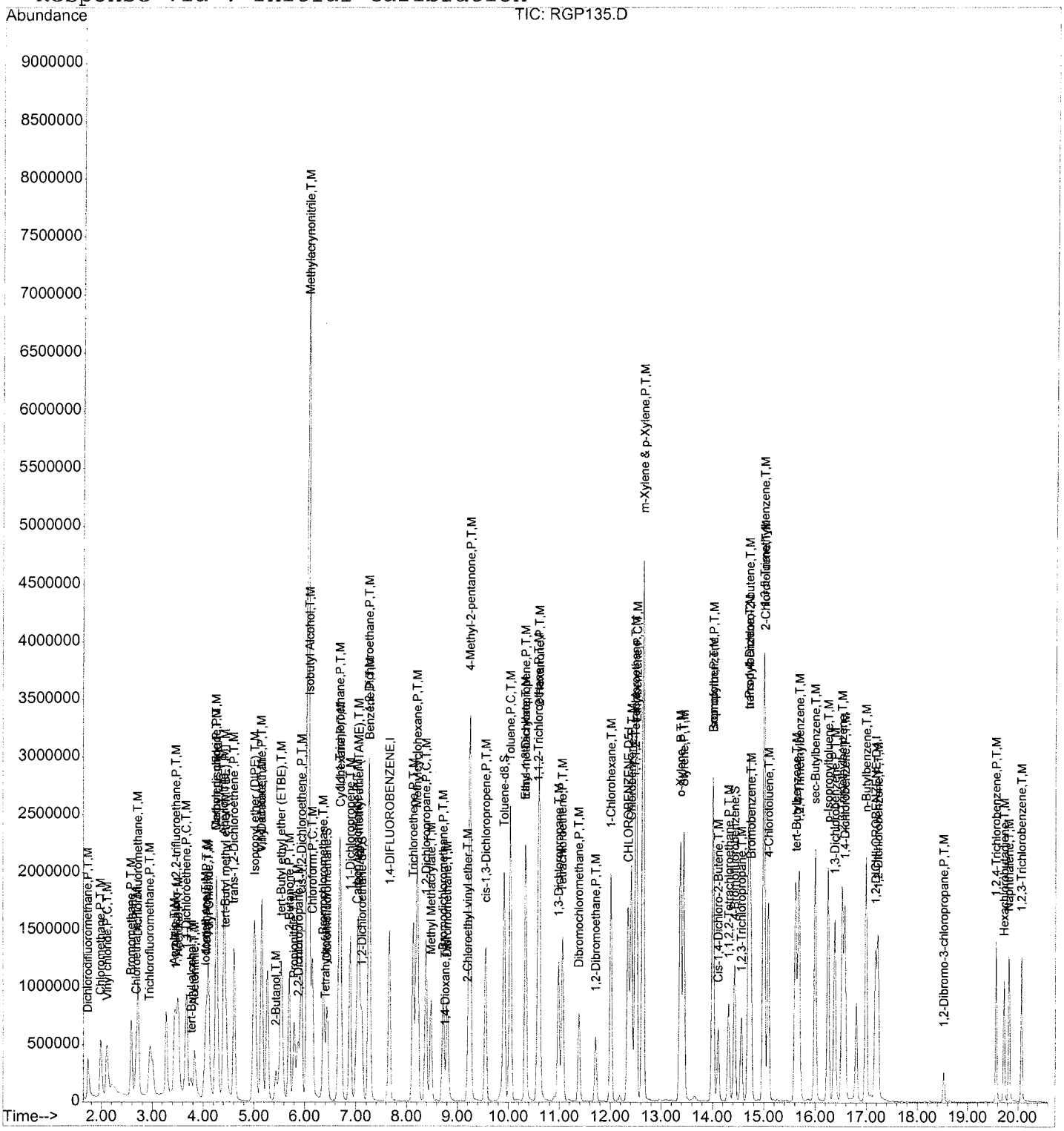
Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	2810943	48.42	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	222095	43.22	ug/l	97
77)	Bromoform	14.00	173	397625	44.19	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	910393	44.92	ug/l	100
80)	1,2,3-Trichloropropane	14.57	110	165989	43.52	ug/l	94
81)	trans-1,4-Dichloro-2-buten	14.70	53	183066	40.96	ug/l	98
82)	n-Propylbenzene	14.70	91	3566024	45.59	ug/l	99
83)	Bromobenzene	14.74	156	731842	46.67	ug/l	95
84)	1,3,5-Trimethylbenzene	14.98	105	2114116	46.16	ug/l	99
85)	2-Chlorotoluene	15.00	126	658678	46.16	ug/l	97
86)	4-Chlorotoluene	15.09	126	599100	46.54	ug/l	96
87)	tert-Butylbenzene	15.62	134	432941	47.51	ug/l	98
88)	1,2,4-Trimethylbenzene	15.68	105	2057731	47.10	ug/l	98
89)	sec-Butylbenzene	15.99	105	2993036	48.12	ug/l	100
90)	p-Isopropyltoluene	16.25	119	2194107	46.31	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	1236269	47.87	ug/l	99
92)	1,2,3-Trimethylbenzene	16.51	105	1989240	46.84	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	1214729	47.13	ug/l	99
94)	n-Butylbenzene	16.99	91	2153776	46.95	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	1105111	47.09	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.52	157	109240	43.12	ug/l	98
97)	1,2,4-Trichlorobenzene	19.56	180	547718	51.87	ug/l	99
98)	Hexachlorobutadiene	19.73	225	263234	49.03	ug/l	99
99)	Naphthalene	19.82	128	1249823	45.27	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	467617	49.73	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G08\RGP135.D Vial: 4
Acq On : 8 Jul 2019 11:33 am Operator: IRagas
Sample : VS02G06C Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:54 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP140.D Vial: 9
Acq On : 8 Jul 2019 1:38 pm Operator: IRagas
Sample : VPG015SB Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:21 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	2076584	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.34	117	1652043	50.00	ug/l	0.02
76) 1,2-DICHLOROBENZENE-D4	17.17	152	598267	50.00	ug/l	0.02
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	673806	48.21	ug/l	0.02
Spiked Amount 50.000			Recovery = 96.42%			
43) 1,2-Dichloroethane-d4	7.12	65	599226	42.96	ug/l	0.03
Spiked Amount 50.000			Recovery = 85.92%			
57) Toluene-d8	9.92	98	2152010	44.71	ug/l	0.03
Spiked Amount 50.000			Recovery = 89.42%			
79) 4-Bromofluorobenzene	14.42	95	617215	45.08	ug/l	0.02
Spiked Amount 50.000			Recovery = 90.16%			

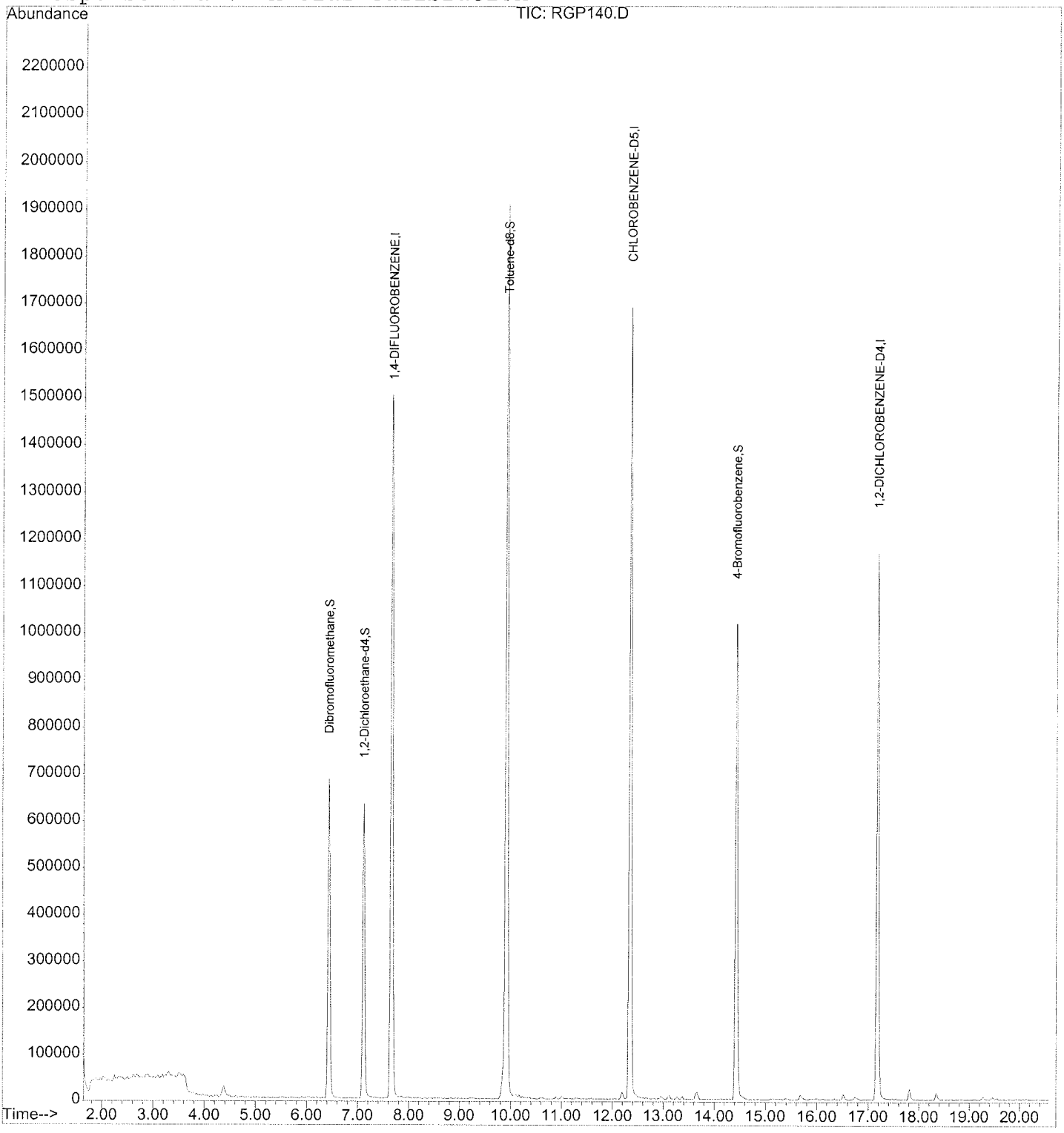
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP140.D Vial: 9
Acq On : 8 Jul 2019 1:38 pm Operator: IRagas
Sample : VPG015SB Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 9 10:21 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP153.D Vial: 22
Acq On : 8 Jul 2019 7:02 pm Operator: IRagas
Sample : 19G035-05M Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 15:31 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1938590	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1527017	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	561429	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	609913	46.74	ug/l		0.03
Spiked Amount 50.000			Recovery = 93.48%				
43) 1,2-Dichloroethane-d4	7.11	65	551399	42.34	ug/l		0.03
Spiked Amount 50.000			Recovery = 84.68%				
57) Toluene-d8	9.91	98	2002845	45.02	ug/l		0.03
Spiked Amount 50.000			Recovery = 90.04%				
79) 4-Bromofluorobenzene	14.43	95	612392	47.67	ug/l		0.03
Spiked Amount 50.000			Recovery = 95.34%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.74	85	533586	48.66	ug/l		100
3) Chloromethane	2.00	50	844835	48.87	ug/l		99
4) Vinyl chloride	2.11	62	752031	49.90	ug/l		99
5) Bromomethane	2.59	94	615159	48.51	ug/l		98
6) Chloroethane	2.68	64	503943	48.76	ug/l		99
7) Dichlorofluoromethane	2.72	67	1349120	49.18	ug/l		98
8) Trichlorofluoromethane	2.96	101	617542	49.47	ug/l		100
9) Acrolein	3.44	56	518395	198.00	ug/l		98
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	424873	51.37	ug/l		99
11) Acetone	3.51	43	1058469	239.44	ug/l		99
12) 1,1-Dichloroethene	3.68	61	1074422	47.09	ug/l		99
13) tert-Butyl alcohol	3.77	59	466019	273.34	ug/l		92
14) Acetonitrile	3.84	41	930977	527.91	ug/l		98
15) Iodomethane	4.05	142	1155639	54.91	ug/l		99
16) Methyl Acetate	4.06	43	894411	60.60	ug/l		99
17) Allyl Chloride	4.11	76	415855	54.69	ug/l		99
18) Methylene chloride	4.27	49	1047741	49.91	ug/l		98
19) Carbon disulfide	4.27	76	2644965	49.81	ug/l		100
20) Acrylonitrile	4.41	53	1605433	246.85	ug/l		100
21) tert-Butyl methyl ether (M	4.43	73	1897755	51.03	ug/l		100
22) trans-1,2-Dichloroethene	4.61	61	1240842	53.07	ug/l		98
23) Isopropyl ether (DIPE)	5.02	45	3355496	49.30	ug/l		99
24) 1,1-Dichloroethane	5.15	63	1670215	51.72	ug/l		100
26) 2-Butanol	5.45	45	397762	223.13	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	2571991	49.89	ug/l		98
28) 2-Butanone	5.70	72	466646	261.13	ug/l		96
29) Propionitrile	5.80	54	1111809	492.85	ug/l		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP153.D Vial: 22
Acq On : 8 Jul 2019 7:02 pm Operator: IRagas
Sample : 19G035-05M Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 15:31 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
30)	2,2-Dichloropropane	5.88	77	582114	53.49	ug/l	99
31)	cis-1,2-Dichloroethene	5.94	96	827216	52.01	ug/l	98
32)	Methylacrynonitrile	6.06	52	1248109	490.00	ug/l	97
33)	Isobutyl Alcohol	6.09	43	887972	957.58	ug/l	97
34)	Chloroform	6.15	83	1376202	50.98	ug/l	100
35)	Bromochloromethane	6.37	49	838644	49.99	ug/l	95
36)	Tetrahydrofuran	6.41	42	250111	45.48	ug/l	99
38)	1,1,1-Trichloroethane	6.68	97	783493	54.37	ug/l	100
39)	Cyclohexane	6.70	84	1029368	50.18	ug/l	97
40)	1,1-Dichloropropene	6.89	110	332087	52.35	ug/l	99
41)	Carbon tetrachloride	7.02	119	643889	56.30	ug/l	100
42)	tert-Amyl methyl ether (TA	7.05	87	385084	51.63	ug/l	98
44)	1,2-Dichloroethane	7.25	62	879166	50.52	ug/l	100
45)	Benzene	7.26	78	3477973	51.39	ug/l	99
46)	Trichloroethene	8.12	130	767159	52.45	ug/l	100
47)	Methylcyclohexane	8.20	83	1271566	49.29	ug/l	98
48)	1,2-Dichloropropane	8.39	63	972294	51.24	ug/l	99
49)	Methyl Methacrylate	8.48	69	649382	54.29	ug/l	97
50)	Bromodichloromethane	8.72	83	930821	53.20	ug/l	99
51)	1,4-Dioxane	8.76	88	149672	1232.04	ug/l	94
52)	Dibromomethane	8.81	93	508353	50.65	ug/l	99
53)	2-Chloroethyl vinyl ether	9.21	63	183430	35.67	ug/l	96
54)	4-Methyl-2-pentanone	9.24	43	4754159	239.89	ug/l	99
55)	cis-1,3-Dichloropropene	9.55	75	1343518	50.32	ug/l	99
58)	Toluene	10.04	91	2937248	49.42	ug/l	100
59)	Ethyl methacrylate	10.34	69	874442	41.89	ug/l	98
60)	trans-1,3-Dichloropropene	10.34	75	1009581	46.79	ug/l	96
61)	1,1,2-Trichloroethane	10.58	97	588971	49.96	ug/l	97
62)	2-Hexanone	10.61	43	3027624	234.81	ug/l	99
63)	1,3-Dichloropropane	10.98	76	1161203	49.25	ug/l	99
64)	Tetrachloroethene	11.07	164	582387	51.62	ug/l	99
65)	Dibromochloromethane	11.40	129	662685	48.98	ug/l	99
66)	1,2-Dibromoethane	11.71	107	600908	51.01	ug/l	100
67)	1-Chlorohexane	12.02	91	1024039	48.56	ug/l	98
68)	Chlorobenzene	12.41	112	1773374	51.36	ug/l	98
69)	1,1,1,2-Tetrachloroethane	12.50	131	611482	54.13	ug/l	99
70)	Ethylbenzene	12.51	91	3119930	49.79	ug/l	99
71)	m-Xylene & p-Xylene	12.65	91	4534080	99.11	ug/l	100
72)	o-Xylene	13.38	91	2284931	50.26	ug/l	99
73)	Styrene	13.43	104	1741972	48.89	ug/l	100
74)	Isopropylbenzene	14.00	105	2670470	51.08	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G08\RGP153.D Vial: 22
Acq On : 8 Jul 2019 7:02 pm Operator: IRagas
Sample : 19G035-05M Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 15:31 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

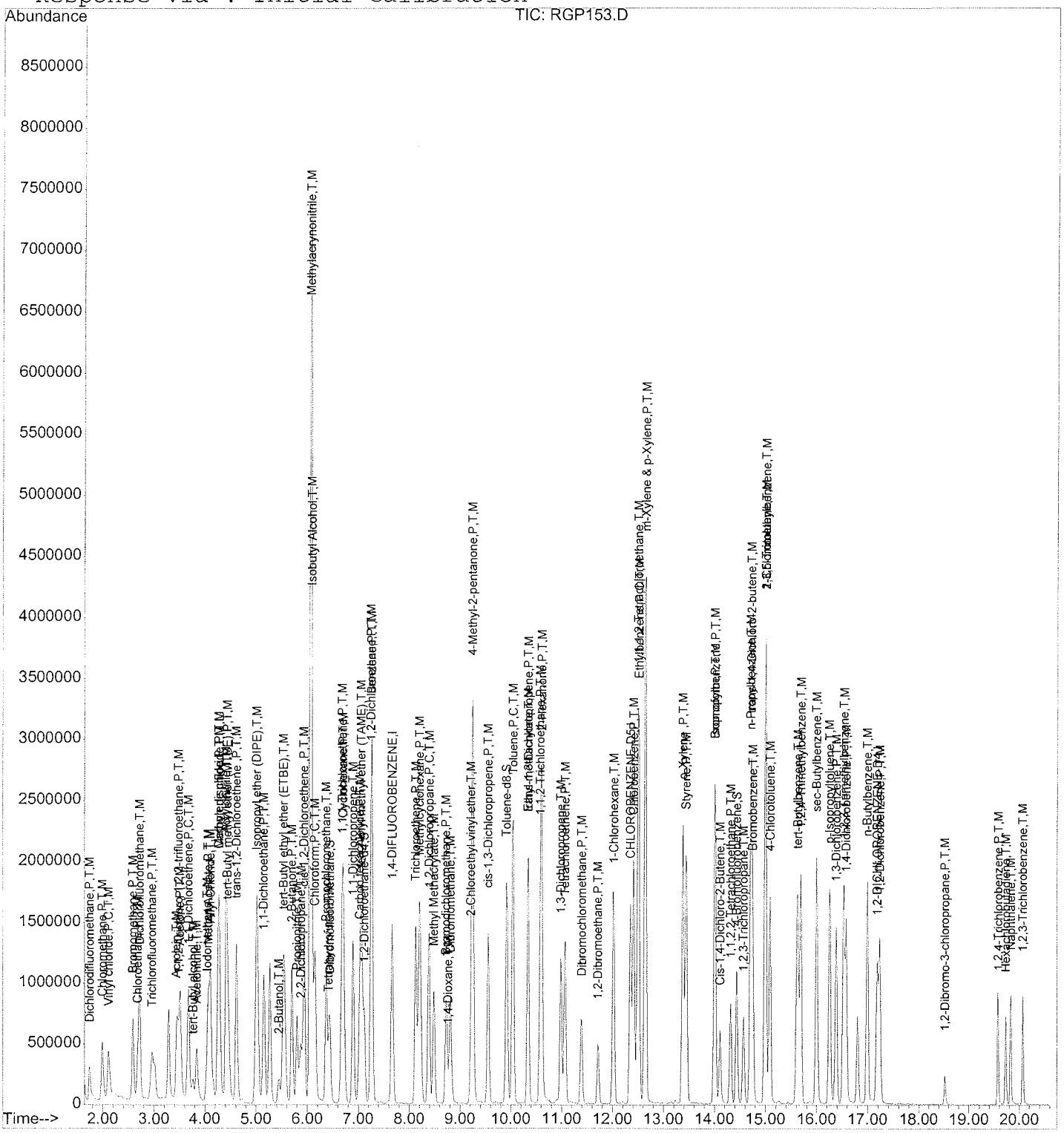
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	213741	46.18	ug/l	99
77)	Bromoform	14.00	173	363918	47.01	ug/l	98
78)	1,1,2,2-Tetrachloroethane	14.31	83	856903	49.15	ug/l	100
80)	1,2,3-Trichloropropane	14.57	110	161449	49.21	ug/l	95
81)	trans-1,4-Dichloro-2-buten	14.71	53	181973	47.32	ug/l	100
82)	n-Propylbenzene	14.70	91	3428229	50.95	ug/l	99
83)	Bromobenzene	14.74	156	698079	51.75	ug/l	93
84)	1,3,5-Trimethylbenzene	15.00	105	1978515	50.22	ug/l	98
85)	2-Chlorotoluene	15.00	126	605215	49.31	ug/l	99
86)	4-Chlorotoluene	15.09	126	561243	50.68	ug/l	96
87)	tert-Butylbenzene	15.62	134	397782	50.74	ug/l	98
88)	1,2,4-Trimethylbenzene	15.68	105	1830173	48.70	ug/l	98
89)	sec-Butylbenzene	15.99	105	2667805	49.86	ug/l	99
90)	p-Isopropyltoluene	16.25	119	2026642	49.73	ug/l	100
91)	1,3-Dichlorobenzene	16.38	146	1090442	49.08	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	1807676	49.48	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	1090169	49.16	ug/l	99
94)	n-Butylbenzene	16.99	91	1821350	46.15	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	997238	49.39	ug/l	98
96)	1,2-Dibromo-3-chloropropan	18.52	157	102571	47.06	ug/l	99
97)	1,2,4-Trichlorobenzene	19.58	180	379314	41.75	ug/l	99
98)	Hexachlorobutadiene	19.73	225	170895	37.00	ug/l	100
99)	Naphthalene	19.83	128	928747	39.10	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	311307	38.48	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP153.D Vial: 22
Acq On : 8 Jul 2019 7:02 pm Operator: IRagas
Sample : 19G035-05M Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 15:31 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP154.D Vial: 23
Acq On : 8 Jul 2019 7:27 pm Operator: IRagas
Sample : 19G035-05S Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 15:32 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1870032	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1542592	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	575757	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	604473	48.02	ug/l		0.02
Spiked Amount 50.000			Recovery = 96.04%				
43) 1,2-Dichloroethane-d4	7.12	65	570409	45.41	ug/l		0.03
Spiked Amount 50.000			Recovery = 90.82%				
57) Toluene-d8	9.91	98	2066529	45.98	ug/l		0.03
Spiked Amount 50.000			Recovery = 91.96%				
79) 4-Bromofluorobenzene	14.44	95	612333	46.47	ug/l		0.03
Spiked Amount 50.000			Recovery = 92.94%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	499335	47.21	ug/l		100
3) Chloromethane	1.98	50	778677	46.69	ug/l		99
4) Vinyl chloride	2.10	62	708477	48.73	ug/l		99
5) Bromomethane	2.58	94	593620	48.53	ug/l		100
6) Chloroethane	2.68	64	478144	47.96	ug/l		96
7) Dichlorofluoromethane	2.71	67	1327963	50.18	ug/l		99
8) Trichlorofluoromethane	2.97	101	583887	48.49	ug/l		100
9) Acrolein	3.44	56	401937	159.15	ug/l		93
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	419908	52.64	ug/l		99
11) Acetone	3.52	43	989748	232.10	ug/l		99
12) 1,1-Dichloroethene	3.68	61	1077319	48.94	ug/l		99
13) tert-Butyl alcohol	3.77	59	483230	293.83	ug/l		95
14) Acetonitrile	3.83	41	949630	558.22	ug/l		99
15) Iodomethane	4.05	142	1121809	55.26	ug/l		99
16) Methyl Acetate	4.07	43	812811	57.09	ug/l		98
17) Allyl Chloride	4.11	76	414278	56.48	ug/l		99
18) Methylene chloride	4.28	49	1023494	50.54	ug/l		97
19) Carbon disulfide	4.26	76	2667032	52.07	ug/l		100
20) Acrylonitrile	4.41	53	1551940	247.37	ug/l		100
21) tert-Butyl methyl ether (M	4.44	73	1879871	52.40	ug/l		100
22) trans-1,2-Dichloroethene	4.60	61	1208612	53.59	ug/l		97
23) Isopropyl ether (DIPE)	5.02	45	3363670	51.23	ug/l		99
24) 1,1-Dichloroethane	5.15	63	1679208	53.90	ug/l		100
26) 2-Butanol	5.44	45	393613	228.90	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	2594047	52.16	ug/l		98
28) 2-Butanone	5.70	72	483491	280.47	ug/l		97
29) Propionitrile	5.81	54	1087054	499.55	ug/l		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP154.D Vial: 23
Acq On : 8 Jul 2019 7:27 pm Operator: IRagas
Sample : 19G035-05S Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 15:32 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	2,2-Dichloropropane	5.88	77	574815	54.76 ug/l	100
31)	cis-1,2-Dichloroethene	5.94	96	861879	56.18 ug/l	97
32)	Methylacrynonitrile	6.06	52	1232679	501.69 ug/l	98
33)	Isobutyl Alcohol	6.09	43	898012	1003.91 ug/l	96
34)	Chloroform	6.15	83	1368386	52.54 ug/l	99
35)	Bromochloromethane	6.36	49	832034	51.42 ug/l	95
36)	Tetrahydrofuran	6.42	42	245879	46.35 ug/l	99
38)	1,1,1-Trichloroethane	6.69	97	788070	56.69 ug/l	100
39)	Cyclohexane	6.70	84	1049080	53.01 ug/l	97
40)	1,1-Dichloropropene	6.89	110	333584	54.52 ug/l	100
41)	Carbon tetrachloride	7.03	119	661131	59.93 ug/l	99
42)	tert-Amyl methyl ether (TA	7.06	87	392568	54.57 ug/l	97
44)	1,2-Dichloroethane	7.25	62	878238	52.31 ug/l	99
45)	Benzene	7.27	78	3496033	53.55 ug/l	99
46)	Trichloroethene	8.13	130	785255	55.65 ug/l	99
47)	Methylcyclohexane	8.20	83	1311893	52.72 ug/l	99
48)	1,2-Dichloropropane	8.38	63	961697	52.54 ug/l	99
49)	Methyl Methacrylate	8.49	69	667658	57.86 ug/l	98
50)	Bromodichloromethane	8.72	83	917976	54.39 ug/l	99
51)	1,4-Dioxane	8.77	88	164318	1387.39 ug/l	96
52)	Dibromomethane	8.80	93	499593	51.60 ug/l	98
53)	2-Chloroethyl vinyl ether	9.20	63	173440	34.96 ug/l	98
54)	4-Methyl-2-pentanone	9.24	43	4683261	244.97 ug/l	99
55)	cis-1,3-Dichloropropene	9.56	75	1321290	51.30 ug/l	99
58)	Toluene	10.03	91	2961064	49.32 ug/l	100
59)	Ethyl methacrylate	10.33	69	798331	37.85 ug/l	98
60)	trans-1,3-Dichloropropene	10.33	75	1009232	46.30 ug/l	94
61)	1,1,2-Trichloroethane	10.58	97	601705	50.53 ug/l	98
62)	2-Hexanone	10.60	43	2974077	228.33 ug/l	99
63)	1,3-Dichloropropane	10.98	76	1193516	50.10 ug/l	99
64)	Tetrachloroethene	11.06	164	620960	54.49 ug/l	99
65)	Dibromochloromethane	11.39	129	676633	49.51 ug/l	99
66)	1,2-Dibromoethane	11.71	107	598660	50.30 ug/l	99
67)	1-Chlorohexane	12.01	91	1033056	48.50 ug/l	98
68)	Chlorobenzene	12.41	112	1785472	51.19 ug/l	98
69)	1,1,1,2-Tetrachloroethane	12.49	131	607603	53.25 ug/l	99
70)	Ethylbenzene	12.50	91	3167781	50.04 ug/l	99
71)	m-Xylene & p-Xylene	12.64	91	4572326	98.94 ug/l	99
72)	o-Xylene	13.38	91	2300911	50.10 ug/l	99
73)	Styrene	13.44	104	1762714	48.98 ug/l	100
74)	Isopropylbenzene	14.00	105	2676758	50.68 ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G08\RGP154.D Vial: 23
Acq On : 8 Jul 2019 7:27 pm Operator: IRagas
Sample : 19G035-05S Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 15:32 2019 Quant Results File: VO02F29.RES

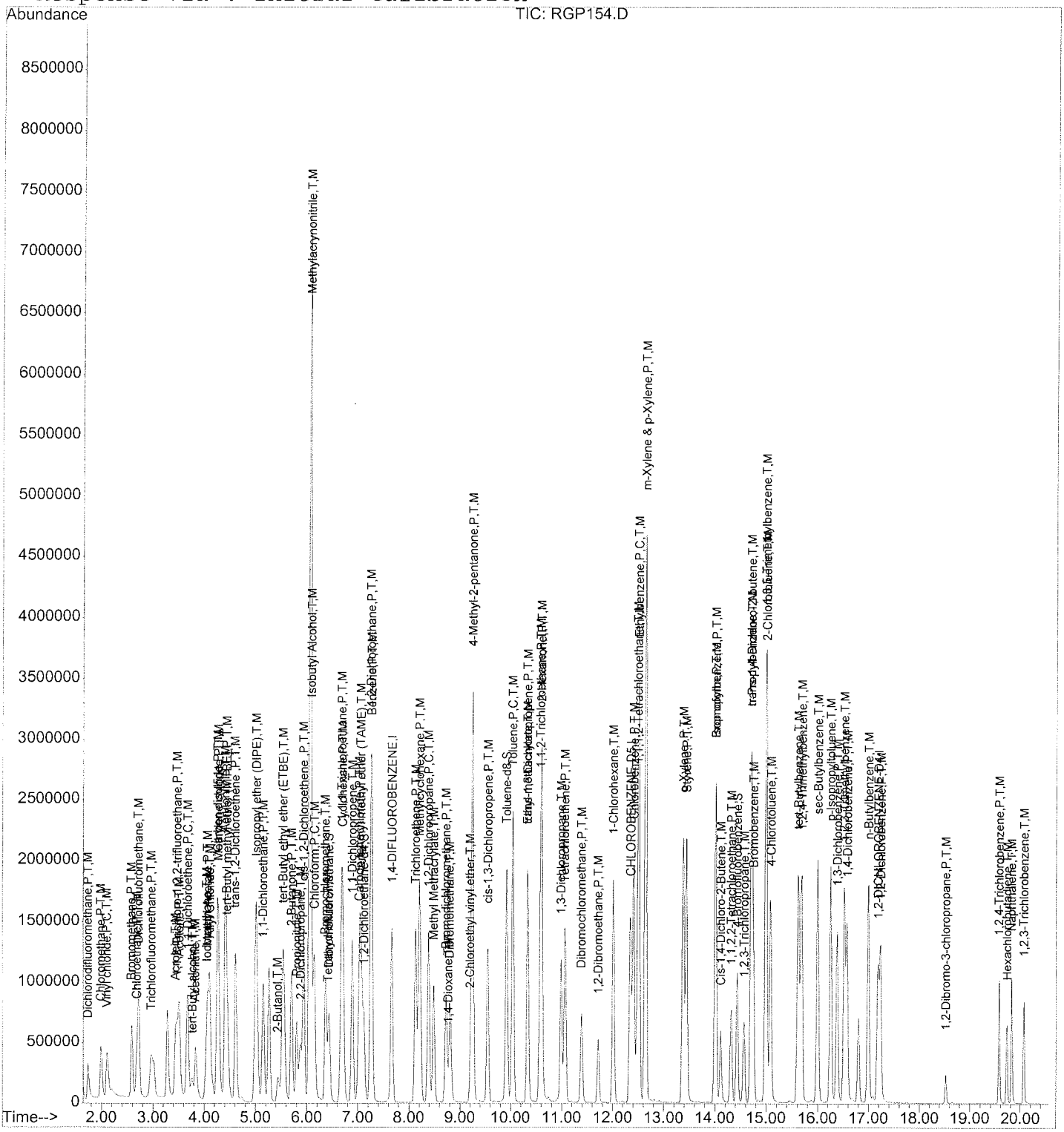
Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	209420	44.79	ug/l	99
77)	Bromoform	14.00	173	357604	45.04	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.32	83	841134	47.05	ug/l	100
80)	1,2,3-Trichloropropane	14.57	110	157666	46.86	ug/l	94
81)	trans-1,4-Dichloro-2-buten	14.70	53	171198	43.41	ug/l	100
82)	n-Propylbenzene	14.70	91	3355350	48.62	ug/l	99
83)	Bromobenzene	14.75	156	693691	50.14	ug/l	94
84)	1,3,5-Trimethylbenzene	14.99	105	2014359	49.85	ug/l	97
85)	2-Chlorotoluene	15.00	126	629529	50.01	ug/l	95
86)	4-Chlorotoluene	15.09	126	562569	49.53	ug/l	97
87)	tert-Butylbenzene	15.61	134	425782	52.96	ug/l	95
88)	1,2,4-Trimethylbenzene	15.68	105	1899642	49.29	ug/l	97
89)	sec-Butylbenzene	16.00	105	2693574	49.09	ug/l	99
90)	p-Isopropyltoluene	16.25	119	2097183	50.18	ug/l	100
91)	1,3-Dichlorobenzene	16.38	146	1129425	49.57	ug/l	99
92)	1,2,3-Trimethylbenzene	16.52	105	1798980	48.02	ug/l	100
93)	1,4-Dichlorobenzene	16.58	146	1062866	46.74	ug/l	99
94)	n-Butylbenzene	16.99	91	1883254	46.53	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	1010634	48.81	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.53	157	99436	44.49	ug/l	99
97)	1,2,4-Trichlorobenzene	19.57	180	371353	39.86	ug/l	100
98)	Hexachlorobutadiene	19.73	225	179477	37.89	ug/l	99
99)	Naphthalene	19.82	128	938198	38.52	ug/l	100
100)	1,2,3-Trichlorobenzene	20.07	180	315109	37.98	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G08\RGP154.D Vial: 23
Acq On : 8 Jul 2019 7:27 pm Operator: IRagas
Sample : 19G035-05S Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 15:32 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



INITIAL CALIBRATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RFP441
Instrument ID: 02
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G035
BFB Injection Date : 06/29/19
BFB Injection Time : 11:36
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.94
75	30.0 - 60.0% of mass 95	48.25
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.67
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	80.72
175	5.0 - 9.0% of mass 174	6.28(7.8)1
176	95.0 - 101.0% of mass 174	77.18(95.6)1
177	5.0 - 9.0% of mass 176	4.95(6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD01	VO02F291	RFP442	06/29/19	12:07
2	VSTD02	VO02F292	RFP443	06/29/19	12:32
3	VSTD04	VO02F293	RFP444	06/29/19	12:57
4	VSTD010	VO02F294	RFP445	06/29/19	13:22
5	VSTD020	VO02F295	RFP446	06/29/19	13:46
6	VSTD050	VO02F296	RFP447	06/29/19	14:11
7	VSTD100	VO02F297	RFP448	06/29/19	14:36
8	VSTD200	VO02F298	RFP449	06/29/19	15:00
9	VSTD300	VO02F299	RFP450	06/29/19	15:26
10	VSTD500	VO02F2910	RFP451	06/29/19	15:51
11	VSTD050	IVO02F2901	RFP454	06/29/19	17:06

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :02
Beginning DateTime :06/29/19 12:07
Spike Units :PPB
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :06/29/19 15:51
HPChem Method :V002F29

M	IDX	Parameters	1 12:07 RFP442	2 12:32 RFP443	4 12:57 RFP444	10 13:22 RFP445	20 13:46 RFP446	50 14:11 RFP447	100 14:36 RFP448	200 15:00 RFP449	300 15:26 RFP450	500 15:51 RFP451	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.6646
	2	Dichlorodifluoromethane	------	------	0.227	0.269	0.263	0.307	0.301	0.291	0.300	0.303	0.283	9.82	1.7287
	3	Chloromethane	0.354	0.355	0.445	0.478	0.434	0.494	0.481	0.466	0.465	0.486	0.446	11.51	1.9895
	4	Vinyl chloride	------	------	0.354	0.410	0.391	0.454	0.414	0.309	------	------	0.389	13.10	2.1089
	5	Bromomethane	------	------	0.281	0.320	0.297	0.351	0.345	0.333	0.338	0.350	0.327	7.90	2.5804
	6	Chloroethane	------	------	0.221	0.261	0.246	0.286	0.288	0.277	0.276	0.277	0.267	8.50	2.6771
	7	Dichlorofluoromethane	0.669	0.681	0.705	0.742	0.671	0.708	0.716	0.719	0.728	0.736	0.708	3.70	2.7140
	8	Trichlorofluoromethane	------	------	0.276	0.315	0.297	0.344	0.347	0.333	0.328	0.335	0.322	7.67	2.9578
5	9	Acrolein	------	0.062	0.080	0.073	0.063	0.061	0.068	0.064	0.069	------	0.068	9.30	3.4403
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	0.187	0.204	0.208	0.223	0.202	0.215	0.223	0.221	0.227	0.225	0.213	6.03	3.4756
5	11	Acetone	------	0.127	0.136	0.121	0.104	0.106	0.105	0.114	0.114	0.099	0.114	10.74	3.5159
	12	1,1-Dichloroethene	0.522	0.591	0.582	0.618	0.562	0.578	0.602	0.598	0.601	0.631	0.589	5.16	3.6705
5	13	tert-Butyl alcohol	0.049	0.036	0.043	0.043	0.042	0.043	0.043	0.047	0.049	0.042	0.044	8.94	3.7687
10	14	Acetonitrile	0.044	0.039	0.045	0.046	0.040	0.041	0.045	0.053	0.054	0.047	0.045	11.06	3.8371
	15	Iodomethane	0.470	0.502	0.526	0.584	0.517	0.542	0.564	0.568	0.569	0.585	0.543	7.02	4.0498
	16	Methyl Acetate	------	------	0.307	0.368	0.375	0.411	0.388	0.406	0.388	0.402	0.381	8.76	4.0642
	17	Allyl Chloride	------	0.178	0.198	0.213	0.185	0.205	0.196	0.205	0.195	0.190	0.196	5.48	4.1076
	18	Methylene chloride	0.539	0.546	0.555	0.566	0.508	0.522	0.544	0.536	0.541	0.556	0.541	3.12	4.2730
	19	Carbon disulfide	------	------	1.143	1.337	1.294	1.420	1.459	1.405	1.417	1.482	1.370	8.04	4.2595
5	20	Acrylonitrile	0.149	0.137	0.155	0.178	0.157	0.170	0.178	0.186	0.190	0.177	0.168	10.29	4.4068
	21	tert-Butyl methyl ether (MTBE)	0.882	0.925	0.948	0.997	0.884	0.827	0.959	1.040	1.084	1.046	0.959	8.61	4.4381
	22	trans-1,2-Dichloroethene	0.478	0.566	0.585	0.638	0.583	0.624	0.642	0.639	0.637	0.639	0.603	8.72	4.6032
	23	Isopropyl ether (DIPE)	1.461	1.694	1.719	1.834	1.686	1.780	1.815	1.849	1.879	1.838	1.755	7.04	5.0153
	24	1,1-Dichloroethane	0.704	0.787	0.834	0.899	0.790	0.840	0.849	0.864	0.889	0.874	0.833	7.07	5.1506
	25	Vinyl acetate	------	------	0.861	0.967	0.939	1.058	1.147	1.055	1.128	1.040	1.024	9.45	5.1595
5	26	2-Butanol	------	------	0.038	0.042	0.042	0.049	0.047	0.052	0.051	0.048	0.046	10.56	5.4402
	27	tert-Butyl ethyl ether (ETBE)	1.181	1.264	1.308	1.399	1.229	1.248	1.327	1.450	1.468	1.423	1.330	7.55	5.5389
5	28	2-Butanone	0.038	0.038	0.044	0.047	0.043	0.049	0.049	0.052	0.052	0.049	0.046	10.89	5.7010
10	29	Propionitrile	0.048	0.049	0.054	0.061	0.053	0.060	0.061	0.066	0.067	0.063	0.058	11.74	5.8037
	30	2,2-Dichloropropane	------	0.297	0.304	0.304	0.272	0.281	0.274	0.264	0.250	------	0.281	7.05	5.8781
	31	cis-1,2-Dichloroethene	0.317	0.366	0.389	0.431	0.389	0.419	0.429	0.450	0.447	0.465	0.410	11.04	5.9391
10	32	Methylacrynonitrile	0.055	0.055	0.062	0.069	0.063	0.068	0.069	0.072	0.074	0.069	0.066	10.16	6.0625
20	33	Isobutyl Alcohol	0.028	0.028	0.020	0.021	0.020	0.022	0.024	0.026	0.026	0.023	0.024	12.72	6.0908
	34	Chloroform	0.602	0.684	0.681	0.726	0.672	0.685	0.714	0.712	0.740	0.747	0.696	6.02	6.1473
	35	Bromochloromethane	0.354	0.379	0.423	0.447	0.414	0.446	0.449	0.459	0.471	0.485	0.433	9.45	6.3630
	36	Tetrahydrofuran	------	0.138	0.143	0.151	0.128	0.139	0.140	0.148	0.150	0.137	0.142	5.24	6.4134
	37	Dibromofluoromethane	------	0.256	0.300	0.350	0.348	0.394	0.371	------	------	------	0.337	14.89	6.4313
	38	1,1,1-Trichloroethane	0.319	0.350	0.372	0.399	0.354	0.374	0.391	0.387	0.386	0.383	0.372	6.52	6.6828
	39	Cyclohexane	------	0.375	0.465	0.545	0.528	0.590	0.585	0.578	0.567	------	0.529	14.11	6.6981
	40	1,1-Dichloropropene	0.131	0.144	0.152	0.170	0.155	0.168	0.174	0.177	0.184	0.180	0.164	10.56	6.8911
	41	Carbon tetrachloride	------	0.229	0.260	0.288	0.266	0.292	0.317	0.330	0.334	0.338	0.295	12.91	7.0250
	42	tert-Amyl methyl ether (TAME)	------	0.165	0.183	0.197	0.177	0.182	0.194	0.211	0.213	0.209	0.192	8.75	7.0564
	43	1,2-Dichloroethane-d4	------	0.257	0.307	0.350	0.340	0.393	0.368	------	------	------	0.336	14.28	7.1156
	44	1,2-Dichloroethane	0.354	0.371	0.420	0.469	0.431	0.458	0.484	0.487	0.490	0.525	0.449	12.20	7.2481
	45	Benzene	1.482	1.645	1.749	1.831	1.641	1.740	1.836	1.879	1.909	------	1.746	7.86	7.2634
	46	Trichloroethene	0.301	0.335	0.360	0.403	0.355	0.386	0.390	0.407	0.412	0.424	0.377	10.28	8.1258
	47	Methylcyclohexane	0.488	0.523	0.610	0.698	0.687	0.762	0.715	0.729	0.719	0.723	0.665	14.04	8.2017
	48	1,2-Dichloropropane	0.420	0.434	0.478	0.528	0.454	0.494	0.518	0.511	0.524	0.533	0.489	8.41	8.3787
	49	Methyl Methacrylate	0.251	0.252	0.287	0.308	0.293	0.325	0.332	0.346	0.355	0.336	0.309	12.05	8.4828
	50	Bromodichloromethane	0.378	0.387	0.411	0.463	0.431	0.472	0.498	0.506	0.515	------	0.451	11.45	8.7229
20	51	1,4-Dioxane	------	0.002	0.002	0.003	0.002	0.003	0.004	0.004	0.004	------	0.003	28.06	8.7659
	52	Dibromomethane	------	0.196	0.221	0.257	0.238	0.263	0.284	0.286	0.290	0.294	0.259	13.33	8.8001
	53	2-Chloroethyl vinyl ether	------	------	0.093	0.128	0.121	0.146	0.142	0.138	0.146	0.148	0.133	13.97	9.2020
5	54	4-Methyl-2-pentanone	0.463	0.446	0.474	0.538	0.483	0.540	0.544	0.573	0.539	------	0.511	8.73	9.2419
	55	cis-1,3-Dichloropropene	------	0.554	0.592	0.694	0.638	0.698	0.725	0.741	0.763	0.792	0.689	11.54	9.5539
	56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3490
	57	Toluene-d8	------	1.095	1.356	1.480	1.515	1.713	1.582	------	------	------	1.457	14.59	9.9123
	58	Toluene	1.762	1.834	1.940	2.023	1.904	1.953	1.965	1.962	2.171	------	1.946	5.89	10.0353

7/3/19

59	Ethyl methacrylate	------	0.534	0.591	0.648	0.634	0.677	0.742	0.738	0.785	0.803	0.684	13.28	10.3373
60	trans-1,3-Dichloropropene	------	------	0.576	0.649	0.631	0.687	0.743	0.745	0.784	0.836	0.706	12.21	10.3362
61	1,1,2-Trichloroethane	0.329	0.324	0.382	0.391	0.369	0.388	0.411	0.401	0.422	0.442	0.386	9.73	10.5788
5 62	2-Hexanone	0.381	0.338	0.388	0.418	0.401	0.446	0.468	0.465	0.495	------	0.422	11.94	10.6055
63	1,3-Dichloropropane	0.629	0.653	0.765	0.806	0.746	0.785	0.801	0.819	0.845	0.873	0.772	10.17	10.9820
64	Tetrachloroethene	0.306	0.331	0.381	0.394	0.352	0.369	0.374	0.377	0.391	0.418	0.369	8.75	11.0667
65	Dibromochloromethane	------	------	0.363	0.407	0.390	0.432	0.467	0.479	0.498	0.508	0.443	11.97	11.3869
66	1,2-Dibromoethane	0.279	0.319	0.353	0.398	0.372	0.399	0.410	0.429	0.447	0.451	0.386	14.43	11.7124
67	1-Chlorohexane	0.562	0.587	0.683	0.713	0.663	0.702	0.748	0.734	0.750	0.763	0.690	9.98	12.0144
68	Chlorobenzene	0.943	0.963	1.083	1.170	1.131	1.162	1.176	1.178	1.219	1.281	1.131	9.47	12.4100
69	1,1,1,2-Tetrachloroethane	0.259	0.324	0.348	0.385	0.350	0.378	0.402	0.400	0.420	0.434	0.370	13.96	12.4904
70	Ethylbenzene	1.819	1.853	2.019	2.183	1.945	2.062	2.161	2.171	2.252	------	2.052	7.51	12.5129
2 71	m-Xylene & p-Xylene	1.319	1.378	1.512	1.549	1.417	1.568	1.598	1.616	1.524	------	1.498	6.89	12.6402
72	o-Xylene	1.242	1.351	1.485	1.582	1.397	1.525	1.528	1.560	1.605	1.612	1.489	8.18	13.3770
73	Styrene	1.094	1.052	1.057	1.172	1.096	1.195	1.215	1.200	1.290	1.296	1.167	7.64	13.4409
74	Isopropylbenzene	1.438	1.489	1.646	1.798	1.697	1.782	1.819	1.845	1.892	------	1.712	9.32	14.0038
75	Cis-1,4-Dichloro-2-Butene	------	------	0.123	0.137	0.139	0.151	0.160	0.166	0.172	0.164	0.152	11.25	14.1054
76	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.1837
77	Bromoform	------	------	0.552	0.613	0.594	0.667	0.691	0.776	0.808	0.815	0.689	14.68	13.9994
78	1,1,2,2-Tetrachloroethane	1.378	1.442	1.508	1.619	1.510	1.532	1.577	1.640	1.683	1.637	1.553	6.22	14.3126
79	4-Bromofluorobenzene	------	0.924	1.044	1.159	1.217	1.291	1.230	------	------	------	1.144	11.93	14.4320
80	1,2,3-Trichloropropane	------	0.239	0.277	0.315	0.275	0.286	0.289	0.312	0.322	0.314	0.292	9.06	14.5670
81	trans-1,4-Dichloro-2-butene	------	------	0.276	0.326	0.308	0.333	0.351	0.381	0.390	0.375	0.342	11.51	14.7079
82	n-Propylbenzene	4.994	5.418	5.710	6.350	5.747	6.077	6.206	6.619	6.817	------	5.993	9.73	14.7046
83	Bromobenzene	0.927	1.113	1.139	1.240	1.145	1.199	1.222	1.308	1.348	1.373	1.201	10.90	14.7470
84	1,3,5-Trimethylbenzene	2.762	3.189	3.281	3.685	3.435	3.526	3.552	3.733	3.915	4.010	3.509	10.47	14.9910
85	2-Chlorotoluene	0.866	1.014	1.035	1.180	1.075	1.070	1.102	1.163	1.198	1.229	1.093	9.84	14.9984
86	4-Chlorotoluene	0.721	0.881	0.953	1.000	0.948	0.988	1.031	1.072	1.124	1.144	0.986	12.52	15.0862
87	tert-Butylbenzene	0.490	0.649	0.678	0.761	0.684	0.700	0.727	0.755	0.773	0.764	0.698	12.12	15.6188
88	1,2,4-Trimethylbenzene	2.642	2.957	3.135	3.599	3.267	3.413	3.432	3.569	3.687	3.771	3.347	10.54	15.6812
89	sec-Butylbenzene	3.951	4.427	4.584	5.128	4.688	4.726	4.931	4.990	5.064	5.166	4.765	7.91	15.9966
90	p-Isopropyltoluene	3.020	3.240	3.419	3.777	3.571	3.750	3.687	3.861	4.008	3.966	3.630	8.81	16.2525
91	1,3-Dichlorobenzene	1.667	1.771	1.868	2.052	1.925	1.991	2.025	2.121	2.150	2.215	1.978	8.73	16.3819
92	1,2,3-Trimethylbenzene	2.659	2.947	3.127	3.482	3.164	3.264	3.345	3.426	3.486	3.635	3.254	8.94	16.5247
93	1,4-Dichlorobenzene	1.702	1.810	1.815	2.024	1.941	1.965	2.057	2.058	2.158	2.220	1.975	8.23	16.5767
94	n-Butylbenzene	2.776	3.159	3.248	3.764	3.398	3.543	3.708	3.812	3.807	3.933	3.515	10.42	16.9918
95	1,2-Dichlorobenzene	1.516	1.675	1.737	1.865	1.742	1.812	1.875	1.853	1.902	2.003	1.798	7.59	17.2298
96	1,2-Dibromo-3-chloropropane	------	------	0.169	0.182	0.170	0.184	0.200	0.212	0.220	0.216	0.194	10.65	18.5272
97	1,2,4-Trichlorobenzene	0.695	0.753	0.723	0.851	0.761	0.811	0.865	0.903	0.920	------	0.809	9.96	19.5723
98	Hexachlorobutadiene	0.373	0.383	0.373	0.419	0.383	0.403	0.419	0.439	0.441	0.480	0.411	8.51	19.7289
99	Naphthalene	1.970	1.873	1.961	2.078	1.964	2.076	2.199	2.424	2.491	------	2.115	10.20	19.8252
100	1,2,3-Trichlorobenzene	0.597	0.650	0.684	0.763	0.668	0.732	0.755	0.807	0.827	------	0.720	10.58	20.0715

Spike Amount = Nominal Amount * M
Ave_%RSD : 10 Max_%RSD : 28.1

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
51	1,4-Dioxane	-0.00297	0.00375	0.9947*

SM 7/3/19

Use Quadratic Regression of inv conc w.f. for comps of linear reg of inv conc w.f. with CCF < .995
Resp_Ratio = xo + x1 * Amt_Ratio + x2 * Amt_Ratio * Amt_Ratio

IDX	Parameter	x0	x1	x2	CCF2
51	1,4-Dioxane	-0.00134	0.00297	0.00001	0.9984

PROGRAM: ICALMAX

Input: R:RFP447.ICL Output: R:RFP447.MAX

IDX	Parameter	x0	x1	x2	CCF2	MaxMinAmtRatio	MaxMinRespRatio	MaxMinRRF	MaxMinConc
51	1,4-Dioxane	-0.00134	0.00297	0.00001	0.9984	%-148.50000	-0.22186	0.00149	-7425.0

SW
7/3/19

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :02
Beginning DateTime :06/29/19 12:07
Spike Units :PPB
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :06/29/19 15:51
HPChem Method :VO02F29

M	IDX	Parameters	1 12:07 RFP442	2 12:32 RFP443	4 12:57 RFP444	10 13:22 RFP445	20 13:46 RFP446	50 14:11 RFP447	100 14:36 RFP448	200 15:00 RFP449	300 15:26 RFP450	500 15:51 RFP451	AvDRec	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.6646
	2	Dichlorodifluoromethane	------	------	80	95	93	108	106	103	106	107	7.8	9.82	1.7287
	3	Chloromethane	79	80	100	107	97	111	108	104	104	109	8.7	11.51	1.9895
	4	Vinyl chloride	------	------	91	105	101	117	106	79	------	------	9.8	13.10	2.1089
	5	Bromomethane	------	------	86	98	91	107	106	102	103	107	6.3	7.90	2.5804
	6	Chloroethane	------	------	83	98	92	107	108	104	103	104	6.6	8.50	2.6771
	7	Dichlorofluoromethane	94	96	100	105	95	100	101	102	103	104	2.9	3.70	2.7140
	8	Trichlorofluoromethane	------	------	86	98	92	107	108	103	102	104	6	7.67	2.9578
5	9	Acrolein	------	91	118	107	93	90	100	94	101	------	7.4	9.30	3.4403
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	88	96	98	105	95	101	105	104	107	106	5	6.03	3.4756
5	11	Acetone	------	111	119	106	91	93	92	100	100	87	8.2	10.74	3.5159
	12	1,1-Dichloroethene	89	100	99	105	95	98	102	102	102	107	3.7	5.16	3.6705
5	13	tert-Butyl alcohol	111	82	98	98	95	98	98	107	111	95	6.6	8.94	3.7687
10	14	Acetonitrile	98	87	100	102	89	91	100	118	120	104	8	11.06	3.8371
	15	Iodomethane	87	92	97	108	95	100	104	105	105	108	5.8	7.02	4.0498
	16	Methyl Acetate	------	------	81	97	98	108	102	107	102	106	6	8.76	4.0642
	17	Allyl Chloride	------	91	101	109	94	105	100	105	99	97	4.1	5.48	4.1076
	18	Methylene chloride	100	101	103	105	94	96	101	99	100	103	2.2	3.12	4.2730
	19	Carbon disulfide	------	------	83	98	94	104	106	103	103	108	6.1	8.04	4.2595
5	20	Acrylonitrile	89	82	92	106	93	101	106	111	113	105	8.6	10.29	4.4068
	21	tert-Butyl methyl ether (MTBE)	92	96	99	104	92	86	100	108	113	109	6.9	8.61	4.4381
	22	trans-1,2-Dichloroethene	79	94	97	106	97	103	106	106	106	106	6.7	8.72	4.6032
	23	Isopropyl ether (DIPE)	83	97	98	105	96	101	103	105	107	105	5.3	7.04	5.0153
	24	1,1-Dichloroethane	85	94	100	108	95	101	102	104	107	105	5.2	7.07	5.1506
	25	Vinyl acetate	------	------	84	94	92	103	112	103	110	102	7.5	9.45	5.1595
5	26	2-Butanol	------	------	83	91	91	107	102	113	111	104	9	10.56	5.4402
	27	tert-Butyl ethyl ether (ETBE)	89	95	98	105	92	94	100	109	110	107	6.3	7.55	5.5389
5	28	2-Butanone	83	83	96	102	93	107	107	113	113	107	9.3	10.89	5.7010
10	29	Propionitrile	83	84	93	105	91	103	105	114	116	109	10	11.74	5.8037
	30	2,2-Dichloropropane	------	106	108	108	97	100	98	94	89	------	5.6	7.05	5.8781
	31	cis-1,2-Dichloroethene	77	89	95	105	95	102	105	110	109	113	8.8	11.04	5.9391
10	32	Methylacrynonitrile	83	83	94	105	95	103	105	109	112	105	8.2	10.16	6.0625
20	33	Isobutyl Alcohol	117	117	83	88	83	92	100	108	108	96	10.8	12.72	6.0908
	34	Chloroform	86	98	98	104	97	98	103	102	106	107	4.5	6.02	6.1473
	35	Bromochloromethane	82	88	98	103	96	103	104	106	109	112	7.4	9.45	6.3630
	36	Tetrahydrofuran	------	97	101	106	90	98	99	104	106	96	4.1	5.24	6.4134
	37	Dibromofluoromethane	------	76	89	104	103	117	110	------	------	------	11.5	14.89	6.4313
	38	1,1,1-Trichloroethane	86	94	100	107	95	101	105	104	104	103	4.9	6.52	6.6828
	39	Cyclohexane	------	71	88	103	100	112	111	109	107	------	10.4	14.11	6.6981
	40	1,1-Dichloropropene	80	88	93	104	95	102	106	108	112	110	8.7	10.56	6.8911
	41	Carbon tetrachloride	------	78	88	98	90	99	107	112	113	115	10.5	12.91	7.0250
	42	tert-Amyl methyl ether (TAME)	------	86	95	103	92	95	101	110	111	109	7.2	8.75	7.0564
	43	1,2-Dichloroethane-d4	------	76	91	104	101	117	110	------	------	------	10.7	14.28	7.1156
	44	1,2-Dichloroethane	79	83	94	104	96	102	108	108	109	117	9.8	12.20	7.2481
	45	Benzene	85	94	100	105	94	100	105	108	109	------	6	7.86	7.2634
	46	Trichloroethene	80	89	95	107	94	102	103	108	109	112	8.4	10.28	8.1258
	47	Methylcyclohexane	73	79	92	105	103	115	108	110	108	109	11.3	14.04	8.2017
	48	1,2-Dichloropropane	86	89	98	108	93	101	106	104	107	109	7	8.41	8.3787

Fa 8260C

Su 7/3/19

49	Methyl Methacrylate	81	82	93	100	95	105	107	112	115	109	9.8	12.05	8.4828
50	Bromodichloromethane	84	86	91	103	96	105	110	112	114	------	9.8	11.45	8.7229
20 51	1,4-Dioxane	------	114	102	107	82	87	107	103	099	------	15.5	28.06	8.7659
52	Dibromomethane	------	76	85	99	92	102	110	110	112	114	10.6	13.33	8.8001
53	2-Chloroethyl vinyl ether	------	------	70	96	91	110	107	104	110	111	10.5	13.97	9.2020
5 54	4-Methyl-2-pentanone	91	87	93	105	95	106	106	112	105	------	7.8	8.73	9.2419
55	cis-1,3-Dichloropropene	------	80	86	101	93	101	105	108	111	115	9.1	11.54	9.5539
56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3490
57	Toluene-d8	------	75	93	102	104	118	109	------	------	------	10.6	14.59	9.9123
58	Toluene	91	94	100	104	98	100	101	101	112	------	3.9	5.89	10.0353
59	Ethyl methacrylate	------	78	86	95	93	99	108	108	115	117	10.9	13.28	10.3373
60	trans-1,3-Dichloropropene	------	------	82	92	89	97	105	106	111	118	10	12.21	10.3362
61	1,1,2-Trichloroethane	85	84	99	101	96	101	106	104	109	115	7.2	9.73	10.5788
5 62	2-Hexanone	90	80	92	99	95	106	111	110	117	------	9.7	11.94	10.6055
63	1,3-Dichloropropane	81	85	99	104	97	102	104	106	109	113	7.7	10.17	10.9820
64	Tetrachloroethene	83	90	103	107	95	100	101	102	106	113	6.5	8.75	11.0667
65	Dibromochloromethane	------	------	82	92	88	98	105	108	112	115	10.2	11.97	11.3869
66	1,2-Dibromoethane	72	83	91	103	96	103	106	111	116	117	11.4	14.43	11.7124
67	1-Chlorohexane	81	85	99	103	96	102	108	106	109	111	7.8	9.98	12.0144
68	Chlorobenzene	83	85	96	103	100	103	104	104	108	113	7.1	9.47	12.4100
69	1,1,1,2-Tetrachloroethane	70	88	94	104	95	102	109	108	114	117	10.8	13.96	12.4904
70	Ethylbenzene	89	90	98	106	95	100	105	106	110	------	6.2	7.51	12.5129
2 71	m-Xylene & p-Xylene	88	92	101	103	95	105	107	108	102	------	5.6	6.89	12.6402
72	o-Xylene	83	91	100	106	94	102	103	105	108	108	6.4	8.18	13.3770
73	Styrene	94	90	91	100	94	102	104	103	111	111	6.3	7.64	13.4409
74	Isopropylbenzene	84	87	96	105	99	104	106	108	111	------	7.5	9.32	14.0038
75	Cis-1,4-Dichloro-2-Butene	------	------	81	90	91	99	105	109	113	108	9.2	11.25	14.1054
76	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.1837
77	Bromoform	------	------	80	89	86	97	100	113	117	118	12	14.68	13.9994
78	1,1,2,2-Tetrachloroethane	89	93	97	104	97	99	102	106	108	105	5.1	6.22	14.3126
79	4-Bromofluorobenzene	------	81	91	101	106	113	108	------	------	------	9.3	11.93	14.4320
80	1,2,3-Trichloropropane	------	82	95	108	94	98	99	107	110	108	7.2	9.06	14.5670
81	trans-1,4-Dichloro-2-butene	------	------	81	95	90	97	103	111	114	110	9.3	11.51	14.7079
82	n-Propylbenzene	83	90	95	106	96	101	104	110	114	------	7.8	9.73	14.7046
83	Bromobenzene	77	93	95	103	95	100	102	109	112	114	8.1	10.90	14.7470
84	1,3,5-Trimethylbenzene	79	91	94	105	98	100	101	106	112	114	7.8	10.47	14.9910
85	2-Chlorotoluene	79	93	95	108	98	98	101	106	110	112	7.4	9.84	14.9984
86	4-Chlorotoluene	73	89	97	101	96	100	105	109	114	116	9	12.52	15.0862
87	tert-Butylbenzene	70	93	97	109	98	100	104	108	111	109	8.4	12.12	15.6188
88	1,2,4-Trimethylbenzene	79	88	94	108	98	102	103	107	110	113	8.3	10.54	15.6812
89	sec-Butylbenzene	83	93	96	108	98	99	103	105	106	108	6.1	7.91	15.9966
90	p-Isopropyltoluene	83	89	94	104	98	103	102	106	110	109	7	8.81	16.2525
91	1,3-Dichlorobenzene	84	90	94	104	97	101	102	107	109	112	6.9	8.73	16.3819
92	1,2,3-Trimethylbenzene	82	91	96	107	97	100	103	105	107	112	6.9	8.94	16.5247
93	1,4-Dichlorobenzene	86	92	92	102	98	99	104	104	109	112	6.5	8.23	16.5767
94	n-Butylbenzene	79	90	92	107	97	101	105	108	108	112	8.4	10.42	16.9918
95	1,2-Dichlorobenzene	84	93	97	104	97	101	104	103	106	111	5.8	7.59	17.2298
96	1,2-Dibromo-3-chloropropane	------	------	87	94	88	95	103	109	113	111	9.2	10.65	18.5272
97	1,2,4-Trichlorobenzene	86	93	89	105	94	100	107	112	114	------	8.4	9.96	19.5723
98	Hexachlorobutadiene	91	93	91	102	93	98	102	107	107	117	6.9	8.51	19.7289
99	Naphthalene	93	89	93	98	93	98	104	115	118	------	8.1	10.20	19.8252
100	1,2,3-Trichlorobenzene	83	90	95	106	93	102	105	112	115	------	8.7	10.58	20.0715

For 8260C
SM
7/31/19

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
Total Cpnds : 100

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	7.63	1.000	A	1	A	B
2	T	Dichlorodifluoromethane	85	1.73	0.226	A	1	A	B
3	T	Chloromethane	50	1.98	0.260	A	1	A	B
4	T	Vinyl chloride	62	2.12	0.277	A	1	A	B
5	T	Bromomethane	94	2.58	0.338	A	1	A	B
6	T	Chloroethane	64	2.67	0.349	A	2	A	B
7	T	Dichlorofluoromethane	67	2.71	0.355	A	1	A	B
8	T	Trichlorofluoromethane	101	2.95	0.386	A	1	A	B
9	T	Acrolein	56	3.42	0.449	A	1	A	B
10	T	1,1,2-Trichloro-1,2,2-trifluor	151	3.45	0.453	A	1	A	B
11	T	Acetone	43	3.50	0.458	A	2	A	B
12	T	1,1-Dichloroethene	61	3.65	0.478	A	2	A	B
13	T	tert-Butyl alcohol	59	3.75	0.491	A	1	A	B
14	T	Acetonitrile	41	3.81	0.499	A	2	A	B
15	T	Iodomethane	142	4.03	0.528	A	1	A	B
16	T	Methyl Acetate	43	4.05	0.530	A	1	A	B
17	T	Allyl Chloride	76	4.08	0.534	A	1	A	B
18	T	Methylene chloride	49	4.23	0.554	A	2	A	B
19	T	Carbon disulfide	76	4.24	0.556	A	1	A	B
20	T	Acrylonitrile	53	4.38	0.573	A	2	A	B
21	T	tert-Butyl methyl ether (MTBE)	73	4.42	0.579	A	1	A	B
22	T	trans-1,2-Dichloroethene	61	4.59	0.601	A	2	A	B
23	T	Isopropyl ether (DIPE)	45	4.99	0.653	A	1	A	B
24	T	1,1-Dichloroethane	63	5.12	0.671	A	2	A	B
25	T	Vinyl acetate	43	5.13	0.673	A	1	A	B
26	T	2-Butanol	45	5.42	0.710	A	1	A	B
27	T	tert-Butyl ethyl ether (ETBE)	59	5.52	0.723	A	1	A	B
28	T	2-Butanone	72	5.67	0.743	A	1	A	B
29	T	Propionitrile	54	5.78	0.756	A	1	A	B
30	T	2,2-Dichloropropane	77	5.85	0.766	A	2	A	B
31	T	cis-1,2-Dichloroethene	96	5.91	0.774	A	2	A	B
32	T	Methylacrynonitrile	52	6.03	0.790	A	2	A	B
33	T	Isobutyl Alcohol	43	6.06	0.793	A	1	A	B
34	T	Chloroform	83	6.12	0.801	A	2	A	B
35	T	Bromochloromethane	49	6.34	0.830	A	2	A	B
36	T	Tetrahydrofuran	42	6.38	0.836	A	2	A	B
37	S	Dibromofluoromethane	111	6.42	0.840	A	1	A	B
38	T	1,1,1-Trichloroethane	97	6.65	0.871	A	2	A	B
39	T	Cyclohexane	84	6.67	0.873	A	2	A	B
40	T	1,1-Dichloropropene	110	6.86	0.899	A	1	A	B
41	T	Carbon tetrachloride	119	7.00	0.916	A	1	A	B
42	T	tert-Amyl methyl ether (TAME)	87	7.03	0.920	A	2	A	B
43	S	1,2-Dichloroethane-d4	65	7.08	0.928	A	1	A	B
44	T	1,2-Dichloroethane	62	7.22	0.945	A	1	A	B
45	T	Benzene	78	7.23	0.947	A	2	A	B
46	T	Trichloroethene	130	8.10	1.060	A	3	A	B
47	T	Methylcyclohexane	83	8.17	1.070	A	2	A	B
48	T	1,2-Dichloropropane	63	8.35	1.094	A	2	A	B
49	T	Methyl Methacrylate	69	8.45	1.107	A	2	A	B
50	T	Bromodichloromethane	83	8.69	1.138	A	1	A	B
51	T	1,4-Dioxane	88	8.73	1.144	Q	1	A	B
52	T	Dibromomethane	93	8.77	1.148	A	2	A	B
53	T	2-Chloroethyl vinyl ether	63	9.17	1.201	A	1	A	B

7/3/19

54	T	4-Methyl-2-pentanone	43	9.21	1.206	A	3	A	B
55	T	cis-1,3-Dichloropropene	75	9.52	1.247	A	3	A	B
56	I	CHLOROBENZENE-D5	117	12.32	1.000	A	2	A	B
57	S	Toluene-d8	98	9.88	0.802	A	1	A	B
58	T	Toluene	91	10.00	0.812	A	1	A	B
59	T	Ethyl methacrylate	69	10.31	0.837	A	2	A	B
60	T	trans-1,3-Dichloropropene	75	10.30	0.836	A	2	A	B
61	T	1,1,2-Trichloroethane	97	10.55	0.856	A	3	A	B
62	T	2-Hexanone	43	10.58	0.859	A	2	A	B
63	T	1,3-Dichloropropane	76	10.95	0.889	A	1	A	B
64	T	Tetrachloroethene	164	11.04	0.896	A	3	A	B
65	T	Dibromochloromethane	129	11.35	0.921	A	1	A	B
66	T	1,2-Dibromoethane	107	11.68	0.948	A	1	A	B
67	T	1-Chlorohexane	91	11.98	0.972	A	3	A	B
68	T	Chlorobenzene	112	12.38	1.005	A	3	A	B
69	T	1,1,1,2-Tetrachloroethane	131	12.45	1.011	A	3	A	B
70	T	Ethylbenzene	91	12.48	1.013	A	1	A	B
71	T	m-Xylene & p-Xylene	91	12.60	1.023	A	1	A	B
72	T	o-Xylene	91	13.35	1.083	A	1	A	B
73	T	Styrene	104	13.41	1.088	A	2	A	B
74	T	Isopropylbenzene	105	13.97	1.134	A	3	A	B
75	T	Cis-1,4-Dichloro-2-Butene	53	14.08	1.142	A	2	A	B
76	I	1,2-DICHLOROBENZENE-D4	152	17.16	1.000	A	1	A	B
77	T	Bromoform	173	13.97	0.814	A	2	A	B
78	T	1,1,2,2-Tetrachloroethane	83	14.28	0.833	A	1	A	B
79	S	4-Bromofluorobenzene	95	14.40	0.840	A	2	A	B
80	T	1,2,3-Trichloropropane	110	14.54	0.847	A	1	A	B
81	T	trans-1,4-Dichloro-2-butene	53	14.67	0.855	A	1	A	B
82	T	n-Propylbenzene	91	14.67	0.855	A	2	A	B
83	T	Bromobenzene	156	14.72	0.858	A	2	A	B
84	T	1,3,5-Trimethylbenzene	105	14.95	0.872	A	2	A	B
85	T	2-Chlorotoluene	126	14.97	0.873	A	1	A	B
86	T	4-Chlorotoluene	126	15.06	0.878	A	1	A	B
87	T	tert-Butylbenzene	134	15.59	0.909	A	2	A	B
88	T	1,2,4-Trimethylbenzene	105	15.65	0.912	A	1	A	B
89	T	sec-Butylbenzene	105	15.97	0.931	A	1	A	B
90	T	p-Isopropyltoluene	119	16.22	0.945	A	2	A	B
91	T	1,3-Dichlorobenzene	146	16.35	0.953	A	2	A	B
92	T	1,2,3-Trimethylbenzene	105	16.49	0.961	A	2	A	B
93	T	1,4-Dichlorobenzene	146	16.55	0.964	A	2	A	B
94	T	n-Butylbenzene	91	16.96	0.989	A	2	A	B
95	T	1,2-Dichlorobenzene	146	17.20	1.003	A	2	A	B
96	T	1,2-Dibromo-3-chloropropane	157	18.51	1.079	A	2	A	B
97	T	1,2,4-Trichlorobenzene	180	19.55	1.140	A	2	A	B
98	T	Hexachlorobutadiene	225	19.71	1.149	A	2	A	B
99	T	Naphthalene	128	19.80	1.154	A	1	A	B
100	T	1,2,3-Trichlorobenzene	180	20.06	1.169	A	2	A	B

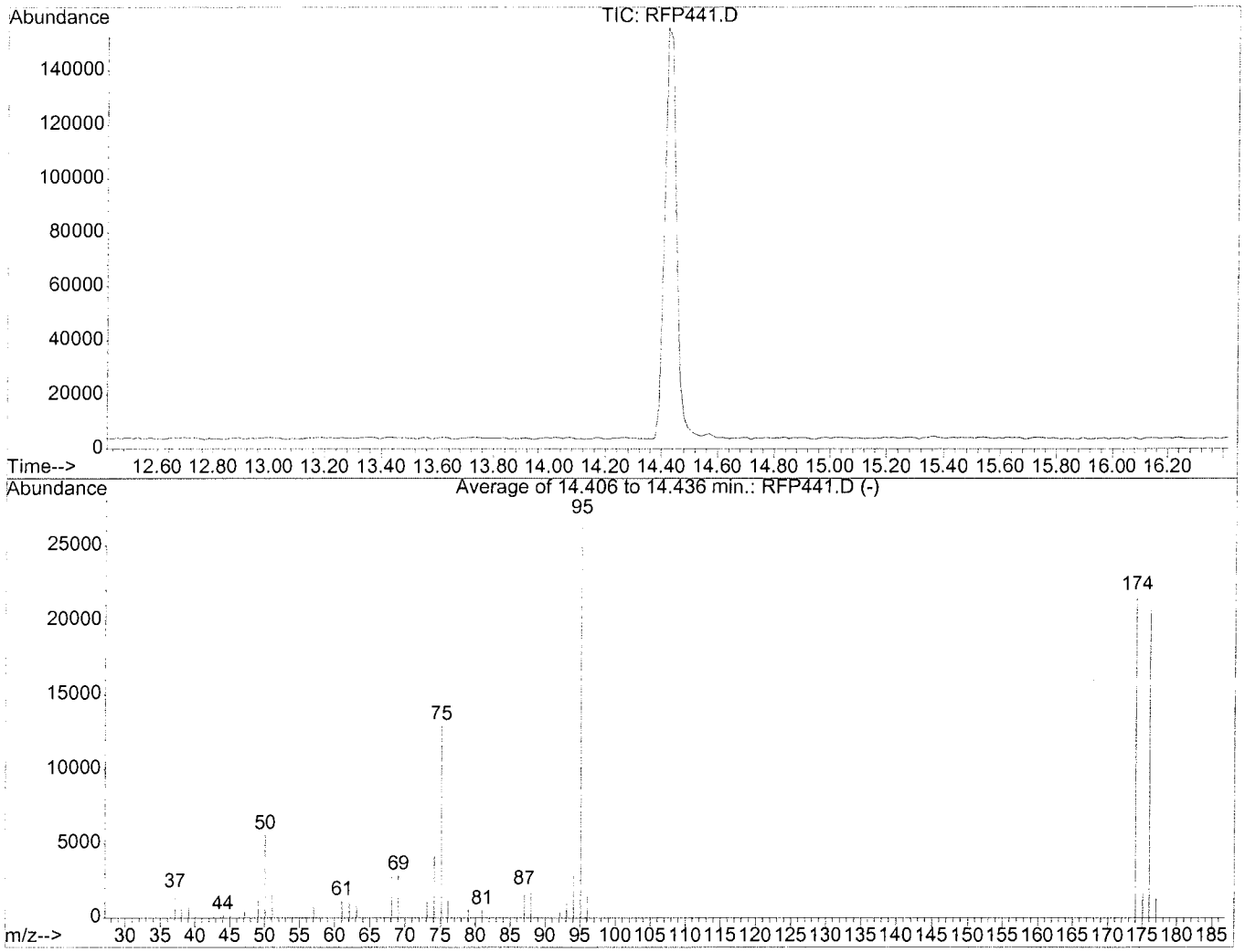
Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VO02F29.M Tue Jul 02 12:35:32 2019

SC 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP441.D
Acq On : 29 Jun 2019 11:36 am
Sample : BFB02F18
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL

Vial: 1
Operator: IRagas
Inst : 02
Multiplr: 1.00



AutoFind: Scans 859, 860, 861; Background Corrected with Scan 855

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.9	5617	PASS
75	95	30	60	48.2	12943	PASS
95	95	100	100	100.0	26827	PASS
96	95	5	9	6.7	1790	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.7	21654	PASS
175	174	5	9	7.8	1686	PASS
176	174	95	101	95.6	20705	PASS
177	176	5	9	6.4	1328	PASS

RFP441.D VO02F29.M Tue Jul 02 12:47:43 2019 SV 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP442.D Vial: 2
Acq On : 29 Jun 2019 12:07 pm Operator: IRagas
Sample : VO02F291 Inst : 02
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:36 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1402061	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1042161	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	366339	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.45	111	3970	0.42	ug/l		0.03
Spiked Amount 50.000			Recovery =	0.84%			
43) 1,2-Dichloroethane-d4	0.00	65	0d	0.00	ug/l		
Spiked Amount 50.000			Recovery =	0.00%			
57) Toluene-d8	9.93	98	15815	0.52	ug/l		0.04
Spiked Amount 50.000			Recovery =	1.04%			
79) 4-Bromofluorobenzene	14.43	95	5528	0.66	ug/l		0.03
Spiked Amount 50.000			Recovery =	1.32%			
Target Compounds							Qvalue
3) Chloromethane	2.00	50	9940	0.79	ug/l		97
4) Vinyl chloride	2.12	62	5140	0.47	ug/l		88
5) Bromomethane	2.59	94	5179	0.56	ug/l		95
6) Chloroethane	2.68	64	3970	0.53	ug/l	#	1
7) Dichlorofluoromethane	2.73	67	18762	0.95	ug/l		64
8) Trichlorofluoromethane	2.96	101	4156	0.46	ug/l		87
9) Acrolein	3.44	56	13766	7.27	ug/l	#	16
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	5235	0.88	ug/l		83
11) Acetone	3.51	43	51463	16.10	ug/l	#	84
12) 1,1-Dichloroethene	3.68	61	14650	0.89	ug/l		91
13) tert-Butyl alcohol	3.77	59	6923	5.61	ug/l		99
14) Acetonitrile	3.84	41	12386	9.71	ug/l		70
15) Iodomethane	4.05	142	13190	0.87	ug/l		97
18) Methylene chloride	4.27	49	15127	1.00	ug/l		98
19) Carbon disulfide	4.26	76	16695	0.43	ug/l		94
20) Acrylonitrile	4.41	53	20847	4.43	ug/l		96
21) tert-Butyl methyl ether (M	4.44	73	24736	0.92	ug/l		95
22) trans-1,2-Dichloroethene	4.62	61	13390	0.79	ug/l		94
23) Isopropyl ether (DIPE)	5.02	45	40977	0.83	ug/l		98
24) 1,1-Dichloroethane	5.15	63	19729	0.84	ug/l		94
26) 2-Butanol	5.45	45	4244	3.29	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.55	59	33121	0.89	ug/l		99
28) 2-Butanone	5.70	72	5373	4.16	ug/l	#	30
29) Propionitrile	5.81	54	13462	8.25	ug/l		95
31) cis-1,2-Dichloroethene	5.94	96	8881	0.77	ug/l		89
32) Methylacrynonitrile	6.06	52	15347	8.33	ug/l	#	91
33) Isobutyl Alcohol	6.09	43	15939	23.77	ug/l		73

(#) = qualifier out of range (m) = manual integration
RFP442.D VO02F29.M Tue Jul 02 12:37:19 2019 SA 7/3/19 Page 1

Data File : D:\HPCHEM\1\DATA\19F29\RFP442.D Vial: 2
Acq On : 29 Jun 2019 12:07 pm Operator: IRagas
Sample : VO02F291 Inst : 02
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:36 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
34)	Chloroform	6.15	83	16892	0.87 ug/l		96
35)	Bromochloromethane	6.37	49	9929	0.82 ug/l		88
38)	1,1,1-Trichloroethane	6.68	97	8939	0.86 ug/l		95
39)	Cyclohexane	6.70	84	8863	0.60 ug/l		96
40)	1,1-Dichloropropene	6.89	110	3684	0.80 ug/l		69
41)	Carbon tetrachloride	7.03	119	5312	0.64 ug/l		96
42)	tert-Amyl methyl ether (TA	7.07	87	3544	0.66 ug/l	#	7
44)	1,2-Dichloroethane	7.25	62	9918	0.79 ug/l		95
45)	Benzene	7.26	78	41552	0.85 ug/l		99
46)	Trichloroethene	8.13	130	8454	0.80 ug/l		99
47)	Methylcyclohexane	8.20	83	13681	0.73 ug/l		89
48)	1,2-Dichloropropane	8.38	63	11782	0.86 ug/l		90
49)	Methyl Methacrylate	8.48	69	7035	0.81 ug/l		75
50)	Bromodichloromethane	8.74	83	10608	0.84 ug/l		91
52)	Dibromomethane	8.81	93	5286	0.73 ug/l		91
54)	4-Methyl-2-pentanone	9.24	43	64949	4.53 ug/l		95
55)	cis-1,3-Dichloropropene	9.55	75	13417	0.69 ug/l		85
58)	Toluene	10.04	91	36732	0.91 ug/l		99
59)	Ethyl methacrylate	10.34	69	10363	0.73 ug/l	#	82
60)	trans-1,3-Dichloropropene	10.34	75	9250	0.63 ug/l		80
61)	1,1,2-Trichloroethane	10.58	97	6862	0.85 ug/l		92
62)	2-Hexanone	10.61	43	39675	4.51 ug/l		88
63)	1,3-Dichloropropane	10.98	76	13100	0.81 ug/l		95
64)	Tetrachloroethene	11.07	164	6384	0.83 ug/l		97
65)	Dibromochloromethane	11.38	129	5989	0.65 ug/l		94
66)	1,2-Dibromoethane	11.71	107	5818	0.72 ug/l		100
67)	1-Chlorohexane	12.02	91	11716	0.81 ug/l		87
68)	Chlorobenzene	12.41	112	19646	0.83 ug/l	#	85
69)	1,1,1,2-Tetrachloroethane	12.50	131	5405	0.70 ug/l	#	71
70)	Ethylbenzene	12.51	91	37908	0.89 ug/l		98
71)	m-Xylene & p-Xylene	12.65	91	54989	1.76 ug/l		98
72)	o-Xylene	13.38	91	25880	0.83 ug/l		97
73)	Styrene	13.45	104	22794	0.94 ug/l		97
74)	Isopropylbenzene	14.02	105	29966	0.84 ug/l		96
77)	Bromoform	14.00	173	2794	0.55 ug/l	#	29
78)	1,1,2,2-Tetrachloroethane	14.31	83	10093	0.89 ug/l		99
80)	1,2,3-Trichloropropane	14.57	110	1216	0.57 ug/l	#	58
82)	n-Propylbenzene	14.72	91	36588	0.83 ug/l		98
83)	Bromobenzene	14.75	156	6794	0.77 ug/l		91
84)	1,3,5-Trimethylbenzene	15.00	105	20238	0.79 ug/l		98
85)	2-Chlorotoluene	15.00	126	6344	0.79 ug/l		91

(#) = qualifier out of range (m) = manual integration
RFP442.D VO02F29.M Tue Jul 02 12:37:20 2019 SV 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP442.D Vial: 2
Acq On : 29 Jun 2019 12:07 pm Operator: IRagas
Sample : VO02F291 Inst : 02
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:36 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

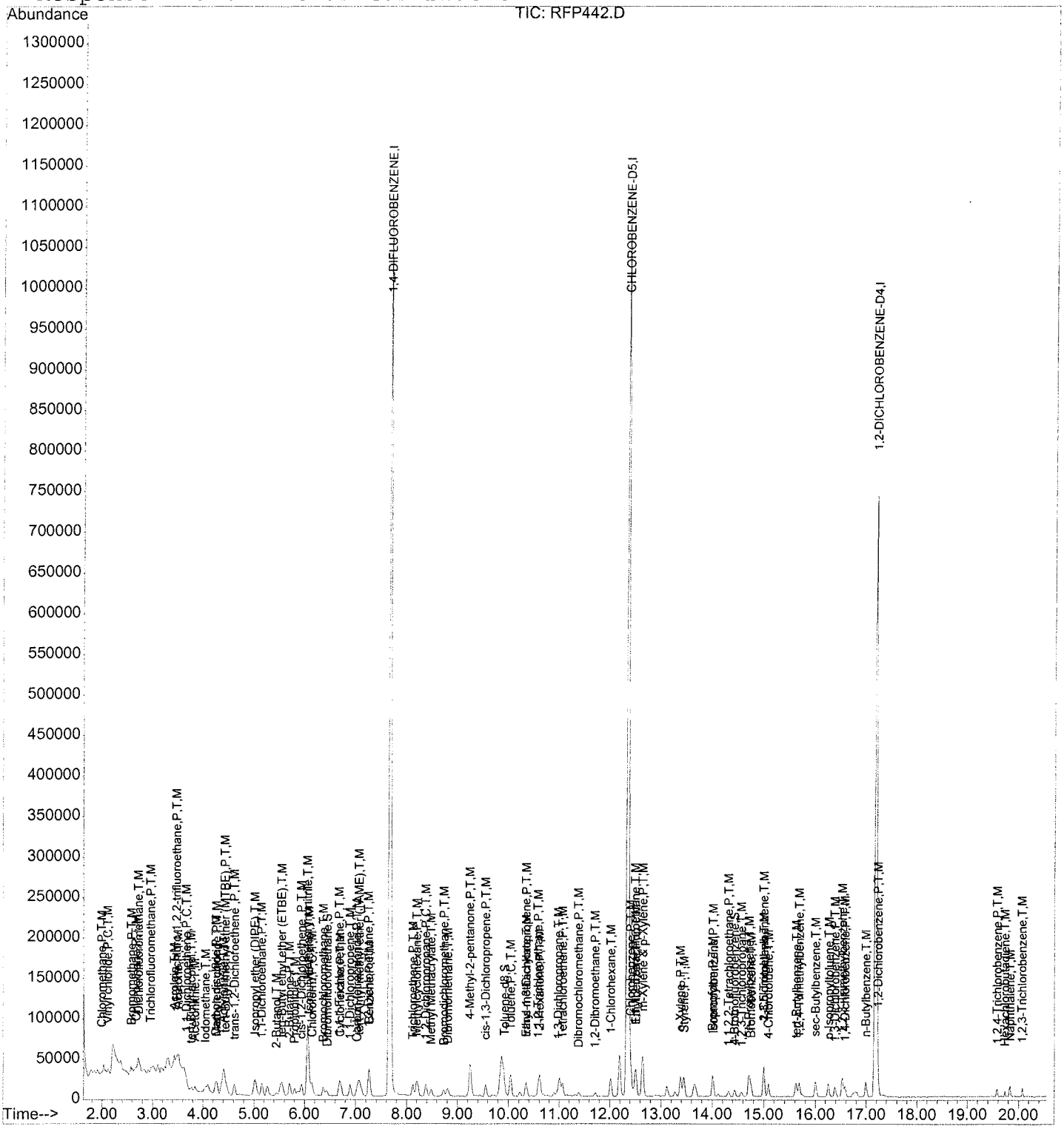
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
86)	4-Chlorotoluene	15.09	126	5286	0.73	ug/l	#	75
87)	tert-Butylbenzene	15.62	134	3589	0.70	ug/l	#	61
88)	1,2,4-Trimethylbenzene	15.68	105	19356	0.79	ug/l		98
89)	sec-Butylbenzene	16.00	105	28946	0.83	ug/l		97
90)	p-Isopropyltoluene	16.26	119	22127	0.83	ug/l		97
91)	1,3-Dichlorobenzene	16.38	146	12214	0.84	ug/l		94
92)	1,2,3-Trimethylbenzene	16.53	105	19482	0.82	ug/l		97
93)	1,4-Dichlorobenzene	16.58	146	12469	0.86	ug/l		93
94)	n-Butylbenzene	16.99	91	20336	0.79	ug/l		98
95)	1,2-Dichlorobenzene	17.23	146	11111	0.84	ug/l		77
97)	1,2,4-Trichlorobenzene	19.58	180	5089	0.86	ug/l		97
98)	Hexachlorobutadiene	19.73	225	2735	0.91	ug/l	#	20
99)	Naphthalene	19.83	128	14436	0.93	ug/l		97
100)	1,2,3-Trichlorobenzene	20.07	180	4375	0.83	ug/l	#	84

SM 7/31/19

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP442.D Vial: 2
Acq On : 29 Jun 2019 12:07 pm Operator: IRagas
Sample : VO02F291 Inst : 02
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:36 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP443.D Vial: 3
Acq On : 29 Jun 2019 12:32 pm Operator: IRagas
Sample : VO02F292 Inst : 02
Misc : 2.0ppb 8260/10ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:37 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1345693	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1038631	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	350269	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	13805	1.52	ug/l		0.02
Spiked Amount 50.000			Recovery =	3.04%			
43) 1,2-Dichloroethane-d4	7.12	65	13859	1.53	ug/l		0.03
Spiked Amount 50.000			Recovery =	3.06%			
57) Toluene-d8	9.91	98	45504	1.50	ug/l		0.03
Spiked Amount 50.000			Recovery =	3.00%			
79) 4-Bromofluorobenzene	14.44	95	12942	1.61	ug/l		0.03
Spiked Amount 50.000			Recovery =	3.22%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	8909	1.17	ug/l		75
3) Chloromethane	1.99	50	19133	1.59	ug/l		97
4) Vinyl chloride	2.12	62	14041	1.34	ug/l		94
5) Bromomethane	2.58	94	11665	1.33	ug/l		97
6) Chloroethane	2.68	64	9583	1.34	ug/l	#	40
7) Dichlorofluoromethane	2.71	67	36672	1.93	ug/l		80
8) Trichlorofluoromethane	2.97	101	10378	1.20	ug/l		97
9) Acrolein	3.44	56	16802	9.25	ug/l		94
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	10971	1.91	ug/l		95
11) Acetone	3.52	43	34138	11.12	ug/l	#	79
12) 1,1-Dichloroethene	3.67	61	31801	2.01	ug/l		97
13) tert-Butyl alcohol	3.77	59	9720	8.21	ug/l		81
14) Acetonitrile	3.85	41	21082	17.22	ug/l		71
15) Iodomethane	4.05	142	27035	1.85	ug/l		100
16) Methyl Acetate	4.07	43	25776	2.52	ug/l		76
17) Allyl Chloride	4.11	76	9590	1.82	ug/l		97
18) Methylene chloride	4.28	49	29395	2.02	ug/l		97
19) Carbon disulfide	4.26	76	49062	1.33	ug/l		97
20) Acrylonitrile	4.41	53	36981	8.19	ug/l		99
21) tert-Butyl methyl ether (M	4.44	73	49770	1.93	ug/l		98
22) trans-1,2-Dichloroethene	4.60	61	30445	1.88	ug/l		97
23) Isopropyl ether (DIPE)	5.02	45	91168	1.93	ug/l		98
24) 1,1-Dichloroethane	5.15	63	42352	1.89	ug/l		96
25) Vinyl acetate	5.15	43	36899	1.34	ug/l		90
26) 2-Butanol	5.45	45	7112	5.75	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	68051	1.90	ug/l		99
28) 2-Butanone	5.70	72	10259	8.27	ug/l	#	57

(#) = qualifier out of range (m) = manual integration
RFP443.D VO02F29.M Tue Jul 02 12:38:07 2019 SU 7/3/19 Page 1

Data File : D:\HPCHEM\1\DATA\19F29\RFP443.D Vial: 3
Acq On : 29 Jun 2019 12:32 pm Operator: IRagas
Sample : VO02F292 Inst : 02
Misc : 2.0ppb 8260/10ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:37 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29) Propionitrile	5.81	54	26174	16.71 ug/l		95
30) 2,2-Dichloropropane	5.88	77	15970	2.11 ug/l		90
31) cis-1,2-Dichloroethene	5.94	96	19707	1.79 ug/l		96
32) Methylacrynonitrile	6.06	52	29801	16.85 ug/l	#	89
33) Isobutyl Alcohol	6.09	43	30024	46.64 ug/l		70
34) Chloroform	6.15	83	36807	1.96 ug/l		96
35) Bromochloromethane	6.36	49	20413	1.75 ug/l		97
36) Tetrahydrofuran	6.42	42	7441	1.95 ug/l		73
38) 1,1,1-Trichloroethane	6.69	97	18862	1.89 ug/l		98
39) Cyclohexane	6.70	84	20160	1.42 ug/l		96
40) 1,1-Dichloropropene	6.89	110	7760	1.76 ug/l		94
41) Carbon tetrachloride	7.03	119	12326	1.55 ug/l		99
42) tert-Amyl methyl ether (TA	7.06	87	8860	1.71 ug/l	#	83
44) 1,2-Dichloroethane	7.25	62	19944	1.65 ug/l		97
45) Benzene	7.27	78	88525	1.88 ug/l		99
46) Trichloroethene	8.13	130	18020	1.77 ug/l		95
47) Methylcyclohexane	8.20	83	28138	1.57 ug/l		94
48) 1,2-Dichloropropane	8.38	63	23338	1.77 ug/l		89
49) Methyl Methacrylate	8.49	69	13553	1.63 ug/l		89
50) Bromodichloromethane	8.72	83	20825	1.71 ug/l		96
51) 1,4-Dioxane	8.77	88	1852	45.54 ug/l		77
52) Dibromomethane	8.80	93	10546	1.51 ug/l		97
53) 2-Chloroethyl vinyl ether	9.20	63	4344	1.22 ug/l		84
54) 4-Methyl-2-pentanone	9.24	43	120139	8.73 ug/l		96
55) cis-1,3-Dichloropropene	9.56	75	29824	1.61 ug/l		95
58) Toluene	10.03	91	76183	1.88 ug/l		99
59) Ethyl methacrylate	10.35	69	22178	1.56 ug/l		94
60) trans-1,3-Dichloropropene	10.33	75	20979	1.43 ug/l		93
61) 1,1,2-Trichloroethane	10.57	97	13466	1.68 ug/l		94
62) 2-Hexanone	10.61	43	70149	8.00 ug/l		92
63) 1,3-Dichloropropane	10.99	76	27110	1.69 ug/l		98
64) Tetrachloroethene	11.07	164	13760	1.79 ug/l		98
65) Dibromochloromethane	11.39	129	12843	1.40 ug/l		99
66) 1,2-Dibromoethane	11.71	107	13247	1.65 ug/l		97
67) 1-Chlorohexane	12.01	91	24373	1.70 ug/l		97
68) Chlorobenzene	12.41	112	39991	1.70 ug/l		81
69) 1,1,1,2-Tetrachloroethane	12.49	131	13458	1.75 ug/l	#	72
70) Ethylbenzene	12.52	91	76997	1.81 ug/l		100
71) m-Xylene & p-Xylene	12.64	91	114495	3.68 ug/l		98
72) o-Xylene	13.38	91	56130	1.82 ug/l		97
73) Styrene	13.44	104	43686	1.80 ug/l		97

(#) = qualifier out of range (m) = manual integration

SU 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP443.D Vial: 3
Acq On : 29 Jun 2019 12:32 pm Operator: IRagas
Sample : VO02F292 Inst : 02
Misc : 2.0ppb 8260/10ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:37 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

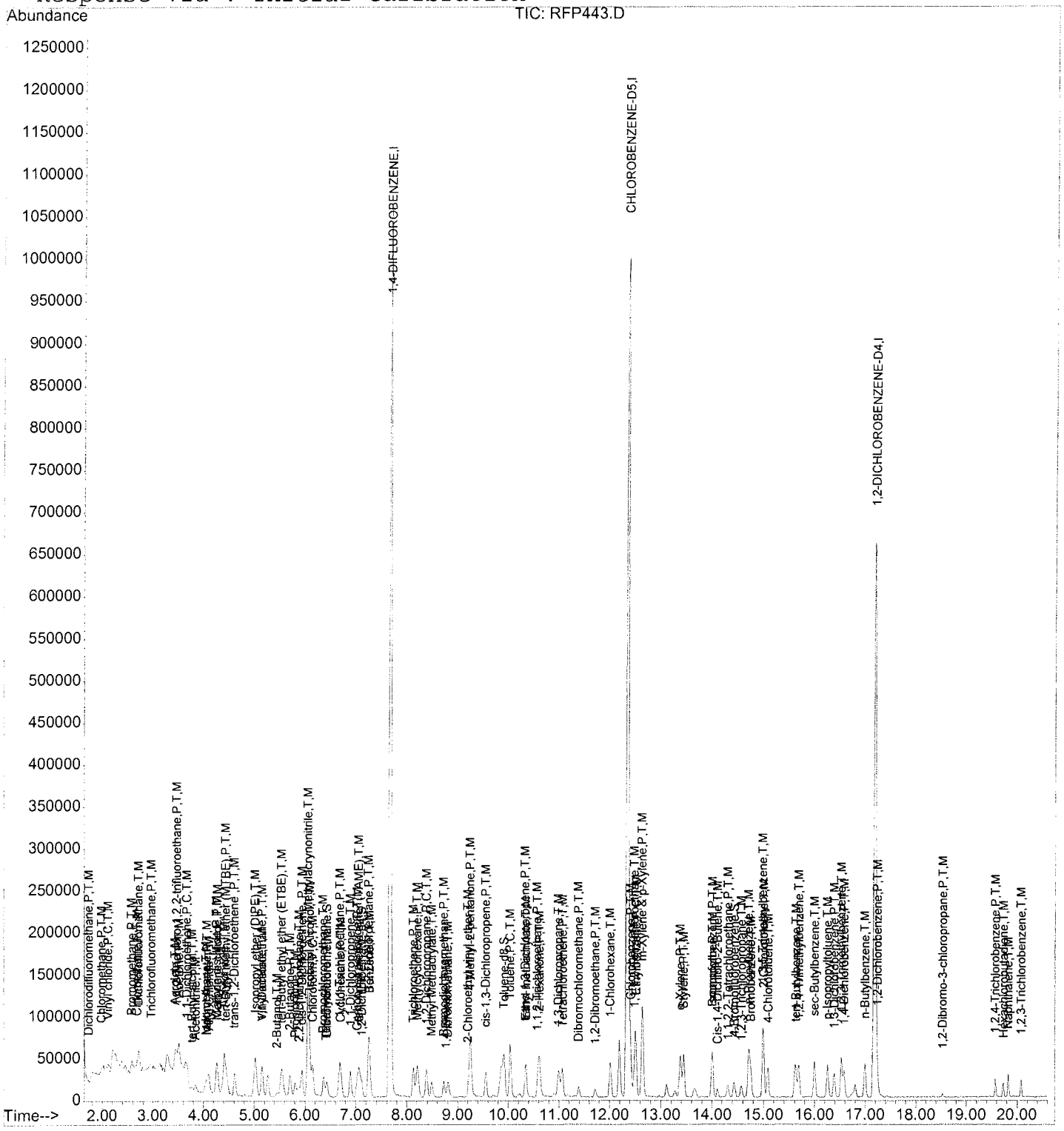
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
74)	Isopropylbenzene	14.01	105	61855	1.74	ug/l		99
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	4364	1.39	ug/l		70
77)	Bromoform	14.01	173	6799	1.41	ug/l		93
78)	1,1,2,2-Tetrachloroethane	14.32	83	20205	1.86	ug/l		98
80)	1,2,3-Trichloropropane	14.57	110	3354	1.64	ug/l		92
82)	n-Propylbenzene	14.70	91	75912	1.81	ug/l		99
83)	Bromobenzene	14.75	156	15597	1.85	ug/l		98
84)	1,3,5-Trimethylbenzene	14.99	105	44687	1.82	ug/l		100
85)	2-Chlorotoluene	15.00	126	14200	1.85	ug/l		95
86)	4-Chlorotoluene	15.09	126	12343	1.79	ug/l		95
87)	tert-Butylbenzene	15.63	134	9093	1.86	ug/l		97
88)	1,2,4-Trimethylbenzene	15.69	105	41429	1.77	ug/l		99
89)	sec-Butylbenzene	16.00	105	62019	1.86	ug/l		98
90)	p-Isopropyltoluene	16.25	119	45393	1.79	ug/l		99
91)	1,3-Dichlorobenzene	16.39	146	24811	1.79	ug/l		97
92)	1,2,3-Trimethylbenzene	16.52	105	41294	1.81	ug/l		99
93)	1,4-Dichlorobenzene	16.58	146	25362	1.83	ug/l		98
94)	n-Butylbenzene	17.00	91	44254	1.80	ug/l		98
95)	1,2-Dichlorobenzene	17.23	146	23472	1.86	ug/l		89
96)	1,2-Dibromo-3-chloropropan	18.53	157	1481	1.09	ug/l	#	46
97)	1,2,4-Trichlorobenzene	19.57	180	10547	1.86	ug/l		96
98)	Hexachlorobutadiene	19.73	225	5372	1.86	ug/l		96
99)	Naphthalene	19.82	128	26247	1.77	ug/l		96
100)	1,2,3-Trichlorobenzene	20.07	180	9107	1.80	ug/l		99

SA 7/3/19

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP443.D Vial: 3
Acq On : 29 Jun 2019 12:32 pm Operator: IRagas
Sample : VO02F292 Inst : 02
Misc : 2.0ppb 8260/10ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:37 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP444.D Vial: 4
Acq On : 29 Jun 2019 12:57 pm Operator: IRagas
Sample : VO02F293 Inst : 02
Misc : 4.0ppb 8260/20ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1351219	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	998957	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	362296	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	32412	3.56	ug/l		0.02
Spiked Amount 50.000			Recovery =	7.12%			
43) 1,2-Dichloroethane-d4	7.11	65	33182	3.66	ug/l		0.03
Spiked Amount 50.000			Recovery =	7.32%			
57) Toluene-d8	9.91	98	108359	3.72	ug/l		0.03
Spiked Amount 50.000			Recovery =	7.44%			
79) 4-Bromofluorobenzene	14.43	95	30263	3.65	ug/l		0.03
Spiked Amount 50.000			Recovery =	7.30%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	24541	3.21	ug/l		99
3) Chloromethane	2.00	50	48064	3.99	ug/l		97
4) Vinyl chloride	2.12	62	38278	3.64	ug/l		97
5) Bromomethane	2.59	94	30356	3.43	ug/l		100
6) Chloroethane	2.68	64	23940	3.32	ug/l		74
7) Dichlorofluoromethane	2.71	67	76169	3.98	ug/l		91
8) Trichlorofluoromethane	2.96	101	29808	3.43	ug/l		98
9) Acrolein	3.44	56	43152	23.65	ug/l		87
10) 1,1,2-Trichloro-1,2,2-trif	3.49	151	22505	3.90	ug/l		100
11) Acetone	3.52	43	73722	23.93	ug/l	#	90
12) 1,1-Dichloroethene	3.68	61	62866	3.95	ug/l		99
13) tert-Butyl alcohol	3.77	59	23301	19.61	ug/l		84
14) Acetonitrile	3.84	41	48761	39.67	ug/l		84
15) Iodomethane	4.05	142	56864	3.88	ug/l		100
16) Methyl Acetate	4.07	43	33174	3.22	ug/l		67
17) Allyl Chloride	4.11	76	21426	4.04	ug/l		94
18) Methylene chloride	4.27	49	60044	4.10	ug/l		99
19) Carbon disulfide	4.26	76	123513	3.34	ug/l		99
20) Acrylonitrile	4.41	53	83912	18.51	ug/l		100
21) tert-Butyl methyl ether (M	4.44	73	102425	3.95	ug/l		100
22) trans-1,2-Dichloroethene	4.60	61	63215	3.88	ug/l		98
23) Isopropyl ether (DIPE)	5.02	45	185788	3.92	ug/l		98
24) 1,1-Dichloroethane	5.15	63	90190	4.01	ug/l		98
25) Vinyl acetate	5.17	43	93048	3.36	ug/l		96
26) 2-Butanol	5.45	45	20701	16.66	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	141354	3.93	ug/l		100
28) 2-Butanone	5.70	72	23735	19.06	ug/l		96

(#) = qualifier out of range (m) = manual integration

SM 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP444.D Vial: 4
Acq On : 29 Jun 2019 12:57 pm Operator: IRagas
Sample : VO02F293 Inst : 02
Misc : 4.0ppb 8260/20ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	Propionitrile	5.81	54	58543	37.23 ug/l		95
30)	2,2-Dichloropropane	5.88	77	32912	4.34 ug/l		95
31)	cis-1,2-Dichloroethene	5.94	96	42028	3.79 ug/l		100
32)	Methylacrynonitrile	6.06	52	67100	37.79 ug/l		93
33)	Isobutyl Alcohol	6.09	43	43821	67.80 ug/l		97
34)	Chloroform	6.15	83	73650	3.91 ug/l		99
35)	Bromochloromethane	6.36	49	45673	3.91 ug/l		99
36)	Tetrahydrofuran	6.42	42	15503	4.04 ug/l		89
38)	1,1,1-Trichloroethane	6.68	97	40164	4.00 ug/l		99
39)	Cyclohexane	6.70	84	50233	3.51 ug/l		98
40)	1,1-Dichloropropene	6.89	110	16426	3.72 ug/l		100
41)	Carbon tetrachloride	7.03	119	28088	3.52 ug/l		98
42)	tert-Amyl methyl ether (TA	7.06	87	19811	3.81 ug/l	#	86
44)	1,2-Dichloroethane	7.25	62	45405	3.74 ug/l		99
45)	Benzene	7.26	78	189070	4.01 ug/l		99
46)	Trichloroethene	8.13	130	38898	3.82 ug/l		97
47)	Methylcyclohexane	8.20	83	65911	3.67 ug/l		99
48)	1,2-Dichloropropane	8.38	63	51682	3.91 ug/l		97
49)	Methyl Methacrylate	8.48	69	30987	3.72 ug/l		90
50)	Bromodichloromethane	8.72	83	44403	3.64 ug/l		100
51)	1,4-Dioxane	8.77	88	4789	81.76 ug/l		96
52)	Dibromomethane	8.80	93	23884	3.41 ug/l		95
53)	2-Chloroethyl vinyl ether	9.20	63	10082	2.81 ug/l		94
54)	4-Methyl-2-pentanone	9.24	43	256149	18.54 ug/l		97
55)	cis-1,3-Dichloropropene	9.55	75	63975	3.44 ug/l		96
58)	Toluene	10.03	91	155014	3.99 ug/l		100
59)	Ethyl methacrylate	10.34	69	47199	3.46 ug/l		98
60)	trans-1,3-Dichloropropene	10.34	75	46060	3.26 ug/l		93
61)	1,1,2-Trichloroethane	10.58	97	30562	3.96 ug/l		96
62)	2-Hexanone	10.61	43	155043	18.38 ug/l		97
63)	1,3-Dichloropropane	10.98	76	61102	3.96 ug/l		99
64)	Tetrachloroethene	11.07	164	30443	4.12 ug/l		98
65)	Dibromochloromethane	11.38	129	29004	3.28 ug/l		99
66)	1,2-Dibromoethane	11.71	107	28244	3.66 ug/l		98
67)	1-Chlorohexane	12.01	91	54582	3.96 ug/l		98
68)	Chlorobenzene	12.41	112	86576	3.83 ug/l		91
69)	1,1,1,2-Tetrachloroethane	12.49	131	27774	3.76 ug/l		88
70)	Ethylbenzene	12.51	91	161385	3.94 ug/l		99
71)	m-Xylene & p-Xylene	12.63	91	241618	8.07 ug/l		99
72)	o-Xylene	13.38	91	118673	3.99 ug/l		100
73)	Styrene	13.44	104	84484	3.62 ug/l		98

(#) = qualifier out of range (m) = manual integration
RFP444.D VO02F29.M Tue Jul 02 12:38:30 2019 7/3/19 Page 2

Data File : D:\HPCHEM\1\DATA\19F29\RFP444.D Vial: 4
Acq On : 29 Jun 2019 12:57 pm Operator: IRagas
Sample : VO02F293 Inst : 02
Misc : 4.0ppb 8260/20ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

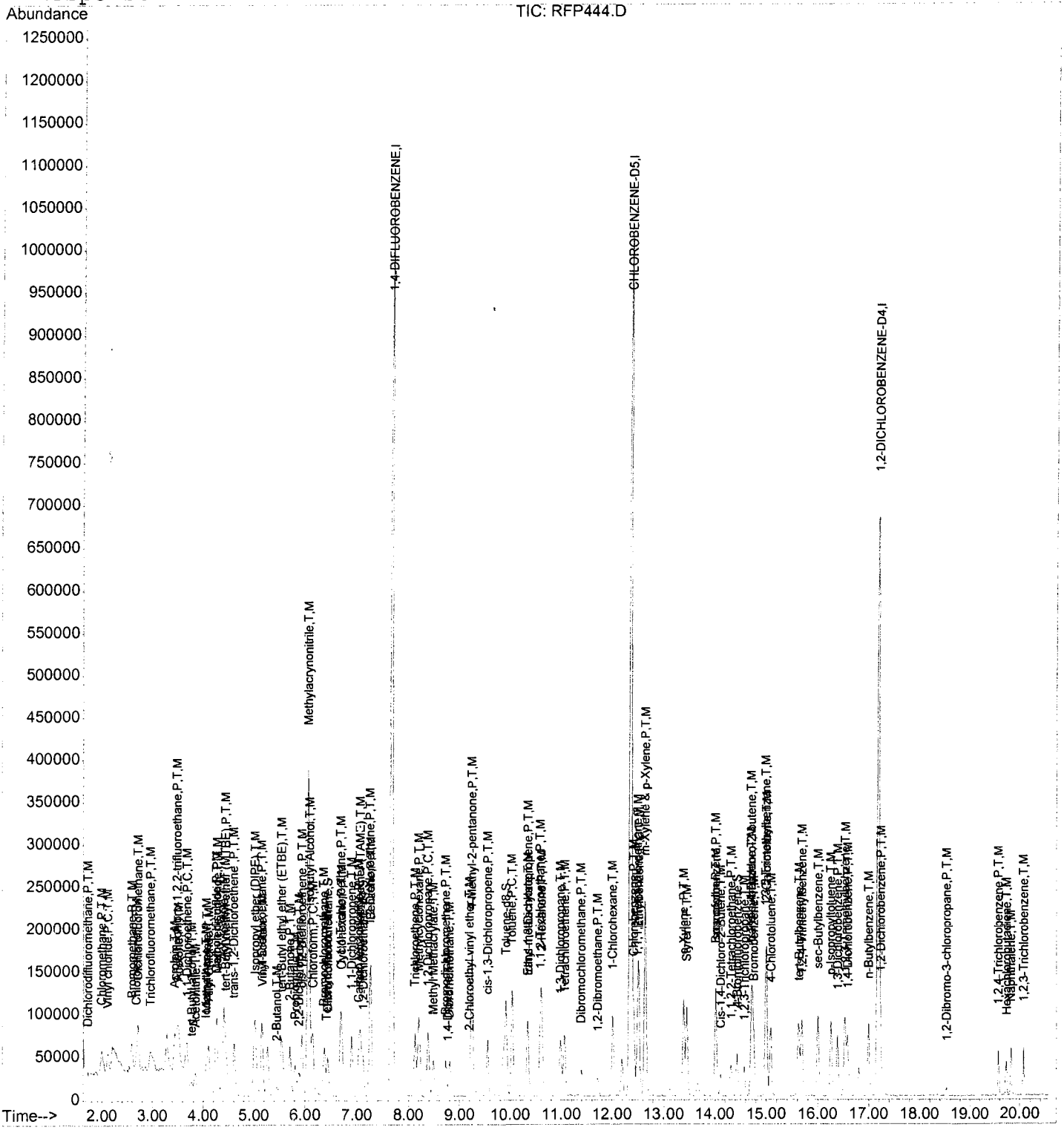
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	131582	3.85	ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	9847	3.25	ug/l	90
77)	Bromoform	14.00	173	15990	3.20	ug/l	97
78)	1,1,2,2-Tetrachloroethane	14.31	83	43708	3.89	ug/l	98
80)	1,2,3-Trichloropropane	14.57	110	8040	3.80	ug/l	99
81)	trans-1,4-Dichloro-2-buten	14.70	53	8001	3.22	ug/l	86
82)	n-Propylbenzene	14.70	91	165489	3.81	ug/l	98
83)	Bromobenzene	14.75	156	32999	3.79	ug/l	97
84)	1,3,5-Trimethylbenzene	14.98	105	95108	3.74	ug/l	99
85)	2-Chlorotoluene	15.00	126	30004	3.79	ug/l	97
86)	4-Chlorotoluene	15.09	126	27621	3.86	ug/l	99
87)	tert-Butylbenzene	15.62	134	19658	3.89	ug/l	98
88)	1,2,4-Trimethylbenzene	15.68	105	90856	3.75	ug/l	99
89)	sec-Butylbenzene	16.00	105	132872	3.85	ug/l	99
90)	p-Isopropyltoluene	16.25	119	99090	3.77	ug/l	98
91)	1,3-Dichlorobenzene	16.38	146	54149	3.78	ug/l	99
92)	1,2,3-Trimethylbenzene	16.53	105	90641	3.84	ug/l	97
93)	1,4-Dichlorobenzene	16.58	146	52603	3.68	ug/l	98
94)	n-Butylbenzene	16.99	91	94148	3.70	ug/l	95
95)	1,2-Dichlorobenzene	17.23	146	50357	3.86	ug/l	96
96)	1,2-Dibromo-3-chloropropan	18.52	157	4899	3.48	ug/l	96
97)	1,2,4-Trichlorobenzene	19.57	180	20965	3.58	ug/l	96
98)	Hexachlorobutadiene	19.73	225	10822	3.63	ug/l	99
99)	Naphthalene	19.82	128	56851	3.71	ug/l	96
100)	1,2,3-Trichlorobenzene	20.07	180	19833	3.80	ug/l	99

SU 7/3/19

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP444.D Vial: 4
Acq On : 29 Jun 2019 12:57 pm Operator: IRagas
Sample : VO02F293 Inst : 02
Misc : 4.0ppb 8260/20ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP445.D Vial: 5
Acq On : 29 Jun 2019 1:22 pm Operator: IRagas
Sample : VO02F294 Inst : 02
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1358389	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.34	117	1062743	50.00	ug/l	0.02
76) 1,2-DICHLOROBENZENE-D4	17.17	152	379878	50.00	ug/l	0.02
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	95017	10.39	ug/l	0.02
Spiked Amount 50.000			Recovery = 20.78%			
43) 1,2-Dichloroethane-d4	7.12	65	95035	10.42	ug/l	0.03
Spiked Amount 50.000			Recovery = 20.84%			
57) Toluene-d8	9.91	98	314511	10.16	ug/l	0.03
Spiked Amount 50.000			Recovery = 20.32%			
79) 4-Bromofluorobenzene	14.42	95	88021	10.13	ug/l	0.02
Spiked Amount 50.000			Recovery = 20.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.73	85	73214	9.53	ug/l	99
3) Chloromethane	2.00	50	129963	10.73	ug/l	98
4) Vinyl chloride	2.12	62	111505	10.56	ug/l	100
5) Bromomethane	2.59	94	87045	9.80	ug/l	98
6) Chloroethane	2.68	64	70979	9.80	ug/l	95
7) Dichlorofluoromethane	2.71	67	201608	10.49	ug/l	98
8) Trichlorofluoromethane	2.97	101	85668	9.79	ug/l	99
9) Acrolein	3.44	56	98844	53.88	ug/l	100
10) 1,1,2-Trichloro-1,2,2-trif	3.49	151	60517	10.44	ug/l	98
11) Acetone	3.52	43	164326	53.05	ug/l	94
12) 1,1-Dichloroethene	3.68	61	167944	10.50	ug/l	100
13) tert-Butyl alcohol	3.77	59	58927	49.33	ug/l	84
14) Acetonitrile	3.83	41	124940	101.11	ug/l	96
15) Iodomethane	4.05	142	158747	10.77	ug/l	99
16) Methyl Acetate	4.07	43	99930	9.66	ug/l	78
17) Allyl Chloride	4.11	76	57817	10.85	ug/l	98
18) Methylene chloride	4.28	49	153706	10.45	ug/l	100
19) Carbon disulfide	4.26	76	363165	9.76	ug/l	100
20) Acrylonitrile	4.41	53	241631	53.02	ug/l	99
21) tert-Butyl methyl ether (M	4.44	73	270769	10.39	ug/l	99
22) trans-1,2-Dichloroethene	4.60	61	173447	10.59	ug/l	98
23) Isopropyl ether (DIPE)	5.02	45	498167	10.45	ug/l	99
24) 1,1-Dichloroethane	5.15	63	244152	10.79	ug/l	100
25) Vinyl acetate	5.15	43	262648	9.44	ug/l	99
26) 2-Butanol	5.44	45	56999	45.63	ug/l #	100
27) tert-Butyl ethyl ether (ET	5.54	59	380010	10.52	ug/l	99
28) 2-Butanone	5.70	72	64018	51.12	ug/l	91

(#) = qualifier out of range (m) = manual integration
RFP445.D VO02F29.M Tue Jul 02 12:38:52 2019 Page 1

SU 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP445.D Vial: 5
Acq On : 29 Jun 2019 1:22 pm Operator: IRagas
Sample : VO02F294 Inst : 02
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	Propionitrile	5.81	54	165625	104.78 ug/l	97
30)	2,2-Dichloropropane	5.88	77	82584	10.83 ug/l	99
31)	cis-1,2-Dichloroethene	5.94	96	117205	10.52 ug/l	99
32)	Methylacrynonitrile	6.06	52	188240	105.47 ug/l	98
33)	Isobutyl Alcohol	6.09	43	113837	175.19 ug/l	94
34)	Chloroform	6.15	83	197116	10.42 ug/l	99
35)	Bromochloromethane	6.36	49	121339	10.32 ug/l	99
36)	Tetrahydrofuran	6.42	42	41133	10.67 ug/l	93
38)	1,1,1-Trichloroethane	6.69	97	108501	10.74 ug/l	100
39)	Cyclohexane	6.70	84	147983	10.29 ug/l	100
40)	1,1-Dichloropropene	6.89	110	46205	10.40 ug/l	99
41)	Carbon tetrachloride	7.03	119	78327	9.77 ug/l	99
42)	tert-Amyl methyl ether (TA	7.06	87	53592	10.25 ug/l	92
44)	1,2-Dichloroethane	7.25	62	127365	10.44 ug/l	99
45)	Benzene	7.27	78	497329	10.49 ug/l	100
46)	Trichloroethene	8.13	130	109532	10.69 ug/l	100
47)	Methylcyclohexane	8.20	83	189590	10.49 ug/l	99
48)	1,2-Dichloropropane	8.38	63	143500	10.79 ug/l	99
49)	Methyl Methacrylate	8.49	69	83695	9.99 ug/l	92
50)	Bromodichloromethane	8.72	83	125851	10.26 ug/l	98
51)	1,4-Dioxane	8.77	88	15680	214.07 ug/l	99
52)	Dibromomethane	8.80	93	69917	9.94 ug/l	98
53)	2-Chloroethyl vinyl ether	9.20	63	34673	9.62 ug/l	97
54)	4-Methyl-2-pentanone	9.24	43	730305	52.59 ug/l	99
55)	cis-1,3-Dichloropropene	9.56	75	188578	10.08 ug/l	98
58)	Toluene	10.03	91	429890	10.39 ug/l	99
59)	Ethyl methacrylate	10.33	69	137725	9.48 ug/l	97
60)	trans-1,3-Dichloropropene	10.33	75	137909	9.18 ug/l	95
61)	1,1,2-Trichloroethane	10.58	97	83071	10.13 ug/l	98
62)	2-Hexanone	10.60	43	444352	49.52 ug/l	99
63)	1,3-Dichloropropane	10.98	76	171220	10.43 ug/l	99
64)	Tetrachloroethene	11.06	164	83824	10.68 ug/l	99
65)	Dibromochloromethane	11.39	129	86580	9.20 ug/l	100
66)	1,2-Dibromoethane	11.71	107	84581	10.32 ug/l	99
67)	1-Chlorohexane	12.01	91	151592	10.33 ug/l	99
68)	Chlorobenzene	12.41	112	248774	10.35 ug/l	98
69)	1,1,1,2-Tetrachloroethane	12.49	131	81807	10.41 ug/l	93
70)	Ethylbenzene	12.50	91	464080	10.64 ug/l	99
71)	m-Xylene & p-Xylene	12.64	91	658393	20.68 ug/l	100
72)	o-Xylene	13.38	91	336182	10.63 ug/l	98
73)	Styrene	13.44	104	249046	10.04 ug/l	99

(#) = qualifier out of range (m) = manual integration

7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP445.D Vial: 5
Acq On : 29 Jun 2019 1:22 pm Operator: IRagas
Sample : VO02F294 Inst : 02
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

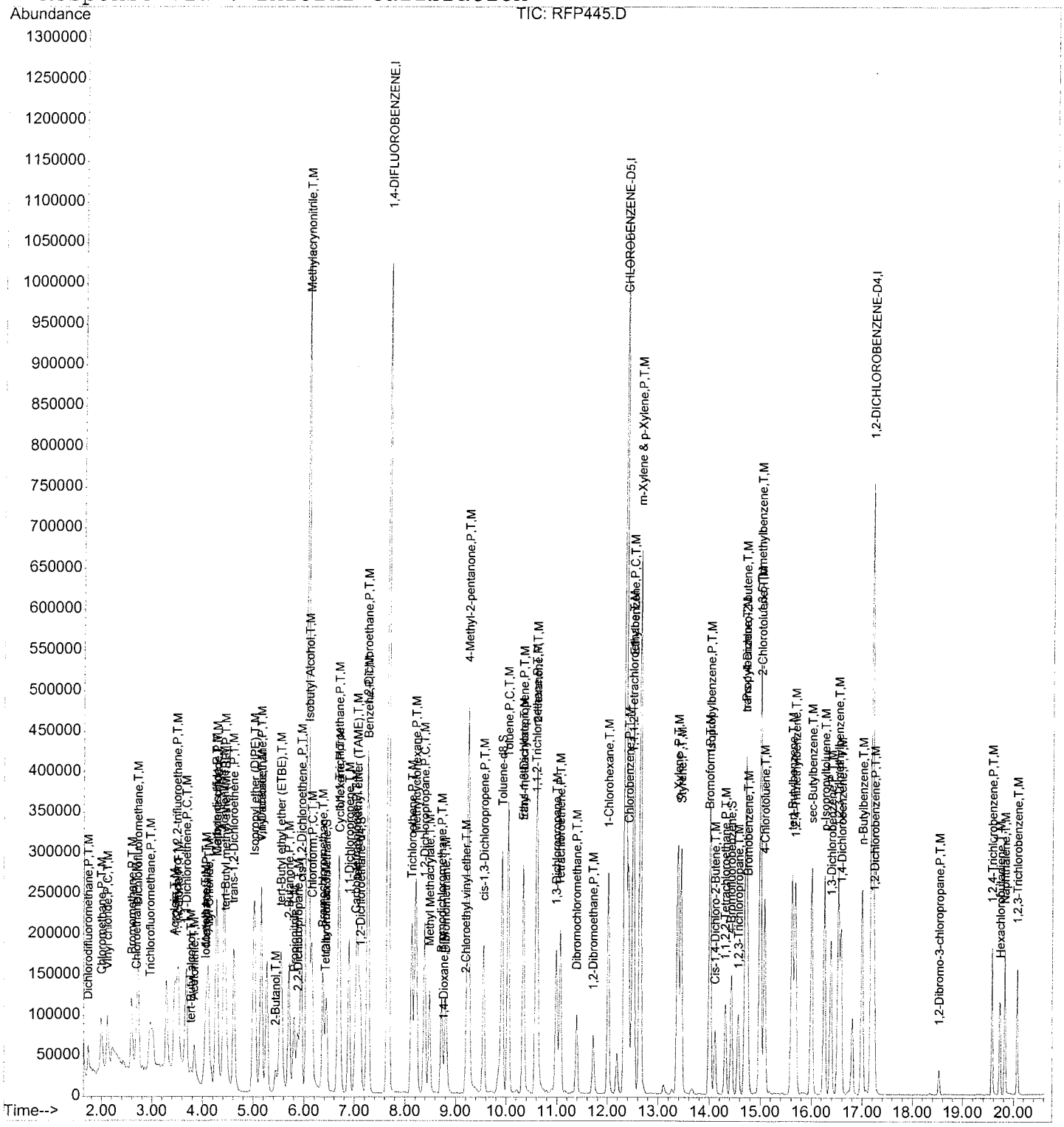
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	382112	10.50	ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	29165	9.05	ug/l	98
77)	Bromoform	13.99	173	46603	8.90	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.30	83	123037	10.43	ug/l	99
80)	1,2,3-Trichloropropane	14.57	110	23921	10.77	ug/l	94
81)	trans-1,4-Dichloro-2-buten	14.70	53	24762	9.52	ug/l	94
82)	n-Propylbenzene	14.70	91	482415	10.60	ug/l	99
83)	Bromobenzene	14.75	156	94174	10.32	ug/l	98
84)	1,3,5-Trimethylbenzene	14.99	105	279949	10.50	ug/l	100
85)	2-Chlorotoluene	15.00	126	89654	10.79	ug/l	97
86)	4-Chlorotoluene	15.08	126	76013	10.14	ug/l	97
87)	tert-Butylbenzene	15.61	134	57799	10.90	ug/l	97
88)	1,2,4-Trimethylbenzene	15.67	105	273404	10.75	ug/l	100
89)	sec-Butylbenzene	16.00	105	389597	10.76	ug/l	99
90)	p-Isopropyltoluene	16.25	119	286962	10.41	ug/l	98
91)	1,3-Dichlorobenzene	16.38	146	155923	10.37	ug/l	99
92)	1,2,3-Trimethylbenzene	16.52	105	264532	10.70	ug/l	98
93)	1,4-Dichlorobenzene	16.58	146	153755	10.25	ug/l	99
94)	n-Butylbenzene	16.99	91	285939	10.71	ug/l	98
95)	1,2-Dichlorobenzene	17.23	146	141673	10.37	ug/l	98
96)	1,2-Dibromo-3-chloropropan	18.53	157	13833	9.38	ug/l	97
97)	1,2,4-Trichlorobenzene	19.57	180	64623	10.51	ug/l	99
98)	Hexachlorobutadiene	19.73	225	31846	10.19	ug/l	99
99)	Naphthalene	19.82	128	157913	9.83	ug/l	100
100)	1,2,3-Trichlorobenzene	20.07	180	57996	10.60	ug/l	97

(#) = qualifier out of range (m) = manual integration
RFP445.D VO02F29.M Tue Jul 02 12:38:53 2019 SU 7/3/19 Page 3

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP445.D Vial: 5
Acq On : 29 Jun 2019 1:22 pm Operator: IRagas
Sample : VO02F294 Inst : 02
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP446.D Vial: 6
Acq On : 29 Jun 2019 1:46 pm Operator: IRagas
Sample : VO02F295 Inst : 02
Misc : 20ppb 8260/100ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1470841	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1126505	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	403927	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	204945	20.70	ug/l		0.02
Spiked Amount 50.000			Recovery = 41.40%				
43) 1,2-Dichloroethane-d4	7.12	65	200008	20.24	ug/l		0.03
Spiked Amount 50.000			Recovery = 40.48%				
57) Toluene-d8	9.91	98	682845	20.80	ug/l		0.03
Spiked Amount 50.000			Recovery = 41.60%				
79) 4-Bromofluorobenzene	14.43	95	196669	21.28	ug/l		0.03
Spiked Amount 50.000			Recovery = 42.56%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	154817	18.61	ug/l		100
3) Chloromethane	2.00	50	255194	19.46	ug/l		99
4) Vinyl chloride	2.12	62	229879	20.10	ug/l		100
5) Bromomethane	2.58	94	174899	18.18	ug/l		100
6) Chloroethane	2.68	64	144994	18.49	ug/l		97
7) Dichlorofluoromethane	2.71	67	394696	18.96	ug/l		99
8) Trichlorofluoromethane	2.97	101	174782	18.45	ug/l		99
9) Acrolein	3.44	56	185609	93.44	ug/l		99
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	118913	18.95	ug/l		100
11) Acetone	3.52	43	305826	91.18	ug/l		100
12) 1,1-Dichloroethene	3.66	61	330937	19.12	ug/l		99
13) tert-Butyl alcohol	3.77	59	125004	96.64	ug/l		99
14) Acetonitrile	3.83	41	234309	175.12	ug/l		99
15) Iodomethane	4.05	142	304316	19.06	ug/l		99
16) Methyl Acetate	4.07	43	220784	19.72	ug/l		88
17) Allyl Chloride	4.11	76	108751	18.85	ug/l		99
18) Methylene chloride	4.27	49	298739	18.76	ug/l		99
19) Carbon disulfide	4.26	76	761575	18.90	ug/l		100
20) Acrylonitrile	4.41	53	462694	93.77	ug/l		100
21) tert-Butyl methyl ether (M	4.44	73	520334	18.44	ug/l		99
22) trans-1,2-Dichloroethene	4.60	61	342752	19.32	ug/l		99
23) Isopropyl ether (DIPE)	5.00	45	992111	19.21	ug/l		98
24) 1,1-Dichloroethane	5.15	63	464663	18.96	ug/l		100
25) Vinyl acetate	5.15	43	552187	18.33	ug/l		99
26) 2-Butanol	5.43	45	122706	90.73	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	722816	18.48	ug/l		100
28) 2-Butanone	5.70	72	127247	93.85	ug/l		97

(#) = qualifier out of range (m) = manual integration
RFP446.D VO02F29.M Tue Jul 02 12:39:15 2019 Page 1

SW 1/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP446.D Vial: 6
Acq On : 29 Jun 2019 1:46 pm Operator: IRagas
Sample : VO02F295 Inst : 02
Misc : 20ppb 8260/100ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.79	54	314385	183.68	ug/l	99
30)	2,2-Dichloropropane	5.88	77	159791	19.35	ug/l	99
31)	cis-1,2-Dichloroethene	5.94	96	228691	18.95	ug/l	99
32)	Methylacrynonitrile	6.06	52	370479	191.70	ug/l	99
33)	Isobutyl Alcohol	6.09	43	237330	337.32	ug/l	98
34)	Chloroform	6.15	83	395370	19.30	ug/l	99
35)	Bromochloromethane	6.36	49	243486	19.13	ug/l	98
36)	Tetrahydrofuran	6.42	42	75245	18.03	ug/l	99
38)	1,1,1-Trichloroethane	6.68	97	208556	19.07	ug/l	100
39)	Cyclohexane	6.70	84	310737	19.96	ug/l	99
40)	1,1-Dichloropropene	6.89	110	90966	18.90	ug/l	99
41)	Carbon tetrachloride	7.03	119	156358	18.02	ug/l	100
42)	tert-Amyl methyl ether (TA	7.06	87	104320	18.44	ug/l	96
44)	1,2-Dichloroethane	7.25	62	253858	19.23	ug/l	100
45)	Benzene	7.26	78	965690	18.80	ug/l	100
46)	Trichloroethene	8.13	130	208781	18.81	ug/l	99
47)	Methylcyclohexane	8.20	83	404214	20.65	ug/l	100
48)	1,2-Dichloropropane	8.38	63	267030	18.55	ug/l	99
49)	Methyl Methacrylate	8.48	69	172390	19.00	ug/l	98
50)	Bromodichloromethane	8.72	83	253527	19.10	ug/l	100
51)	1,4-Dioxane	8.77	88	27097	326.27	ug/l	96
52)	Dibromomethane	8.80	93	139736	18.35	ug/l	99
53)	2-Chloroethyl vinyl ether	9.20	63	71252	18.26	ug/l	99
54)	4-Methyl-2-pentanone	9.24	43	1419698	94.42	ug/l	100
55)	cis-1,3-Dichloropropene	9.56	75	375342	18.53	ug/l	97
58)	Toluene	10.03	91	858076	19.57	ug/l	100
59)	Ethyl methacrylate	10.33	69	285500	18.54	ug/l	100
60)	trans-1,3-Dichloropropene	10.33	75	284221	17.86	ug/l	97
61)	1,1,2-Trichloroethane	10.58	97	166251	19.12	ug/l	98
62)	2-Hexanone	10.60	43	903215	94.96	ug/l	100
63)	1,3-Dichloropropane	10.98	76	336350	19.34	ug/l	99
64)	Tetrachloroethene	11.06	164	158633	19.06	ug/l	99
65)	Dibromochloromethane	11.38	129	175671	17.60	ug/l	99
66)	1,2-Dibromoethane	11.71	107	167569	19.28	ug/l	99
67)	1-Chlorohexane	12.01	91	298559	19.19	ug/l	100
68)	Chlorobenzene	12.41	112	509667	20.01	ug/l	99
69)	1,1,1,2-Tetrachloroethane	12.49	131	157778	18.93	ug/l	97
70)	Ethylbenzene	12.52	91	876478	18.96	ug/l	100
71)	m-Xylene & p-Xylene	12.63	91	1276987	37.84	ug/l	99
72)	o-Xylene	13.38	91	629420	18.77	ug/l	99
73)	Styrene	13.44	104	494027	18.80	ug/l	99

(#) = qualifier out of range (m) = manual integration
RFP446.D VO02F29.M Tue Jul 02 12:39:16 2019 Page 2

SA 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP446.D Vial: 6
Acq On : 29 Jun 2019 1:46 pm Operator: IRagas
Sample : VO02F295 Inst : 02
Misc : 20ppb 8260/100ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	764537	19.82	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	62505	18.31	ug/l	95
77)	Bromoform	14.00	173	95971	17.23	ug/l	98
78)	1,1,2,2-Tetrachloroethane	14.32	83	243933	19.45	ug/l	99
80)	1,2,3-Trichloropropane	14.57	110	44489	18.85	ug/l	99
81)	trans-1,4-Dichloro-2-buten	14.70	53	49739	17.98	ug/l	95
82)	n-Propylbenzene	14.70	91	928495	19.18	ug/l	99
83)	Bromobenzene	14.75	156	184938	19.05	ug/l	98
84)	1,3,5-Trimethylbenzene	14.98	105	554937	19.58	ug/l	99
85)	2-Chlorotoluene	15.00	126	173609	19.66	ug/l	99
86)	4-Chlorotoluene	15.09	126	153167	19.22	ug/l	96
87)	tert-Butylbenzene	15.61	134	110454	19.58	ug/l	99
88)	1,2,4-Trimethylbenzene	15.68	105	527897	19.52	ug/l	100
89)	sec-Butylbenzene	16.00	105	757473	19.68	ug/l	100
90)	p-Isopropyltoluene	16.25	119	576893	19.67	ug/l	98
91)	1,3-Dichlorobenzene	16.38	146	311032	19.46	ug/l	100
92)	1,2,3-Trimethylbenzene	16.52	105	511198	19.45	ug/l	100
93)	1,4-Dichlorobenzene	16.58	146	313582	19.66	ug/l	98
94)	n-Butylbenzene	16.99	91	548979	19.33	ug/l	100
95)	1,2-Dichlorobenzene	17.23	146	281419	19.37	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.53	157	27414	17.48	ug/l	98
97)	1,2,4-Trichlorobenzene	19.57	180	123001	18.82	ug/l	100
98)	Hexachlorobutadiene	19.73	225	61818	18.60	ug/l	99
99)	Naphthalene	19.82	128	317385	18.57	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	107888	18.54	ug/l	98

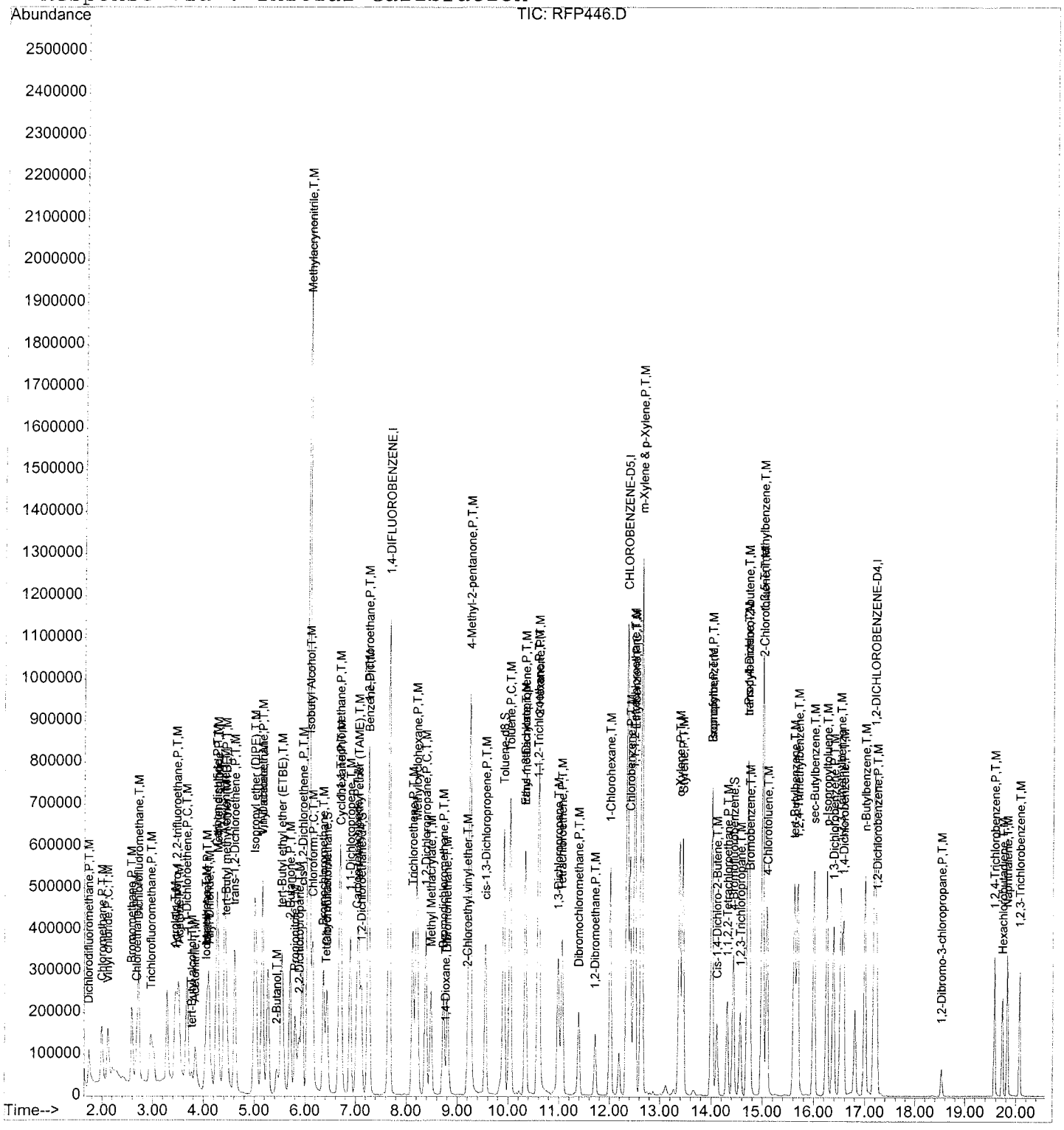
SM 7/3/19

(#) = qualifier out of range (m) = manual integration
RFP446.D VO02F29.M Tue Jul 02 12:39:16 2019 Page 3

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP446.D Vial: 6
Acq On : 29 Jun 2019 1:46 pm Operator: IRagas
Sample : VO02F295 Inst : 02
Misc : 20ppb 8260/100ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP447.D Vial: 7
Acq On : 29 Jun 2019 2:11 pm Operator: IRagas
Sample : VO02F296 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1427074	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1107798	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	413985	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	562396	58.55	ug/l		0.01
Spiked Amount 50.000			Recovery = 117.10%				
43) 1,2-Dichloroethane-d4	7.11	65	561397	58.56	ug/l		0.03
Spiked Amount 50.000			Recovery = 117.12%				
57) Toluene-d8	9.91	98	1897593	58.79	ug/l		0.03
Spiked Amount 50.000			Recovery = 117.58%				
79) 4-Bromofluorobenzene	14.43	95	534572	56.43	ug/l		0.03
Spiked Amount 50.000			Recovery = 112.86%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	438417	54.32	ug/l		100
3) Chloromethane	2.00	50	705059	55.40	ug/l		100
4) Vinyl chloride	2.11	62	648341	58.44	ug/l		100
5) Bromomethane	2.59	94	500872	53.66	ug/l		100
6) Chloroethane	2.68	64	407499	53.56	ug/l		100
7) Dichlorofluoromethane	2.72	67	1011039	50.06	ug/l		100
8) Trichlorofluoromethane	2.96	101	491352	53.47	ug/l		100
9) Acrolein	3.44	56	437401	226.95	ug/l		100
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	306528	50.35	ug/l		100
11) Acetone	3.51	43	759179	233.29	ug/l		100
12) 1,1-Dichloroethene	3.68	61	825195	49.13	ug/l		100
13) tert-Butyl alcohol	3.77	59	309470	246.58	ug/l		100
14) Acetonitrile	3.84	41	584148	449.97	ug/l		100
15) Iodomethane	4.05	142	773402	49.92	ug/l		100
16) Methyl Acetate	4.06	43	587001	54.03	ug/l		100
17) Allyl Chloride	4.11	76	292608	52.27	ug/l		100
18) Methylene chloride	4.27	49	745262	48.23	ug/l		100
19) Carbon disulfide	4.27	76	2026533	51.84	ug/l		100
20) Acrylonitrile	4.41	53	1210299	252.80	ug/l		100
21) tert-Butyl methyl ether (M	4.44	73	1180685	43.13	ug/l		100
22) trans-1,2-Dichloroethene	4.61	61	890635	51.75	ug/l		100
23) Isopropyl ether (DIPE)	5.02	45	2540794	50.71	ug/l		100
24) 1,1-Dichloroethane	5.15	63	1198221	50.40	ug/l		100
25) Vinyl acetate	5.16	43	1510151	51.65	ug/l		100
26) 2-Butanol	5.43	45	346271	263.88	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	1781649	46.95	ug/l		100
28) 2-Butanone	5.70	72	348468	264.89	ug/l		100

(#) = qualifier out of range (m) = manual integration

7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP447.D Vial: 7
Acq On : 29 Jun 2019 2:11 pm Operator: IRagas
Sample : VO02F296 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	Propionitrile	5.80	54	849443	511.52 ug/l	100
30)	2,2-Dichloropropane	5.88	77	400993	50.06 ug/l	100
31)	cis-1,2-Dichloroethene	5.94	96	597332	51.02 ug/l	100
32)	Methylacrynonitrile	6.06	52	971782	518.27 ug/l	100
33)	Isobutyl Alcohol	6.09	43	640333	938.03 ug/l	100
34)	Chloroform	6.15	83	977587	49.19 ug/l	100
35)	Bromochloromethane	6.37	49	636624	51.55 ug/l	100
36)	Tetrahydrofuran	6.41	42	198932	49.14 ug/l	100
38)	1,1,1-Trichloroethane	6.68	97	534217	50.36 ug/l	100
39)	Cyclohexane	6.70	84	842656	55.80 ug/l	100
40)	1,1-Dichloropropene	6.89	110	240150	51.43 ug/l	100
41)	Carbon tetrachloride	7.02	119	417313	49.57 ug/l	100
42)	tert-Amyl methyl ether (TA	7.05	87	259306	47.23 ug/l	100
44)	1,2-Dichloroethane	7.25	62	653356	51.00 ug/l	100
45)	Benzene	7.26	78	2482544	49.82 ug/l	100
46)	Trichloroethene	8.12	130	550650	51.14 ug/l	100
47)	Methylcyclohexane	8.20	83	1086824	57.23 ug/l	100
48)	1,2-Dichloropropane	8.38	63	705594	50.51 ug/l	100
49)	Methyl Methacrylate	8.48	69	464130	52.71 ug/l	100
50)	Bromodichloromethane	8.72	83	674081	52.33 ug/l	100
51)	1,4-Dioxane	8.76	88	75462	867.88 ug/l	100
52)	Dibromomethane	8.79	93	375018	50.75 ug/l	100
53)	2-Chloroethyl vinyl ether	9.20	63	208488	55.07 ug/l	100
54)	4-Methyl-2-pentanone	9.24	43	3855060	264.24 ug/l	100
55)	cis-1,3-Dichloropropene	9.55	75	996666	50.71 ug/l	100
58)	Toluene	10.03	91	2163146	50.17 ug/l	100
59)	Ethyl methacrylate	10.34	69	750237	49.54 ug/l	100
60)	trans-1,3-Dichloropropene	10.34	75	761159	48.63 ug/l	100
61)	1,1,2-Trichloroethane	10.58	97	429690	50.25 ug/l	100
62)	2-Hexanone	10.61	43	2471667	264.24 ug/l	100
63)	1,3-Dichloropropane	10.98	76	869465	50.83 ug/l	100
64)	Tetrachloroethene	11.07	164	408676	49.93 ug/l	100
65)	Dibromochloromethane	11.38	129	478683	48.77 ug/l	100
66)	1,2-Dibromoethane	11.71	107	442101	51.73 ug/l	100
67)	1-Chlorohexane	12.01	91	778033	50.86 ug/l	100
68)	Chlorobenzene	12.41	112	1287380	51.39 ug/l	100
69)	1,1,1,2-Tetrachloroethane	12.48	131	418382	51.05 ug/l	100
70)	Ethylbenzene	12.51	91	2284481	50.25 ug/l	100
71)	m-Xylene & p-Xylene	12.65	91	3475082	104.71 ug/l	100
72)	o-Xylene	13.38	91	1689647	51.23 ug/l	100
73)	Styrene	13.44	104	1323909	51.22 ug/l	100

(#) = qualifier out of range (m) = manual integration
RFP447.D VO02F29.M Tue Jul 02 12:39:49 2019 Page 2

SA 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP447.D Vial: 7
Acq On : 29 Jun 2019 2:11 pm Operator: IRagas
Sample : VO02F296 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

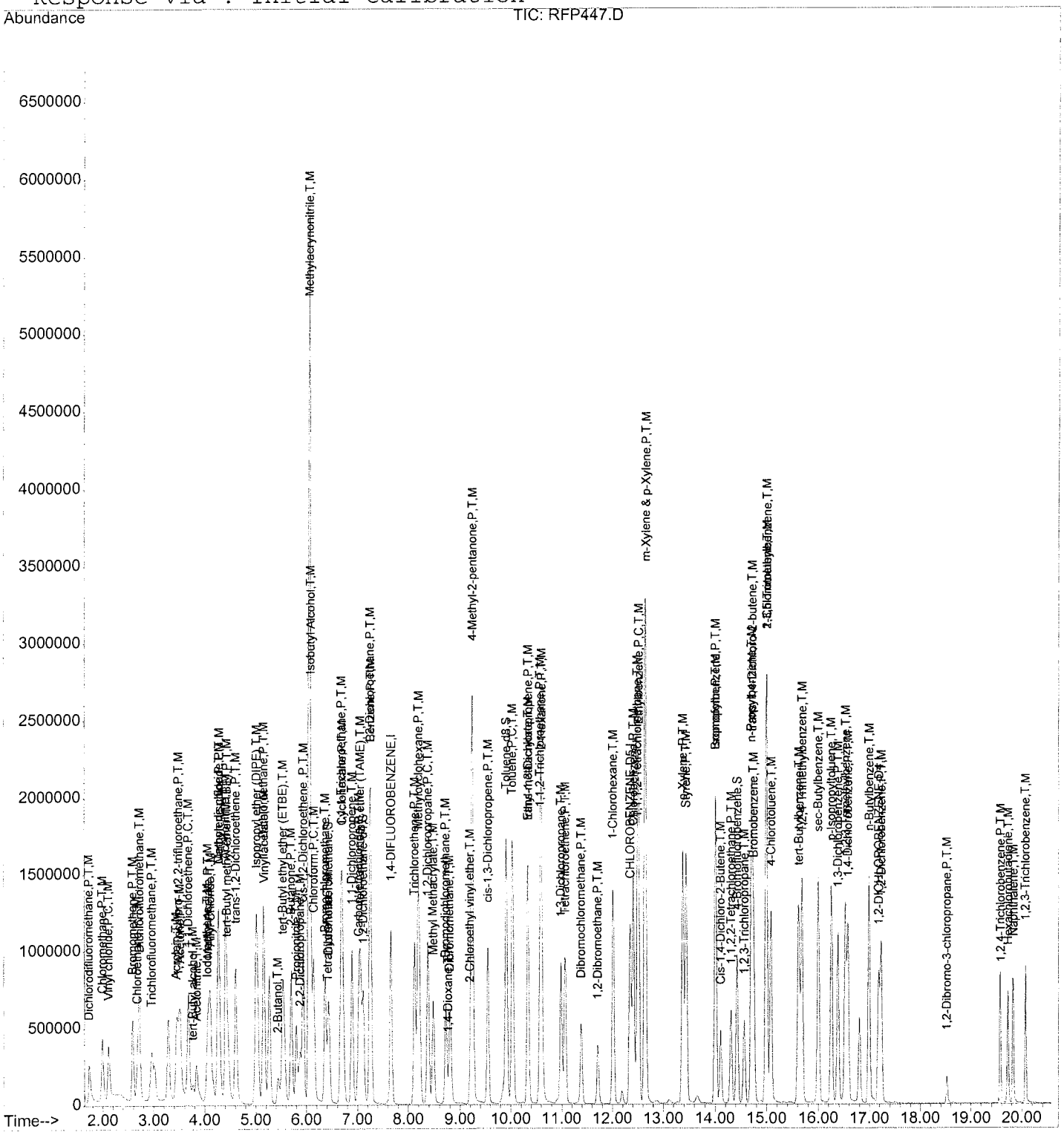
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	1974473	52.06	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	167221	49.80	ug/l	100
77)	Bromoform	14.00	173	275960	48.34	ug/l	100
78)	1,1,2,2-Tetrachloroethane	14.31	83	634248	49.34	ug/l	100
80)	1,2,3-Trichloropropane	14.57	110	118580	49.01	ug/l	100
81)	trans-1,4-Dichloro-2-buten	14.71	53	137780	48.59	ug/l	100
82)	n-Propylbenzene	14.70	91	2515879	50.70	ug/l	100
83)	Bromobenzene	14.74	156	496471	49.91	ug/l	100
84)	1,3,5-Trimethylbenzene	15.00	105	1459753	50.25	ug/l	100
85)	2-Chlorotoluene	15.00	126	442945	48.94	ug/l	100
86)	4-Chlorotoluene	15.09	126	408935	50.08	ug/l	100
87)	tert-Butylbenzene	15.62	134	289995	50.17	ug/l	100
88)	1,2,4-Trimethylbenzene	15.68	105	1412789	50.98	ug/l	100
89)	sec-Butylbenzene	15.99	105	1956405	49.58	ug/l	100
90)	p-Isopropyltoluene	16.25	119	1552358	51.65	ug/l	100
91)	1,3-Dichlorobenzene	16.38	146	824413	50.33	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	1351135	50.16	ug/l	100
93)	1,4-Dichlorobenzene	16.57	146	813391	49.74	ug/l	100
94)	n-Butylbenzene	16.99	91	1466656	50.40	ug/l	100
95)	1,2-Dichlorobenzene	17.23	146	750148	50.38	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.52	157	76043	47.32	ug/l	100
97)	1,2,4-Trichlorobenzene	19.58	180	335642	50.11	ug/l	100
98)	Hexachlorobutadiene	19.73	225	166765	48.97	ug/l	100
99)	Naphthalene	19.83	128	859381	49.07	ug/l	100
100)	1,2,3-Trichlorobenzene	20.07	180	302865	50.77	ug/l	100

SM 7/3/19

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP447.D Vial: 7
Acq On : 29 Jun 2019 2:11 pm Operator: IRagas
Sample : VO02F296 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



SA 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP448.D Vial: 8
Acq On : 29 Jun 2019 2:36 pm Operator: IRagas
Sample : VO02F297 Inst : 02
Misc : 100ppb 8260/500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1423084	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1115497	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	427341	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	1055445	110.18	ug/l		0.02
Spiked Amount 50.000			Recovery = 220.36%				
43) 1,2-Dichloroethane-d4	7.12	65	1046175	109.44	ug/l		0.03
Spiked Amount 50.000			Recovery = 218.88%				
57) Toluene-d8	9.91	98	3528400	108.56	ug/l		0.03
Spiked Amount 50.000			Recovery = 217.12%				
79) 4-Bromofluorobenzene	14.43	95	1051484	107.52	ug/l		0.03
Spiked Amount 50.000			Recovery = 215.04%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	858001	106.60	ug/l		99
3) Chloromethane	1.98	50	1369506	107.91	ug/l		99
4) Vinyl chloride	2.10	62	1177914	106.47	ug/l		99
5) Bromomethane	2.58	94	981822	105.48	ug/l		100
6) Chloroethane	2.68	64	820920	108.21	ug/l		97
7) Dichlorofluoromethane	2.71	67	2036726	101.14	ug/l		100
8) Trichlorofluoromethane	2.95	101	988064	107.83	ug/l		99
9) Acrolein	3.44	56	965040	502.13	ug/l		100
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	633718	104.38	ug/l		100
11) Acetone	3.52	43	1489502	459.00	ug/l		100
12) 1,1-Dichloroethene	3.66	61	1714498	102.35	ug/l		100
13) tert-Butyl alcohol	3.77	59	607643	485.52	ug/l		84
14) Acetonitrile	3.83	41	1288749	995.50	ug/l		96
15) Iodomethane	4.05	142	1604174	103.84	ug/l		100
16) Methyl Acetate	4.07	43	1104051	101.91	ug/l		99
17) Allyl Chloride	4.11	76	557912	99.95	ug/l		99
18) Methylene chloride	4.27	49	1549330	100.54	ug/l		99
19) Carbon disulfide	4.26	76	4153102	106.55	ug/l		100
20) Acrylonitrile	4.41	53	2532202	530.39	ug/l		100
21) tert-Butyl methyl ether (M	4.44	73	2730057	100.00	ug/l		100
22) trans-1,2-Dichloroethene	4.60	61	1828611	106.54	ug/l		100
23) Isopropyl ether (DIPE)	5.02	45	5166439	103.40	ug/l		99
24) 1,1-Dichloroethane	5.15	63	2416982	101.95	ug/l		100
25) Vinyl acetate	5.15	43	3265936	112.02	ug/l		100
26) 2-Butanol	5.44	45	662156	506.01	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	3777386	99.81	ug/l		99
28) 2-Butanone	5.70	72	696499	530.93	ug/l		100

(#) = qualifier out of range (m) = manual integration
RFP448.D VO02F29.M Tue Jul 02 12:40:13 2019 Page 1

SA 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP448.D Vial: 8
Acq On : 29 Jun 2019 2:36 pm Operator: IRagas
Sample : VO02F297 Inst : 02
Misc : 100ppb 8260/500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.79	54	1731838	1045.80	ug/l	100
30)	2,2-Dichloropropane	5.87	77	780155	97.66	ug/l	99
31)	cis-1,2-Dichloroethene	5.94	96	1222303	104.69	ug/l	100
32)	Methylacrynonitrile	6.06	52	1975607	1056.58	ug/l	97
33)	Isobutyl Alcohol	6.09	43	1358288	1995.36	ug/l	99
34)	Chloroform	6.15	83	2032599	102.56	ug/l	100
35)	Bromochloromethane	6.36	49	1278917	103.86	ug/l	99
36)	Tetrahydrofuran	6.40	42	399486	98.95	ug/l	99
38)	1,1,1-Trichloroethane	6.68	97	1113153	105.22	ug/l	100
39)	Cyclohexane	6.70	84	1665951	110.63	ug/l	100
40)	1,1-Dichloropropene	6.89	110	495119	106.33	ug/l	98
41)	Carbon tetrachloride	7.03	119	902622	107.52	ug/l	100
42)	tert-Amyl methyl ether (TA	7.06	87	552796	100.97	ug/l	99
44)	1,2-Dichloroethane	7.25	62	1377845	107.85	ug/l	99
45)	Benzene	7.26	78	5226025	105.18	ug/l	100
46)	Trichloroethene	8.13	130	1108673	103.25	ug/l	99
47)	Methylcyclohexane	8.20	83	2034687	107.44	ug/l	99
48)	1,2-Dichloropropane	8.38	63	1473517	105.78	ug/l	100
49)	Methyl Methacrylate	8.48	69	945012	107.62	ug/l	99
50)	Bromodichloromethane	8.72	83	1416135	110.25	ug/l	99
51)	1,4-Dioxane	8.77	88	201726	2137.64	ug/l	97
52)	Dibromomethane	8.80	93	809369	109.84	ug/l	99
53)	2-Chloroethyl vinyl ether	9.20	63	403000	106.75	ug/l	100
54)	4-Methyl-2-pentanone	9.24	43	7740327	532.04	ug/l	100
55)	cis-1,3-Dichloropropene	9.56	75	2062206	105.22	ug/l	100
58)	Toluene	10.03	91	4384803	101.00	ug/l	100
59)	Ethyl methacrylate	10.33	69	1655958	108.58	ug/l	98
60)	trans-1,3-Dichloropropene	10.33	75	1658443	105.22	ug/l	100
61)	1,1,2-Trichloroethane	10.58	97	917900	106.60	ug/l	100
62)	2-Hexanone	10.60	43	5224661	554.69	ug/l	100
63)	1,3-Dichloropropane	10.98	76	1787206	103.75	ug/l	99
64)	Tetrachloroethene	11.06	164	835128	101.34	ug/l	100
65)	Dibromochloromethane	11.39	129	1041094	105.35	ug/l	100
66)	1,2-Dibromoethane	11.71	107	915477	106.38	ug/l	99
67)	1-Chlorohexane	12.01	91	1667713	108.27	ug/l	99
68)	Chlorobenzene	12.41	112	2624014	104.03	ug/l	99
69)	1,1,1,2-Tetrachloroethane	12.49	131	895798	108.56	ug/l	100
70)	Ethylbenzene	12.52	91	4820488	105.31	ug/l	100
71)	m-Xylene & p-Xylene	12.63	91	7131259	213.40	ug/l	100
72)	o-Xylene	13.38	91	3408197	102.63	ug/l	99
73)	Styrene	13.44	104	2710800	104.16	ug/l	100

(#) = qualifier out of range (m) = manual integration

7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP448.D Vial: 8
Acq On : 29 Jun 2019 2:36 pm Operator: IRagas
Sample : VO02F297 Inst : 02
Misc : 100ppb 8260/500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
74)	Isopropylbenzene	14.00	105	4058872	106.28 ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	356952	105.58 ug/l	100
77)	Bromoform	14.00	173	590760	100.25 ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.32	83	1348183	101.59 ug/l	99
80)	1,2,3-Trichloropropane	14.57	110	246589	98.73 ug/l	100
81)	trans-1,4-Dichloro-2-buten	14.70	53	299602	102.36 ug/l	100
82)	n-Propylbenzene	14.70	91	5304559	103.56 ug/l	100
83)	Bromobenzene	14.75	156	1044536	101.72 ug/l	99
84)	1,3,5-Trimethylbenzene	14.99	105	3036135	101.24 ug/l	99
85)	2-Chlorotoluene	15.00	126	942105	100.84 ug/l	99
86)	4-Chlorotoluene	15.09	126	881594	104.58 ug/l	99
87)	tert-Butylbenzene	15.61	134	621488	104.16 ug/l	96
88)	1,2,4-Trimethylbenzene	15.68	105	2933329	102.54 ug/l	100
89)	sec-Butylbenzene	16.00	105	4214506	103.48 ug/l	100
90)	p-Isopropyltoluene	16.25	119	3151614	101.59 ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	1730559	102.34 ug/l	100
92)	1,2,3-Trimethylbenzene	16.52	105	2859009	102.81 ug/l	99
93)	1,4-Dichlorobenzene	16.58	146	1758240	104.17 ug/l	99
94)	n-Butylbenzene	16.99	91	3169414	105.51 ug/l	100
95)	1,2-Dichlorobenzene	17.23	146	1602723	104.28 ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.53	157	171142	103.16 ug/l	100
97)	1,2,4-Trichlorobenzene	19.57	180	738924	106.86 ug/l	100
98)	Hexachlorobutadiene	19.73	225	357805	101.78 ug/l	100
99)	Naphthalene	19.82	128	1879764	103.97 ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	645633	104.85 ug/l	100

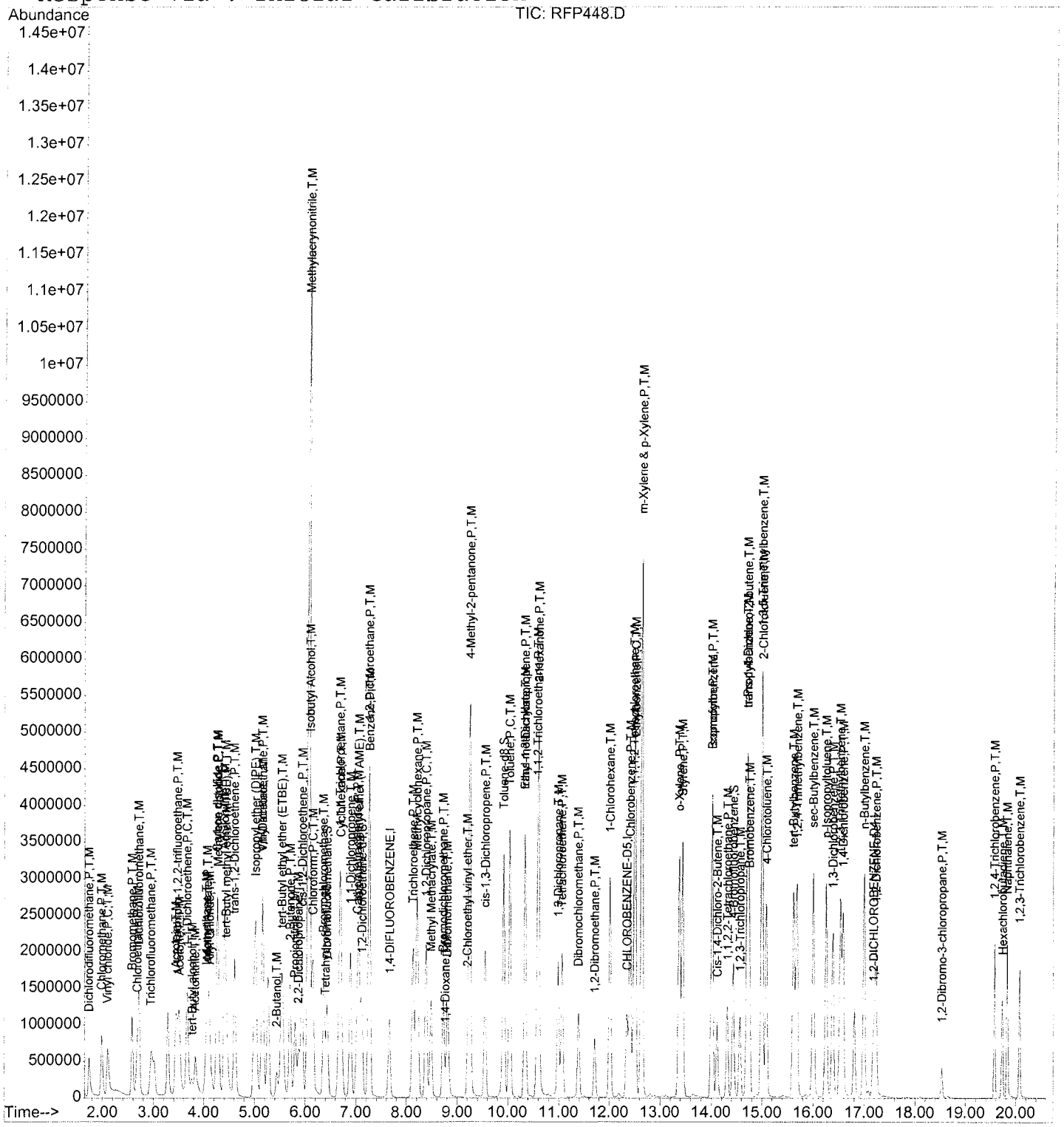
SU 7/3/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP448.D Vial: 8
Acq On : 29 Jun 2019 2:36 pm Operator: IRagas
Sample : VO02F297 Inst : 02
Misc : 100ppb 8260/500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP449.D Vial: 9
Acq On : 29 Jun 2019 3:00 pm Operator: IRagas
Sample : VO02F298 Inst : 02
Misc : 200ppb 8260/1000ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1422982	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1133689	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	399902	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	2196416	229.31	ug/l		0.03
Spiked Amount 50.000			Recovery =	458.62%			
43) 1,2-Dichloroethane-d4	7.11	65	2187670	228.87	ug/l		0.03
Spiked Amount 50.000			Recovery =	457.74%			
57) Toluene-d8	9.91	98	7293938	220.82	ug/l		0.03
Spiked Amount 50.000			Recovery =	441.64%			
79) 4-Bromofluorobenzene	14.43	95	2102143	229.71	ug/l		0.03
Spiked Amount 50.000			Recovery =	459.42%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	1655830	205.73	ug/l		98
3) Chloromethane	1.98	50	2653609	209.11	ug/l		99
4) Vinyl chloride	2.08	62	1758410	158.94	ug/l		99
5) Bromomethane	2.57	94	1897938	203.91	ug/l		99
6) Chloroethane	2.68	64	1574626	207.57	ug/l		97
7) Dichlorofluoromethane	2.71	67	4092055	203.21	ug/l		100
8) Trichlorofluoromethane	2.96	101	1895195	206.84	ug/l		99
9) Acrolein	3.44	56	1827150	950.76	ug/l		100
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	1257095	207.08	ug/l		99
11) Acetone	3.51	43	3245302	1000.14	ug/l		100
12) 1,1-Dichloroethene	3.68	61	3401801	203.10	ug/l		100
13) tert-Butyl alcohol	3.77	59	1349437	1078.31	ug/l	#	77
14) Acetonitrile	3.84	41	3005868	2322.06	ug/l		99
15) Iodomethane	4.05	142	3232127	209.24	ug/l		100
16) Methyl Acetate	4.06	43	2311398	213.36	ug/l		99
17) Allyl Chloride	4.11	76	1165170	208.75	ug/l		99
18) Methylene chloride	4.27	49	3051188	198.01	ug/l		99
19) Carbon disulfide	4.26	76	7994551	205.11	ug/l		100
20) Acrylonitrile	4.40	53	5288146	1107.72	ug/l		100
21) tert-Butyl methyl ether (M	4.43	73	5922304	216.94	ug/l		100
22) trans-1,2-Dichloroethene	4.60	61	3638179	211.98	ug/l		100
23) Isopropyl ether (DIPE)	5.01	45	10522969	210.63	ug/l		99
24) 1,1-Dichloroethane	5.15	63	4917523	207.44	ug/l		100
25) Vinyl acetate	5.16	43	6005165	205.99	ug/l		100
26) 2-Butanol	5.45	45	1479308	1130.55	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	8252783	218.08	ug/l		100
28) 2-Butanone	5.70	72	1466461	1117.94	ug/l		97

(#) = qualifier out of range (m) = manual integration
RFP449.D VO02F29.M Tue Jul 02 12:40:34 2019 7/3/19 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP449.D Vial: 9
Acq On : 29 Jun 2019 3:00 pm Operator: IRagas
Sample : VO02F298 Inst : 02
Misc : 200ppb 8260/1000ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	Propionitrile	5.80	54	3785045	2285.84 ug/l	99
30)	2,2-Dichloropropane	5.88	77	1503105	188.17 ug/l	98
31)	cis-1,2-Dichloroethene	5.94	96	2561289	219.40 ug/l	99
32)	Methylacrynonitrile	6.07	52	4113315	2200.00 ug/l	96
33)	Isobutyl Alcohol	6.09	43	2914399	4281.63 ug/l	97
34)	Chloroform	6.15	83	4049974	204.37 ug/l	99
35)	Bromochloromethane	6.37	49	2610954	212.04 ug/l	99
36)	Tetrahydrofuran	6.41	42	842755	208.76 ug/l	98
38)	1,1,1-Trichloroethane	6.68	97	2205578	208.50 ug/l	100
39)	Cyclohexane	6.70	84	3288517	218.39 ug/l	99
40)	1,1-Dichloropropene	6.89	110	1007219	216.33 ug/l	99
41)	Carbon tetrachloride	7.02	119	1878016	223.72 ug/l	100
42)	tert-Amyl methyl ether (TA	7.05	87	1202015	219.56 ug/l	98
44)	1,2-Dichloroethane	7.25	62	2770539	216.88 ug/l	99
45)	Benzene	7.26	78	10696476	215.30 ug/l	99
46)	Trichloroethene	8.12	130	2315067	215.62 ug/l	99
47)	Methylcyclohexane	8.20	83	4150570	219.19 ug/l	99
48)	1,2-Dichloropropane	8.38	63	2907432	208.73 ug/l	100
49)	Methyl Methacrylate	8.48	69	1971471	224.54 ug/l	99
50)	Bromodichloromethane	8.72	83	2880300	224.26 ug/l	100
51)	1,4-Dioxane	8.76	88	431276	4118.69 ug/l	98
52)	Dibromomethane	8.81	93	1629491	221.16 ug/l	99
53)	2-Chloroethyl vinyl ether	9.21	63	783805	207.63 ug/l	99
54)	4-Methyl-2-pentanone	9.24	43	16310048	1121.18 ug/l	99
55)	cis-1,3-Dichloropropene	9.55	75	4217667	215.22 ug/l	100
58)	Toluene	10.04	91	8895644	201.62 ug/l	100
59)	Ethyl methacrylate	10.34	69	3348889	216.06 ug/l	98
60)	trans-1,3-Dichloropropene	10.34	75	3378224	210.90 ug/l	99
61)	1,1,2-Trichloroethane	10.58	97	1818057	207.74 ug/l	100
62)	2-Hexanone	10.61	43	10535779	1100.62 ug/l	100
63)	1,3-Dichloropropane	10.98	76	3712897	212.09 ug/l	99
64)	Tetrachloroethene	11.07	164	1709256	204.07 ug/l	99
65)	Dibromochloromethane	11.38	129	2173996	216.45 ug/l	99
66)	1,2-Dibromoethane	11.71	107	1944907	222.37 ug/l	100
67)	1-Chlorohexane	12.02	91	3330356	212.73 ug/l	99
68)	Chlorobenzene	12.41	112	5339942	208.30 ug/l	99
69)	1,1,1,2-Tetrachloroethane	12.50	131	1813955	216.30 ug/l	99
70)	Ethylbenzene	12.51	91	9846475	211.65 ug/l	100
71)	m-Xylene & p-Xylene	12.65	91	14654149	431.48 ug/l	99
72)	o-Xylene	13.37	91	7072816	209.56 ug/l	99
73)	Styrene	13.43	104	5441211	205.71 ug/l	99

(#) = qualifier out of range (m) = manual integration

SU 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP449.D Vial: 9
Acq On : 29 Jun 2019 3:00 pm Operator: IRagas
Sample : VO02F298 Inst : 02
Misc : 200ppb 8260/1000ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	8366015	215.55	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	752609	219.03	ug/l	98
77)	Bromoform	14.00	173	1240953	225.04	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	2622728	211.20	ug/l	100
80)	1,2,3-Trichloropropane	14.56	110	499159	213.58	ug/l	98
81)	trans-1,4-Dichloro-2-buten	14.71	53	609596	222.57	ug/l	98
82)	n-Propylbenzene	14.70	91	10587407	220.88	ug/l	99
83)	Bromobenzene	14.74	156	2092842	217.80	ug/l	99
84)	1,3,5-Trimethylbenzene	15.00	105	5971921	212.80	ug/l	99
85)	2-Chlorotoluene	15.00	126	1860277	212.77	ug/l	100
86)	4-Chlorotoluene	15.09	126	1714924	217.40	ug/l	99
87)	tert-Butylbenzene	15.62	134	1207919	216.33	ug/l	97
88)	1,2,4-Trimethylbenzene	15.68	105	5708543	213.25	ug/l	100
89)	sec-Butylbenzene	15.99	105	7982562	209.44	ug/l	100
90)	p-Isopropyltoluene	16.25	119	6175714	212.73	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	3392506	214.39	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	5480926	210.62	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	3291420	208.38	ug/l	99
94)	n-Butylbenzene	16.99	91	6097667	216.92	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	2964713	206.14	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.52	157	338867	218.28	ug/l	100
97)	1,2,4-Trichlorobenzene	19.58	180	1444864	223.29	ug/l	100
98)	Hexachlorobutadiene	19.73	225	702227	213.47	ug/l	99
99)	Naphthalene	19.83	128	3877630	229.19	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	1291604	224.14	ug/l	99

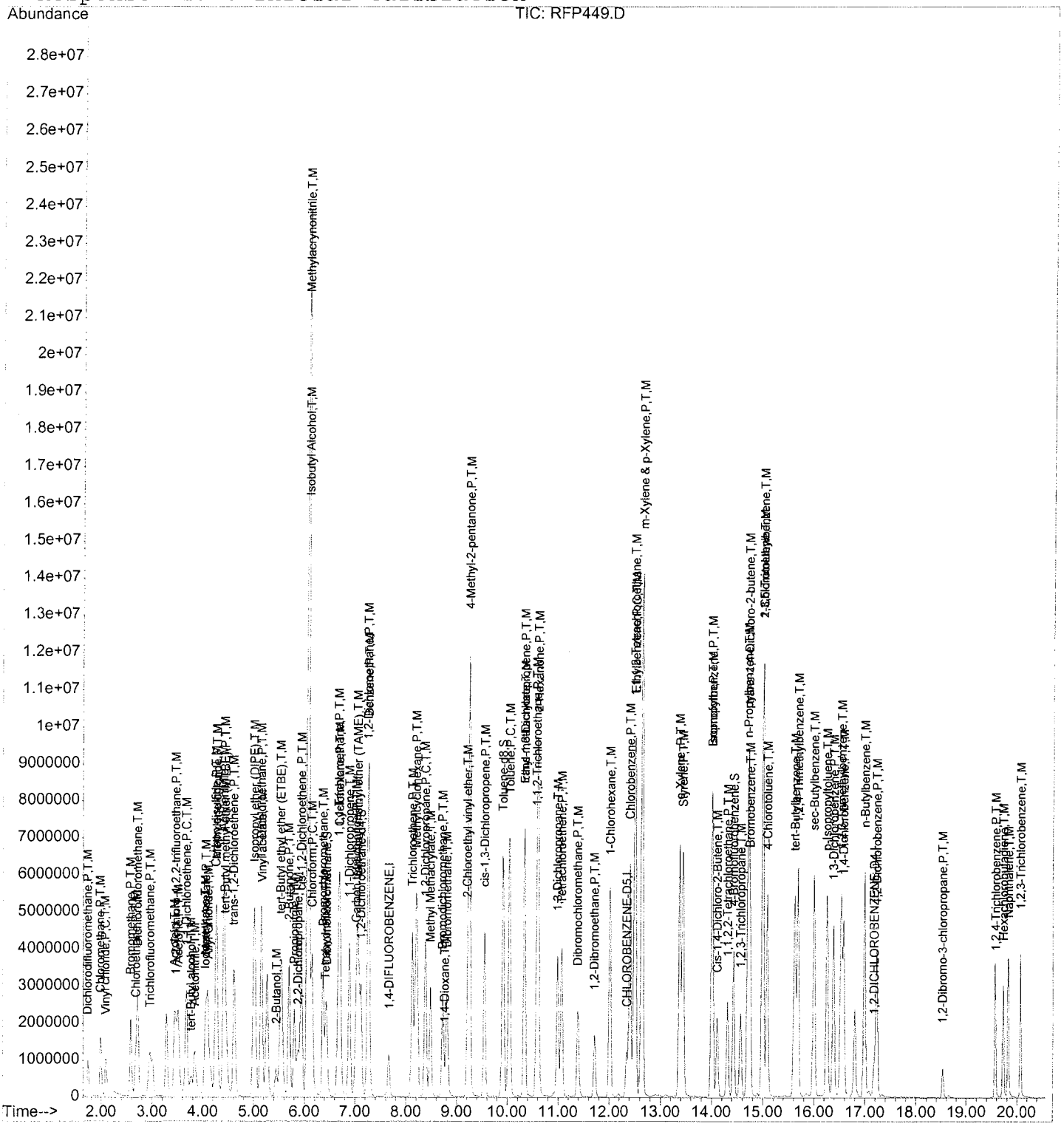
SC 7/3/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP449.D Vial: 9
Acq On : 29 Jun 2019 3:00 pm Operator: IRagas
Sample : VO02F298 Inst : 02
Misc : 200ppb 8260/1000ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP450.D Vial: 10
Acq On : 29 Jun 2019 3:26 pm Operator: IRagas
Sample : VO02F299 Inst : 02
Misc : 300ppb 8260/1500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1417779	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1090229	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	389301	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	3382142	354.41	ug/l		0.03
Spiked Amount 50.000			Recovery =	708.82%			
43) 1,2-Dichloroethane-d4	7.11	65	3406391	357.68	ug/l		0.03
Spiked Amount 50.000			Recovery =	715.36%			
57) Toluene-d8	9.91	98	11085285	348.98	ug/l		0.03
Spiked Amount 50.000			Recovery =	697.96%			
79) 4-Bromofluorobenzene	14.43	95	3117824	349.97	ug/l		0.03
Spiked Amount 50.000			Recovery =	699.94%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	2554254	318.52	ug/l		98
3) Chloromethane	1.98	50	3952269	312.59	ug/l		100
4) Vinyl chloride	2.08	62	2282712	207.09	ug/l		99
5) Bromomethane	2.57	94	2875787	310.10	ug/l		99
6) Chloroethane	2.66	64	2347905	310.65	ug/l		97
7) Dichlorofluoromethane	2.71	67	6194142	308.73	ug/l		100
8) Trichlorofluoromethane	2.95	101	2786981	305.28	ug/l		100
9) Acrolein	3.44	56	2924817	1527.52	ug/l		98
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	1926794	318.56	ug/l		100
11) Acetone	3.51	43	4862791	1504.12	ug/l		100
12) 1,1-Dichloroethene	3.66	61	5110205	306.22	ug/l		99
13) tert-Butyl alcohol	3.76	59	2097923	1682.56	ug/l	#	79
14) Acetonitrile	3.84	41	4608470	3573.15	ug/l		99
15) Iodomethane	4.05	142	4839871	314.47	ug/l		100
16) Methyl Acetate	4.06	43	3299831	305.72	ug/l		98
17) Allyl Chloride	4.11	76	1662357	298.92	ug/l		100
18) Methylene chloride	4.27	49	4603588	299.85	ug/l		98
19) Carbon disulfide	4.26	76	12054937	310.42	ug/l		100
20) Acrylonitrile	4.40	53	8091351	1701.13	ug/l		100
21) tert-Butyl methyl ether (M	4.43	73	9221258	339.02	ug/l		99
22) trans-1,2-Dichloroethene	4.60	61	5419229	316.92	ug/l		100
23) Isopropyl ether (DIPE)	5.01	45	15981681	321.06	ug/l		99
24) 1,1-Dichloroethane	5.15	63	7565501	320.32	ug/l		100
25) Vinyl acetate	5.16	43	9594206	330.32	ug/l		100
26) 2-Butanol	5.45	45	2171559	1665.69	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.53	59	12485453	331.14	ug/l		100
28) 2-Butanone	5.70	72	2217901	1697.00	ug/l		97

(#) = qualifier out of range (m) = manual integration
RFP450.D VO02F29.M Tue Jul 02 12:40:58 2019 SK 7/3/19 Page 1

Data File : D:\HPCHEM\1\DATA\19F29\RFP450.D Vial: 10
Acq On : 29 Jun 2019 3:26 pm Operator: IRagas
Sample : VO02F299 Inst : 02
Misc : 300ppb 8260/1500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.80	54	5714118	3463.49	ug/l	99
30)	2,2-Dichloropropane	5.88	77	2122592	266.70	ug/l	98
31)	cis-1,2-Dichloroethene	5.94	96	3804597	327.09	ug/l	97
32)	Methylacrynonitrile	6.07	52	6288798	3375.90	ug/l	96
33)	Isobutyl Alcohol	6.10	43	4472945	6595.45	ug/l	96
34)	Chloroform	6.14	83	6297474	318.95	ug/l	99
35)	Bromochloromethane	6.37	49	4006149	326.54	ug/l	98
36)	Tetrahydrofuran	6.41	42	1279716	318.16	ug/l	98
38)	1,1,1-Trichloroethane	6.68	97	3282533	311.45	ug/l	100
39)	Cyclohexane	6.69	84	4824569	321.57	ug/l	99
40)	1,1-Dichloropropene	6.89	110	1566298	337.64	ug/l	99
41)	Carbon tetrachloride	7.02	119	2840126	339.57	ug/l	100
42)	tert-Amyl methyl ether (TA	7.05	87	1810977	332.01	ug/l	98
44)	1,2-Dichloroethane	7.25	62	4172287	327.81	ug/l	99
45)	Benzene	7.26	78	16239107	328.06	ug/l	99
46)	Trichloroethene	8.12	130	3505211	327.66	ug/l	100
47)	Methylcyclohexane	8.20	83	6119856	324.37	ug/l	99
48)	1,2-Dichloropropane	8.38	63	4459855	321.35	ug/l	100
49)	Methyl Methacrylate	8.48	69	3017803	344.97	ug/l	99
50)	Bromodichloromethane	8.72	83	4384982	342.68	ug/l	100
51)	1,4-Dioxane	8.76	88	670932	5914.84	ug/l	97
52)	Dibromomethane	8.81	93	2471001	336.61	ug/l	99
53)	2-Chloroethyl vinyl ether	9.21	63	1238144	329.19	ug/l	99
54)	4-Methyl-2-pentanone	9.24	43	22938622	1582.63	ug/l	97
55)	cis-1,3-Dichloropropene	9.55	75	6492752	332.52	ug/l	99
58)	Toluene	10.04	91	14200060	334.67	ug/l	99
59)	Ethyl methacrylate	10.34	69	5136309	344.60	ug/l	97
60)	trans-1,3-Dichloropropene	10.34	75	5129645	333.00	ug/l	99
61)	1,1,2-Trichloroethane	10.58	97	2759733	327.91	ug/l	99
62)	2-Hexanone	10.61	43	16189863	1758.69	ug/l	100
63)	1,3-Dichloropropane	10.98	76	5529206	328.43	ug/l	100
64)	Tetrachloroethene	11.07	164	2559432	317.76	ug/l	100
65)	Dibromochloromethane	11.40	129	3255721	337.08	ug/l	98
66)	1,2-Dibromoethane	11.71	107	2920946	347.28	ug/l	100
67)	1-Chlorohexane	12.02	91	4903263	325.69	ug/l	98
68)	Chlorobenzene	12.41	112	7976587	323.55	ug/l	99
69)	1,1,1,2-Tetrachloroethane	12.50	131	2746762	340.58	ug/l	99
70)	Ethylbenzene	12.51	91	14733434	329.32	ug/l	99
71)	m-Xylene & p-Xylene	12.65	91	19936920	610.43	ug/l	93
72)	o-Xylene	13.37	91	10495641	323.38	ug/l	99
73)	Styrene	13.45	104	8437164	331.69	ug/l	98

(#) = qualifier out of range (m) = manual integration

SW 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP450.D Vial: 10
Acq On : 29 Jun 2019 3:26 pm Operator: IRagas
Sample : VO02F299 Inst : 02
Misc : 300ppb 8260/1500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

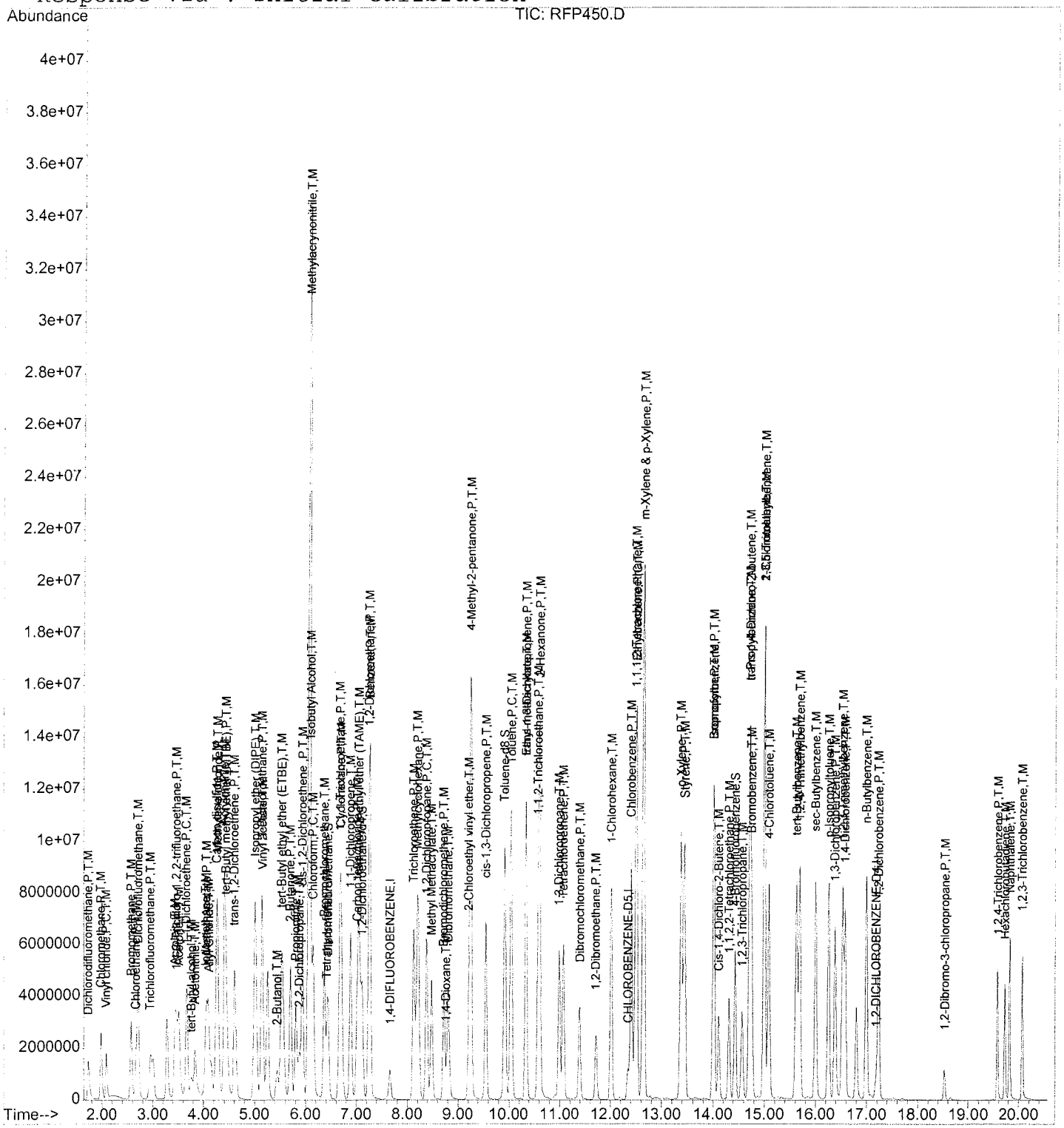
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	12377282	331.61	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	1124998	340.46	ug/l	98
77)	Bromoform	14.00	173	1886567	351.43	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	3932055	325.26	ug/l	100
80)	1,2,3-Trichloropropane	14.56	110	751813	330.44	ug/l	98
81)	trans-1,4-Dichloro-2-buten	14.71	53	911602	341.90	ug/l	97
82)	n-Propylbenzene	14.71	91	15922102	341.23	ug/l	99
83)	Bromobenzene	14.74	156	3148719	336.61	ug/l	100
84)	1,3,5-Trimethylbenzene	15.00	105	9143599	334.69	ug/l	99
85)	2-Chlorotoluene	15.00	126	2798267	328.77	ug/l	99
86)	4-Chlorotoluene	15.08	126	2625504	341.89	ug/l	98
87)	tert-Butylbenzene	15.62	134	1806263	332.30	ug/l	99
88)	1,2,4-Trimethylbenzene	15.68	105	8612293	330.48	ug/l	100
89)	sec-Butylbenzene	15.99	105	11827474	318.77	ug/l	99
90)	p-Isopropyltoluene	16.26	119	9360745	331.22	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	5021732	325.99	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	8143644	321.46	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	5040926	327.83	ug/l	100
94)	n-Butylbenzene	16.99	91	8891857	324.93	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	4443854	317.40	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.54	157	513695	339.91	ug/l	100
97)	1,2,4-Trichlorobenzene	19.58	180	2149750	341.27	ug/l	100
98)	Hexachlorobutadiene	19.73	225	1029539	321.49	ug/l	99
99)	Naphthalene	19.83	128	5818462	353.27	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	1932617	344.51	ug/l	99

SU

(#) = qualifier out of range (m) = manual integration
RFP450.D VO02F29.M Tue Jul 02 12:40:59 2019 7/3/19 Page 3

Data File : D:\HPCHEM\1\DATA\19F29\RFP450.D Vial: 10
Acq On : 29 Jun 2019 3:26 pm Operator: IRagas
Sample : VO02F299 Inst : 02
Misc : 300ppb 8260/1500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP451.D Vial: 11
Acq On : 29 Jun 2019 3:51 pm Operator: IRagas
Sample : VO02F2910 Inst : 02
Misc : 500ppb 8260/2500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1420971	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1059617	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	371894	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	5751896	601.37	ug/l		0.03
Spiked Amount 50.000			Recovery	= 1202.74%			
43) 1,2-Dichloroethane-d4	7.11	65	5604221	587.14	ug/l		0.03
Spiked Amount 50.000			Recovery	= 1174.28%			
57) Toluene-d8	9.92	98	18867419	611.13	ug/l		0.04
Spiked Amount 50.000			Recovery	= 1222.26%			
79) 4-Bromofluorobenzene	14.43	95	5142056	604.21	ug/l		0.03
Spiked Amount 50.000			Recovery	= 1208.42%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	4304637	535.59	ug/l		99
3) Chloromethane	1.98	50	6908010	545.14	ug/l		100
4) Vinyl chloride	2.08	62	3879812	351.20	ug/l		99
5) Bromomethane	2.56	94	4979554	535.75	ug/l		99
6) Chloroethane	2.66	64	3930083	518.81	ug/l		99
7) Dichlorofluoromethane	2.71	67	10465200	520.44	ug/l		99
8) Trichlorofluoromethane	2.95	101	4766785	520.97	ug/l		100
9) Acrolein	3.44	56	3550153	1849.95	ug/l		100
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	3192370	526.62	ug/l		100
11) Acetone	3.53	43	7001152	2160.68	ug/l		99
12) 1,1-Dichloroethene	3.66	61	8963688	535.92	ug/l		99
13) tert-Butyl alcohol	3.78	59	3015091	2412.70	ug/l	#	76
14) Acetonitrile	3.84	41	6734357	5209.71	ug/l		99
15) Iodomethane	4.05	142	8314434	539.01	ug/l		99
16) Methyl Acetate	4.06	43	5712295	528.04	ug/l		99
17) Allyl Chloride	4.09	76	2698169	484.09	ug/l		99
18) Methylene chloride	4.27	49	7901569	513.51	ug/l		98
19) Carbon disulfide	4.25	76	21053932	540.93	ug/l		99
20) Acrylonitrile	4.40	53	12597529	2642.57	ug/l		100
21) tert-Butyl methyl ether (M	4.45	73	14863373	545.23	ug/l		99
22) trans-1,2-Dichloroethene	4.60	61	9076253	529.59	ug/l		99
23) Isopropyl ether (DIPE)	5.01	45	26115445	523.47	ug/l		100
24) 1,1-Dichloroethane	5.15	63	12421969	524.75	ug/l		100
25) Vinyl acetate	5.16	43	14778107	507.65	ug/l		99
26) 2-Butanol	5.44	45	3392455	2596.32	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.53	59	20223280	535.16	ug/l		99
28) 2-Butanone	5.70	72	3461842	2642.84	ug/l		97

(#) = qualifier out of range (m) = manual integration
RFP451.D VO02F29.M Tue Jul 02 12:41:28 2019 SU 7/3/19 Page 1

Data File : D:\HPCHEM\1\DATA\19F29\RFP451.D Vial: 11
Acq On : 29 Jun 2019 3:51 pm Operator: IRagas
Sample : VO02F2910 Inst : 02
Misc : 500ppb 8260/2500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	Propionitrile	5.82	54	8894928	5379.36 ug/l		99
30)	2,2-Dichloropropane	5.88	77	3269047	409.82 ug/l		97
31)	cis-1,2-Dichloroethene	5.94	96	6607935	566.83 ug/l		97
32)	Methylacrynonitrile	6.07	52	9780874	5238.69 ug/l	#	89
33)	Isobutyl Alcohol	6.10	43	6617193	9735.27 ug/l		98
34)	Chloroform	6.14	83	10614090	536.37 ug/l		99
35)	Bromochloromethane	6.37	49	6894284	560.70 ug/l		97
36)	Tetrahydrofuran	6.41	42	1952990	484.46 ug/l		97
38)	1,1,1-Trichloroethane	6.68	97	5448533	515.81 ug/l		99
39)	Cyclohexane	6.69	84	8433043	560.83 ug/l		98
40)	1,1-Dichloropropene	6.89	110	2564693	551.62 ug/l		99
41)	Carbon tetrachloride	7.02	119	4808421	573.61 ug/l		100
42)	tert-Amyl methyl ether (TA	7.07	87	2967308	542.78 ug/l		97
44)	1,2-Dichloroethane	7.24	62	7458242	584.67 ug/l		99
45)	Benzene	7.26	78	24474026	493.31 ug/l		94
46)	Trichloroethene	8.12	130	6030650	562.46 ug/l		100
47)	Methylcyclohexane	8.21	83	10278874	543.58 ug/l		98
48)	1,2-Dichloropropane	8.38	63	7577554	544.77 ug/l		99
49)	Methyl Methacrylate	8.48	69	4779263	545.10 ug/l		99
50)	Bromodichloromethane	8.73	83	7954920	620.26 ug/l		99
51)	1,4-Dioxane	8.76	88	1094033	8599.81 ug/l		96
52)	Dibromomethane	8.81	93	4182304	568.45 ug/l		99
53)	2-Chloroethyl vinyl ether	9.21	63	2106060	558.68 ug/l		99
54)	4-Methyl-2-pentanone	9.24	43	29172821	2008.23 ug/l		83
55)	cis-1,3-Dichloropropene	9.55	75	11257466	575.25 ug/l		99
58)	Toluene	10.04	91	21209479	514.32 ug/l		90
59)	Ethyl methacrylate	10.34	69	8509922	587.42 ug/l		96
60)	trans-1,3-Dichloropropene	10.34	75	8860384	591.81 ug/l		97
61)	1,1,2-Trichloroethane	10.58	97	4684296	572.67 ug/l		99
62)	2-Hexanone	10.61	43	22067832	2466.47 ug/l		90
63)	1,3-Dichloropropane	10.98	76	9253943	565.56 ug/l		100
64)	Tetrachloroethene	11.07	164	4426059	565.38 ug/l		100
65)	Dibromochloromethane	11.39	129	5380009	573.10 ug/l		99
66)	1,2-Dibromoethane	11.72	107	4782492	585.03 ug/l		99
67)	1-Chlorohexane	12.02	91	8086504	552.65 ug/l		97
68)	Chlorobenzene	12.41	112	13575593	566.57 ug/l		99
69)	1,1,1,2-Tetrachloroethane	12.50	131	4596838	586.44 ug/l		99
70)	Ethylbenzene	12.51	91	21390200	491.92 ug/l		92
71)	m-Xylene & p-Xylene	12.64	91	24806643	781.47 ug/l		66
72)	o-Xylene	13.37	91	17078792	541.41 ug/l		99
73)	Styrene	13.45	104	13727398	555.26 ug/l		98

(#) = qualifier out of range (m) = manual integration

SA 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP451.D Vial: 11
Acq On : 29 Jun 2019 3:51 pm Operator: IRagas
Sample : VO02F2910 Inst : 02
Misc : 500ppb 8260/2500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

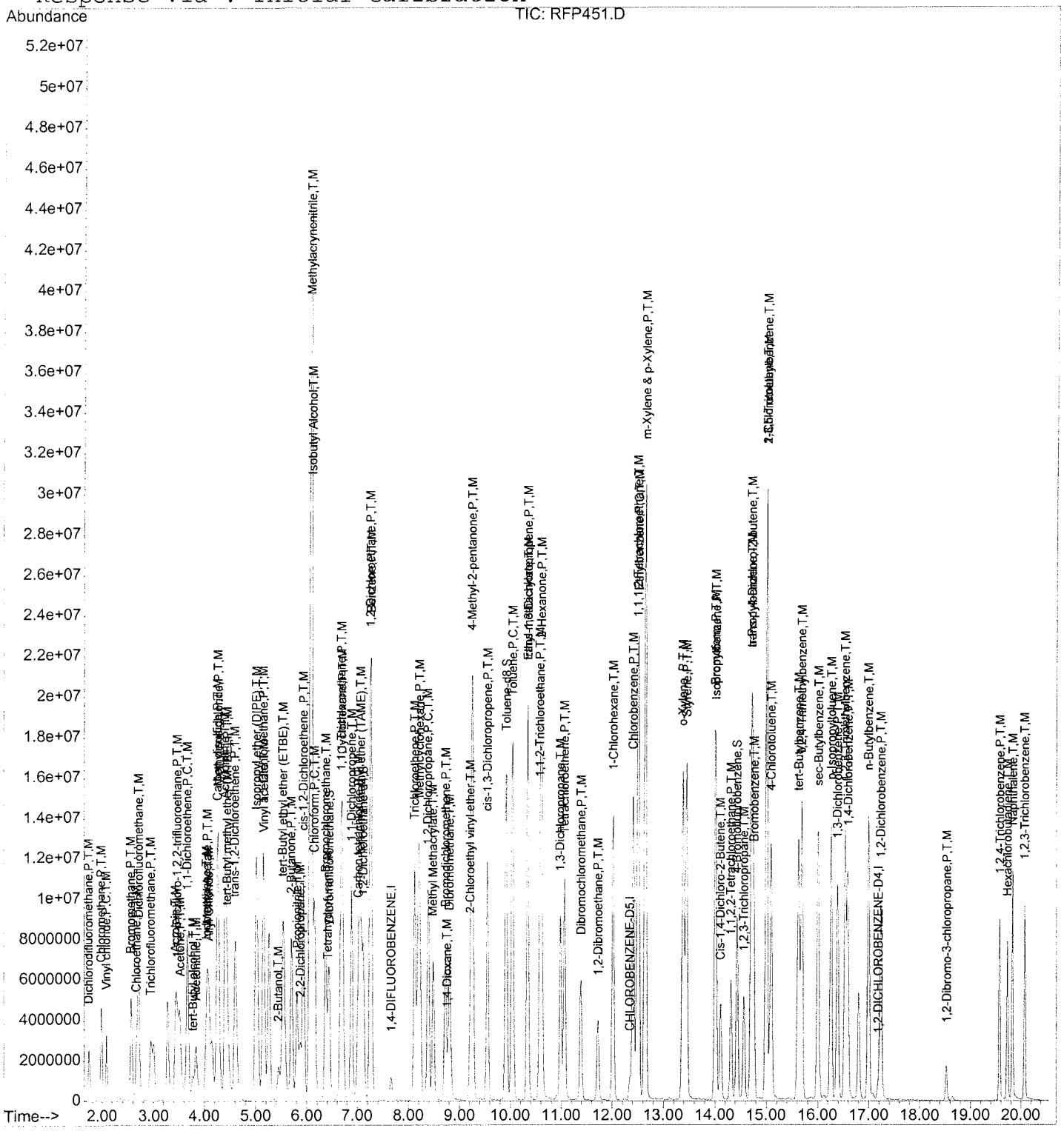
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.01	105	19181198	528.74	ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	1741132	542.14	ug/l	97
77)	Bromoform	14.00	173	3032483	591.34	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	6088570	527.22	ug/l	100
80)	1,2,3-Trichloropropane	14.56	110	1167984	537.39	ug/l	97
81)	trans-1,4-Dichloro-2-buten	14.71	53	1394729	547.58	ug/l	95
82)	n-Propylbenzene	14.71	91	21655881	485.83	ug/l	95
83)	Bromobenzene	14.76	156	5106736	571.48	ug/l	100
84)	1,3,5-Trimethylbenzene	14.99	105	14911358	571.35	ug/l	99
85)	2-Chlorotoluene	14.99	126	4571103	562.20	ug/l	98
86)	4-Chlorotoluene	15.08	126	4253355	579.79	ug/l	97
87)	tert-Butylbenzene	15.62	134	2840540	547.03	ug/l	100
88)	1,2,4-Trimethylbenzene	15.68	105	14022641	563.27	ug/l	100
89)	sec-Butylbenzene	16.01	105	19210696	541.99	ug/l	100
90)	p-Isopropyltoluene	16.26	119	14747497	546.25	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	8235661	559.65	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	13519704	558.66	ug/l	99
93)	1,4-Dichlorobenzene	16.59	146	8254338	561.94	ug/l	99
94)	n-Butylbenzene	16.99	91	14627964	559.56	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	7449139	556.96	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.54	157	804627	557.33	ug/l	98
97)	1,2,4-Trichlorobenzene	19.58	180	3777963	627.81	ug/l	100
98)	Hexachlorobutadiene	19.73	225	1784947	583.46	ug/l	99
99)	Naphthalene	19.83	128	9982430	634.46	ug/l	100
100)	1,2,3-Trichlorobenzene	20.07	180	3366548	628.22	ug/l	100

SW 7/31/19

(#) = qualifier out of range (m) = manual integration
RFP451.D VO02F29.M Tue Jul 02 12:41:29 2019 Page 3

Data File : D:\HPCHEM\1\DATA\19F29\RFP451.D Vial: 11
Acq On : 29 Jun 2019 3:51 pm Operator: IRagas
Sample : VO02F2910 Inst : 02
Misc : 500ppb 8260/2500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Su 7/3/19

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :02
IC Beginning DateTime :06/29/19 12:07
Spike Amount :50 PPB
CC/CV File :RFP454
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
IC Ending DateTime :06/29/19 15:51
HPChem Method :V002F29
Date_Time :06/29/19 17:06

M	IDX	Parameters	CC Con	CC% D	CC Resp	CCRRF	AVRRF	CC Rtm	AVRtm	% RSD	Co X0	Co X1	Co X2	Co Cor
	1	1,4-DIFLUOROBENZENE	50.000	0	1411705	1	1	7.663	7.665	0				
	2	Dichlorodifluoromethane	52.021	4.0	415371	0.294	0.283	1.743	1.729	9.82				
	3	Chloromethane	52.481	5.0	660697	0.468	0.446	1.996	1.990	11.51				
	4	Vinyl chloride	54.767	9.5	601087	0.426	0.389	2.115	2.109	13.10				
	5	Bromomethane	50.448	0.9	465833	0.330	0.327	2.591	2.580	7.90				
	6	Chloroethane	51.796	3.6	389805	0.276	0.267	2.680	2.677	8.50				
	7	Dichlorofluoromethane	47.748	-4.5	953880	0.676	0.708	2.724	2.714	3.70				
	8	Trichlorofluoromethane	50.524	1.0	459273	0.325	0.322	2.963	2.958	7.67				
5	9	Acrolein	231.836	-7.3	442006	0.063	0.068	3.438	3.440	9.30				
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	48.643	-2.7	292952	0.208	0.213	3.483	3.476	6.03				
5	11	Acetone	235.904	-5.6	759405	0.108	0.114	3.513	3.516	10.74				
	12	1,1-Dichloroethene	48.554	-2.9	806798	0.572	0.589	3.677	3.671	5.16				
5	13	tert-Butyl alcohol	265.347	6.1	329435	0.047	0.044	3.766	3.769	8.94				
10	14	Acetonitrile	504.754	1.0	648218	0.046	0.045	3.840	3.837	11.06				
	15	Iodomethane	48.701	-2.6	746322	0.529	0.543	4.048	4.050	7.02				
	16	Methyl Acetate	52.016	4.0	559039	0.396	0.381	4.063	4.064	8.76				
	17	Allyl Chloride	51.181	2.4	283406	0.201	0.196	4.108	4.108	5.48				
	18	Methylene chloride	48.348	-3.3	739107	0.524	0.541	4.272	4.273	3.12				
	19	Carbon disulfide	51.944	3.9	2008555	1.423	1.370	4.272	4.260	8.04				
5	20	Acrylonitrile	250.322	0.1	1185542	0.168	0.168	4.405	4.407	10.29				
	21	tert-Butyl methyl ether (MTBE)	49.820	-0.4	1349275	0.956	0.959	4.435	4.438	8.61				
	22	trans-1,2-Dichloroethene	50.181	0.4	854408	0.605	0.603	4.614	4.603	8.72				
	23	Isopropyl ether (DIPE)	49.709	-0.6	2463804	1.745	1.755	5.015	5.015	7.04				
	24	1,1-Dichloroethane	49.643	-0.7	1167487	0.827	0.833	5.149	5.151	7.07				
	25	Vinyl acetate	49.517	-1.0	1432091	1.014	1.024	5.164	5.160	9.45				
5	26	2-Butanol	249.329	-0.3	323658	0.046	0.046	5.447	5.440	10.56				
	27	tert-Butyl ethyl ether (ETBE)	49.569	-0.9	1860941	1.318	1.330	5.536	5.539	7.55				
5	28	2-Butanone	257.261	2.9	334788	0.047	0.046	5.700	5.701	10.89				
10	29	Propionitrile	500.981	0.2	822985	0.058	0.058	5.804	5.804	11.74				
	30	2,2-Dichloropropane	47.914	-4.2	379700	0.269	0.281	5.878	5.878	7.05				
	31	cis-1,2-Dichloroethene	50.439	0.9	584173	0.414	0.410	5.938	5.939	11.04				
10	32	Methylacrynonitrile	516.270	3.3	957614	0.068	0.066	6.057	6.063	10.16				
20	33	Isobutyl Alcohol	928.760	-7.1	627174	0.022	0.024	6.086	6.091	12.72				
	34	Chloroform	48.283	-3.4	949214	0.672	0.696	6.146	6.147	6.02				
	35	Bromochloromethane	50.207	0.4	613320	0.434	0.433	6.369	6.363	9.45				
	36	Tetrahydrofuran	48.413	-3.2	193895	0.137	0.142	6.414	6.413	5.24				
	37	Dibromofluoromethane	56.817	13.6	539892	0.382	0.337	6.444	6.431	14.89				
	38	1,1,1-Trichloroethane	49.465	-1.1	519092	0.368	0.372	6.681	6.683	6.52				
	39	Cyclohexane	53.422	6.8	798060	0.565	0.529	6.696	6.698	14.11				
	40	1,1-Dichloropropene	50.083	0.2	231338	0.164	0.164	6.905	6.891	10.56				
	41	Carbon tetrachloride	50.631	1.3	421654	0.299	0.295	7.024	7.025	12.91				
	42	tert-Amyl methyl ether (TAME)	50.809	1.6	275953	0.195	0.192	7.068	7.056	8.75				
	43	1,2-Dichloroethane-d4	57.616	15.2	546352	0.387	0.336	7.113	7.116	14.28				
	44	1,2-Dichloroethane	49.528	-0.9	627675	0.445	0.449	7.247	7.248	12.20				
	45	Benzene	48.513	-3.0	2391130	1.694	1.746	7.262	7.263	7.86				
	46	Trichloroethene	49.409	-1.2	526303	0.373	0.377	8.124	8.126	10.28				
	47	Methylcyclohexane	55.147	10.3	1035993	0.734	0.665	8.199	8.202	14.04				
	48	1,2-Dichloropropane	48.818	-2.4	674605	0.478	0.489	8.392	8.379	8.41				
	49	Methyl Methacrylate	52.353	4.7	456026	0.323	0.309	8.481	8.483	12.05				
	50	Bromodichloromethane	52.340	4.7	666891	0.472	0.451	8.719	8.723	11.45				
20	51	1,4-Dioxane	923.635	-7.6	79822	0.003	0.003	8.764	8.766	28.06	-0.0013	0.0030	0.0000	0.9984
	52	Dibromomethane	49.560	-0.9	362254	0.257	0.259	8.809	8.800	13.33				
	53	2-Chloroethyl vinyl ether	45.828	-8.3	171632	0.122	0.133	9.210	9.202	13.97				
5	54	4-Methyl-2-pentanone	253.515	1.4	3658719	0.518	0.511	9.240	9.242	8.73				
	55	cis-1,3-Dichloropropene	49.189	-1.6	956338	0.677	0.689	9.552	9.554	11.54				
	56	CHLOROBENZENE-D5	50.000	0	1059739	1	1	12.349	12.349	0				
	57	Toluene-d8	56.710	13.4	1750996	1.652	1.457	9.910	9.912	14.59				
	58	Toluene	50.107	0.2	2066574	1.950	1.946	10.043	10.035	5.89				
	59	Ethyl methacrylate	53.127	6.3	769738	0.726	0.684	10.341	10.337	13.28				
	60	trans-1,3-Dichloropropene	50.760	1.5	760048	0.717	0.706	10.341	10.336	12.21				
	61	1,1,2-Trichloroethane	51.062	2.1	417719	0.394	0.386	10.579	10.579	9.73				
5	62	2-Hexanone	255.740	2.3	2288403	0.432	0.422	10.609	10.606	11.94				
	63	1,3-Dichloropropane	52.690	5.4	862238	0.814	0.772	10.981	10.982	10.17				
	64	Tetrachloroethene	51.182	2.4	400721	0.378	0.369	11.070	11.067	8.75				
	65	Dibromochloromethane	51.389	2.8	482473	0.455	0.443	11.397	11.387	11.97				
	66	1,2-Dibromoethane	54.446	8.9	445131	0.420	0.386	11.724	11.712	14.43				
	67	1-Chlorohexane	51.469	2.9	753196	0.711	0.690	12.022	12.014	9.98				
	68	Chlorobenzene	49.893	-0.2	1195608	1.128	1.131	12.409	12.410	9.47				
	69	1,1,1,2-Tetrachloroethane	52.187	4.4	409116	0.386	0.370	12.498	12.490	13.96				
	70	Ethylbenzene	50.721	1.4	2205763	2.081	2.052	12.513	12.513	7.51				
2	71	m-Xylene & p-Xylene	102.732	2.7	3261462	1.539	1.498	12.647	12.640	6.89				
	72	o-Xylene	51.197	2.4	1615208	1.524	1.489	13.376	13.377	8.18				
	73	Styrene	50.507	1.0	1248796	1.178	1.167	13.450	13.441	7.64				
	74	Isopropylbenzene	50.965	1.9	1849051	1.745	1.712	14.000	14.004	9.32				
	75	Cis-1,4-Dichloro-2-Butene	50.445	0.9	162028	0.153	0.152	14.104	14.105	11.25				
	76	1,2-DICHLOROBENZENE-D4	50.000	0	397817	1	1	17.184	17.184	0				
	77	Bromoform	47.926	-4.1	262903	0.661	0.689	14.000	13.999	14.63				
	78	1,1,2,2-Tetrachloroethane	50.013	0.0	617825	1.553	1.553	14.313	14.313	6.22				
	79	4-Bromofluorobenzene	59.552	19.1	542141	1.363	1.144	14.432	14.432	11.93				
	80	1,2,3-Trichloropropane	50.756	1.5	118006	0.297	0.292	14.566	14.567	9.06				
	81	trans-1,4-Dichloro-2-butene	47.351	-5.3	129013	0.324	0.342	14.714	14.708	11.51				
	82	n-Propylbenzene	50.563	1.1	2410965	6.060	5.993	14.714	14.705	9.73				
	83	Bromobenzene	51.027	2.1	487755	1.226	1.201	14.744	14.747	10.90				
	84	1,3,5-Trimethylbenzene	49.894	-0.2	1392923	3.501	3.509	14.997	14.991	10.47				
	85	2-Chlorotoluene	48.431	-3.1	421221	1.059	1.093	14.997	14.998	9.84				
	86	4-Chlorotoluene	51.788	3.6	406397	1.022	0.986	15.086	15.086	12.52				
	87	tert-Butylbenzene	51.031	2.1	283457	0.713	0.698	15.622	15.619	12.12				
	88	1,2,4-Trimethylbenzene	49.883	-0.2	1328404	3.339	3.347	15.681	15.681	10.54				
	89	sec-Butylbenzene	51.493	3.0	1952356	4.908	4.765	15.994	15.997	7.91				
	90	p-Isopropyltoluene	52.303	4.6	1510490	3.797	3.630	16.261	16.253	8.81				
	91	1,3-Dichlorobenzene	51.658	3.3	813182	2.044	1.978	16.381	16.382	8.73				
	92	1,2,3-Trimethylbenzene	50.232	0.5	1300351	3.269	3.254	16.529	16.525	8.94				
	93	1,4-Dichlorobenzene	49.584	-0.8	779111	1.958	1.975	16.574	16.577	8.23				
	94	n-Butylbenzene	51.284	2.6	1434111	3.605	3.515	16.990	16.992	10.42				
	95	1,2-Dichlorobenzene	50.197	0.4	718162	1.805	1.798	17.228	17.230	7.59				
	96	1,2-Dibromo-3-chloropropane	48.362	-3.3	74687	0.188	0.194	18.538	18.527	10.65				
	97	1,2,4-Trichlorobenzene	48.765	-2.5	313908	0.789	0.809	19.579	19.572	9.96				
	98	Hexachlorobutadiene	48.058	-3.9	157269	0.395	0.411	19.728	19.729	8.51				
	99	Naphthalene	48.680	-2.6	819320	2.060	2.115	19.832	19.825	10.20				
	100	1,2,3-Trichlorobenzene	49.498	-1.0	283740	0.713	0.720	20.070	20.072	10.58				

Spike Amount = Nominal Amount * M

SA 7/3/19

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	99	0.03
2	P,T,M	Dichlorodifluoromethane	50.000	52.021	-4.0	95	0.01
3	P,T,M	Chloromethane	50.000	52.481	-5.0	94	0.01
4	P,C,T,M	Vinyl chloride	50.000	54.767	-9.5	93	0.00
5	P,T,M	Bromomethane	50.000	50.448	-0.9	93	0.01
6	P,T,M	Chloroethane	50.000	51.796	-3.6	96	0.01
7	T,M	Dichlorofluoromethane	50.000	47.748	4.5	94	0.01
8	P,T,M	Trichlorofluoromethane	50.000	50.524	-1.0	93	0.01
9	T,M	Acrolein	250.000	231.836	7.3	101	0.01
10	P,T,M	1,1,2-Trichloro-1,2,2-trifl	50.000	48.643	2.7	96	0.03
11	P,T,M	Acetone	250.000	235.904	5.6	100	0.01
12	P,C,T,M	1,1-Dichloroethene	50.000	48.554	2.9	98	0.03
13	T,M	tert-Butyl alcohol	250.000	265.347	-6.1	106	0.01
14	T,M	Acetonitrile	500.000	504.754	-1.0	111	0.03
15	T,M	Iodomethane	50.000	48.701	2.6	96	0.01
16	P,T,M	Methyl Acetate	50.000	52.016	-4.0	95	0.01
17	T,M	Allyl Chloride	50.000	51.181	-2.4	97	0.03
18	P,T,M	Methylene chloride	50.000	48.348	3.3	99	0.04
19	P,T,M	Carbon disulfide	50.000	51.944	-3.9	99	0.03
20	T,M	Acrylonitrile	250.000	250.322	-0.1	98	0.03
21	P,T,M	tert-Butyl methyl ether (MT	50.000	49.820	0.4	114	0.01
22	P,T,M	trans-1,2-Dichloroethene	50.000	50.181	-0.4	96	0.03
23	T,M	Isopropyl ether (DIPE)	50.000	49.710	0.6	97	0.03
24	P,T,M	1,1-Dichloroethane	50.000	49.643	0.7	97	0.03
25	T,M	Vinyl acetate	50.000	49.517	1.0	95	0.03
26	T,M	2-Butanol	250.000	249.329	0.3	93	0.03
27	T,M	tert-Butyl ethyl ether (ETB	50.000	49.569	0.9	104	0.01
28	P,T,M	2-Butanone	250.000	257.261	-2.9	96	0.03
29	T,M	Propionitrile	500.000	500.981	-0.2	97	0.03
30	T,M	2,2-Dichloropropane	50.000	47.914	4.2	95	0.03
31	P,T,M	cis-1,2-Dichloroethene	50.000	50.439	-0.9	98	0.03
32	T,M	Methylacrynonitrile	500.000	516.270	-3.3	99	0.03
33	T,M	Isobutyl Alcohol	1000.000	928.760	7.1	98	0.03
34	P,C,T,M	Chloroform	50.000	48.283	3.4	97	0.03
35	T,M	Bromochloromethane	50.000	50.207	-0.4	96	0.03
36	T,M	Tetrahydrofuran	50.000	48.413	3.2	97	0.03
37	S	Dibromofluoromethane	50.000	56.817	-13.6	96	0.03
38	P,T,M	1,1,1-Trichloroethane	50.000	49.465	1.1	97	0.03
39	P,T,M	Cyclohexane	50.000	53.422	-6.8	95	0.03
40	T,M	1,1-Dichloropropene	50.000	50.083	-0.2	96	0.04
41	P,T,M	Carbon tetrachloride	50.000	50.631	-1.3	101	0.03

(#) = Out of Range

SY 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	tert-Amyl methyl ether (TAM	50.000	50.809	-1.6	106	0.04
43	S	1,2-Dichloroethane-d4	50.000	57.616	-15.2	97	0.03
44	P,T,M	1,2-Dichloroethane	50.000	49.528	0.9	96	0.03
45	P,T,M	Benzene	50.000	48.513	3.0	96	0.03
46	P,T,M	Trichloroethene	50.000	49.409	1.2	96	0.03
47	P,T,M	Methylcyclohexane	50.000	55.147	-10.3	95	0.03
48	P,C,T,M	1,2-Dichloropropane	50.000	48.817	2.4	96	0.04
49	T,M	Methyl Methacrylate	50.000	52.353	-4.7	98	0.03
50	P,T,M	Bromodichloromethane	50.000	52.340	-4.7	99	0.03
51	T,M	1,4-Dioxane	1000.000	923.635	7.6	106	0.03
52	T,M	Dibromomethane	50.000	49.560	0.9	97	0.04
53	T,M	2-Chloroethyl vinyl ether	50.000	45.828	8.3	82	0.04
54	P,T,M	4-Methyl-2-pentanone	250.000	253.515	-1.4	95	0.03
55	P,T,M	cis-1,3-Dichloropropene	50.000	49.189	1.6	96	0.03
56	I	CHLOROBENZENE-D5	50.000	50.000	0.0	96	0.03
57	S	Toluene-d8	50.000	56.710	-13.4	92	0.03
58	P,C,T,M	Toluene	50.000	50.107	-0.2	96	0.04
59	T,M	Ethyl methacrylate	50.000	53.128	-6.3	103	0.03
60	P,T,M	trans-1,3-Dichloropropene	50.000	50.760	-1.5	100	0.04
61	P,T,M	1,1,2-Trichloroethane	50.000	51.062	-2.1	97	0.03
62	P,T,M	2-Hexanone	250.000	255.740	-2.3	93	0.03
63	T,M	1,3-Dichloropropane	50.000	52.690	-5.4	99	0.03
64	P,T,M	Tetrachloroethene	50.000	51.182	-2.4	98	0.03
65	P,T,M	Dibromochloromethane	50.000	51.389	-2.8	101	0.04
66	P,T,M	1,2-Dibromoethane	50.000	54.446	-8.9	101	0.04
67	T,M	1-Chlorohexane	50.000	51.469	-2.9	97	0.04
68	P,T,M	Chlorobenzene	50.000	49.892	0.2	93	0.03
69	T,M	1,1,1,2-Tetrachloroethane	50.000	52.187	-4.4	98	0.04
70	P,C,T,M	Ethylbenzene	50.000	50.721	-1.4	97	0.03
71	P,T,M	m-Xylene & p-Xylene	100.000	102.732	-2.7	94	0.04
72	P,T,M	o-Xylene	50.000	51.198	-2.4	96	0.03
73	P,T,M	Styrene	50.000	50.507	-1.0	94	0.04
74	P,T,M	Isopropylbenzene	50.000	50.964	-1.9	94	0.03
75	T,M	Cis-1,4-Dichloro-2-Butene	50.000	50.445	-0.9	97	0.03
76	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	96	0.03
77	P,T,M	Bromoform	50.000	47.926	4.1	95	0.03
78	P,T,M	1,1,2,2-Tetrachloroethane	50.000	50.013	-0.0	97	0.03
79	S	4-Bromofluorobenzene	50.000	59.552	-19.1	101	0.03
80	T,M	1,2,3-Trichloropropane	50.000	50.756	-1.5	100	0.03

(#) = Out of Range

7/13/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	50.000	47.351	5.3	94	0.04
82	T,M	n-Propylbenzene	50.000	50.563	-1.1	96	0.04
83	T,M	Bromobenzene	50.000	51.027	-2.1	98	0.03
84	T,M	1,3,5-Trimethylbenzene	50.000	49.894	0.2	95	0.04
85	T,M	2-Chlorotoluene	50.000	48.431	3.1	95	0.03
86	T,M	4-Chlorotoluene	50.000	51.788	-3.6	99	0.03
87	T,M	tert-Butylbenzene	50.000	51.031	-2.1	98	0.03
88	T,M	1,2,4-Trimethylbenzene	50.000	49.883	0.2	94	0.03
89	T,M	sec-Butylbenzene	50.000	51.493	-3.0	100	0.03
90	T,M	p-Isopropyltoluene	50.000	52.303	-4.6	97	0.04
91	P,T,M	1,3-Dichlorobenzene	50.000	51.658	-3.3	99	0.03
92	T,M	1,2,3-Trimethylbenzene	50.000	50.232	-0.5	96	0.04
93	P,T,M	1,4-Dichlorobenzene	50.000	49.584	0.8	96	0.03
94	T,M	n-Butylbenzene	50.000	51.284	-2.6	98	0.03
95	P,T,M	1,2-Dichlorobenzene	50.000	50.197	-0.4	96	0.03
96	P,T,M	1,2-Dibromo-3-chloropropane	50.000	48.362	3.3	98	0.03
97	P,T,M	1,2,4-Trichlorobenzene	50.000	48.765	2.5	94	0.03
98	T,M	Hexachlorobutadiene	50.000	48.058	3.9	94	0.01
99	T,M	Naphthalene	50.000	48.680	2.6	95	0.03
100	T,M	1,2,3-Trichlorobenzene	50.000	49.498	1.0	94	0.01

SU 7/3/19

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I 1,4-DIFLUOROBENZENE	1.000	1.000	0.0	99	0.03
2	P,T,M Dichlorodifluoromethane	0.283	0.294	-3.9	95	0.01
3	P,T,M Chloromethane	0.446	0.468	-4.9	94	0.01
4	P,C,T,M Vinyl chloride	0.389	0.426	-9.5	93	0.00
5	P,T,M Bromomethane	0.327	0.330	-0.9	93	0.01
6	P,T,M Chloroethane	0.267	0.276	-3.4	96	0.01
7	T,M Dichlorofluoromethane	0.708	0.676	4.5	94	0.01
8	P,T,M Trichlorofluoromethane	0.322	0.325	-0.9	93	0.01
9	T,M Acrolein	0.068	0.063	7.4	101	0.01
10	P,T,M 1,1,2-Trichloro-1,2,2-trifl	0.213	0.208	2.3	96	0.03
11	P,T,M Acetone	0.114	0.108	5.3	100	0.01
12	P,C,T,M 1,1-Dichloroethene	0.589	0.572	2.9	98	0.03
13	T,M tert-Butyl alcohol	0.044	0.047	-6.8	106	0.01
14	T,M Acetonitrile	0.045	0.046	-2.2	111	0.03
15	T,M Iodomethane	0.543	0.529	2.6	96	0.01
16	P,T,M Methyl Acetate	0.381	0.396	-3.9	95	0.01
17	T,M Allyl Chloride	0.196	0.201	-2.6	97	0.03
18	P,T,M Methylene chloride	0.541	0.524	3.1	99	0.04
19	P,T,M Carbon disulfide	1.370	1.423	-3.9	99	0.03
20	T,M Acrylonitrile	0.168	0.168	0.0	98	0.03
21	P,T,M tert-Butyl methyl ether (MT	0.959	0.956	0.3	114	0.01
22	P,T,M trans-1,2-Dichloroethene	0.603	0.605	-0.3	96	0.03
23	T,M Isopropyl ether (DIPE)	1.755	1.745	0.6	97	0.03
24	P,T,M 1,1-Dichloroethane	0.833	0.827	0.7	97	0.03
25	T,M Vinyl acetate	1.024	1.014	1.0	95	0.03
26	T,M 2-Butanol	0.046	0.046	0.0	93	0.03
27	T,M tert-Butyl ethyl ether (ETB	1.330	1.318	0.9	104	0.01
28	P,T,M 2-Butanone	0.046	0.047#	-2.2	96	0.03
29	T,M Propionitrile	0.058	0.058	0.0	97	0.03
30	T,M 2,2-Dichloropropane	0.281	0.269	4.3	95	0.03
31	P,T,M cis-1,2-Dichloroethene	0.410	0.414	-1.0	98	0.03
32	T,M Methylacrynonitrile	0.066	0.068	-3.0	99	0.03
33	T,M Isobutyl Alcohol	0.024	0.022	8.3	98	0.03
34	P,C,T,M Chloroform	0.696	0.672	3.4	97	0.03
35	T,M Bromochloromethane	0.433	0.434	-0.2	96	0.03
36	T,M Tetrahydrofuran	0.142	0.137	3.5	97	0.03
37	S Dibromofluoromethane	0.337	0.382	-13.4	96	0.03
38	P,T,M 1,1,1-Trichloroethane	0.372	0.368	1.1	97	0.03
39	P,T,M Cyclohexane	0.529	0.565	-6.8	95	0.03
40	T,M 1,1-Dichloropropene	0.164	0.164	0.0	96	0.04
41	P,T,M Carbon tetrachloride	0.295	0.299	-1.4	101	0.03

(#) = Out of Range

RFP454.D VO02F29.M Tue Jul 02 12:42:01 2019 SW 7/3/19 Page 1

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M tert-Amyl methyl ether (TAM	0.192	0.195	-1.6	106	0.04
43	S 1,2-Dichloroethane-d4	0.336	0.387	-15.2	97	0.03
44	P,T,M 1,2-Dichloroethane	0.449	0.445	0.9	96	0.03
45	P,T,M Benzene	1.746	1.694	3.0	96	0.03
46	P,T,M Trichloroethene	0.377	0.373	1.1	96	0.03
47	P,T,M Methylcyclohexane	0.665	0.734	-10.4	95	0.03
48	P,C,T,M 1,2-Dichloropropane	0.489	0.478	2.2	96	0.04
49	T,M Methyl Methacrylate	0.309	0.323	-4.5	98	0.03
50	P,T,M Bromodichloromethane	0.451	0.472	-4.7	99	0.03
51	T,M 1,4-Dioxane	0.003	0.003	0.0	106	0.03
52	T,M Dibromomethane	0.259	0.257	0.8	97	0.04
53	T,M 2-Chloroethyl vinyl ether	0.133	0.122	8.3	82	0.04
54	P,T,M 4-Methyl-2-pentanone	0.511	0.518	-1.4	95	0.03
55	P,T,M cis-1,3-Dichloropropene	0.689	0.677	1.7	96	0.03
56	I CHLOROBENZENE-D5	1.000	1.000	0.0	96	0.03
57	S Toluene-d8	1.457	1.652	-13.4	92	0.03
58	P,C,T,M Toluene	1.946	1.950	-0.2	96	0.04
59	T,M Ethyl methacrylate	0.684	0.726	-6.1	103	0.03
60	P,T,M trans-1,3-Dichloropropene	0.706	0.717	-1.6	100	0.04
61	P,T,M 1,1,2-Trichloroethane	0.386	0.394	-2.1	97	0.03
62	P,T,M 2-Hexanone	0.422	0.432	-2.4	93	0.03
63	T,M 1,3-Dichloropropane	0.772	0.814	-5.4	99	0.03
64	P,T,M Tetrachloroethene	0.369	0.378	-2.4	98	0.03
65	P,T,M Dibromochloromethane	0.443	0.455	-2.7	101	0.04
66	P,T,M 1,2-Dibromoethane	0.386	0.420	-8.8	101	0.04
67	T,M 1-Chlorohexane	0.690	0.711	-3.0	97	0.04
68	P,T,M Chlorobenzene	1.131	1.128	0.3	93	0.03
69	T,M 1,1,1,2-Tetrachloroethane	0.370	0.386	-4.3	98	0.04
70	P,C,T,M Ethylbenzene	2.052	2.081	-1.4	97	0.03
71	P,T,M m-Xylene & p-Xylene	1.498	1.539	-2.7	94	0.04
72	P,T,M o-Xylene	1.489	1.524	-2.4	96	0.03
73	P,T,M Styrene	1.167	1.178	-0.9	94	0.04
74	P,T,M Isopropylbenzene	1.712	1.745	-1.9	94	0.03
75	T,M Cis-1,4-Dichloro-2-Butene	0.152	0.153	-0.7	97	0.03
76	I 1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	96	0.03
77	P,T,M Bromoform	0.689	0.661	4.1	95	0.03
78	P,T,M 1,1,2,2-Tetrachloroethane	1.553	1.553	0.0	97	0.03
79	S 4-Bromofluorobenzene	1.144	1.363	-19.1	101	0.03
80	T,M 1,2,3-Trichloropropane	0.292	0.297	-1.7	100	0.03

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	0.342	0.324	5.3	94	0.04
82	T,M	n-Propylbenzene	5.993	6.060	-1.1	96	0.04
83	T,M	Bromobenzene	1.201	1.226	-2.1	98	0.03
84	T,M	1,3,5-Trimethylbenzene	3.509	3.501	0.2	95	0.04
85	T,M	2-Chlorotoluene	1.093	1.059	3.1	95	0.03
86	T,M	4-Chlorotoluene	0.986	1.022	-3.7	99	0.03
87	T,M	tert-Butylbenzene	0.698	0.713	-2.1	98	0.03
88	T,M	1,2,4-Trimethylbenzene	3.347	3.339	0.2	94	0.03
89	T,M	sec-Butylbenzene	4.765	4.908	-3.0	100	0.03
90	T,M	p-Isopropyltoluene	3.630	3.797	-4.6	97	0.04
91	P,T,M	1,3-Dichlorobenzene	1.978	2.044	-3.3	99	0.03
92	T,M	1,2,3-Trimethylbenzene	3.254	3.269	-0.5	96	0.04
93	P,T,M	1,4-Dichlorobenzene	1.975	1.958	0.9	96	0.03
94	T,M	n-Butylbenzene	3.515	3.605	-2.6	98	0.03
95	P,T,M	1,2-Dichlorobenzene	1.798	1.805	-0.4	96	0.03
96	P,T,M	1,2-Dibromo-3-chloropropane	0.194	0.188	3.1	98	0.03
97	P,T,M	1,2,4-Trichlorobenzene	0.809	0.789	2.5	94	0.03
98	T,M	Hexachlorobutadiene	0.411	0.395	3.9	94	0.01
99	T,M	Naphthalene	2.115	2.060	2.6	95	0.03
100	T,M	1,2,3-Trichlorobenzene	0.720	0.713	1.0	94	0.01

SU SU 7/3/19
0

(#) = Out of Range SPCC's out = 1 CCC's out = 0

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1411705	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1059739	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	397817	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	539892	56.82	ug/l		0.03
Spiked Amount 50.000			Recovery = 113.64%				
43) 1,2-Dichloroethane-d4	7.11	65	546352	57.62	ug/l		0.03
Spiked Amount 50.000			Recovery = 115.24%				
57) Toluene-d8	9.91	98	1750996	56.71	ug/l		0.03
Spiked Amount 50.000			Recovery = 113.42%				
79) 4-Bromofluorobenzene	14.43	95	542141	59.55	ug/l		0.03
Spiked Amount 50.000			Recovery = 119.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.74	85	415371	52.02	ug/l		99
3) Chloromethane	2.00	50	660697	52.48	ug/l		99
4) Vinyl chloride	2.11	62	601087	54.77	ug/l		100
5) Bromomethane	2.59	94	465833	50.45	ug/l		99
6) Chloroethane	2.68	64	389805	51.80	ug/l		99
7) Dichlorofluoromethane	2.72	67	953880	47.75	ug/l		99
8) Trichlorofluoromethane	2.96	101	459273	50.52	ug/l		100
9) Acrolein	3.44	56	442006	231.84	ug/l		96
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	292952	48.64	ug/l		100
11) Acetone	3.51	43	759405	235.90	ug/l		100
12) 1,1-Dichloroethene	3.68	61	806798	48.55	ug/l		100
13) tert-Butyl alcohol	3.77	59	329435	265.35	ug/l		95
14) Acetonitrile	3.84	41	648218	504.75	ug/l		98
15) Iodomethane	4.05	142	746322	48.70	ug/l		100
16) Methyl Acetate	4.06	43	559039	52.02	ug/l		97
17) Allyl Chloride	4.11	76	283406	51.18	ug/l		99
18) Methylene chloride	4.27	49	739107	48.35	ug/l		99
19) Carbon disulfide	4.27	76	2008555	51.94	ug/l		100
20) Acrylonitrile	4.41	53	1185542	250.32	ug/l		99
21) tert-Butyl methyl ether (M	4.44	73	1349275	49.82	ug/l		100
22) trans-1,2-Dichloroethene	4.61	61	854408	50.18	ug/l		100
23) Isopropyl ether (DIPE)	5.02	45	2463804	49.71	ug/l		100
24) 1,1-Dichloroethane	5.15	63	1167487	49.64	ug/l		100
25) Vinyl acetate	5.16	43	1432091	49.52	ug/l		100
26) 2-Butanol	5.45	45	323658	249.33	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	1860941	49.57	ug/l		99
28) 2-Butanone	5.70	72	334788	257.26	ug/l		99

(#) = qualifier out of range (m) = manual integration

SU 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.80	54	822985	500.98	ug/l	100
30)	2,2-Dichloropropane	5.88	77	379700	47.91	ug/l	99
31)	cis-1,2-Dichloroethene	5.94	96	584173	50.44	ug/l	99
32)	Methylacrynonitrile	6.06	52	957614	516.27	ug/l	99
33)	Isobutyl Alcohol	6.09	43	627174	928.76	ug/l	99
34)	Chloroform	6.15	83	949214	48.28	ug/l	99
35)	Bromochloromethane	6.37	49	613320	50.21	ug/l	100
36)	Tetrahydrofuran	6.41	42	193895	48.41	ug/l	99
38)	1,1,1-Trichloroethane	6.68	97	519092	49.46	ug/l	100
39)	Cyclohexane	6.70	84	798060	53.42	ug/l	99
40)	1,1-Dichloropropene	6.90	110	231338	50.08	ug/l	99
41)	Carbon tetrachloride	7.02	119	421654	50.63	ug/l	100
42)	tert-Amyl methyl ether (TA	7.07	87	275953	50.81	ug/l	99
44)	1,2-Dichloroethane	7.25	62	627675	49.53	ug/l	100
45)	Benzene	7.26	78	2391130	48.51	ug/l	100
46)	Trichloroethene	8.12	130	526303	49.41	ug/l	99
47)	Methylcyclohexane	8.20	83	1035993	55.15	ug/l	99
48)	1,2-Dichloropropane	8.39	63	674605	48.82	ug/l	99
49)	Methyl Methacrylate	8.48	69	456026	52.35	ug/l	98
50)	Bromodichloromethane	8.72	83	666891	52.34	ug/l	99
51)	1,4-Dioxane	8.76	88	79822	923.63	ug/l	99
52)	Dibromomethane	8.81	93	362254	49.56	ug/l	99
53)	2-Chloroethyl vinyl ether	9.21	63	171632	45.83	ug/l	98
54)	4-Methyl-2-pentanone	9.24	43	3658719	253.52	ug/l	100
55)	cis-1,3-Dichloropropene	9.55	75	956338	49.19	ug/l	100
58)	Toluene	10.04	91	2066574	50.11	ug/l	100
59)	Ethyl methacrylate	10.34	69	769738	53.13	ug/l	99
60)	trans-1,3-Dichloropropene	10.34	75	760048	50.76	ug/l	98
61)	1,1,2-Trichloroethane	10.58	97	417719	51.06	ug/l	99
62)	2-Hexanone	10.61	43	2288403	255.74	ug/l	100
63)	1,3-Dichloropropane	10.98	76	862238	52.69	ug/l	99
64)	Tetrachloroethene	11.07	164	400721	51.18	ug/l	99
65)	Dibromochloromethane	11.40	129	482473	51.39	ug/l	100
66)	1,2-Dibromoethane	11.72	107	445131	54.45	ug/l	100
67)	1-Chlorohexane	12.02	91	753196	51.47	ug/l	99
68)	Chlorobenzene	12.41	112	1195608	49.89	ug/l	99
69)	1,1,1,2-Tetrachloroethane	12.50	131	409116	52.19	ug/l	100
70)	Ethylbenzene	12.51	91	2205763	50.72	ug/l	100
71)	m-Xylene & p-Xylene	12.65	91	3261462	102.73	ug/l	100
72)	o-Xylene	13.38	91	1615208	51.20	ug/l	100
73)	Styrene	13.45	104	1248796	50.51	ug/l	100

(#) = qualifier out of range (m) = manual integration

7/13/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	1849051	50.96	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	162028	50.45	ug/l	99
77)	Bromoform	14.00	173	262903	47.93	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	617825	50.01	ug/l	100
80)	1,2,3-Trichloropropane	14.57	110	118006	50.76	ug/l	98
81)	trans-1,4-Dichloro-2-buten	14.71	53	129013	47.35	ug/l	99
82)	n-Propylbenzene	14.71	91	2410965	50.56	ug/l	100
83)	Bromobenzene	14.74	156	487755	51.03	ug/l	99
84)	1,3,5-Trimethylbenzene	15.00	105	1392923	49.89	ug/l	99
85)	2-Chlorotoluene	15.00	126	421221	48.43	ug/l	100
86)	4-Chlorotoluene	15.09	126	406397	51.79	ug/l	99
87)	tert-Butylbenzene	15.62	134	283457	51.03	ug/l	98
88)	1,2,4-Trimethylbenzene	15.68	105	1328404	49.88	ug/l	99
89)	sec-Butylbenzene	15.99	105	1952356	51.49	ug/l	100
90)	p-Isopropyltoluene	16.26	119	1510490	52.30	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	813182	51.66	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	1300351	50.23	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	779111	49.58	ug/l	100
94)	n-Butylbenzene	16.99	91	1434111	51.28	ug/l	100
95)	1,2-Dichlorobenzene	17.23	146	718162	50.20	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.54	157	74687	48.36	ug/l	98
97)	1,2,4-Trichlorobenzene	19.58	180	313908	48.77	ug/l	100
98)	Hexachlorobutadiene	19.73	225	157269	48.06	ug/l	100
99)	Naphthalene	19.83	128	819320	48.68	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	283740	49.50	ug/l	99

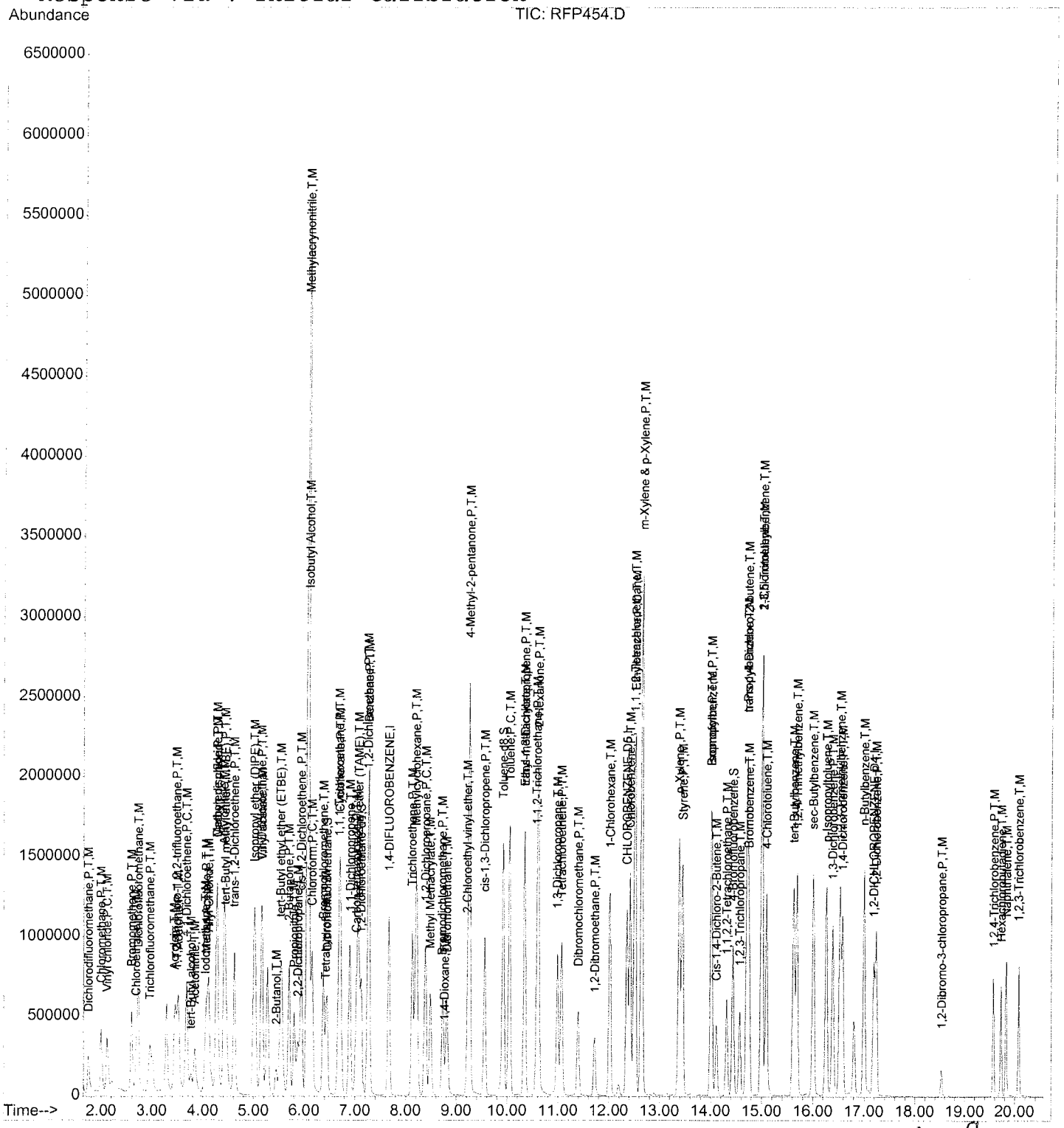
Su 7/3/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



DAILY CALIBRATIONS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RGP132
Instrument ID: 02
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G035
BFB Injection Date : 07/08/19
BFB Injection Time : 10:16
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.71
75	30.0 - 60.0% of mass 95	45.64
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.55
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	93.79
175	5.0 - 9.0% of mass 174	6.95(7.4)1
176	95.0 - 101.0% of mass 174	89.40(95.3)1
177	5.0 - 9.0% of mass 176	5.24(5.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002F2903	RGP133	07/08/19	10:40
2	MBLK1S	VS02G06B	RGP137	07/08/19	12:23
3	LCS1S	VS02G06L	RGP134	07/08/19	11:08
4	LCD1S	VS02G06C	RGP135	07/08/19	11:33
5	MBLK2S	VPG015SB	RGP140	07/08/19	13:38
6	OU2-SB50	G035-05	RGP141	07/08/19	14:03
7	OU2-SB46	G035-01	RGP142	07/08/19	14:28
8	OU2-SB45	G035-02	RGP144	07/08/19	15:18
9	OU2-SB48	G035-03	RGP145	07/08/19	15:43
10	OU2-SB49	G035-04	RGP146	07/08/19	16:08
11	OU2-SB52	G035-06	RGP147	07/08/19	16:32
12	OU2-SB51	G035-07	RGP148	07/08/19	16:57
13	OU2-SB93	G035-08	RGP149	07/08/19	17:22
14	OU2-SB55	G035-09	RGP150	07/08/19	17:47
15	OU2-SB50MS	G035-05M	RGP153	07/08/19	19:02
16	OU2-SB50MSD	G035-05S	RGP154	07/08/19	19:27

FORM 8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX Inc
Lab Code : EMXT
Lab File ID : RFP447
Instrument ID: 02
GC Column : RTX502.2ID:0.25mm (mm)

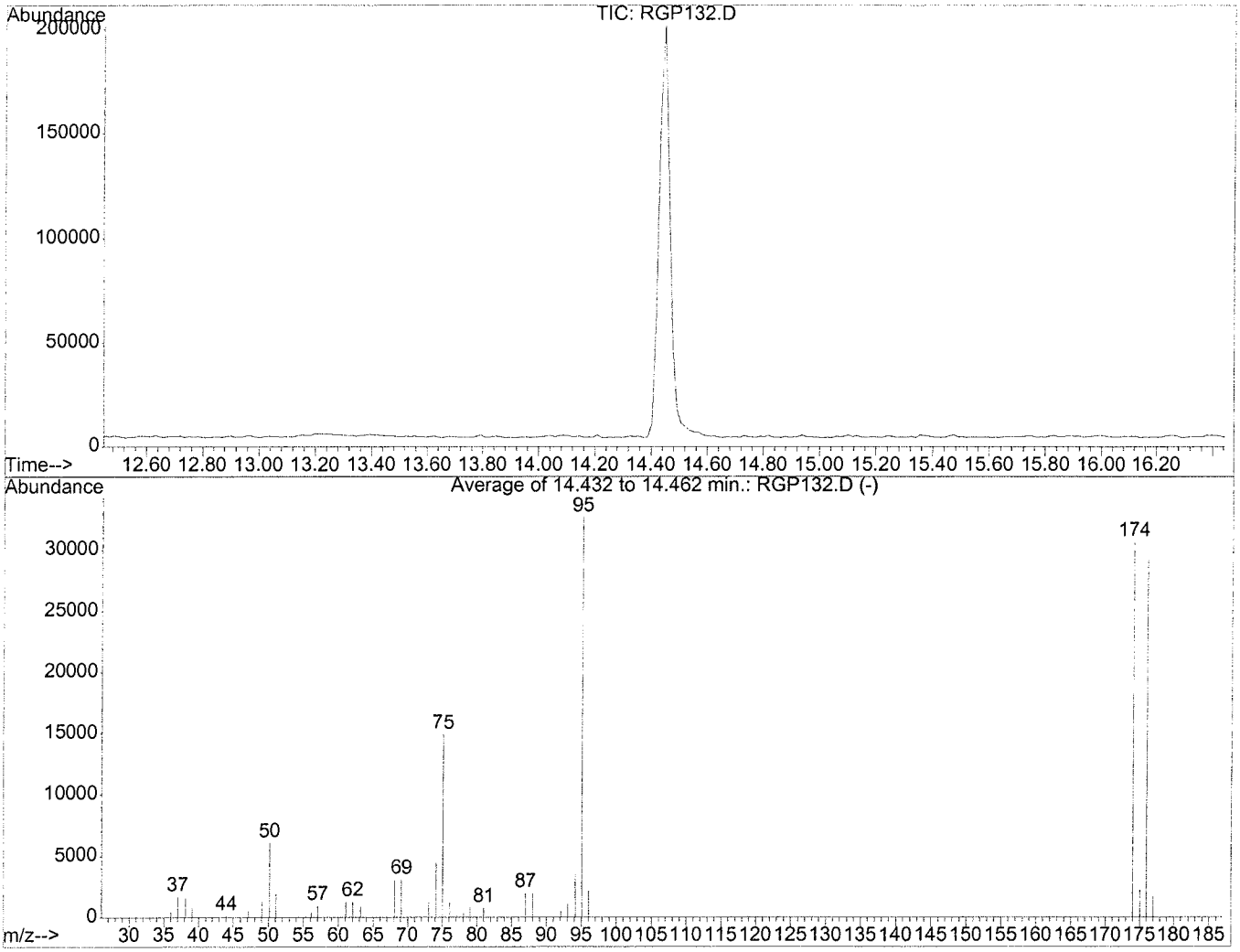
Project: VHA-SLC
SDG No: 19G035
Date Analyzed: 06/29/2019
Time Analyzed: 14:11
Heated Purge (Y/N): Y

		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5		1,2-DICHLOROBENZENE-D4	
		AREA #	RT(min)	AREA #	RT(min)	AREA #	RT(min)
	12 HOUR STD	1427074	7.66	1107798	12.35	413985	17.18
	UPPER LIMIT	2854148	7.83	2215596	12.52	827970	17.35
	LOWER LIMIT	713537	7.49	553899	12.18	206993	17.01
	SAMPLE ID						
1	VSTD050	2126885	7.68	1767694	12.35	706155	17.18
2	MBLK1S	1892041	7.66	1497935	12.35	557269	17.18
3	LCS1S	2046153	7.66	1705843	12.35	644259	17.18
4	LCD1S	1976600	7.66	1695642	12.35	652611	17.18
5	MBLK2S	2076584	7.67	1652043	12.34	598267	17.17
6	OU2-SB50	1886758	7.67	1449617	12.35	509930	17.19
7	OU2-SB46	1814946	7.66	1380534	12.35	500825	17.18
8	OU2-SB45	1879541	7.66	1429575	12.35	485170	17.18
9	OU2-SB48	1876924	7.67	1455903	12.35	515811	17.19
10	OU2-SB49	1807780	7.67	1369432	12.35	471687	17.19
11	OU2-SB52	1755759	7.66	1391042	12.35	506021	17.18
12	OU2-SB51	1834318	7.66	1400340	12.35	455089	17.18
13	OU2-SB93	1789836	7.66	1381904	12.35	432300	17.18
14	OU2-SB55	1856423	7.67	1456824	12.34	477363	17.19
15	OU2-SB50MS	1938590	7.66	1527017	12.35	561429	17.18
16	OU2-SB50MSD	1870032	7.67	1542592	12.35	575757	17.19

Area Upper Limit = + 100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 0.167 min. (10 sec.) of internal standard RT
RT Lower Limit = - 0.167 min. (10 sec.) of internal standard RT

Data File : D:\HPCHEM\1\DATA\19G08\RGP132.D
Acq On : 8 Jul 2019 10:16 am
Sample : BFB02G06
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL

Vial: 1
Operator: IRagas
Inst : 02
Multiplr: 1.00



AutoFind: Scans 861, 862, 863; Background Corrected with Scan 856

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.7	6111	PASS
75	95	30	60	45.6	14911	PASS
95	95	100	100	100.0	32669	PASS
96	95	5	9	6.6	2141	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	93.8	30640	PASS
175	174	5	9	7.4	2272	PASS
176	174	95	101	95.3	29205	PASS
177	176	5	9	5.9	1712	PASS

RGP132.D VO02F29.M Tue Jul 09 11:46:41 2019

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I 1,4-DIFLUOROBENZENE	50.000	50.000	0.0	149	0.04
2	P,T,M Dichlorodifluoromethane	50.000	51.828	-3.7	142	0.01
3	P,T,M Chloromethane	50.000	49.563	0.9	133	0.01
4	P,C,T,M Vinyl chloride	50.000	53.712	-7.4	137	0.00
5	P,T,M Bromomethane	50.000	49.909	0.2	139	0.01
6	P,T,M Chloroethane	50.000	50.719	-1.4	141	0.03
7	T,M Dichlorofluoromethane	50.000	46.031	7.9	137	0.01
8	P,T,M Trichlorofluoromethane	50.000	53.674	-7.3	150	0.01
9	T,M Acrolein	250.000	225.142	9.9	148	0.03
10	P,T,M 1,1,2-Trichloro-1,2,2-trifl	50.000	50.326	-0.7	149	0.03
11	P,T,M Acetone	250.000	213.903	14.4	137	0.03
12	P,C,T,M 1,1-Dichloroethene	50.000	45.662	8.7	139	0.03
13	T,M tert-Butyl alcohol	250.000	246.925	1.2	149	0.03
14	T,M Acetonitrile	500.000	450.493	9.9	149	0.03
15	T,M Iodomethane	50.000	50.507	-1.0	151	0.03
16	P,T,M Methyl Acetate	50.000	47.041	5.9	130	0.03
17	T,M Allyl Chloride	50.000	50.437	-0.9	144	0.03
18	P,T,M Methylene chloride	50.000	44.761	10.5	138	0.06
19	P,T,M Carbon disulfide	50.000	52.107	-4.2	150	0.03
20	T,M Acrylonitrile	250.000	236.465	5.4	139	0.04
21	P,T,M tert-Butyl methyl ether (MT	50.000	46.939	6.1	162	0.03
22	P,T,M trans-1,2-Dichloroethene	50.000	50.227	-0.5	145	0.03
23	T,M Isopropyl ether (DIPE)	50.000	46.595	6.8	137	0.04
24	P,T,M 1,1-Dichloroethane	50.000	49.338	1.3	146	0.04
25	T,M Vinyl acetate	50.000	50.613	-1.2	146	0.03
26	T,M 2-Butanol	250.000	242.176	3.1	137	0.03
27	T,M tert-Butyl ethyl ether (ETB	50.000	46.293	7.4	147	0.03
28	P,T,M 2-Butanone	250.000	242.379	3.0	136	0.04
29	T,M Propionitrile	500.000	464.986	7.0	135	0.03
30	T,M 2,2-Dichloropropane	50.000	52.434	-4.9	156	0.04
31	P,T,M cis-1,2-Dichloroethene	50.000	50.526	-1.1	148	0.04
32	T,M Methylacrynonitrile	500.000	455.469	8.9	131	0.04
33	T,M Isobutyl Alcohol	1000.000	890.367	11.0	141	0.04
34	P,C,T,M Chloroform	50.000	47.892	4.2	145	0.04
35	T,M Bromochloromethane	50.000	46.372	7.3	134	0.03
36	T,M Tetrahydrofuran	50.000	44.379	11.2	135	0.03
37	S Dibromofluoromethane	50.000	50.199	-0.4	128	0.03
38	P,T,M 1,1,1-Trichloroethane	50.000	54.257	-8.5	161	0.04
39	P,T,M Cyclohexane	50.000	55.565	-11.1	148	0.04
40	T,M 1,1-Dichloropropene	50.000	52.267	-4.5	151	0.04
41	P,T,M Carbon tetrachloride	50.000	54.488	-9.0	164	0.04

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M tert-Amyl methyl ether (TAM	50.000	48.574	2.9	153	0.04
43	S 1,2-Dichloroethane-d4	50.000	43.588	12.8	111	0.04
44	P,T,M 1,2-Dichloroethane	50.000	49.083	1.8	143	0.04
45	P,T,M Benzene	50.000	50.327	-0.7	151	0.04
46	P,T,M Trichloroethene	50.000	52.043	-4.1	152	0.04
47	P,T,M Methylcyclohexane	50.000	55.119	-10.2	144	0.04
48	P,C,T,M 1,2-Dichloropropane	50.000	48.388	3.2	143	0.04
49	T,M Methyl Methacrylate	50.000	49.393	1.2	140	0.04
50	P,T,M Bromodichloromethane	50.000	52.115	-4.2	148	0.04
51	T,M 1,4-Dioxane	1000.000	968.916	3.1	168	0.04
52	T,M Dibromomethane	50.000	50.502	-1.0	148	0.04
53	T,M 2-Chloroethyl vinyl ether	50.000	41.285	17.4	112	0.04
54	P,T,M 4-Methyl-2-pentanone	250.000	236.029	5.6	133	0.04
55	P,T,M cis-1,3-Dichloropropene	50.000	48.907	2.2	144	0.03
56	I CHLOROBENZENE-D5	50.000	50.000	0.0	160	0.03
57	S Toluene-d8	50.000	44.589	10.8	121	0.04
58	P,C,T,M Toluene	50.000	45.866	8.3	146	0.04
59	T,M Ethyl methacrylate	50.000	44.104	11.8	142	0.03
60	P,T,M trans-1,3-Dichloropropene	50.000	44.516	11.0	146	0.04
61	P,T,M 1,1,2-Trichloroethane	50.000	46.285	7.4	147	0.03
62	P,T,M 2-Hexanone	250.000	226.726	9.3	137	0.03
63	T,M 1,3-Dichloropropane	50.000	45.619	8.8	143	0.04
64	P,T,M Tetrachloroethene	50.000	49.710	0.6	159	0.03
65	P,T,M Dibromochloromethane	50.000	44.605	10.8	146	0.04
66	P,T,M 1,2-Dibromoethane	50.000	47.261	5.5	146	0.04
67	T,M 1-Chlorohexane	50.000	50.659	-1.3	159	0.04
68	P,T,M Chlorobenzene	50.000	46.725	6.5	145	0.04
69	T,M 1,1,1,2-Tetrachloroethane	50.000	49.025	2.0	153	0.04
70	P,C,T,M Ethylbenzene	50.000	45.654	8.7	145	0.03
71	P,T,M m-Xylene & p-Xylene	100.000	99.326	0.7	151	0.04
72	P,T,M o-Xylene	50.000	46.539	6.9	145	0.03
73	P,T,M Styrene	50.000	46.314	7.4	144	0.04
74	P,T,M Isopropylbenzene	50.000	50.455	-0.9	155	0.04
75	T,M Cis-1,4-Dichloro-2-Butene	50.000	45.798	8.4	147	0.04
76	I 1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	171	0.03
77	P,T,M Bromoform	50.000	43.720	12.6	154	0.03
78	P,T,M 1,1,2,2-Tetrachloroethane	50.000	42.349	15.3	146	0.03
79	S 4-Bromofluorobenzene	50.000	42.962	14.1	130	0.03
80	T,M 1,2,3-Trichloropropane	50.000	42.459	15.1	148	0.04

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	50.000	41.505	17.0	146	0.04
82	T,M	n-Propylbenzene	50.000	44.386	11.2	149	0.04
83	T,M	Bromobenzene	50.000	45.385	9.2	155	0.04
84	T,M	1,3,5-Trimethylbenzene	50.000	45.257	9.5	154	0.04
85	T,M	2-Chlorotoluene	50.000	44.466	11.1	155	0.03
86	T,M	4-Chlorotoluene	50.000	46.266	7.5	158	0.03
87	T,M	tert-Butylbenzene	50.000	46.070	7.9	157	0.03
88	T,M	1,2,4-Trimethylbenzene	50.000	44.880	10.2	150	0.03
89	T,M	sec-Butylbenzene	50.000	44.277	11.4	152	0.04
90	T,M	p-Isopropyltoluene	50.000	46.424	7.2	153	0.04
91	P,T,M	1,3-Dichlorobenzene	50.000	45.438	9.1	154	0.03
92	T,M	1,2,3-Trimethylbenzene	50.000	45.005	10.0	153	0.04
93	P,T,M	1,4-Dichlorobenzene	50.000	45.641	8.7	157	0.04
94	T,M	n-Butylbenzene	50.000	45.679	8.6	155	0.03
95	P,T,M	1,2-Dichlorobenzene	50.000	44.843	10.3	152	0.03
96	P,T,M	1,2-Dibromo-3-chloropropane	50.000	44.382	11.2	160	0.03
97	P,T,M	1,2,4-Trichlorobenzene	50.000	52.599	-5.2	179	0.03
98	T,M	Hexachlorobutadiene	50.000	49.064	1.9	171	0.01
99	T,M	Naphthalene	50.000	43.976	12.0	153	0.03
100	T,M	1,2,3-Trichlorobenzene	50.000	49.371	1.3	166	0.01

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I 1,4-DIFLUOROBENZENE	1.000	1.000	0.0	149	0.04
2	P,T,M Dichlorodifluoromethane	0.283	0.293	-3.5	142	0.01
3	P,T,M Chloromethane	0.446	0.442	0.9	133	0.01
4	P,C,T,M Vinyl chloride	0.389	0.418	-7.5	137	0.00
5	P,T,M Bromomethane	0.327	0.326	0.3	139	0.01
6	P,T,M Chloroethane	0.267	0.270	-1.1	141	0.03
7	T,M Dichlorofluoromethane	0.708	0.651	8.1	137	0.01
8	P,T,M Trichlorofluoromethane	0.322	0.346	-7.5	150	0.01
9	T,M Acrolein	0.068	0.061	10.3	148	0.03
10	P,T,M 1,1,2-Trichloro-1,2,2-trifl	0.213	0.215	-0.9	149	0.03
11	P,T,M Acetone	0.114	0.098#	14.0	137	0.03
12	P,C,T,M 1,1-Dichloroethene	0.589	0.537	8.8	139	0.03
13	T,M tert-Butyl alcohol	0.044	0.043	2.3	149	0.03
14	T,M Acetonitrile	0.045	0.041	8.9	149	0.03
15	T,M Iodomethane	0.543	0.548	-0.9	151	0.03
16	P,T,M Methyl Acetate	0.381	0.358	6.0	130	0.03
17	T,M Allyl Chloride	0.196	0.198	-1.0	144	0.03
18	P,T,M Methylene chloride	0.541	0.485	10.4	138	0.06
19	P,T,M Carbon disulfide	1.370	1.427	-4.2	150	0.03
20	T,M Acrylonitrile	0.168	0.159	5.4	139	0.04
21	P,T,M tert-Butyl methyl ether (MT	0.959	0.901	6.0	162	0.03
22	P,T,M trans-1,2-Dichloroethene	0.603	0.606	-0.5	145	0.03
23	T,M Isopropyl ether (DIPE)	1.755	1.636	6.8	137	0.04
24	P,T,M 1,1-Dichloroethane	0.833	0.822	1.3	146	0.04
25	T,M Vinyl acetate	1.024	1.037	-1.3	146	0.03
26	T,M 2-Butanol	0.046	0.045	2.2	137	0.03
27	T,M tert-Butyl ethyl ether (ETB	1.330	1.231	7.4	147	0.03
28	P,T,M 2-Butanone	0.046	0.045#	2.2	136	0.04
29	T,M Propionitrile	0.058	0.054	6.9	135	0.03
30	T,M 2,2-Dichloropropane	0.281	0.294	-4.6	156	0.04
31	P,T,M cis-1,2-Dichloroethene	0.410	0.415	-1.2	148	0.04
32	T,M Methylacrynonitrile	0.066	0.060	9.1	131	0.04
33	T,M Isobutyl Alcohol	0.024	0.021	12.5	141	0.04
34	P,C,T,M Chloroform	0.696	0.667	4.2	145	0.04
35	T,M Bromochloromethane	0.433	0.401	7.4	134	0.03
36	T,M Tetrahydrofuran	0.142	0.126	11.3	135	0.03
37	S Dibromofluoromethane	0.337	0.338	-0.3	128	0.03
38	P,T,M 1,1,1-Trichloroethane	0.372	0.403	-8.3	161	0.04
39	P,T,M Cyclohexane	0.529	0.588	-11.2	148	0.04
40	T,M 1,1-Dichloropropene	0.164	0.171	-4.3	151	0.04
41	P,T,M Carbon tetrachloride	0.295	0.321	-8.8	164	0.04

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M tert-Amyl methyl ether (TAM	0.192	0.187	2.6	153	0.04
43	S 1,2-Dichloroethane-d4	0.336	0.293	12.8	111	0.04
44	P,T,M 1,2-Dichloroethane	0.449	0.441	1.8	143	0.04
45	P,T,M Benzene	1.746	1.757	-0.6	151	0.04
46	P,T,M Trichloroethene	0.377	0.393	-4.2	152	0.04
47	P,T,M Methylcyclohexane	0.665	0.733	-10.2	144	0.04
48	P,C,T,M 1,2-Dichloropropane	0.489	0.474	3.1	143	0.04
49	T,M Methyl Methacrylate	0.309	0.305	1.3	140	0.04
50	P,T,M Bromodichloromethane	0.451	0.470	-4.2	148	0.04
51	T,M 1,4-Dioxane	0.003	0.003	0.0	168	0.04
52	T,M Dibromomethane	0.259	0.261	-0.8	148	0.04
53	T,M 2-Chloroethyl vinyl ether	0.133	0.110	17.3	112	0.04
54	P,T,M 4-Methyl-2-pentanone	0.511	0.483	5.5	133	0.04
55	P,T,M cis-1,3-Dichloropropene	0.689	0.674	2.2	144	0.03
56	I CHLOROBENZENE-D5	1.000	1.000	0.0	160	0.03
57	S Toluene-d8	1.457	1.299	10.8	121	0.04
58	P,C,T,M Toluene	1.946	1.785	8.3	146	0.04
59	T,M Ethyl methacrylate	0.684	0.603	11.8	142	0.03
60	P,T,M trans-1,3-Dichloropropene	0.706	0.629	10.9	146	0.04
61	P,T,M 1,1,2-Trichloroethane	0.386	0.357	7.5	147	0.03
62	P,T,M 2-Hexanone	0.422	0.383	9.2	137	0.03
63	T,M 1,3-Dichloropropane	0.772	0.704	8.8	143	0.04
64	P,T,M Tetrachloroethene	0.369	0.367	0.5	159	0.03
65	P,T,M Dibromochloromethane	0.443	0.395	10.8	146	0.04
66	P,T,M 1,2-Dibromoethane	0.386	0.365	5.4	146	0.04
67	T,M 1-Chlorohexane	0.690	0.700	-1.4	159	0.04
68	P,T,M Chlorobenzene	1.131	1.057	6.5	145	0.04
69	T,M 1,1,1,2-Tetrachloroethane	0.370	0.363	1.9	153	0.04
70	P,C,T,M Ethylbenzene	2.052	1.874	8.7	145	0.03
71	P,T,M m-Xylene & p-Xylene	1.498	1.488	0.7	151	0.04
72	P,T,M o-Xylene	1.489	1.385	7.0	145	0.03
73	P,T,M Styrene	1.167	1.081	7.4	144	0.04
74	P,T,M Isopropylbenzene	1.712	1.727	-0.9	155	0.04
75	T,M Cis-1,4-Dichloro-2-Butene	0.152	0.139	8.6	147	0.04
76	I 1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	171	0.03
77	P,T,M Bromoform	0.689	0.603	12.5	154	0.03
78	P,T,M 1,1,2,2-Tetrachloroethane	1.553	1.315	15.3	146	0.03
79	S 4-Bromofluorobenzene	1.144	0.983	14.1	130	0.03
80	T,M 1,2,3-Trichloropropane	0.292	0.248	15.1	148	0.04

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	0.342	0.284	17.0	146	0.04
82	T,M	n-Propylbenzene	5.993	5.320	11.2	149	0.04
83	T,M	Bromobenzene	1.201	1.091	9.2	155	0.04
84	T,M	1,3,5-Trimethylbenzene	3.509	3.176	9.5	154	0.04
85	T,M	2-Chlorotoluene	1.093	0.972	11.1	155	0.03
86	T,M	4-Chlorotoluene	0.986	0.913	7.4	158	0.03
87	T,M	tert-Butylbenzene	0.698	0.643	7.9	157	0.03
88	T,M	1,2,4-Trimethylbenzene	3.347	3.004	10.2	150	0.03
89	T,M	sec-Butylbenzene	4.765	4.220	11.4	152	0.04
90	T,M	p-Isopropyltoluene	3.630	3.370	7.2	153	0.04
91	P,T,M	1,3-Dichlorobenzene	1.978	1.798	9.1	154	0.03
92	T,M	1,2,3-Trimethylbenzene	3.254	2.929	10.0	153	0.04
93	P,T,M	1,4-Dichlorobenzene	1.975	1.803	8.7	157	0.04
94	T,M	n-Butylbenzene	3.515	3.211	8.6	155	0.03
95	P,T,M	1,2-Dichlorobenzene	1.798	1.613	10.3	152	0.03
96	P,T,M	1,2-Dibromo-3-chloropropane	0.194	0.172	11.3	160	0.03
97	P,T,M	1,2,4-Trichlorobenzene	0.809	0.851	-5.2	179	0.03
98	T,M	Hexachlorobutadiene	0.411	0.404	1.7	171	0.01
99	T,M	Naphthalene	2.115	1.861	12.0	153	0.03
100	T,M	1,2,3-Trichlorobenzene	0.720	0.711	1.3	166	0.01

(#) = Out of Range SPCC's out = 2 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:01 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.68	114	2126885	50.00	ug/l	0.04
56) CHLOROBENZENE-D5	12.35	117	1767694	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	706155	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	718653	50.20	ug/l	0.03
Spiked Amount 50.000			Recovery =	100.40%		
43) 1,2-Dichloroethane-d4	7.13	65	622726	43.59	ug/l	0.04
Spiked Amount 50.000			Recovery =	87.18%		
57) Toluene-d8	9.92	98	2296494	44.59	ug/l	0.04
Spiked Amount 50.000			Recovery =	89.18%		
79) 4-Bromofluorobenzene	14.43	95	694245	42.96	ug/l	0.03
Spiked Amount 50.000			Recovery =	85.92%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.74	85	623486	51.83	ug/l	100
3) Chloromethane	2.00	50	940060	49.56	ug/l	98
4) Vinyl chloride	2.11	62	888156	53.71	ug/l	99
5) Bromomethane	2.59	94	694321	49.91	ug/l	99
6) Chloroethane	2.69	64	575073	50.72	ug/l	97
7) Dichlorofluoromethane	2.72	67	1385440	46.03	ug/l	99
8) Trichlorofluoromethane	2.96	101	735091	53.67	ug/l	100
9) Acrolein	3.45	56	646699	225.14	ug/l	98
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	456629	50.33	ug/l	100
11) Acetone	3.53	43	1037423	213.90	ug/l	100
12) 1,1-Dichloroethene	3.68	61	1143147	45.66	ug/l	98
13) tert-Butyl alcohol	3.78	59	461870	246.92	ug/l	100
14) Acetonitrile	3.84	41	871623	450.49	ug/l	97
15) Iodomethane	4.06	142	1166122	50.51	ug/l	98
16) Methyl Acetate	4.08	43	761688	47.04	ug/l	99
17) Allyl Chloride	4.11	76	420777	50.44	ug/l	99
18) Methylene chloride	4.29	49	1030921	44.76	ug/l	95
19) Carbon disulfide	4.27	76	3035602	52.11	ug/l	100
20) Acrylonitrile	4.42	53	1687273	236.47	ug/l	100
21) tert-Butyl methyl ether (M	4.45	73	1915306	46.94	ug/l	99
22) trans-1,2-Dichloroethene	4.61	61	1288443	50.23	ug/l	96
23) Isopropyl ether (DIPE)	5.03	45	3479448	46.60	ug/l	98
24) 1,1-Dichloroethane	5.16	63	1748144	49.34	ug/l	99
25) Vinyl acetate	5.16	43	2205369	50.61	ug/l	100
26) 2-Butanol	5.45	45	473637	242.18	ug/l #	100
27) tert-Butyl ethyl ether (ET	5.55	59	2618434	46.29	ug/l	97
28) 2-Butanone	5.71	72	475216	242.38	ug/l	96

(#) = qualifier out of range (m) = manual integration
RGP133.D VO02F29.M Tue Jul 09 11:47:58 2019 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:01 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.80	54	1150828	464.99	ug/l	100
30)	2,2-Dichloropropane	5.89	77	626036	52.43	ug/l	99
31)	cis-1,2-Dichloroethene	5.95	96	881638	50.53	ug/l	95
32)	Methylacrynonitrile	6.07	52	1272836	455.47	ug/l	96
33)	Isobutyl Alcohol	6.10	43	905844	890.37	ug/l	97
34)	Chloroform	6.16	83	1418525	47.89	ug/l	99
35)	Bromochloromethane	6.37	49	853448	46.37	ug/l	95
36)	Tetrahydrofuran	6.41	42	267784	44.38	ug/l	98
38)	1,1,1-Trichloroethane	6.70	97	857836	54.26	ug/l	98
39)	Cyclohexane	6.71	84	1250592	55.57	ug/l	95
40)	1,1-Dichloropropene	6.90	110	363731	52.27	ug/l	99
41)	Carbon tetrachloride	7.04	119	683669	54.49	ug/l	100
42)	tert-Amyl methyl ether (TA	7.07	87	397467	48.57	ug/l	92
44)	1,2-Dichloroethane	7.26	62	937157	49.08	ug/l	100
45)	Benzene	7.28	78	3737190	50.33	ug/l	99
46)	Trichloroethene	8.14	130	835203	52.04	ug/l	99
47)	Methylcyclohexane	8.21	83	1560052	55.12	ug/l	96
48)	1,2-Dichloropropane	8.39	63	1007419	48.39	ug/l	99
49)	Methyl Methacrylate	8.50	69	648203	49.39	ug/l	98
50)	Bromodichloromethane	8.73	83	1000414	52.11	ug/l	99
51)	1,4-Dioxane	8.78	88	126624	968.92	ug/l	96
52)	Dibromomethane	8.81	93	556154	50.50	ug/l	96
53)	2-Chloroethyl vinyl ether	9.21	63	232946	41.28	ug/l	99
54)	4-Methyl-2-pentanone	9.26	43	5132047	236.03	ug/l	99
55)	cis-1,3-Dichloropropene	9.55	75	1432570	48.91	ug/l	99
58)	Toluene	10.04	91	3155363	45.87	ug/l	100
59)	Ethyl methacrylate	10.34	69	1065885	44.10	ug/l	97
60)	trans-1,3-Dichloropropene	10.34	75	1111853	44.52	ug/l	96
61)	1,1,2-Trichloroethane	10.58	97	631587	46.28	ug/l	98
62)	2-Hexanone	10.61	43	3384100	226.73	ug/l	99
63)	1,3-Dichloropropane	11.00	76	1245230	45.62	ug/l	99
64)	Tetrachloroethene	11.07	164	649191	49.71	ug/l	98
65)	Dibromochloromethane	11.40	129	698537	44.60	ug/l	99
66)	1,2-Dibromoethane	11.72	107	644525	47.26	ug/l	99
67)	1-Chlorohexane	12.02	91	1236587	50.66	ug/l	97
68)	Chlorobenzene	12.42	112	1867726	46.73	ug/l	98
69)	1,1,1,2-Tetrachloroethane	12.50	131	641072	49.02	ug/l	100
70)	Ethylbenzene	12.51	91	3311781	45.65	ug/l	99
71)	m-Xylene & p-Xylene	12.65	91	5259882	99.33	ug/l	100
72)	o-Xylene	13.38	91	2449103	46.54	ug/l	100
73)	Styrene	13.45	104	1910131	46.31	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:01 2019 Quant Results File: VO02F29.RES

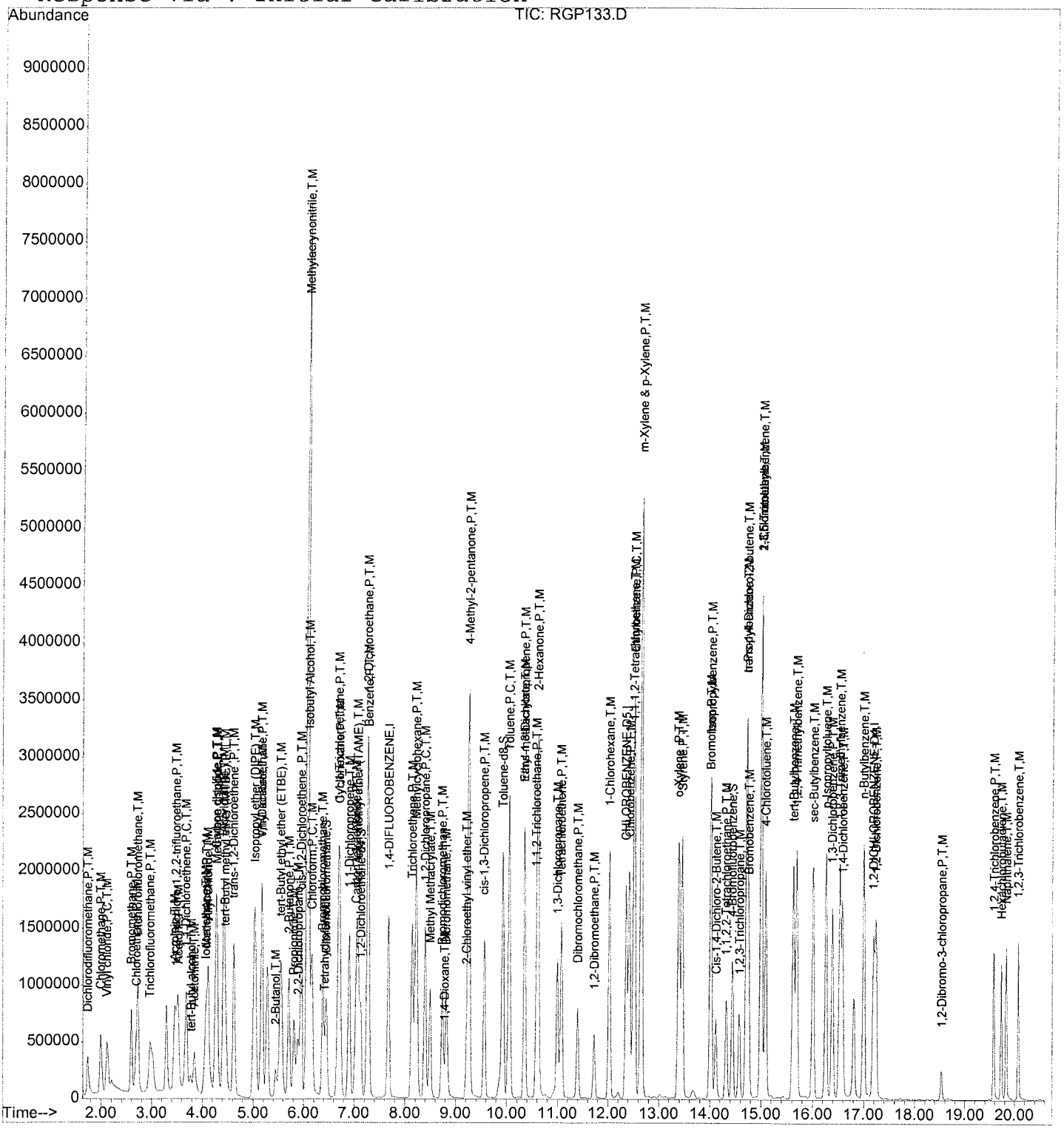
Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.02	105	3053472	50.46	ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.12	53	245371	45.80	ug/l	97
77)	Bromoform	14.00	173	425723	43.72	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	928641	42.35	ug/l	100
80)	1,2,3-Trichloropropane	14.58	110	175225	42.46	ug/l	95
81)	trans-1,4-Dichloro-2-buten	14.71	53	200733	41.50	ug/l	100
82)	n-Propylbenzene	14.71	91	3756781	44.39	ug/l	99
83)	Bromobenzene	14.76	156	770069	45.38	ug/l	95
84)	1,3,5-Trimethylbenzene	15.00	105	2242747	45.26	ug/l	99
85)	2-Chlorotoluene	15.00	126	686494	44.47	ug/l	97
86)	4-Chlorotoluene	15.09	126	644464	46.27	ug/l	97
87)	tert-Butylbenzene	15.62	134	454242	46.07	ug/l	92
88)	1,2,4-Trimethylbenzene	15.68	105	2121530	44.88	ug/l	99
89)	sec-Butylbenzene	16.01	105	2979944	44.28	ug/l	99
90)	p-Isopropyltoluene	16.26	119	2379857	46.42	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	1269656	45.44	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	2068067	45.01	ug/l	99
93)	1,4-Dichlorobenzene	16.59	146	1272994	45.64	ug/l	99
94)	n-Butylbenzene	16.99	91	2267454	45.68	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	1138837	44.84	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.54	157	121665	44.38	ug/l	98
97)	1,2,4-Trichlorobenzene	19.58	180	601011	52.60	ug/l	99
98)	Hexachlorobutadiene	19.73	225	285008	49.06	ug/l	100
99)	Naphthalene	19.83	128	1313822	43.98	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	502366	49.37	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G08\RGP133.D Vial: 2
Acq On : 8 Jul 2019 10:40 am Operator: IRagas
Sample : CVO02F2903 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:01 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 6/29/19 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge

Book #: A02-050

BATCH VO02F216

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH < 2	Matrix W Cl_2 < 5ppm	Matrix S	Notes
01		RFP441	BFB02F18						
02		442	VO02F291	A .02 B .1	N/A	N/A	N/A		1.0ppb 5.0ppb
03		443	2	.04 .2					2 10
04		444	3	.08 .4					4 20
05		445	4	.2 1					10 50
06		446	5	.4 2					20 100
07		447	6	1 5					50 250
08		448	7	2 10					100 500
09		449	8	4 20					200 1000
10		450	9	6 30					300 1500
11		451	10	10 50					500 2500
12		452	RINSE						
13		453	RINSE						
14		454	IVO02F299						50 250
15		455	RINSE						
16		456	LOD VERF-01						0.5
17		457	-02						1 5
18		458	-03						2.5
19		459	LOD/LOQ						5 25
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									IR 7/02/19

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	6/29/19
ICAL ID	VO02F29

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC CS_2	SVI-32-26-02	*	
KET-AA DCC 8260	-43 -01 -41 -02		
DCC GAS	-39 -02		
DCC 4-ADD	-40 -02		
BFB	-44 -03	↓	
IS/SURR. IS SS	-48 -01 -46 -02	1 *	50/250
ICV/LCS CS_2	-05 -02	1	
KET-AA ICV/LCS 8260	-34 -01 -36 -02	5 5	
ICV/LCS GAS	-15 -03	1	
2 BUTANOL ICV/LCS 3 ADD	-32 -03 SVI-31 -95-01	5 5	
Data File Folder	19F29		

	LOT #	Syringe Lot #
pH strip		MSV-01-03-13
Chlorine strip		-02-11
Methanol		-02-10-2
$NaHSO_4$		-04-08
Reagent Water	RW4-17-002	
Sand	SWIB-004-02-4	

Electronic Data Archival Location	Date
HPCHEM_VOA/TO02	

Comments: * Varried Amt.
A: CS_2, GAS, 4-Add'l.
B: KET-AA, 8260

☐ Refer to sample weight log

Analyzed By: IR

Date Disposed: 7/01/19 Disposed By: IR

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/08/19 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge Book #: A02-050

BATCH EV002F2903

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01	RGP132	BFB02G06						10:16
02	133	EV002F2903						
03	134	VS02G06L						
04	135	↓ C						
05	136	MNSE						
06	137	VS02G06B	5.0g					
07	138	VSG001SB	↓	↓			✓	
08	139	19G022-01I					✓	
09	140	VPG015SB					✓	
10	141	19G035-05					✓	
11	142	↓ -01					✓	
12	143	19G022_01					✓	
13	144	19G035_02					✓	
14	145	-03					✓	
15	146	-04					✓	
16	147	-06					✓	
17	148	-07					✓	
18	149	-08					✓	
19	150	↓ -09					✓	
20	151	19G039_01					✓	
21	152	↓ -02					✓	
22	153	19G035-05M					✓	
23	154	↓ -05S	↓	↓			✓	
24	155	MNSE						
25	156	MNSE						
26	157	19G039-03	↓	↓			✓	
27	158	↓ -04	↓	↓			✓	
28	159	EV002F2903						21:31
29	160	MNSE						
30	↓ 161	MNSE						

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	4/04/19
ICAL ID	V002D04F29
IR 7/10/19 STANDARDS	

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-32-26-02	1	
DCC	-45-01 -41-02	5	
DCC	-39-02	1	
DCC	-40-02	1	
BFB	-44-03	1	
IS/SURR.	-49-02	1	
ICV/LCS	-05-02	1	50/25
ICV/LCS	-34-01 -36-02	5	
ICV/LCS	-15-03	1	
ICV/LCS	SV1-31 -32-03 -95-01	5	
Data File Folder	19G08		

	LOT #	Syringe Lot #
pH strip		MSV-01-03-13
Chlorine strip		↓ -02-10-2
Methanol		ND1-F5046
$NaHSO_4$		
Reagent Water	RW4-17-002	
Sand	SW13-004-02-24	

Electronic Data Archival Location	Date
HPCHEM_VOA/TO02	

Comments:

☑ Refer to sample weight log ✓

Analyzed By: IR

Date Disposed: 7/09/19 Disposed By: IR

EXTRACTION LOGS

EMAX LABORATORIES, INC.

PRESERVATION LOG FOR VOLATILES

19VPG015

PrepBatchID	Lab Sample ID	W1 (g)	DateTime	Wf (g)	DateTime	ExpWs(g)	Ws(g)	Prep Factor	Comments
19VPG01501	VPG015SB	30.55	7/8/19 11:26	35.67	7/8/19 11:27	5	5.12	0.98	
19VPG01502	VPG015SQ	30.42	7/8/19 11:28	35.55	7/8/19 11:28	5	5.13	0.97	
19VPG01503	19G035-01	30.71	7/8/19 11:29	36.50	7/8/19 11:30	5	5.79	0.86	
19VPG01504	19G035-02	30.51	7/8/19 11:30	36.72	7/8/19 11:31	5	6.21	0.81	
19VPG01505	19G035-03	30.46	7/8/19 11:31	35.98	7/8/19 11:31	5	5.52	0.91	
19VPG01506	19G035-04	30.58	7/8/19 11:32	36.59	7/8/19 11:32	5	6.01	0.83	
19VPG01507	19G035-05	30.37	7/8/19 11:32	36.58	7/8/19 11:33	5	6.21	0.81	
19VPG01508	19G035-05M	30.41	7/8/19 11:33	36.67	7/8/19 11:34	5	6.26	0.8	
19VPG01509	19G035-05S	30.75	7/8/19 11:34	36.59	7/8/19 11:35	5	5.84	0.86	
19VPG01510	19G035-06	30.79	7/8/19 11:35	37.44	7/8/19 11:36	5	6.65	0.75	
19VPG01511	19G035-07	30.30	7/8/19 11:36	36.54	7/8/19 11:37	5	6.24	0.8	
19VPG01512	19G035-08	30.42	7/8/19 11:37	36.47	7/8/19 11:38	5	6.05	0.83	
19VPG01513	19G035-09	30.78	7/8/19 11:38	36.42	7/8/19 11:39	5	5.64	0.89	

☑ EMAX-5035 Rev. 3 ☑ Balance Calibration Check performed prior to use Surrogate ID: Prepared By: RTorra

☐ Encore+$NaHSO_4 \cdot H_2O$ ☑ BalanceID 25451062 ☐ BalanceID 25650797 BlankSoil Lot#: SW1B-004-02-21 Standard Added By: N/A

☑ Frozen Sample ☐ Pre-weighed vial w/ H2O NaHSO4H2O: Witnessed By: N\A

☐ Pre-weighed vial w/ NaHSO4•H2O soln Expected Ws(g): 5 Extract Rcvd By: IRagas

☐ Volumetric dispenser was checked with 5-ml volumetric flask Sample Location: N/A Checked By: IRagas

W1=Weight of Vial + Stirrer+NaHSO4•H2O+Solvent Wf=W1 + Sample

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889

Date: 07-23-2019
EMAX Batch No.: 19G038

Attn: Mark Cichy

JACOBS/CH2M HILL
2525 Airpark Drive
Redding CA 96001

Subject: Laboratory Report
Project: VHA-SLC

Enclosed is the Laboratory report for samples received on 07/03/19.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
OU2-SB-EB20	G038-01	06/26/19	WATER	VOCS BY 8260C
OU2-SB-EB21	G038-02	06/26/19	WATER	VOCS BY 8260C
OU2-SB-TB20	G038-03	06/26/19	WATER	VOCS BY 8260C
OU2-SB-EB22	G038-04	06/27/19	WATER	VOCS BY 8260C
OU2-SB-EB23	G038-05	06/28/19	WATER	VOCS BY 8260C
OU2-SB-EB24	G038-06	07/01/19	WATER	VOCS BY 8260C
OU2-SB-EB25	G038-07	07/02/19	WATER	VOCS BY 8260C

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912018-14
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

19G038

CH2MHILL **CHAIN OF CUSTODY RECORD** *7/2/2019 9:31:44 AM* Page 1 OF 1

Project Name VHA-SLC
Location Salt Lake City, UT
Project Number 697496CH.SL.03.0J
Project Manager David Waite
Sample Manager Sandy Schut

Task Order 3015
Project SOIL SAMPLING ROUND 2
Turnaround Time 21 Days
Shipping Date:
COC Number: EMXT70119B

		DATE	TIME	Matrix	Container: 40mL glass	Container: 40mL glass		Number of Containers	COMMENTS
					Preservatives: 4°C (± 2°C), HCl to pH < 2	Preservatives: 4°C (± 2°C), HCl to pH < 2			
					Filtered: Lab	Filtered: NA			
					Holding Time: 14	Holding Time: 14			
					SW8260C (VOCs)	SW8260C (VOCs)			
1	OU2-SB-EB20	6/26/2019	8:40	Water	X			3	
2	OU2-SB-EB21	6/26/2019	11:05	Water	X			3	
3	OU2-SB-TB20	6/26/2019	8:00	Water		X		2	
4	OU2-SB-EB22	6/27/2019	10:15	Water	X			3	
5	OU2-SB-EB23	6/28/2019	14:10	Water	X			3	
6	OU2-SB-EB24	7/1/2019	14:40	Water	X			3	
7	OU2-SB-EB25	7/2/2019	14:20	Water	X			3	
							TOTAL NUMBER OF CONTAINERS	20	

Temp 5.2°

Signatures	Date/Time
Approved by	
Sampled by	7-2-19 1720
Relinquished by	
Received by	
Relinquished by	
Received by VEDA COMIA	7-3-19 0930

Shipping Details
Method of Shipment: FedEx
On Ice: (yes) / no
Airbill No:
Lab Name: EMAX Labs., Inc.
Lab Phone: (310) 618-8889

ATTN:
Sample Custody
and
Raman Singh

Special Instructions:

Report Copy to
Mark Cichy
(530) 229-3274
Mark.Cichy@jacobs.com

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 196038
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7756 1875 9614	Recipient VCONIA
☐ EMAX Courier ☐ Client Delivery		Date 7-3-19 Time 0930

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☐ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 5.2 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N 170324872*	*B - S/N 150555522*	*C - S/N 170324888*	*D - S/N* _____	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling VCONNA Date 7-3-19 / 7/3/19

SRF Date 7/3/19

PM Date 7/3/19

EMAX Laboratories, Inc. 1835 W. 205th St., Torrance, Ca 90501

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 2

SAMPLES RECEIVED FOR ECN: 19G038

LAB SAMPLE ID (*)	LAB SAMPLE CONTAINER ID	COOLER#	CONTAINER TYPE								pH paper Lot #: N/A CHEMICAL PRESERVATIVE											Filtered	
			Jar	Amber	HDPE	Encore	Vial	Tube	Bag	Other	NONE	HCl (pH<2)	HNO_3 (pH<2)	H_2SO_4 (pH<2)	ZnAc +NaOH (pH>9)	ZnAc +NaOH (pH>12)	NaOH (pH>10)	$Na_2S_2O_3$	Methanol	NaHSO4	Other	Yes	No
1	* 1	1					✓					✓											
	* 2						✓					✓											
	* 3						✓					✓											
2	* 4						✓					✓											
	* 5						✓					✓											
	* 6						✓					✓											
3	* 7						✓					✓											
	* 8						✓					✓											
4	* 9						✓					✓											
	* 10						✓					✓											
	* 1						✓					✓											
5	* 2						✓					✓											
	* 3						✓					✓											
	* 4						✓					✓											
6	* 5						✓					✓											
	* 6						✓					✓											
	* 7						✓					✓											
7	* 8						✓					✓											
	* 9						✓					✓											
	* 20	1					✓					✓											
	* 1																						
	* 2																						
	* 3																						
	* 4																						
	* 5																						
	* 6																						
	* 7																						
	* 8																						
	* 9																						
	* 0																						

XCONTIA
7-3-19

ORIGIN ID:BTFA (385) 474-8502
EMILEE EDGINTON
CH2M HILL, INC
4246 SOUTH RIVERBOAT ROAD
STE 210
TAYLORSVILLE, UT 84123
UNITED STATES US

SHIP DATE: 02JUL19
ACTWGT: 55.00 LB
CAD: 4309842/INET4100
DIMS: 28x15x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
EMAX LABORATORIES INC
1835 W 205TH ST

TORRANCE CA 90501
(310) 618-8889 REF: 697496CH.03.0C
INV:
PO: DEPT:

565J2/A6F9/23AD

FedEx Express

J19101901070Iuu

2 of 2
MPS# 0263 **7756 1875 9614**
Mstr# 7756 1875 9967

0201

WED - 03 JUL 10:30A
PRIORITY OVERNIGHT

90501
CA-US **LAX**

WZ HHRA

B 5.2 °C

0930

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

SUMMARY PACKAGE
VOLATILE ORGANICS

CASE NARRATIVE

Client : JACOBS/CH2M HILL

Project: VHA-SLC

SDG : 19G038

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

A total of seven (7) water samples were received on 07/03/19 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030B/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. All calibration requirements were satisfied. Average response factors for all analytes were within method recommended response factors with the exception of Acetone and 2-Butanon. However, percent recoveries for all target analytes were within 70-130% on all calibration points. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. VOF3G03B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. VOF3G03X/VOF3G03Y were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL
Project : VHA-SLC

SDG NO. : 19G038
Instrument ID : F3

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VOF3G03B	1	NA	07/05/1913:08	07/05/1913:08	RGR070	RFR259	VOF3G03	Method Blank
LCS1W	VOF3G03X	1	NA	07/05/1914:09	07/05/1914:09	RGR072	RFR259	VOF3G03	Lab Control Sample (LCS)
LCD1W	VOF3G03Y	1	NA	07/05/1914:36	07/05/1914:36	RGR073	RFR259	VOF3G03	LCS Duplicate
OU2-SB-EB20	G038-01	1	NA	07/05/1918:11	07/05/1918:11	RGR081	RFR259	VOF3G03	Field Sample
OU2-SB-EB21	G038-02	1	NA	07/05/1918:39	07/05/1918:39	RGR082	RFR259	VOF3G03	Field Sample
OU2-SB-TB20	G038-03	1	NA	07/05/1919:06	07/05/1919:06	RGR083	RFR259	VOF3G03	Field Sample
OU2-SB-EB22	G038-04	1	NA	07/05/1919:33	07/05/1919:33	RGR084	RFR259	VOF3G03	Field Sample
OU2-SB-EB23	G038-05	1	NA	07/05/1920:01	07/05/1920:01	RGR085	RFR259	VOF3G03	Field Sample
OU2-SB-EB24	G038-06	1	NA	07/05/1920:28	07/05/1920:28	RGR086	RFR259	VOF3G03	Field Sample
OU2-SB-EB25	G038-07	1	NA	07/05/1920:55	07/05/1920:55	RGR087	RFR259	VOF3G03	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 18:11
Sample ID: OU2-SB-EB20	Date Analyzed: 07/05/19 18:11
Lab Samp ID: G038-01	Dilution Factor: 1
Lab File ID: RGR081	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	12	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	0.16J	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	0.35J	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	0.18J	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.3	10.00	103	70-130
BROMOFLUOROBENZENE	10.2	10.00	102	70-130
TOLUENE-D8	10.1	10.00	101	70-130
DIBROMOFLUOROMETHANE	10.8	10.00	108	70-130

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 18:39
Sample ID: OU2-SB-EB21	Date Analyzed: 07/05/19 18:39
Lab Samp ID: G038-02	Dilution Factor: 1
Lab File ID: RGR082	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	11	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	0.12J	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	0.26J	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	0.14J	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.84	10.00	98.4	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	10.1	10.00	101	70-130
DIBROMOFLUOROMETHANE	10.4	10.00	104	70-130

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 19:06
Sample ID: OU2-SB-TB20	Date Analyzed: 07/05/19 19:06
Lab Samp ID: G038-03	Dilution Factor: 1
Lab File ID: RGR083	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	3.5J	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	0.11J	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	0.13J	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	0.35J	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	0.13J	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.0	10.00	100	70-130
BROMOFLUOROBENZENE	10.6	10.00	106	70-130
TOLUENE-D8	9.65	10.00	96.5	70-130
DIBROMOFLUOROMETHANE	10.3	10.00	103	70-130

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/27/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 19:33
Sample ID: OU2-SB-EB22	Date Analyzed: 07/05/19 19:33
Lab Samp ID: G038-04	Dilution Factor: 1
Lab File ID: RGR084	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	5.0J	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	3.4J	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	0.16J	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	9.92	10.00	99.2	70-130
DIBROMOFLUOROMETHANE	10.7	10.00	107	70-130

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/28/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 20:01
Sample ID: OU2-SB-EB23	Date Analyzed: 07/05/19 20:01
Lab Samp ID: G038-05	Dilution Factor: 1
Lab File ID: RGR085	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	5.7J	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	0.19J	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	0.52J	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.6	10.00	106	70-130
BROMOFLUOROBENZENE	10.7	10.00	107	70-130
TOLUENE-D8	9.64	10.00	96.4	70-130
DIBROMOFLUOROMETHANE	10.6	10.00	106	70-130

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/01/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 20:28
Sample ID: OU2-SB-EB24	Date Analyzed: 07/05/19 20:28
Lab Samp ID: G038-06	Dilution Factor: 1
Lab File ID: RGR086	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	4.7J	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	14	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	0.21J	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	0.58J	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-130
BROMOFLUOROBENZENE	10.7	10.00	107	70-130
TOLUENE-D8	10.1	10.00	101	70-130
DIBROMOFLUOROMETHANE	10.5	10.00	105	70-130

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/02/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 20:55
Sample ID: OU2-SB-EB25	Date Analyzed: 07/05/19 20:55
Lab Samp ID: G038-07	Dilution Factor: 1
Lab File ID: RGR087	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	6.2J	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	14	10	2.6
BENZENE	0.11J	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	0.24J	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	0.66J	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.8	10.00	108	70-130
BROMOFLUOROBENZENE	11.0	10.00	110	70-130
TOLUENE-D8	10.1	10.00	101	70-130
DIBROMOFLUOROMETHANE	10.6	10.00	106	70-130

QC SUMMARIES

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/05/19
Batch No. : 19G038	Date Extracted: 07/05/19 13:08
Sample ID: MBLK1W	Date Analyzed: 07/05/19 13:08
Lab Samp ID: VOF3G03B	Dilution Factor: 1
Lab File ID: RGR070	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	ND	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.86	10.00	98.6	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	10.5	10.00	105	70-130
DIBROMOFLUOROMETHANE	10.2	10.00	102	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G038
METHOD: SW5030B/8260C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: VOF3G03B VOF3G03X VOF3G03Y
LAB FILE ID: RGR070 RGR072 RGR073
DATE EXTRACTED: 07/05/1913:08 07/05/1914:09 07/05/1914:36 DATE COLLECTED: NA
DATE ANALYZED: 07/05/1913:08 07/05/1914:09 07/05/1914:36 DATE RECEIVED: 07/05/19
PREP. BATCH: VOF3G03 VOF3G03 VOF3G03
CALIB. REF: RFR259 RFR259 RFR259

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	10.6	106	10.0	10.4	104	2	74-131	20
1,1,2,2-Tetrachloroethane	ND	10.0	10.4	104	10.0	10.1	101	2	71-121	20
1,1,2-Trichloroethane	ND	10.0	9.81	98	10.0	10.0	100	2	80-119	20
1,1-Dichloroethane	ND	10.0	9.92	99	10.0	9.76	98	2	77-125	20
1,1-Dichloroethene	ND	10.0	9.71	97	10.0	9.49	95	2	71-131	20
1,2,3-Trichlorobenzene	ND	10.0	10.1	101	10.0	9.80	98	3	69-129	20
1,2,4-Trichlorobenzene	ND	10.0	10.1	101	10.0	9.64	96	4	69-130	20
1,2,4-Trimethylbenzene	ND	10.0	9.93	99	10.0	9.84	98	1	76-124	20
1,2-Dibromo-3-chloropropane	ND	10.0	10.9	109	10.0	10.7	107	2	62-138	20
1,2-Dichlorobenzene	ND	10.0	9.91	99	10.0	9.89	99	0	80-119	20
1,2-Dichloroethane	ND	10.0	9.84	98	10.0	9.83	98	0	73-128	20
1,2-Dichloropropane	ND	10.0	9.75	98	10.0	9.82	98	1	78-122	20
1,3,5-Trimethylbenzene	ND	10.0	9.96	100	10.0	9.66	97	3	75-124	20
1,3-Dichlorobenzene	ND	10.0	9.94	99	10.0	10.3	103	3	80-119	20
1,4-Dichlorobenzene	ND	10.0	9.75	98	10.0	9.86	99	1	79-118	20
2-Butanone	ND	50.0	48.1	96	50.0	47.6	95	1	56-143	20
2-Hexanone	ND	50.0	49.2	98	50.0	48.6	97	1	57-139	20
Acetone	ND	50.0	42.4	85	50.0	40.0	80	6	39-160	20
Benzene	ND	10.0	9.83	98	10.0	9.95	100	1	79-120	20
Bromochloromethane	ND	10.0	10.3	103	10.0	10.1	101	3	78-120	20
Bromodichloromethane	ND	10.0	10.4	104	10.0	10.3	103	1	79-125	20
Bromoform	ND	10.0	11.5	115	10.0	11.0	110	5	66-130	20
Bromomethane	ND	10.0	9.71	97	10.0	9.20	92	5	53-141	20
Carbon Disulfide	ND	10.0	12.6	126	10.0	12.7	127	1	64-133	20
Carbon Tetrachloride	ND	10.0	10.9	109	10.0	10.9	109	0	72-136	20
Chlorobenzene	ND	10.0	10.3	103	10.0	10.0	100	2	82-118	20
Chloroethane	ND	10.0	9.87	99	10.0	9.22	92	7	60-138	20
Chloroform	ND	10.0	9.93	99	10.0	9.75	98	2	79-124	20
Chloromethane	ND	10.0	8.76	88	10.0	8.43	84	4	50-139	20
cis-1,2-Dichloroethylene	ND	10.0	9.73	97	10.0	9.74	97	0	78-123	20
Dibromochloromethane	ND	10.0	10.6	106	10.0	10.7	107	1	74-126	20

Dichlorodifluoromethane	ND	10.0	8.16	82	10.0	7.58	76	7	32-152	20
Ethylbenzene	ND	10.0	10.2	102	10.0	10.2	102	1	79-121	20
Isopropylbenzene	ND	10.0	10.2	102	10.0	9.64	96	5	72-131	20
m,p-Xylene	ND	20.0	20.8	104	20.0	20.2	101	3	80-121	20
4-Methyl-2-Pentanone	ND	50.0	48.9	98	50.0	47.4	95	3	67-130	20
Methylene Chloride	ND	10.0	9.79	98	10.0	9.66	97	1	74-124	20
tert-Butyl Methyl Ether	ND	10.0	9.52	95	10.0	9.42	94	1	71-124	20
o-Xylene	ND	10.0	9.85	99	10.0	9.77	98	1	78-122	20
Styrene	ND	10.0	10.6	106	10.0	10.3	103	2	78-123	20
Tetrachloroethene	ND	10.0	9.72	97	10.0	9.76	98	0	74-129	20
Toluene	ND	10.0	9.71	97	10.0	9.82	98	1	80-121	20
Trans-1,2-DCE	ND	10.0	10.1	101	10.0	9.99	100	2	75-124	20
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	20.0	19.8	99	20.0	20.1	101	2	77-123	20
cis-1,3-Dichloropropene	ND	10.0	9.89	99	10.0	9.81	98	1	75-124	20
Trans-1,3-Dichloropropene	ND	10.0	9.90	99	10.0	10.3	103	4	73-127	20
TCE	ND	10.0	9.94	99	10.0	9.76	98	2	79-123	20
Trichlorofluoromethane	ND	10.0	12.3	123	10.0	11.5	115	7	65-141	20
Vinyl Chloride	ND	10.0	9.10	91	10.0	8.72	87	4	58-137	20
1,2-Dibromoethane	ND	10.0	10.2	102	10.0	10.2	102	0	77-121	20
Vinyl Acetate	ND	10.0	10.2	102	10.0	10.1	101	1	54-146	20
Trichlorotrifluoroethane	ND	10.0	11.5	115	10.0	11.1	111	4	70-136	20
Methyl Acetate	ND	10.0	9.86	99	10.0	9.99	100	1	50-136	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.2	102	10.0	10.2	102	70-130
Bromofluorobenzene	10.0	10.4	104	10.0	9.92	99	70-130
Toluene-d8	10.0	10.1	101	10.0	10.2	102	70-130
Dibromofluoromethane	10.0	10.3	103	10.0	10.3	103	70-130

INITIAL CALIBRATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RFR253
Instrument ID: F3
GC Column: ZB-624 ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G038
BFB Injection Date : 06/17/19
BFB Injection Time : 13:24
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	29.43
75	30.0 - 60.0% of mass 95	52.66
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.16
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	62.93
175	5.0 - 9.0% of mass 174	4.66(7.4)1
176	95.0 - 101.0% of mass 174	61.00(96.9)1
177	5.0 - 9.0% of mass 176	4.07(6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	VOF3F171	RFR254	06/17/19	13:57
2	VSTD0.5	VOF3F172	RFR255	06/17/19	14:24
3	VSTD01	VOF3F173	RFR256	06/17/19	14:51
4	VSTD02	VOF3F174	RFR257	06/17/19	15:19
5	VSTD05	VOF3F175	RFR258	06/17/19	15:46
6	VSTD010	VOF3F176	RFR259	06/17/19	16:13
7	VSTD020	VOF3F177	RFR260	06/17/19	16:58
8	VSTD030	VOF3F178	RFR261	06/17/19	17:26
9	VSTD050	VOF3F179	RFR262	06/17/19	17:53
10	VSTD100	VOF3F1710	RFR263	06/17/19	18:20
11	VSTD010	IVOF3F1701	RFR266	06/17/19	19:41

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :F3
Beginning DateTime :06/17/19 13:57
Spike Units :PPB
IC File :RFR259

Column Spec :ZB-624 ID :0.25MM
Ending DateTime :06/17/19 18:20
HPChem Method :VOF3F17

M	IDX	Parameters	.3 13:57 RFR254	.5 14:24 RFR255	1 14:51 RFR256	2 15:19 RFR257	5 15:46 RFR258	10 16:13 RFR259	20 16:58 RFR260	30 17:26 RFR261	50 17:53 RFR262	100 18:20 RFR263	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	11.9510
	2	Chlorotrifluoroethylene	------	0.179	0.229	0.237	0.230	0.270	0.276	0.244	0.251	------	0.240	12.52	3.7084
	3	Dichlorodifluoromethane	------	0.401	0.517	0.476	0.451	0.504	0.520	0.452	0.450	0.497	0.474	8.30	3.7814
	4	Chloromethane	------	0.660	0.753	0.761	0.687	0.743	0.759	0.684	0.662	0.698	0.712	5.91	4.1826
	5	2-Chloro-1,1,1-trifluoroethane	------	0.291	0.374	0.376	0.370	0.418	0.450	0.393	0.391	0.438	0.389	11.97	4.5607
	6	Vinyl chloride	------	0.470	0.600	0.623	0.584	0.638	0.665	0.586	0.567	0.618	0.594	9.35	4.3907
	7	Bromomethane	------	0.275	0.360	0.358	0.339	0.375	0.392	0.356	0.339	------	0.349	10.03	5.0439
	8	Chloroethane	------	0.302	0.353	0.349	0.335	0.358	0.377	0.326	0.301	0.307	0.334	8.15	5.2195
	9	Dichlorofluoromethane	0.808	0.813	0.856	0.895	0.774	0.799	0.885	0.784	0.741	0.768	0.812	6.29	5.5379
	10	Trichlorofluoromethane	------	0.305	0.402	0.406	0.388	0.422	0.444	0.383	0.380	0.417	0.394	9.94	5.6273
5	11	Acrolein	------	------	0.027	0.031	0.029	0.028	0.027	0.027	0.026	0.026	0.028	6.60	6.3780
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	------	0.163	0.208	0.219	0.188	0.188	0.230	0.208	0.201	0.212	0.202	9.81	6.4891
	13	1,1-Dichloroethene	0.771	0.775	0.834	0.897	0.756	0.777	0.891	0.780	0.737	0.774	0.799	6.96	6.5647
5	14	Acetone	------	------	0.064	0.068	0.059	0.060	0.052	0.050	0.049	------	0.058	13.02	6.6293
	15	Iodomethane	------	0.491	0.554	0.591	0.533	0.545	0.631	0.597	0.572	0.606	0.569	7.51	6.9201
	16	Methyl acetate	------	------	0.015	0.020	0.025	0.027	0.024	0.026	0.026	0.027	0.024	18.07	7.1655
	17	Carbon disulfide	------	0.791	0.935	0.881	0.953	0.980	1.082	0.974	0.897	0.993	0.943	8.66	7.0340
	18	Methylene chloride	------	0.725	0.629	0.671	0.612	0.610	0.640	0.586	0.557	0.553	0.620	8.81	7.4633
5	19	tert-Butyl alcohol	------	------	0.013	0.016	0.017	0.017	0.015	0.015	0.016	0.016	0.015	8.49	7.5221
	20	tert-Butyl methyl ether (MTBE)	0.590	0.666	0.472	0.657	0.635	0.644	0.594	0.615	0.615	0.616	0.610	8.96	7.7951
	21	trans-1,2-Dichloroethene	0.689	0.739	0.748	0.815	0.710	0.719	0.778	0.715	0.681	0.681	0.728	6.02	7.8723
5	22	Acrylonitrile	------	0.067	0.055	0.068	0.070	0.068	0.064	0.065	0.065	0.064	0.065	6.43	7.8810
	23	Isopropyl ether (DIPE)	1.684	1.656	1.467	1.841	1.686	1.760	1.679	1.641	1.604	1.487	1.650	6.82	8.6136
	24	1,1-Dichloroethane	0.862	0.893	0.898	0.979	0.882	0.926	0.955	0.895	0.853	0.849	0.899	4.80	8.6700
	25	Vinyl acetate	------	------	0.016	0.023	0.033	0.036	0.035	0.035	0.036	0.037	0.032	24.52	8.6862
	26	tert-Butyl ethyl ether (ETBE)	1.233	1.182	0.908	1.118	1.052	1.078	1.028	1.024	1.026	1.021	1.067	8.61	9.3164
	27	2,2-Dichloropropane	0.356	0.356	0.361	0.362	0.318	0.314	0.326	0.309	0.281	------	0.331	8.64	9.7801
	28	cis-1,2-Dichloroethene	0.392	0.415	0.394	0.430	0.402	0.402	0.429	0.417	0.410	0.413	0.410	3.21	9.8142
5	29	2-Butanone	0.075	0.078	0.059	0.084	0.093	0.092	0.084	0.084	0.087	0.083	0.082	11.86	9.8246
5	30	2-Butanol	------	------	------	0.010	0.013	0.015	0.013	0.013	0.014	0.015	0.013	13.04	10.1113
	31	Bromochloromethane	0.129	0.140	0.129	0.158	0.147	0.153	0.154	0.155	0.155	0.160	0.148	7.76	10.3224
	32	Tetrahydrofuran	------	------	0.038	0.051	0.047	0.048	0.046	0.048	0.047	0.045	0.046	8.62	10.3820
	33	Chloroform	0.664	0.697	0.675	0.753	0.687	0.712	0.727	0.700	0.671	0.668	0.695	4.12	10.4205
	34	Dibromofluoromethane	------	0.237	0.260	0.295	0.321	0.334	0.342	0.334	0.339	0.357	0.313	13.04	10.7344
	35	1,1,1-Trichloroethane	0.449	0.461	0.477	0.504	0.445	0.459	0.490	0.465	0.431	0.423	0.460	5.48	10.7519
	36	Cyclohexane	0.580	0.615	0.796	0.768	0.777	0.782	0.852	0.752	0.723	0.716	0.736	11.24	10.8232
	37	1,1-Dichloropropene	0.164	0.186	0.190	0.205	0.184	0.190	0.206	0.197	0.194	0.194	0.191	6.23	11.0327
	38	Carbon tetrachloride	0.347	0.380	0.427	0.445	0.402	0.415	0.451	0.429	0.418	0.414	0.413	7.47	11.0357
5	39	tert-Amyl alcohol	------	------	------	0.010	0.012	0.013	0.011	0.012	0.012	0.013	0.012	9.19	11.3085
	40	1,2-Dichloroethane-d4	------	0.240	0.223	0.253	0.281	0.285	0.281	0.275	0.268	0.277	0.265	8.12	11.3420
	41	2,2,4-Trimethylpentane	------	0.993	1.343	1.310	1.271	1.370	1.540	1.291	1.263	1.227	1.290	11.15	11.3998
	42	Benzene	1.504	1.528	1.548	1.705	1.525	1.583	1.714	1.677	1.614	------	1.600	5.09	11.4047
	43	1,2-Dichloroethane	0.369	0.386	0.342	0.412	0.383	0.391	0.387	0.378	0.364	0.356	0.377	5.29	11.4651
	44	tert-Amyl methyl ether (TAME)	0.122	0.133	0.100	0.128	0.120	0.130	0.124	0.124	0.125	0.127	0.123	7.39	11.4636
	45	Trichloroethene	0.344	0.380	0.395	0.426	0.387	0.403	0.431	0.420	0.423	0.444	0.405	7.33	12.3775
	46	Methylcyclohexane	------	0.514	0.608	0.620	0.618	0.645	0.700	0.625	0.627	0.649	0.623	7.85	12.6051
	47	1,2-Dichloropropane	0.399	0.436	0.401	0.470	0.419	0.444	0.439	0.425	0.417	------	0.428	5.19	12.7256
20	48	1,4-Dioxane	------	------	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	8.76	12.8988
	49	Dibromomethane	0.133	0.151	0.131	0.165	0.151	0.158	0.154	0.154	0.156	0.155	0.151	7.03	12.9303
	50	Bromodichloromethane	0.376	0.416	0.382	0.449	0.422	0.444	0.450	0.437	0.428	0.423	0.423	6.10	13.0997
	51	2-Chloroethyl vinyl ether	------	------	0.042	0.052	0.055	0.060	0.056	0.058	0.064	------	0.055	12.43	13.4463
	52	cis-1,3-Dichloropropene	0.515	0.538	0.478	0.569	0.531	0.560	0.583	0.565	0.562	0.567	0.547	5.79	13.6613
5	53	4-Methyl-2-pentanone	0.164	0.177	0.136	0.185	0.194	0.205	0.177	0.181	0.189	0.169	0.178	10.73	13.8025

SG
6/20/19

	54	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	15.6510
	55	Toluene-d8	------	1.067	1.230	1.239	1.337	1.355	1.397	1.464	1.456	------	1.318	10.15	13.9779
	56	Toluene	1.648	1.697	1.810	1.923	1.770	1.845	1.868	1.971	1.836	------	1.819	5.62	14.0646
	57	Ethyl methacrylate	0.328	0.314	0.270	0.328	0.318	0.333	0.310	0.325	0.333	0.330	0.319	5.89	14.3553
	58	trans-1,3-Dichloropropene	0.572	0.561	0.490	0.561	0.512	0.531	0.509	0.521	0.522	0.522	0.530	4.93	14.3419
	59	1,1,2-Trichloroethane	0.218	0.229	0.213	0.249	0.229	0.240	0.222	0.233	0.229	0.235	0.230	4.59	14.5737
	60	Tetrachloroethene	0.300	0.341	0.371	0.381	0.342	0.357	0.383	0.397	0.378	0.414	0.366	8.89	14.7194
5	61	2-Hexanone	------	0.113	0.093	0.143	0.165	0.181	0.151	0.168	0.168	0.157	0.149	19.22	14.7944
	62	1,3-Dichloropropane	0.410	0.441	0.432	0.507	0.483	0.499	0.456	0.494	0.473	0.465	0.466	6.74	14.7729
	63	Dibromochloromethane	0.245	0.275	0.274	0.326	0.301	0.327	0.314	0.334	0.332	0.342	0.307	10.54	15.0581
	64	1,2-Dibromoethane	0.205	0.212	0.206	0.249	0.234	0.244	0.231	0.242	0.240	0.245	0.231	7.27	15.2097
	65	1-Chlorohexane	0.746	0.753	0.804	0.834	0.729	0.758	0.840	0.826	0.770	0.763	0.782	5.14	15.5619
	66	Chlorobenzene	0.945	0.964	1.038	1.119	1.001	1.048	1.106	1.124	1.113	------	1.051	6.59	15.6809
	67	Ethylbenzene	1.842	1.888	2.028	2.106	1.909	2.005	2.170	2.236	1.716	------	1.989	8.39	15.7404
	68	1,1,1,2-Tetrachloroethane	0.306	0.326	0.341	0.373	0.340	0.364	0.371	0.386	0.370	0.382	0.356	7.38	15.7506
2	69	m-Xylene & p-Xylene	1.357	1.417	1.516	1.595	1.412	1.554	1.609	1.440	------	------	1.488	6.30	15.8446
	70	o-Xylene	1.397	1.381	1.499	1.568	1.354	1.466	1.534	1.546	1.404	------	1.461	5.45	16.2456
	71	Styrene	0.972	0.987	1.016	1.123	0.989	1.098	1.129	1.153	1.119	0.894	1.048	8.33	16.2647
	72	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	18.1459
	73	Bromoform	------	0.338	0.314	0.363	0.331	0.378	0.388	0.393	0.387	0.418	0.368	9.21	16.5230
	74	Isopropylbenzene	5.211	5.569	6.045	6.121	4.936	5.495	6.136	5.873	4.448	------	5.537	10.55	16.5593
	75	4-Bromofluorobenzene	0.978	1.158	1.154	1.150	1.141	1.245	1.276	1.260	1.199	1.270	1.183	7.59	16.7551
	76	1,1,2,2-Tetrachloroethane	0.736	0.820	0.748	0.845	0.756	0.802	0.771	0.778	0.747	0.780	0.778	4.50	16.8695
	77	trans-1,4-Dichloro-2-butene	0.239	0.209	0.182	0.235	0.194	0.231	0.236	0.233	0.223	0.231	0.221	8.87	16.6570
	78	n-Propylbenzene	6.338	6.902	7.420	7.558	6.329	7.115	7.493	7.360	------	------	7.064	7.06	16.9237
	79	1,2,3-Trichloropropane	0.148	0.153	0.141	0.180	0.167	0.178	0.161	0.173	0.160	0.159	0.162	7.87	16.9275
	80	Bromobenzene	0.943	1.059	1.025	1.143	1.000	1.102	1.137	1.158	1.091	1.169	1.083	6.90	16.9230
	81	1,3,5-Trimethylbenzene	3.821	4.087	4.455	4.451	3.802	4.120	4.472	4.472	3.670	------	4.150	7.89	17.0513
	82	2-Chlorotoluene	3.947	4.128	4.536	4.633	3.825	4.155	4.487	4.473	3.745	------	4.214	7.85	17.0546
	83	4-Chlorotoluene	3.215	3.560	3.650	3.964	3.308	3.586	3.861	3.822	3.417	------	3.598	7.09	17.1454
	84	tert-Butylbenzene	0.832	0.896	1.024	1.026	0.842	0.887	0.988	0.987	0.929	0.946	0.936	7.53	17.3599
	85	1,2,4-Trimethylbenzene	3.608	3.911	4.124	4.279	3.599	3.877	4.194	4.257	3.939	------	3.976	6.49	17.4013
	86	sec-Butylbenzene	5.311	5.662	6.180	6.483	5.358	5.821	6.579	6.388	4.700	------	5.831	10.88	17.5450
	87	p-Isopropyltoluene	4.284	4.464	4.794	5.129	4.161	4.250	5.179	4.980	4.154	------	4.600	9.19	17.6457
	88	1,3-Dichlorobenzene	1.735	1.997	2.046	2.186	1.912	2.022	2.242	2.129	2.108	2.109	2.048	7.09	17.7329
	89	1,2,3-Trimethylbenzene	3.350	3.686	3.665	3.984	3.351	3.673	3.922	3.858	3.474	------	3.663	6.41	17.7910
	90	1,4-Dichlorobenzene	1.962	1.973	1.939	2.212	1.833	2.013	2.166	2.173	2.057	2.092	2.042	5.89	17.8057
	91	Benzyl Chloride	1.077	1.104	0.916	1.073	0.973	1.088	1.096	1.120	1.105	1.176	1.073	6.96	17.9141
	92	n-Butylbenzene	3.959	4.611	4.975	5.086	4.347	4.693	5.236	5.061	4.257	------	4.692	9.29	18.0139
	93	1,2-Dichlorobenzene	1.513	1.653	1.670	1.846	1.591	1.708	1.775	1.729	1.719	1.793	1.700	5.77	18.1623
	94	1,2-Dibromo-3-chloropropane	------	0.070	0.069	0.092	0.085	0.097	0.094	0.099	0.098	0.105	0.090	14.14	18.9022
	95	1,2,4-Trichlorobenzene	0.798	0.850	0.765	0.943	0.834	0.936	0.985	1.010	0.978	1.028	0.913	10.27	19.7121
	96	Hexachlorobutadiene	0.565	0.618	0.644	0.698	0.570	0.630	0.710	0.682	0.627	0.642	0.639	7.62	19.8013
	97	Naphthalene	1.264	1.343	1.149	1.441	1.358	1.539	1.482	1.558	1.526	1.544	1.420	9.72	20.0346
	98	1,2,3-Trichlorobenzene	0.555	0.648	0.560	0.706	0.648	0.740	0.751	0.766	0.735	0.739	0.685	11.43	20.3035

Spike Amount = Nominal Amount * M
Ave_%RSD : 8.4 Max_%RSD : 24.5

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
16	Methyl acetate	-0.00118	0.02659	0.9996
25	Vinyl acetate	-0.00233	0.03710	0.9998
61	2-Hexanone	-0.01562	0.16238	0.9986

SA 6/20/19

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :F3
Beginning DateTime :06/17/19 13:57
Spike Units :PPB
IC File :RFR259

Column Spec :ZB-624 ID :0.25MM
Ending DateTime :06/17/19 18:20
HPChem Method :VOF3F17

M	IDX	Parameters	.3 13:57 RFR254	.5 14:24 RFR255	1 14:51 RFR256	2 15:19 RFR257	5 15:46 RFR258	10 16:13 RFR259	20 16:58 RFR260	30 17:26 RFR261	50 17:53 RFR262	100 18:20 RFR263	AvDRec	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	11.9510
	2	Chlorotrifluoroethylene	------	75	95	99	96	112	115	102	105	------	8.6	12.52	3.7084
	3	Dichlorodifluoromethane	------	85	109	100	95	106	110	95	95	105	6.7	8.30	3.7814
	4	Chloromethane	------	93	106	107	96	104	107	96	93	98	5.3	5.91	4.1826
	5	2-Chloro-1,1,1-trifluoroethane	------	75	96	97	95	107	116	101	101	113	8.3	11.97	4.5607
	6	Vinyl chloride	------	79	101	105	98	107	112	99	95	104	6.4	9.35	4.3907
	7	Bromomethane	------	79	103	103	97	107	112	102	97	------	6.8	10.03	5.0439
	8	Chloroethane	------	90	106	104	100	107	113	98	90	92	6.7	8.15	5.2195
	9	Dichlorofluoromethane	100	100	105	110	95	98	109	97	91	95	4.9	6.29	5.5379
	10	Trichlorofluoromethane	------	77	102	103	98	107	113	97	96	106	6.8	9.94	5.6273
5	11	Acrolein	------	------	96	111	104	100	96	96	93	93	4.9	6.60	6.3780
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	------	81	103	108	93	93	114	103	100	105	7.4	9.81	6.4891
	13	1,1-Dichloroethene	96	97	104	112	95	97	112	98	92	97	5.6	6.96	6.5647
5	14	Acetone	------	------	110	117	102	103	90	86	84	------	10.3	13.02	6.6293
	15	Iodomethane	------	86	97	104	94	96	111	105	101	107	6	7.51	6.9201
	16	Methyl acetate	------	------	99	98	102	107	94	98	100	101	2.6	18.07	7.1655
	17	Carbon disulfide	------	84	99	93	101	104	115	103	95	105	6.3	8.66	7.0340
	18	Methylene chloride	------	117	101	108	99	98	103	95	90	89	6.6	8.81	7.4633
5	19	tert-Butyl alcohol	------	------	87	107	113	113	100	100	107	107	7.5	8.49	7.5221
	20	tert-Butyl methyl ether (MTBE)	97	109	77	108	104	106	97	101	101	101	5.8	8.96	7.7951
	21	trans-1,2-Dichloroethene	95	102	103	112	98	99	107	98	94	94	4.7	6.02	7.8723
5	22	Acrylonitrile	------	103	85	105	108	105	98	100	100	98	4.3	6.43	7.8810
	23	Isopropyl ether (DIPE)	102	100	89	112	102	107	102	99	97	90	4.9	6.82	8.6136
	24	1,1-Dichloroethane	96	99	100	109	98	103	106	100	95	94	3.6	4.80	8.6700
	25	Vinyl acetate	------	------	105	95	102	102	98	97	100	101	2.5	24.52	8.6862
	26	tert-Butyl ethyl ether (ETBE)	116	111	85	105	99	101	96	96	96	96	6.4	8.61	9.3164
	27	2,2-Dichloropropane	108	108	109	109	96	95	98	93	85	------	7.3	8.64	9.7801
	28	cis-1,2-Dichloroethene	96	101	96	105	98	98	105	102	100	101	2.5	3.21	9.8142
5	29	2-Butanone	91	95	72	102	113	112	102	102	106	101	8.2	11.86	9.8246
5	30	2-Butanol	------	------	------	77	100	115	100	100	108	115	8.8	13.04	10.1113
	31	Bromochloromethane	87	95	87	107	99	103	104	105	105	108	6.4	7.76	10.3224
	32	Tetrahydrofuran	------	------	83	111	102	104	100	104	102	98	5.4	8.62	10.3820
	33	Chloroform	96	100	97	108	99	102	105	101	97	96	3.2	4.12	10.4205
	34	Dibromofluoromethane	------	76	83	94	103	107	109	107	108	114	10.5	13.04	10.7344
	35	1,1,1-Trichloroethane	98	100	104	110	97	100	107	101	94	92	4.1	5.48	10.7519
	36	Cyclohexane	79	84	108	104	106	106	116	102	98	97	8.4	11.24	10.8232
	37	1,1-Dichloropropene	86	97	99	107	96	99	108	103	102	102	4.3	6.23	11.0327
	38	Carbon tetrachloride	84	92	103	108	97	100	109	104	101	100	5.3	7.47	11.0357
5	39	tert-Amyl alcohol	------	------	------	83	100	108	92	100	100	108	6	9.19	11.3085
	40	1,2-Dichloroethane-d4	------	91	84	95	106	108	106	104	101	105	6.5	8.12	11.3420
	41	2,2,4-Trimethylpentane	------	77	104	102	99	106	119	100	98	95	7	11.15	11.3998
	42	Benzene	94	96	97	107	95	99	107	105	101	------	4.3	5.09	11.4047
	43	1,2-Dichloroethane	98	102	91	109	102	104	103	100	97	94	4	5.29	11.4651
	44	tert-Amyl methyl ether (TAME)	99	108	81	104	98	106	101	101	102	103	4.6	7.39	11.4636
	45	Trichloroethene	85	94	98	105	96	100	106	104	104	110	5.8	7.33	12.3775
	46	Methylcyclohexane	------	83	98	100	99	104	112	100	101	104	4.7	7.85	12.6051
	47	1,2-Dichloropropane	93	102	94	110	98	104	103	99	97	------	4	5.19	12.7256
20	48	1,4-Dioxane	------	------	100	100	100	100	100	100	100	100	0	8.76	12.8988

For 8260C
SM
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49	Dibromomethane	88	100	87	109	100	105	102	102	103	103	4.9	7.03	12.9303
50	Bromodichloromethane	89	98	90	106	100	105	106	103	101	100	4.5	6.10	13.0997
51	2-Chloroethyl vinyl ether	------	------	76	95	100	109	102	105	116	------	8.8	12.43	13.4463
52	cis-1,3-Dichloropropene	94	98	87	104	97	102	107	103	103	104	4.6	5.79	13.6613
5 53	4-Methyl-2-pentanone	92	99	76	104	109	115	99	102	106	95	7.4	10.73	13.8025
54	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	15.6510
55	Toluene-d8	------	81	93	94	101	103	106	111	110	------	7.9	10.15	13.9779
56	Toluene	91	93	100	106	97	101	103	108	101	------	4.3	5.62	14.0646
57	Ethyl methacrylate	103	98	85	103	100	104	97	102	104	103	4	5.89	14.3553
58	trans-1,3-Dichloropropene	108	106	92	106	97	100	96	98	98	98	3.9	4.93	14.3419
59	1,1,2-Trichloroethane	95	100	93	108	100	104	97	101	100	102	3.3	4.59	14.5737
60	Tetrachloroethene	82	93	101	104	93	98	105	108	103	113	6.9	8.89	14.7194
5 61	2-Hexanone	------	108	77	98	106	113	94	104	104	97	7.7	19.22	14.7944
62	1,3-Dichloropropane	88	95	93	109	104	107	98	106	102	100	5.4	6.74	14.7729
63	Dibromochloromethane	80	90	89	106	98	107	102	109	108	111	8.7	10.54	15.0581
64	1,2-Dibromoethane	89	92	89	108	101	106	100	105	104	106	6	7.27	15.2097
65	1-Chlorohexane	95	96	103	107	93	97	107	106	98	98	4.5	5.14	15.5619
66	Chlorobenzene	90	92	99	106	95	100	105	107	106	------	5.5	6.59	15.6809
67	Ethylbenzene	93	95	102	106	96	101	109	112	86	------	6.7	8.39	15.7404
68	1,1,1,2-Tetrachloroethane	86	92	96	105	96	102	104	108	104	107	6.2	7.38	15.7506
2 69	m-Xylene & p-Xylene	91	95	102	107	95	104	108	97	------	------	5.4	6.30	15.8446
70	o-Xylene	96	95	103	107	93	100	105	106	96	------	4.7	5.45	16.2456
71	Styrene	93	94	97	107	94	105	108	110	107	85	7.3	8.33	16.2647
72	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	18.1459
73	Bromoform	------	92	85	99	90	103	105	107	105	114	7.5	9.21	16.5230
74	Isopropylbenzene	94	101	109	111	89	99	111	106	80	------	8.3	10.55	16.5593
75	4-Bromofluorobenzene	83	98	98	97	96	105	108	107	101	107	5.7	7.59	16.7551
76	1,1,2,2-Tetrachloroethane	95	105	96	109	97	103	99	100	96	100	3.4	4.50	16.8695
77	trans-1,4-Dichloro-2-butene	108	95	82	106	88	105	107	105	101	105	7.2	8.87	16.6570
78	n-Propylbenzene	90	98	105	107	90	101	106	104	------	------	5.7	7.06	16.9237
79	1,2,3-Trichloropropane	91	94	87	111	103	110	99	107	99	98	6.2	7.87	16.9275
80	Bromobenzene	87	98	95	106	92	102	105	107	101	108	5.6	6.90	16.9230
81	1,3,5-Trimethylbenzene	92	98	107	107	92	99	108	108	88	------	6.7	7.89	17.0513
82	2-Chlorotoluene	94	98	108	110	91	99	106	106	89	------	6.7	7.85	17.0546
83	4-Chlorotoluene	89	99	101	110	92	100	107	106	95	------	5.6	7.09	17.1454
84	tert-Butylbenzene	89	96	109	110	90	95	106	105	99	101	6.2	7.53	17.3599
85	1,2,4-Trimethylbenzene	91	98	104	108	91	98	105	107	99	------	5.3	6.49	17.4013
86	sec-Butylbenzene	91	97	106	111	92	100	113	110	81	------	8.8	10.88	17.5450
87	p-Isopropyltoluene	93	97	104	112	90	92	113	108	90	------	8.1	9.19	17.6457
88	1,3-Dichlorobenzene	85	98	100	107	93	99	109	104	103	103	5.2	7.09	17.7329
89	1,2,3-Trimethylbenzene	91	101	100	109	91	100	107	105	95	------	4.9	6.41	17.7910
90	1,4-Dichlorobenzene	96	97	95	108	90	99	106	106	101	102	4.8	5.89	17.8057
91	Benzyl Chloride	100	103	85	100	91	101	102	104	103	110	4.8	6.96	17.9141
92	n-Butylbenzene	84	98	106	108	93	100	112	108	91	------	7.5	9.29	18.0139
93	1,2-Dichlorobenzene	89	97	98	109	94	100	104	102	101	105	4.4	5.77	18.1623
94	1,2-Dibromo-3-chloropropane	------	78	77	102	94	108	104	110	109	117	11.2	14.14	18.9022
95	1,2,4-Trichlorobenzene	87	93	84	103	91	103	108	111	107	113	8.8	10.27	19.7121
96	Hexachlorobutadiene	88	97	101	109	89	99	111	107	98	100	5.7	7.62	19.8013
97	Naphthalene	89	95	81	101	96	108	104	110	107	109	8	9.72	20.0346
98	1,2,3-Trichlorobenzene	81	95	82	103	95	108	110	112	107	108	9.6	11.43	20.3035

For 8260 c
SG
6/20/19

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :F3
IC Beginning DateTime :06/17/19 13:57
Spike Amount :10 PPB
CC/CV File :RFR266
IC File :RFR259

Column Spec :ZB-624 ID :0.25MM
IC Ending DateTime :06/17/19 18:20
HPChem Method :VOF3F17
Date_Time :06/17/19 19:41

M	IDX	Parameters	CC Con	CC% D	CC Resp	CCRRF	AVRRF	CC Rtm	AVRtm	% RSD	Co X0	Co X1	Co X2	Co Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	2229543	1	1	11.949	11.951	0				
	2	Chlorotrifluoroethylene	10.402	4.0	555508	0.249	0.240	3.708	3.708	12.52				
	3	Dichlorodifluoromethane	10.542	5.4	1114253	0.500	0.474	3.783	3.781	8.30				
	4	Chloromethane	10.397	4.0	1650309	0.740	0.712	4.184	4.183	5.91				
	5	2-Chloro-1,1,1-trifluoroethane	11.238	12.4	974801	0.437	0.389	4.555	4.561	11.97				
	6	Vinyl chloride	10.753	7.5	1425210	0.639	0.594	4.392	4.391	9.35				
	7	Bromomethane	10.901	9.0	848717	0.381	0.349	5.045	5.044	10.03				
	8	Chloroethane	10.700	7.0	797116	0.358	0.334	5.224	5.220	8.15				
	9	Dichlorofluoromethane	9.317	-6.8	1687231	0.757	0.812	5.536	5.538	6.29				
	10	Trichlorofluoromethane	11.097	11.0	975163	0.437	0.394	5.625	5.627	9.94				
5	11	Acrolein	48.328	-3.3	297326	0.027	0.028	6.383	6.378	6.60				
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	10.059	0.6	452796	0.203	0.202	6.487	6.489	9.81				
	13	1,1-Dichloroethene	9.222	-7.8	1643155	0.737	0.799	6.561	6.565	6.96				
5	14	Acetone	43.134	-13.7	553371	0.050	0.058	6.621	6.629	13.02				
	15	Iodomethane	10.297	3.0	1306226	0.586	0.569	6.918	6.920	7.51				
	16	Methyl acetate	10.742	7.4	61046	0.027	0.024	7.156	7.166	18.07	-0.0012	0.0266		0.9996
	17	Carbon disulfide	10.172	1.7	2138032	0.959	0.943	7.037	7.034	8.66				
	18	Methylene chloride	9.178	-8.2	1269584	0.569	0.620	7.468	7.463	8.81				
5	19	tert-Butyl alcohol	47.696	-4.6	164131	0.015	0.015	7.527	7.522	8.49				
	20	tert-Butyl methyl ether (MTBE)	10.380	3.8	1412868	0.634	0.610	7.795	7.795	8.96				
	21	trans-1,2-Dichloroethene	9.586	-4.1	1554836	0.697	0.728	7.869	7.872	6.02				
5	22	Acrylonitrile	48.990	-2.0	712506	0.064	0.065	7.869	7.881	6.43				
	23	Isopropyl ether (DIPE)	9.737	-2.6	3582833	1.607	1.650	8.605	8.614	6.82				
	24	1,1-Dichloroethane	9.623	-3.8	1928869	0.865	0.899	8.665	8.670	4.80				
	25	Vinyl acetate	10.894	8.9	84912	0.038	0.032	8.680	8.686	24.52	-0.0023	0.0371		0.9998
	26	tert-Butyl ethyl ether (ETBE)	9.616	-3.8	2287470	1.026	1.067	9.319	9.316	8.61				
	27	2,2-Dichloropropane	9.329	-6.7	689445	0.309	0.331	9.779	9.780	8.64				
	28	cis-1,2-Dichloroethene	9.930	-0.7	908854	0.408	0.410	9.809	9.814	3.21				
5	29	2-Butanone	50.626	1.3	924203	0.083	0.082	9.809	9.825	11.86				
5	30	2-Butanol	51.118	2.2	151469	0.014	0.013	10.106	10.111	13.04				
	31	Bromochloromethane	10.005	0.0	329616	0.148	0.148	10.314	10.322	7.76				
	32	Tetrahydrofuran	10.435	4.4	107249	0.048	0.046	10.374	10.382	8.62				
	33	Chloroform	9.655	-3.5	1496933	0.671	0.695	10.418	10.420	4.12				
	34	Dibromofluoromethane	10.217	2.2	713292	0.320	0.313	10.730	10.734	13.04				
	35	1,1,1-Trichloroethane	9.633	-3.7	988756	0.443	0.460	10.745	10.752	5.48				
	36	Cyclohexane	11.013	10.1	1807759	0.811	0.736	10.819	10.823	11.24				
	37	1,1-Dichloropropene	9.869	-1.3	420150	0.188	0.191	11.027	11.033	6.23				
	38	Carbon tetrachloride	10.208	2.1	939535	0.421	0.413	11.027	11.036	7.47				
5	39	tert-Amyl alcohol	51.469	2.9	135074	0.012	0.012	11.310	11.309	9.19				
	40	1,2-Dichloroethane-d4	9.504	-5.0	561155	0.252	0.265	11.340	11.342	8.12				
	41	2,2,4-Trimethylpentane	9.689	-3.1	2786692	1.250	1.290	11.399	11.400	11.15				
	42	Benzene	9.626	-3.7	3433695	1.540	1.600	11.399	11.405	5.09				
	43	1,2-Dichloroethane	9.738	-2.6	818094	0.367	0.377	11.458	11.465	5.29				
	44	tert-Amyl methyl ether (TAME)	10.067	0.7	276985	0.124	0.123	11.458	11.464	7.39				
	45	Trichloroethene	10.071	0.7	910029	0.408	0.405	12.365	12.377	7.33				
	46	Methylcyclohexane	10.624	6.2	1475395	0.662	0.623	12.603	12.605	7.85				
	47	1,2-Dichloropropane	9.887	-1.1	943111	0.423	0.428	12.721	12.726	5.19				
20	48	1,4-Dioxane	206.728	3.4	55859	0.001	0.001	12.900	12.899	8.76				
	49	Dibromomethane	10.265	2.6	344984	0.155	0.151	12.929	12.930	7.03				
	50	Bromodichloromethane	10.018	0.2	944623	0.424	0.423	13.093	13.100	6.10				
	51	2-Chloroethyl vinyl ether	10.592	5.9	130487	0.059	0.055	13.435	13.446	12.43				
	52	cis-1,3-Dichloropropene	10.132	1.3	1235117	0.554	0.547	13.658	13.661	5.79				
5	53	4-Methyl-2-pentanone	50.524	1.0	2003383	0.180	0.178	13.791	13.802	10.73				
	54	CHLOROBENZENE-D5	10.000	0	1734447	1	1	15.649	15.651	0				
	55	Toluene-d8	9.596	-4.0	2193837	1.265	1.318	13.970	13.978	10.15				
	56	Toluene	9.751	-2.5	3075692	1.773	1.819	14.059	14.065	5.62				
	57	Ethyl methacrylate	9.816	-1.8	542688	0.313	0.319	14.341	14.355	5.89				
	58	trans-1,3-Dichloropropene	9.280	-7.2	853335	0.492	0.530	14.326	14.342	4.93				
	59	1,1,2-Trichloroethane	10.029	0.3	399621	0.230	0.230	14.564	14.574	4.59				
	60	Tetrachloroethene	9.676	-3.2	614952	0.355	0.366	14.713	14.719	8.89				
5	61	2-Hexanone	48.318	-3.4	1333761	0.154	0.149	14.787	14.794	19.22	-0.0156	0.1624		0.9986
	62	1,3-Dichloropropane	9.946	-0.5	804180	0.464	0.466	14.772	14.773	6.74				
	63	Dibromochloromethane	10.143	1.4	540266	0.311	0.307	15.054	15.058	10.54				
	64	1,2-Dibromoethane	10.159	1.6	406926	0.235	0.231	15.203	15.210	7.27				
	65	1-Chlorohexane	9.455	-5.5	1282780	0.740	0.782	15.560	15.562	5.14				
	66	Chlorobenzene	9.922	-0.8	1808621	1.043	1.051	15.679	15.681	6.59				
	67	Ethylbenzene	9.800	-2.0	3380367	1.949	1.989	15.738	15.740	8.39				
	68	1,1,1,2-Tetrachloroethane	9.821	-1.8	606272	0.350	0.356	15.738	15.751	7.38				
2	69	m-Xylene & p-Xylene	19.471	-2.6	5023732	1.448	1.488	15.842	15.845	6.30				
	70	o-Xylene	9.618	-3.8	2437463	1.405	1.461	16.243	16.246	5.45				
	71	Styrene	9.894	-1.1	1798688	1.037	1.048	16.258	16.265	8.33				
	72	1,2-DICHLOROBENZENE-D4	10.000	0	569872	1	1	18.145	18.146	0				
	73	Bromoform	10.173	1.7	213203	0.374	0.368	16.525	16.523	9.21				
	74	Isopropylbenzene	9.929	-0.7	3133173	5.498	5.537	16.555	16.559	10.55				
	75	4-Bromofluorobenzene	9.852	-1.5	664244	1.166	1.183	16.748	16.755	7.59				
	76	1,1,2,2-Tetrachloroethane	10.405	4.1	461509	0.810	0.778	16.867	16.869	4.50				
	77	trans-1,4-Dichloro-2-butene	8.664	-13.4	109311	0.192	0.221	16.644	16.657	8.87				
	78	n-Propylbenzene	9.591	-4.1	3861030	6.775	7.064	16.912	16.924	7.06				
	79	1,2,3-Trichloropropane	10.364	3.6	95742	0.168	0.162	16.927	16.927	7.87				
	80	Bromobenzene	10.092	0.9	622702	1.093	1.083	16.912	16.923	6.90				
	81	1,3,5-Trimethylbenzene	9.937	-0.6	2349994	4.124	4.150	17.045	17.051	7.89				
	82	2-Chlorotoluene	9.905	-0.9	2378862	4.174	4.214	17.045	17.055	7.85				
	83	4-Chlorotoluene	9.974	-0.3	2045109	3.589	3.598	17.135	17.145	7.09				
	84	tert-Butylbenzene	9.781	-2.2	521571	0.915	0.936	17.358	17.360	7.53				
	85	1,2,4-Trimethylbenzene	9.728	-2.7	2204467	3.868	3.976	17.402	17.401	6.49				
	86	sec-Butylbenzene	10.149	1.5	3372715	5.918	5.831	17.536	17.545	10.88				
	87	p-Isopropyltoluene	9.915	-0.9	2598835	4.560	4.600	17.640	17.646	9.19				
	88	1,3-Dichlorobenzene	10.043	0.4	1172370	2.057	2.048	17.729	17.733	7.09				
	89	1,2,3-Trimethylbenzene	10.025	0.2	2092392	3.672	3.663	17.788	17.791	6.41				
	90	1,4-Dichlorobenzene	10.184	1.8	1185093	2.080	2.042	17.803	17.806	5.89				
	91	Benzyl Chloride	10.363	3.6	633603	1.112	1.073	17.907	17.914	6.96				
	92	n-Butylbenzene	9.753	-2.5	2607683	4.576	4.692	18.011	18.014	9.29				
	93	1,2-Dichlorobenzene	9.954	-0.5	964147	1.692	1.700	18.160	18.162	5.77				
	94	1,2-Dibromo-3-chloropropane	11.008	10.1	56379	0.099	0.090	18.903	18.902	14.14				
	95	1,2,4-Trichlorobenzene	10.707	7.1	556817	0.977	0.913	19.705	19.712	10.27				
	96	Hexachlorobutadiene	10.053	0.5	365970	0.642	0.639	19.795	19.801	7.62				
	97	Naphthalene	10.560	5.6	854812	1.500	1.420	20.032	20.035	9.72				
	98	1,2,3-Trichlorobenzene	10.783	7.8	420866	0.739	0.685	20.300	20.303	11.43				

Spike Amount = Nominal Amount * M

SU 6/20/19

DAILY CALIBRATIONS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RGR066
Instrument ID: F3
GC Column: ZB-624 ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G038
BFB Injection Date : 07/05/19
BFB Injection Time : 11:00
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	26.95
75	30.0 - 60.0% of mass 95	51.76
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.68
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	63.03
175	5.0 - 9.0% of mass 174	4.31(6.8)1
176	95.0 - 101.0% of mass 174	60.01(95.2)1
177	5.0 - 9.0% of mass 176	4.09(6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CVOF3F1712	RGR067	07/05/19	11:46
2	MBLK1W	VOF3G03B	RGR070	07/05/19	13:08
3	LCS1W	VOF3G03X	RGR072	07/05/19	14:09
4	LCD1W	VOF3G03Y	RGR073	07/05/19	14:36
5	OU2-SB-EB20	G038-01	RGR081	07/05/19	18:11
6	OU2-SB-EB21	G038-02	RGR082	07/05/19	18:39
7	OU2-SB-TB20	G038-03	RGR083	07/05/19	19:06
8	OU2-SB-EB22	G038-04	RGR084	07/05/19	19:33
9	OU2-SB-EB23	G038-05	RGR085	07/05/19	20:01
10	OU2-SB-EB24	G038-06	RGR086	07/05/19	20:28
11	OU2-SB-EB25	G038-07	RGR087	07/05/19	20:55

FORM 8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX Inc
Lab Code : EMXT
Lab File ID : RFR259
Instrument ID: F3
GC Column : ZB-624 ID:0.25mm (mm)

Project: VHA-SLC
SDG No: 19G038
Date Analyzed: 06/17/2019
Time Analyzed: 16:13
Heated Purge (Y/N): N

		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5		1,2-DICHLOROBENZENE-D4	
		AREA #	RT(min)	AREA #	RT(min)	AREA #	RT(min)
	12 HOUR STD	2230407	11.95	1666498	15.65	568601	18.15
	UPPER LIMIT	4460814	12.12	3332996	15.82	1137202	18.32
	LOWER LIMIT	1115204	11.78	833249	15.48	284301	17.98
	SAMPLE ID						
1	VSTD010	1935839	11.94	1417582	15.64	487146	18.13
2	MBLK1W	2010004	11.94	1409482	15.64	443035	18.13
3	LCS1W	1868817	11.93	1410107	15.63	467688	18.13
4	LCD1W	1880638	11.95	1397671	15.65	478960	18.13
5	OU2-SB-EB20	1870209	11.95	1397249	15.65	464664	18.13
6	OU2-SB-EB21	1937903	11.95	1418668	15.65	451972	18.13
7	OU2-SB-TB20	1847396	11.95	1362133	15.65	427362	18.13
8	OU2-SB-EB22	1842497	11.95	1373272	15.64	418486	18.13
9	OU2-SB-EB23	1768939	11.95	1390826	15.65	410675	18.13
10	OU2-SB-EB24	1870526	11.95	1331783	15.65	409706	18.13
11	OU2-SB-EB25	1759882	11.95	1323577	15.64	401646	18.13

Area Upper Limit = + 100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 0.167 min. (10 sec.) of internal standard RT
RT Lower Limit = - 0.167 min. (10 sec.) of internal standard RT

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	87	-0.01
2	T,M	Chlorotrifluoroethylene	10.000	9.294	7.1	71	0.00
3	T,M	Dichlorodifluoromethane	10.000	9.862	1.4	80	0.00
4	P,T,M	Chloromethane	10.000	9.550	4.5	79	0.02
5	T,M	2-Chloro-1,1,1-trifluoroeth	10.000	11.514	-15.1	93	-0.01
6	C,T,M	Vinyl chloride	10.000	9.943	0.6	80	0.00
7	T,M	Bromomethane	10.000	10.243	-2.4	83	-0.01
8	T,M	Chloroethane	10.000	10.104	-1.0	82	-0.01
9	T,M	Dichlorofluoromethane	10.000	10.511	-5.1	93	-0.03
10	T,M	Trichlorofluoromethane	10.000	11.738	-17.4	95	0.00
11	T,M	Acrolein	50.000	54.279	-8.6	93	-0.01
12	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	11.069	-10.7	103	0.00
13	C,T,M	1,1-Dichloroethene	10.000	10.026	-0.3	89	-0.01
14	T,M	Acetone	50.000	43.962	12.1	73	-0.01
15	T,M	Iodomethane	10.000	10.558	-5.6	96	-0.03
16	T,M	Methyl acetate	10.000	8.994	10.1	72	-0.01
17	T,M	Carbon disulfide	10.000	11.876	-18.8	99	-0.01
18	T,M	Methylene chloride	10.000	10.241	-2.4	90	-0.01
19	T,M	tert-Butyl alcohol	50.000	51.449	-2.9	82	-0.01
20	T,M	tert-Butyl methyl ether (MT	10.000	9.869	1.3	81	-0.01
21	T,M	trans-1,2-Dichloroethene	10.000	10.342	-3.4	91	0.00
22	T,M	Acrylonitrile	50.000	54.450	-8.9	91	-0.01
23	T,M	Isopropyl ether (DIPE)	10.000	10.259	-2.6	84	-0.01
24	P,T,M	1,1-Dichloroethane	10.000	10.127	-1.3	85	0.00
25	T,M	Vinyl acetate	10.000	10.331	-3.3	88	-0.01
26	T,M	tert-Butyl ethyl ether (ETB	10.000	9.357	6.4	80	-0.01
27	T,M	2,2-Dichloropropane	10.000	10.664	-6.6	98	-0.01
28	T,M	cis-1,2-Dichloroethene	10.000	9.991	0.1	89	-0.01
29	T,M	2-Butanone	50.000	52.926	-5.9	82	0.00
30	T,M	2-Butanol	50.000	43.328	13.3	67	0.00
31	T,M	Bromochloromethane	10.000	10.120	-1.2	85	-0.01
32	T,M	Tetrahydrofuran	10.000	10.118	-1.2	84	0.00
33	C,T,M	Chloroform	10.000	9.996	0.0	85	-0.01
34	S	Dibromofluoromethane	10.000	10.145	-1.4	83	-0.01
35	T,M	1,1,1-Trichloroethane	10.000	10.604	-6.0	92	-0.01
36	T,M	Cyclohexane	10.000	11.321	-13.2	93	0.00
37	T,M	1,1-Dichloropropene	10.000	9.614	3.9	84	-0.01
38	T,M	Carbon tetrachloride	10.000	11.011	-10.1	95	0.00
39	T,M	tert-Amyl alcohol	50.000	46.182	7.6	72	-0.01
40	S	1,2-Dichloroethane-d4	10.000	10.178	-1.8	82	-0.01
41	T,M	2,2,4-Trimethylpentane	10.000	12.828	-28.3#	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	Benzene	10.000	9.833	1.7	86	-0.01
43	T,M	1,2-Dichloroethane	10.000	10.165	-1.6	85	0.00
44	T,M	tert-Amyl methyl ether (TAM	10.000	9.905	1.0	82	-0.01
45	T,M	Trichloroethene	10.000	9.543	4.6	83	-0.01
46	T,M	Methylcyclohexane	10.000	10.227	-2.3	86	0.00
47	C,T,M	1,2-Dichloropropane	10.000	10.039	-0.4	84	-0.01
48	T,M	1,4-Dioxane	200.000	175.325	12.3	73	-0.01
49	T,M	Dibromomethane	10.000	10.053	-0.5	83	-0.01
50	T,M	Bromodichloromethane	10.000	10.353	-3.5	86	0.00
51	T,M	2-Chloroethyl vinyl ether	10.000	7.576	24.2#	61	0.00
52	T,M	cis-1,3-Dichloropropene	10.000	10.083	-0.8	85	-0.01
53	T,M	4-Methyl-2-pentanone	50.000	53.735	-7.5	81	-0.01
54	I	CHLOROBENZENE-D5	10.000	10.000	0.0	85	-0.01
55	S	Toluene-d8	10.000	10.318	-3.2	85	0.00
56	C,T,M	Toluene	10.000	10.277	-2.8	86	-0.01
57	T,M	Ethyl methacrylate	10.000	10.073	-0.7	82	-0.01
58	T,M	trans-1,3-Dichloropropene	10.000	10.053	-0.5	85	0.00
59	T,M	1,1,2-Trichloroethane	10.000	10.348	-3.5	84	0.00
60	T,M	Tetrachloroethene	10.000	9.919	0.8	86	0.00
61	T,M	2-Hexanone	50.000	52.872	-5.7	79	-0.01
62	T,M	1,3-Dichloropropane	10.000	10.517	-5.2	84	-0.01
63	T,M	Dibromochloromethane	10.000	11.066	-10.7	88	0.00
64	T,M	1,2-Dibromoethane	10.000	10.514	-5.1	85	0.00
65	T,M	1-Chlorohexane	10.000	10.250	-2.5	90	-0.01
66	P,M	Chlorobenzene	10.000	10.377	-3.8	88	-0.01
67	C,T,M	Ethylbenzene	10.000	10.553	-5.5	89	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	10.000	10.847	-8.5	90	0.00
69	T,M	m-Xylene & p-Xylene	20.000	20.862	-4.3	85	-0.01
70	T,M	o-Xylene	10.000	10.603	-6.0	90	0.00
71	T,M	Styrene	10.000	10.784	-7.8	88	0.00
72	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	86	-0.01
73	P,T,M	Bromoform	10.000	10.691	-6.9	89	-0.01
74	T,M	Isopropylbenzene	10.000	10.015	-0.2	86	0.00
75	S	4-Bromofluorobenzene	10.000	10.214	-2.1	83	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.127	-1.3	84	-0.01
77	T,M	trans-1,4-Dichloro-2-butene	10.000	10.660	-6.6	87	0.00
78	T,M	n-Propylbenzene	10.000	9.874	1.3	84	0.00
79	T,M	1,2,3-Trichloropropane	10.000	10.612	-6.1	83	-0.01
80	T,M	Bromobenzene	10.000	10.032	-0.3	84	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	10.145	-1.4	88	0.00
82	T,M	2-Chlorotoluene	10.000	10.133	-1.3	88	0.00
83	T,M	4-Chlorotoluene	10.000	10.140	-1.4	87	0.00
84	T,M	tert-Butylbenzene	10.000	9.947	0.5	90	0.00
85	T,M	1,2,4-Trimethylbenzene	10.000	10.199	-2.0	90	0.00
86	T,M	sec-Butylbenzene	10.000	10.081	-0.8	87	0.00
87	T,M	p-Isopropyltoluene	10.000	10.090	-0.9	94	0.00
88	T,M	1,3-Dichlorobenzene	10.000	10.339	-3.4	90	-0.01
89	T,M	1,2,3-Trimethylbenzene	10.000	10.235	-2.3	87	0.00
90	T,M	1,4-Dichlorobenzene	10.000	10.198	-2.0	89	-0.01
91	T,M	Benzyl Chloride	10.000	10.351	-3.5	87	0.00
92	T,M	n-Butylbenzene	10.000	10.321	-3.2	88	0.00
93	T,M	1,2-Dichlorobenzene	10.000	10.380	-3.8	89	-0.01
94	T,M	1,2-Dibromo-3-chloropropane	10.000	10.509	-5.1	84	-0.01
95	T,M	1,2,4-Trichlorobenzene	10.000	10.250	-2.5	86	0.00
96	T,M	Hexachlorobutadiene	10.000	10.315	-3.1	90	0.00
97	T,M	Naphthalene	10.000	9.719	2.8	77	-0.01
98	T,M	1,2,3-Trichlorobenzene	10.000	10.244	-2.4	81	0.00

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	87	-0.01
2	T,M	Chlorotrifluoroethylene	0.240	0.223	7.1	71	0.00
3	T,M	Dichlorodifluoromethane	0.474	0.468	1.3	80	0.00
4	P,T,M	Chloromethane	0.712	0.680	4.5	79	0.02
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.389	0.448	-15.2	93	-0.01
6	C,T,M	Vinyl chloride	0.594	0.591	0.5	80	0.00
7	T,M	Bromomethane	0.349	0.358	-2.6	83	-0.01
8	T,M	Chloroethane	0.334	0.338	-1.2	82	-0.01
9	T,M	Dichlorofluoromethane	0.812	0.854	-5.2	93	-0.03
10	T,M	Trichlorofluoromethane	0.394	0.463	-17.5	95	0.00
11	T,M	Acrolein	0.028	0.030	-7.1	93	-0.01
12	T,M	1,1,2-Trichloro-1,2,2-trifl	0.202	0.223	-10.4	103	0.00
13	C,T,M	1,1-Dichloroethene	0.799	0.801	-0.3	89	-0.01
14	T,M	Acetone	0.058	0.051	12.1	73	-0.01
15	T,M	Iodomethane	0.569	0.601	-5.6	96	-0.03
16	T,M	Methyl acetate	0.024	0.023	4.2	72	-0.01
17	T,M	Carbon disulfide	0.943	1.120	-18.8	99	-0.01
18	T,M	Methylene chloride	0.620	0.635	-2.4	90	-0.01
19	T,M	tert-Butyl alcohol	0.015	0.016	-6.7	82	-0.01
20	T,M	tert-Butyl methyl ether (MT	0.610	0.602	1.3	81	-0.01
21	T,M	trans-1,2-Dichloroethene	0.728	0.752	-3.3	91	0.00
22	T,M	Acrylonitrile	0.065	0.071	-9.2	91	-0.01
23	T,M	Isopropyl ether (DIPE)	1.650	1.693	-2.6	84	-0.01
24	P,T,M	1,1-Dichloroethane	0.899	0.911	-1.3	85	0.00
25	T,M	Vinyl acetate	0.032	0.036	-12.5	88	-0.01
26	T,M	tert-Butyl ethyl ether (ETB	1.067	0.998	6.5	80	-0.01
27	T,M	2,2-Dichloropropane	0.331	0.354	-6.9	98	-0.01
28	T,M	cis-1,2-Dichloroethene	0.410	0.410	0.0	89	-0.01
29	T,M	2-Butanone	0.082	0.087	-6.1	82	0.00
30	T,M	2-Butanol	0.013	0.012	7.7	67	0.00
31	T,M	Bromochloromethane	0.148	0.150	-1.4	85	-0.01
32	T,M	Tetrahydrofuran	0.046	0.047	-2.2	84	0.00
33	C,T,M	Chloroform	0.695	0.695	0.0	85	-0.01
34	S	Dibromofluoromethane	0.313	0.318	-1.6	83	-0.01
35	T,M	1,1,1-Trichloroethane	0.460	0.488	-6.1	92	-0.01
36	T,M	Cyclohexane	0.736	0.833	-13.2	93	0.00
37	T,M	1,1-Dichloropropene	0.191	0.184	3.7	84	-0.01
38	T,M	Carbon tetrachloride	0.413	0.455	-10.2	95	0.00
39	T,M	tert-Amyl alcohol	0.012	0.011	8.3	72	-0.01
40	S	1,2-Dichloroethane-d4	0.265	0.270	-1.9	82	-0.01
41	T,M	2,2,4-Trimethylpentane	1.290	1.655	-28.3#	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	Benzene	1.600	1.573	1.7	86	-0.01
43	T,M	1,2-Dichloroethane	0.377	0.383	-1.6	85	0.00
44	T,M	tert-Amyl methyl ether (TAM	0.123	0.122	0.8	82	-0.01
45	T,M	Trichloroethene	0.405	0.387	4.4	83	-0.01
46	T,M	Methylcyclohexane	0.623	0.637	-2.2	86	0.00
47	C,T,M	1,2-Dichloropropane	0.428	0.429	-0.2	84	-0.01
48	T,M	1,4-Dioxane	0.001	0.001	0.0	73	-0.01
49	T,M	Dibromomethane	0.151	0.152	-0.7	83	-0.01
50	T,M	Bromodichloromethane	0.423	0.438	-3.5	86	0.00
51	T,M	2-Chloroethyl vinyl ether	0.055	0.042	23.6#	61	0.00
52	T,M	cis-1,3-Dichloropropene	0.547	0.551	-0.7	85	-0.01
53	T,M	4-Methyl-2-pentanone	0.178	0.191	-7.3	81	-0.01
54	I	CHLOROBENZENE-D5	1.000	1.000	0.0	85	-0.01
55	S	Toluene-d8	1.318	1.360	-3.2	85	0.00
56	C,T,M	Toluene	1.819	1.869	-2.7	86	-0.01
57	T,M	Ethyl methacrylate	0.319	0.321	-0.6	82	-0.01
58	T,M	trans-1,3-Dichloropropene	0.530	0.533	-0.6	85	0.00
59	T,M	1,1,2-Trichloroethane	0.230	0.238	-3.5	84	0.00
60	T,M	Tetrachloroethene	0.366	0.363	0.8	86	0.00
61	T,M	2-Hexanone	0.149	0.169	-13.4	79	-0.01
62	T,M	1,3-Dichloropropane	0.466	0.490	-5.2	84	-0.01
63	T,M	Dibromochloromethane	0.307	0.340	-10.7	88	0.00
64	T,M	1,2-Dibromoethane	0.231	0.243	-5.2	85	0.00
65	T,M	1-Chlorohexane	0.782	0.802	-2.6	90	-0.01
66	P,M	Chlorobenzene	1.051	1.091	-3.8	88	-0.01
67	C,T,M	Ethylbenzene	1.989	2.099	-5.5	89	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	0.356	0.386	-8.4	90	0.00
69	T,M	m-Xylene & p-Xylene	1.488	1.552	-4.3	85	-0.01
70	T,M	o-Xylene	1.461	1.549	-6.0	90	0.00
71	T,M	Styrene	1.048	1.130	-7.8	88	0.00
72	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	86	-0.01
73	P,T,M	Bromoform	0.368	0.393	-6.8	89	-0.01
74	T,M	Isopropylbenzene	5.537	5.546	-0.2	86	0.00
75	S	4-Bromofluorobenzene	1.183	1.208	-2.1	83	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	0.778	0.788	-1.3	84	-0.01
77	T,M	trans-1,4-Dichloro-2-butene	0.221	0.236	-6.8	87	0.00
78	T,M	n-Propylbenzene	7.064	6.975	1.3	84	0.00
79	T,M	1,2,3-Trichloropropane	0.162	0.172	-6.2	83	-0.01
80	T,M	Bromobenzene	1.083	1.086	-0.3	84	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D
Acq On : 5 Jul 2019 11:46 am
Sample : CVOF3F1712
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 2
Operator: VLu
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.150	4.210	-1.4	88	0.00
82	T,M	2-Chlorotoluene	4.214	4.270	-1.3	88	0.00
83	T,M	4-Chlorotoluene	3.598	3.649	-1.4	87	0.00
84	T,M	tert-Butylbenzene	0.936	0.931	0.5	90	0.00
85	T,M	1,2,4-Trimethylbenzene	3.976	4.056	-2.0	90	0.00
86	T,M	sec-Butylbenzene	5.831	5.879	-0.8	87	0.00
87	T,M	p-Isopropyltoluene	4.600	4.641	-0.9	94	0.00
88	T,M	1,3-Dichlorobenzene	2.048	2.118	-3.4	90	-0.01
89	T,M	1,2,3-Trimethylbenzene	3.663	3.748	-2.3	87	0.00
90	T,M	1,4-Dichlorobenzene	2.042	2.082	-2.0	89	-0.01
91	T,M	Benzyl Chloride	1.073	1.110	-3.4	87	0.00
92	T,M	n-Butylbenzene	4.692	4.842	-3.2	88	0.00
93	T,M	1,2-Dichlorobenzene	1.700	1.764	-3.8	89	-0.01
94	T,M	1,2-Dibromo-3-chloropropane	0.090	0.094	-4.4	84	-0.01
95	T,M	1,2,4-Trichlorobenzene	0.913	0.935	-2.4	86	0.00
96	T,M	Hexachlorobutadiene	0.639	0.659	-3.1	90	0.00
97	T,M	Naphthalene	1.420	1.381	2.7	77	-0.01
98	T,M	1,2,3-Trichlorobenzene	0.685	0.702	-2.5	81	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☒ EMAX-8260 Rev.No. 10 ☒ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 6/17/19 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book #: AF3-019

BATCH VOF3F1706

	Sample Prep ID	Data File Name	Lab Sample ID	(*) Sample Amount mL	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RFR253	BFBF3F09	A / B	NA	NA	NA		8260 ket-AA 13:24
02		54	VOF3F171	0.03/0.15					0.3 1.5 ppb
03		55	2	0.05/0.25					0.5 2.5
04		56	3	0.1/0.5					1.0 5.0 VL 6/19/19
05		57	4	0.2/1.0					2.0 10
06		58	5	0.5/2.5					5.0 25
07		59	6	1.0/5.0					10 50
08		60	7	2.0/10					20 100
09		61	8	3.0/15					30 150
10		62	9	5.0/25					50 250
11		63	10	10/50					100 500
12		64	RINSE						
13		65							
14		66	IVOF3F1701						(A): CS_2, 4add, GAS, 224-TAA FREON
15		67	RINSE						
16		68	LOD VERF.						(B): 8260, ket-AA 21:03
17		69	LOQ VERF.						
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									VL 6/19/19

Instrument No.	F3
INITIAL CALIBRATION REFERENCE	
DATE	6/17/19
ICAL ID	VOF3F17

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC 8260 ket-AA	SVI-32-41-01	*	
DCC 4add GAS	-29-01		
DCC CS_2 FREON	-40-02		
DCC TAA+224	-39-02		
BFB	-22-02		
IS/SURR. IS SS	-21-02		
ICV/LCS 8260 ket-AA	-29-02	↓	
ICV/LCS 3add 2but	SVI-31-79-03	1	
ICV/LCS GAS CS_2	SVI-32-13-03	5	
ICV/LCS FREON TAA	-17-01	*	50/1250/1250
Data File Folder 224	-36-02	5	
	-34-01	5	
	SVI-31-94-03	5	
	-31-86-02	5	
	-32-39-03	1	
	-32-05-01	1	
	-32-28-02	5	
	-31-87-01	5	
	-31-85-02	5	
	19F17		

	LOT #	Syringe Lot #
pH strip		MSV-01-04-19
Chlorine strip		-02-08
Methanol		-04-23-01
$NaHSO_4$		-04-24-04
Reagent Water	RW3-18-001	-03-03-02
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TOF3	

Comments: (*) varied amount

☐ Refer to sample weight log

Analyzed By: DM

Date Disposed: 6/18/19

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/5/19 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book #: AF3-019

BATCH CVOF3F1712

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RGR066	BFBF3G03 ✓						11:00
02		67	CVOF3F1712 ✓						
03		68	VOF3G03L						} bias high
04		69	↓ C						
05		70	↓ B ✓	25 mL					
06		71	STD CHK						
07		72	VOF3G03X ✓						
08		73	↓ Y ✓						
09		74	19F234-08I ✓	1.0 mL	25	✓	✓		
10		75	-04I ✓	5.0 mL	5.0	✓	✓		
11		76	-13 ✓	25 mL	1.0	✓	✓		
12		77	-13M ✓	↓	↓	✓	✓		
13		78	-13S ✓			✓	✓		
14		79	-06 ✓			✓	✓		
15		80	↓ -07 ✓			✓	✓		
16		81	19G038-01 ✓			✓	✓		
17		82	-02 ✓			✓	✓		
18		83	-03 ✓			✓	✓		
19		84	-04 ✓			✓	✓		
20		85	-05 ✓			✓	✓		
21		86	-06 ✓			✓	✓		
22		87	↓ -07 ✓			✓	✓		
23		88	19G025-01 ✓			✓	✓		
24		89	↓ -02 ✓			✓	✓		
25		90	↓ -03 ✓	↓	↓	✓	✓		
26		91	EVOF3F1712 ✓						22:44
27		92	↓ A						
28		93	↓ B						
29		↓ 94-98	RINSE						
30									VL 7/18/19

Instrument No.	F3
INITIAL CALIBRATION REFERENCE	
DATE	VL 7/18/19 ~~VOF3F17~~ 6/17/19
ICAL ID	VOF3F17

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC 8260 kit-AA	SVI-32-41-01	5	
↓	-45-01	5	
DCC 4add GAS	-40-02	1	
↓	-39-02	1	
DCC CS2 FREON	-22-02	1	
↓	-49-01	1	
DCC TAA+224	↓ -29-02	1	
BFB	SVI-31-79-03	1	> 50/250/1250
IS/SURR.	-32-45-02	5	
ICV/LCS 8260 kit-AA	-32-36-02	5	
↓	-32-34-01	5	
ICV/LCS 3add 2 bulk	-31-94-03	5	
↓	-31-86-02	5	
ICV/LCS GAS CS2	-32-39-03	1	
↓	-32-05-01	1	
ICV/LCS FREON TAA	-32-48-02	5	
↓	-31-87-01	5	
Data File Folder 224	↓ -31-85-02	5	19G05

	LOT #	Syringe Lot #
pH strip	HC863463	MSV-01-04-22-3
Chlorine strip	9130B	↓ -16
Methanol		
$NaHSO_4$		
Reagent Water	RW5-19-001	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TOF3	

Comments:

☐ Refer to sample weight log

Analyzed By: VL

Date Disposed: 7/18/19 Disposed By: VL

RAW DATA
VOLATILE ORGANICS

LABORATORY REPORT FOR

JACOBS/CH2M HILL

VHA-SLC

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

SDG#: 19G038

CASE NARRATIVE

Client : JACOBS/CH2M HILL

Project: VHA-SLC

SDG : 19G038

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

A total of seven (7) water samples were received on 07/03/19 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030B/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. All calibration requirements were satisfied. Average response factors for all analytes were within method recommended response factors with the exception of Acetone and 2-Butanon. However, percent recoveries for all target analytes were within 70-130% on all calibration points. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. VOF3G03B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. VOF3G03X/VOF3G03Y were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL
Project : VHA-SLC

SDG NO. : 19G038
Instrument ID : F3

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VOF3G03B	1	NA	07/05/1913:08	07/05/1913:08	RGR070	RFR259	VOF3G03	Method Blank
LCS1W	VOF3G03X	1	NA	07/05/1914:09	07/05/1914:09	RGR072	RFR259	VOF3G03	Lab Control Sample (LCS)
LCD1W	VOF3G03Y	1	NA	07/05/1914:36	07/05/1914:36	RGR073	RFR259	VOF3G03	LCS Duplicate
OU2-SB-EB20	G038-01	1	NA	07/05/1918:11	07/05/1918:11	RGR081	RFR259	VOF3G03	Field Sample
OU2-SB-EB21	G038-02	1	NA	07/05/1918:39	07/05/1918:39	RGR082	RFR259	VOF3G03	Field Sample
OU2-SB-TB20	G038-03	1	NA	07/05/1919:06	07/05/1919:06	RGR083	RFR259	VOF3G03	Field Sample
OU2-SB-EB22	G038-04	1	NA	07/05/1919:33	07/05/1919:33	RGR084	RFR259	VOF3G03	Field Sample
OU2-SB-EB23	G038-05	1	NA	07/05/1920:01	07/05/1920:01	RGR085	RFR259	VOF3G03	Field Sample
OU2-SB-EB24	G038-06	1	NA	07/05/1920:28	07/05/1920:28	RGR086	RFR259	VOF3G03	Field Sample
OU2-SB-EB25	G038-07	1	NA	07/05/1920:55	07/05/1920:55	RGR087	RFR259	VOF3G03	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 18:11
Sample ID: OU2-SB-EB20	Date Analyzed: 07/05/19 18:11
Lab Samp ID: G038-01	Dilution Factor: 1
Lab File ID: RGR081	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	12	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	0.16J	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	0.35J	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	0.18J	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.3	10.00	103	70-130
BROMOFLUOROBENZENE	10.2	10.00	102	70-130
TOLUENE-D8	10.1	10.00	101	70-130
DIBROMOFLUOROMETHANE	10.8	10.00	108	70-130

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR081.D Vial: 16
Acq On : 5 Jul 2019 6:11 pm Operator: VLu
Sample : 19G038-01 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:13 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

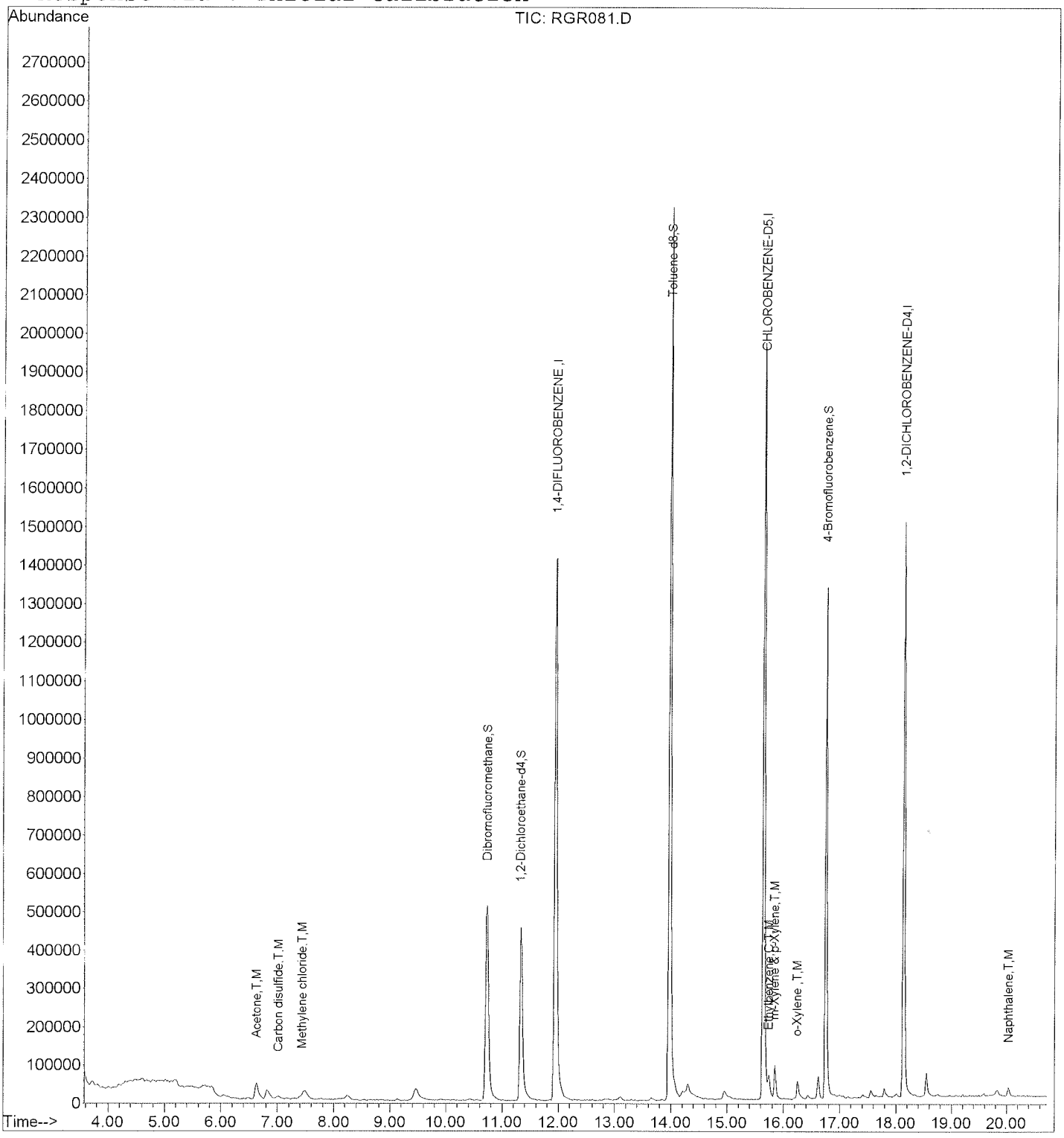
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	1870209	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1397249	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.13	152	464664	10.00	ug/l	-0.02
System Monitoring Compounds						
34) Dibromofluoromethane	10.73	111	630909	10.77	ug/l	0.00
Spiked Amount 10.000			Recovery =	107.70%		
40) 1,2-Dichloroethane-d4	11.32	65	510522	10.31	ug/l	-0.02
Spiked Amount 10.000			Recovery =	103.10%		
55) Toluene-d8	13.97	98	1863710	10.12	ug/l	0.00
Spiked Amount 10.000			Recovery =	101.20%		
75) 4-Bromofluorobenzene	16.75	95	563225	10.24	ug/l	0.00
Spiked Amount 10.000			Recovery =	102.40%		
Target Compounds						Qvalue
14) Acetone	6.64	43	126513	11.76	ug/l	98
17) Carbon disulfide	7.02	76	35828	0.20	ug/l	98
18) Methylene chloride	7.44	49	23330	0.20	ug/l	95
67) Ethylbenzene	15.74	91	43351	0.16	ug/l	100
69) m-Xylene & p-Xylene	15.84	91	72595	0.35	ug/l	98
70) o-Xylene	16.24	91	37352	0.18	ug/l	97
97) Naphthalene	20.03	128	27548	0.42	ug/l	100

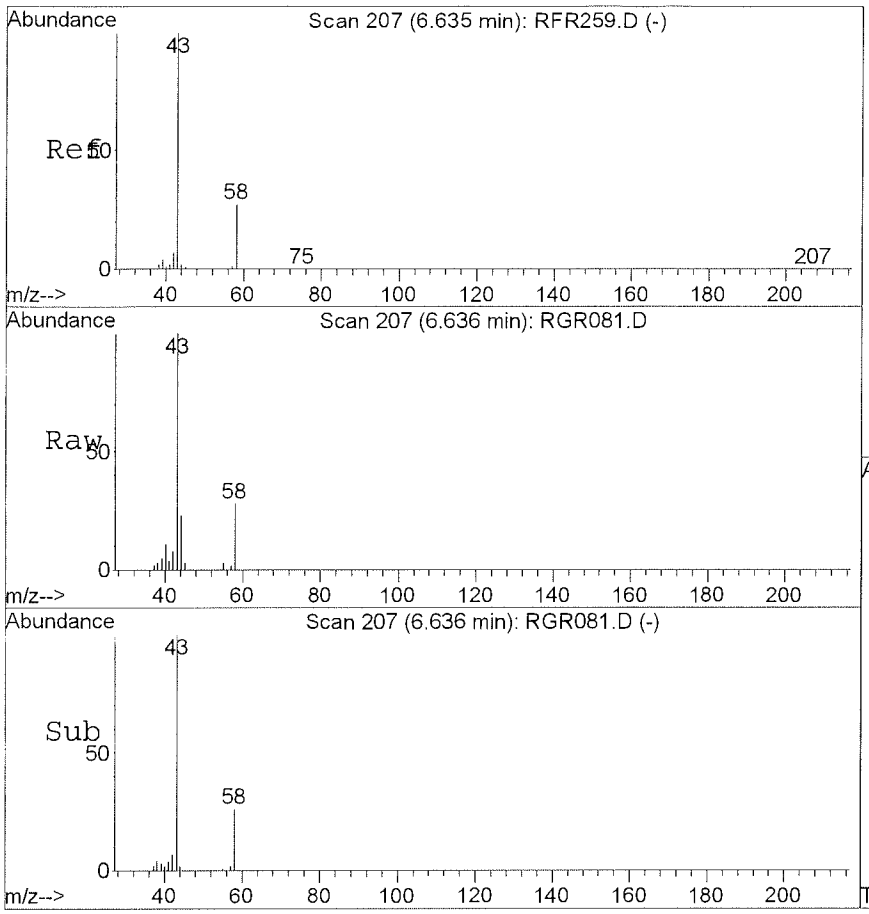
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR081.D Vial: 16
Acq On : 5 Jul 2019 6:11 pm Operator: VLu
Sample : 19G038-01 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:13 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration

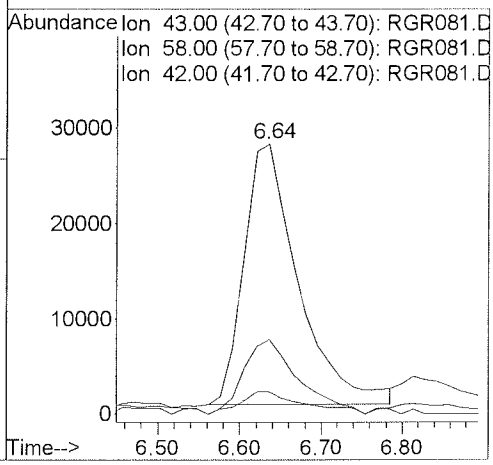


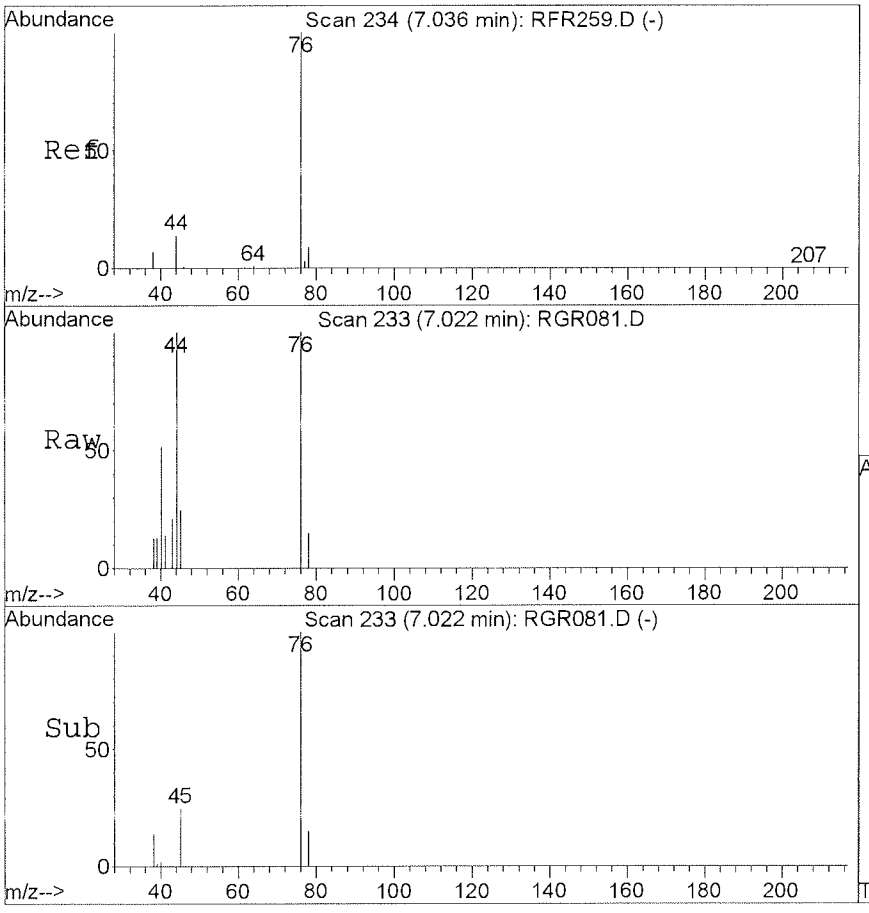


#14
Acetone
Concen: 11.76 ug/l
RT: 6.64 min Scan# 207
Delta R.T. 0.00 min
Lab File: RGR081.D
Acq: 5 Jul 2019 6:11 pm

Tgt Ion: 43 Resp: 126513

Ion	Ratio	Lower	Upper
43	100		
58	29.1	0.0	58.5
42	10.3	0.0	37.5

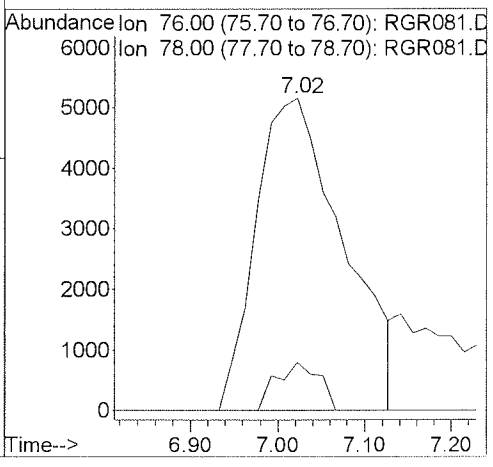


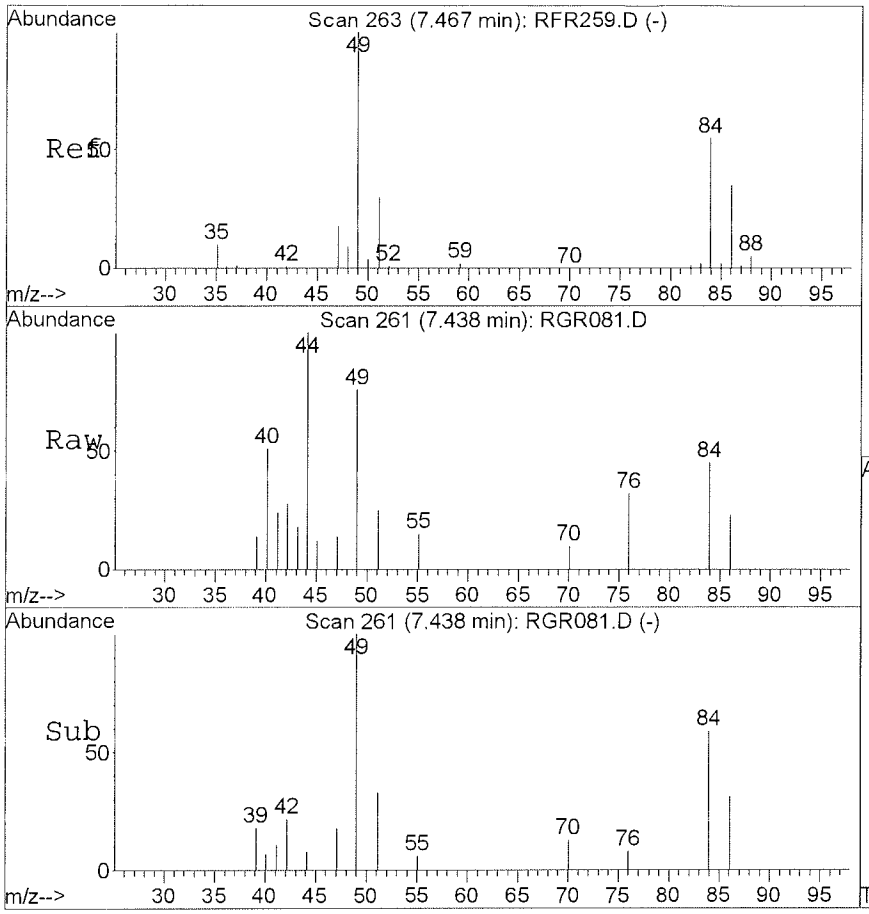


#17
Carbon disulfide
Concen: 0.20 ug/l
RT: 7.02 min Scan# 233
Delta R.T. -0.01 min
Lab File: RGR081.D
Acq: 5 Jul 2019 6:11 pm

Tgt Ion: 76 Resp: 35828

Ion	Ratio	Lower	Upper
76	100		
78	7.6	0.0	38.5

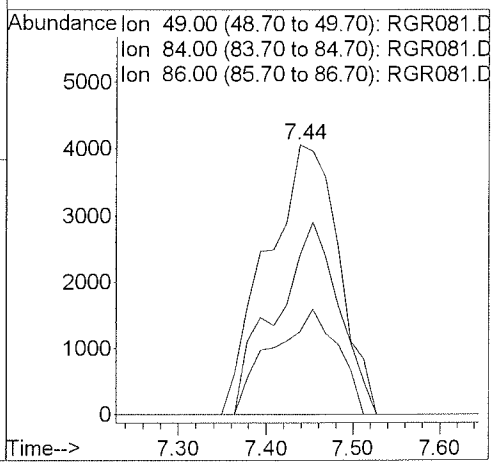


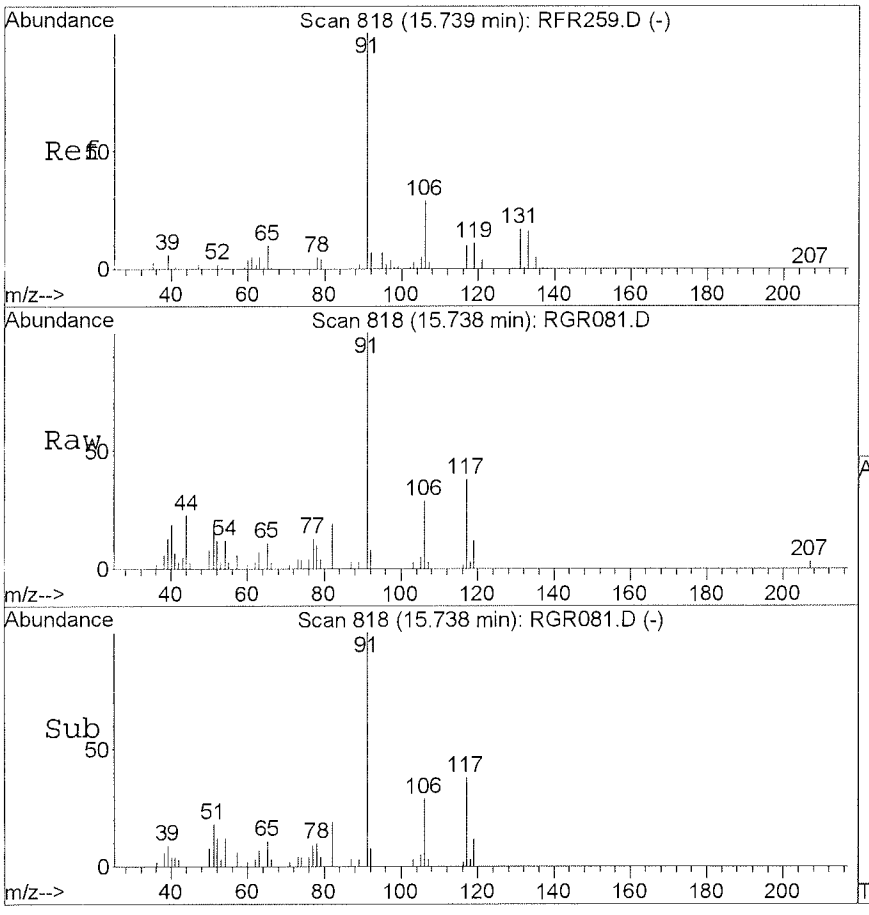


#18
Methylene chloride
Concen: 0.20 ug/l
RT: 7.44 min Scan# 261
Delta R.T. -0.03 min
Lab File: RGR081.D
Acq: 5 Jul 2019 6:11 pm

Tgt Ion: 49 Resp: 23330

Ion	Ratio	Lower	Upper
49	100		
84	63.1	26.9	86.9
86	36.1	5.8	65.8

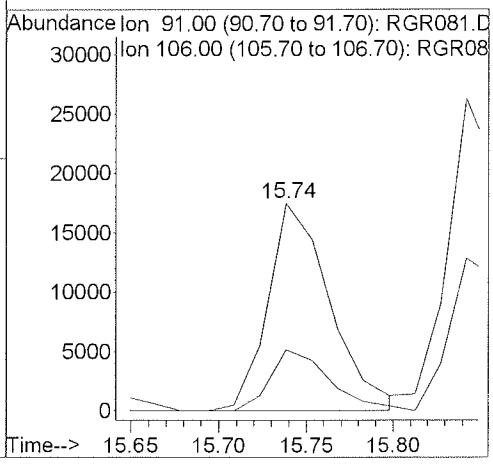


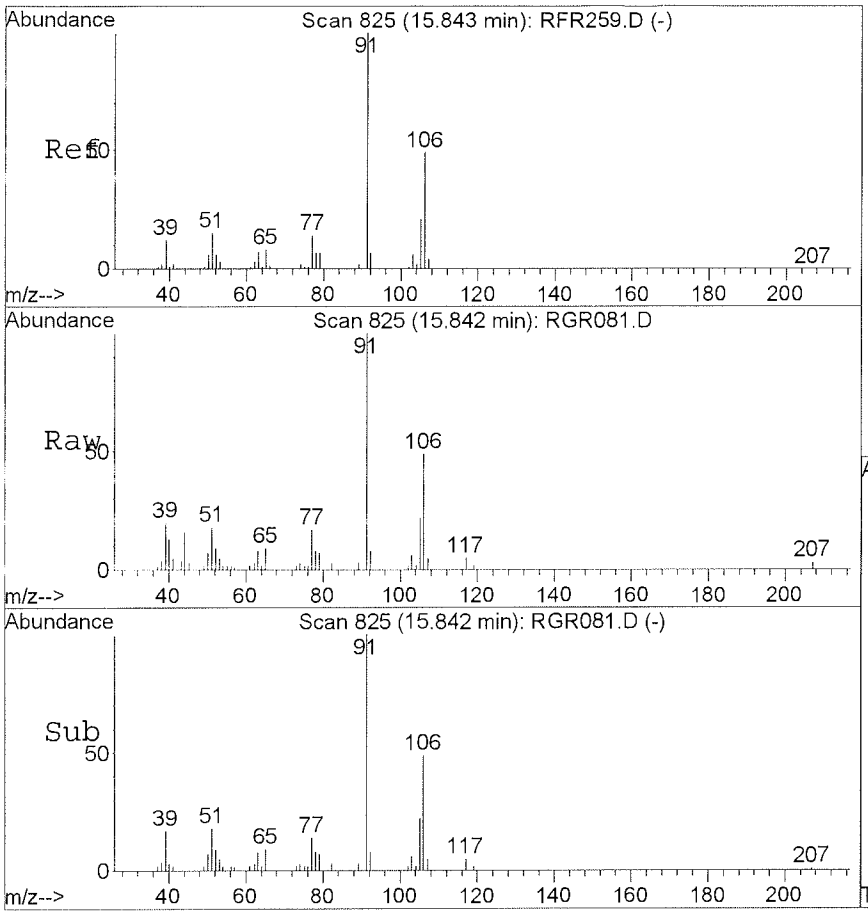


#67
Ethylbenzene
Concen: 0.16 ug/l
RT: 15.74 min Scan# 818
Delta R.T. -0.00 min
Lab File: RGR081.D
Acq: 5 Jul 2019 6:11 pm

Tgt Ion: 91 Resp: 43351

Ion	Ratio	Lower	Upper
91	100		
106	28.3	0.0	58.5

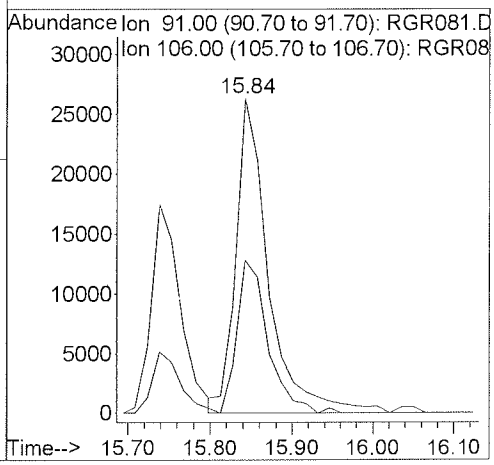


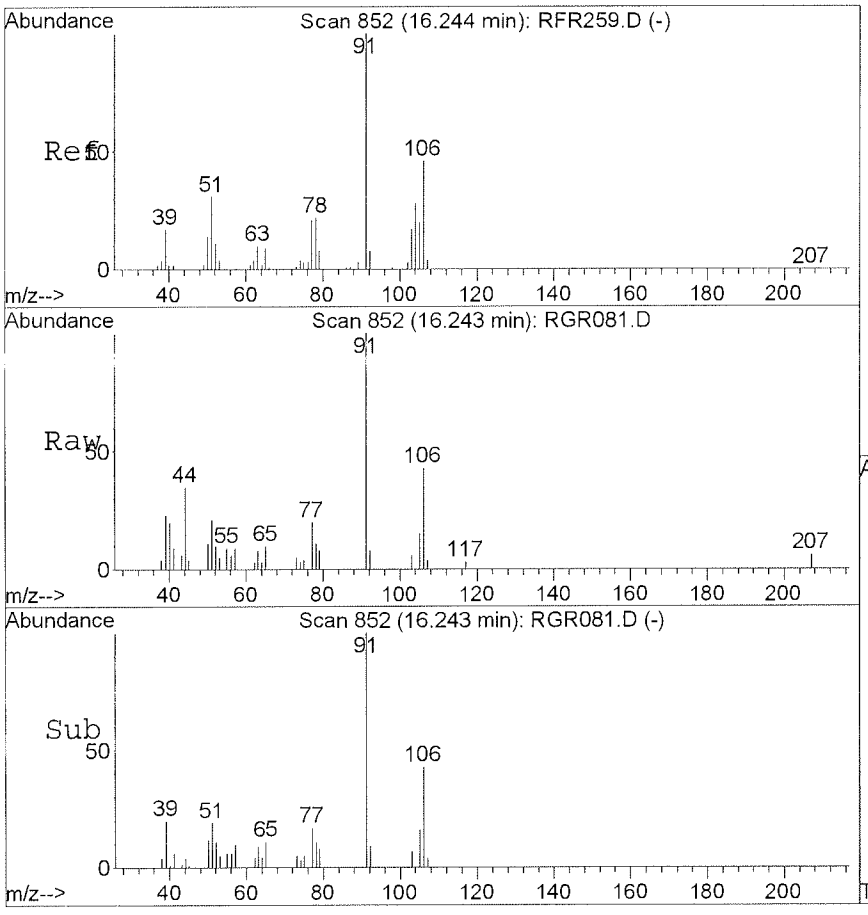


#69
m-Xylene & p-Xylene
Concen: 0.35 ug/l
RT: 15.84 min Scan# 825
Delta R.T. 0.00 min
Lab File: RGR081.D
Acq: 5 Jul 2019 6:11 pm

Tgt Ion: 91 Resp: 72595

Ion	Ratio	Lower	Upper
91	100		
106	46.5	17.7	77.7

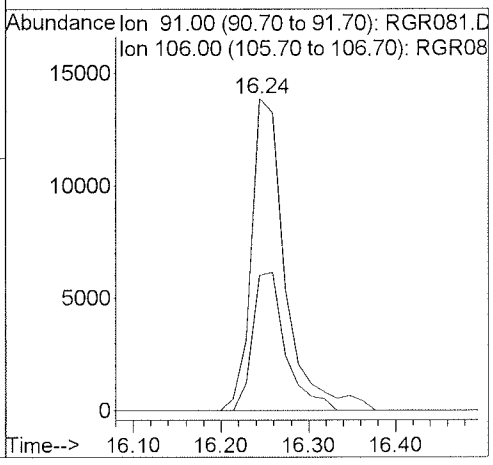


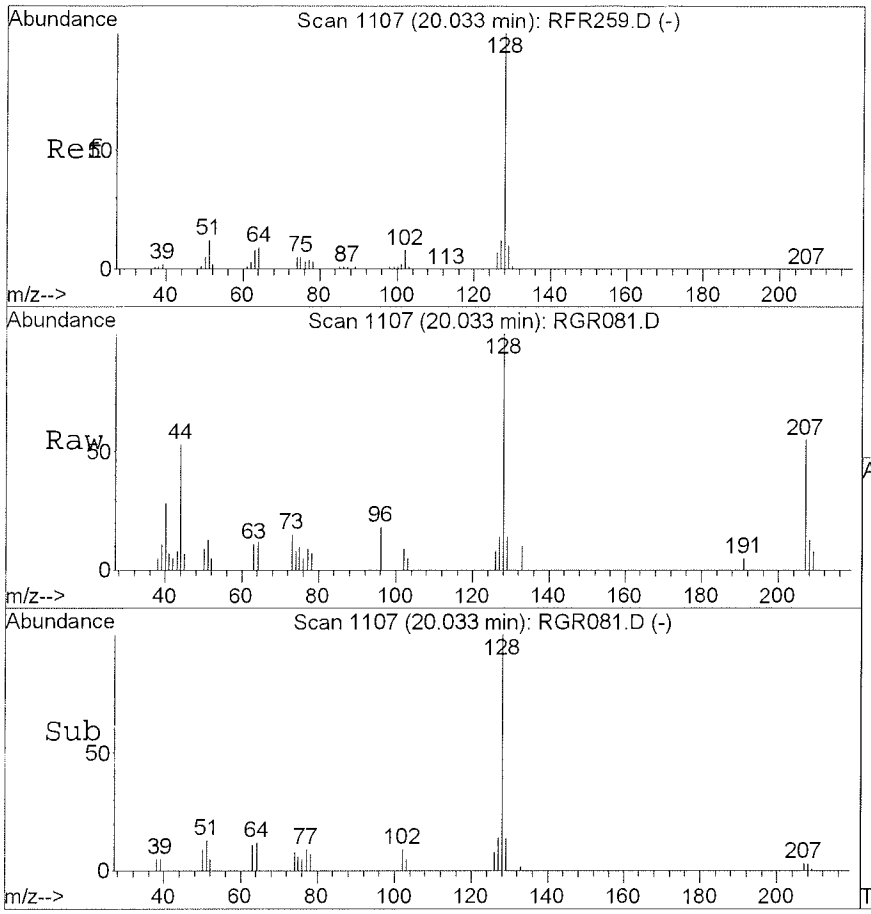


#70
o-Xylene
Concen: 0.18 ug/l
RT: 16.24 min Scan# 852
Delta R.T. -0.00 min
Lab File: RGR081.D
Acq: 5 Jul 2019 6:11 pm

Tgt Ion: 91 Resp: 37352

Ion	Ratio	Lower	Upper
91	100		
106	43.3	15.5	75.5

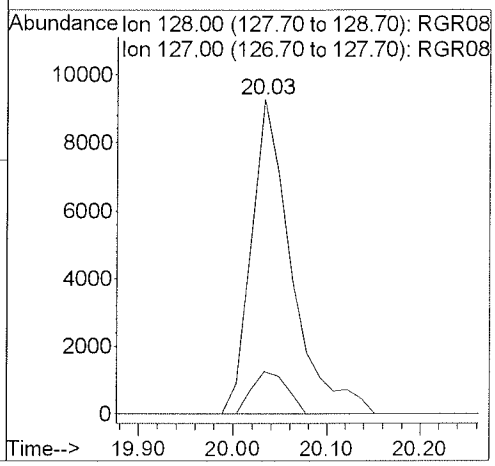




#97
Naphthalene
Concen: 0.42 ug/l
RT: 20.03 min Scan# 1107
Delta R.T. -0.00 min
Lab File: RGR081.D
Acq: 5 Jul 2019 6:11 pm

Tgt Ion:128 Resp: 27548

Ion	Ratio	Lower	Upper
128	100		
127	11.9	0.0	42.0



METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 18:39
Sample ID: OU2-SB-EB21	Date Analyzed: 07/05/19 18:39
Lab Samp ID: G038-02	Dilution Factor: 1
Lab File ID: RGR082	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	11	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	0.12J	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	0.26J	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	0.14J	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.84	10.00	98.4	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	10.1	10.00	101	70-130
DIBROMOFLUOROMETHANE	10.4	10.00	104	70-130

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR082.D Vial: 17
Acq On : 5 Jul 2019 6:39 pm Operator: VLu
Sample : 19G038-02 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:14 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

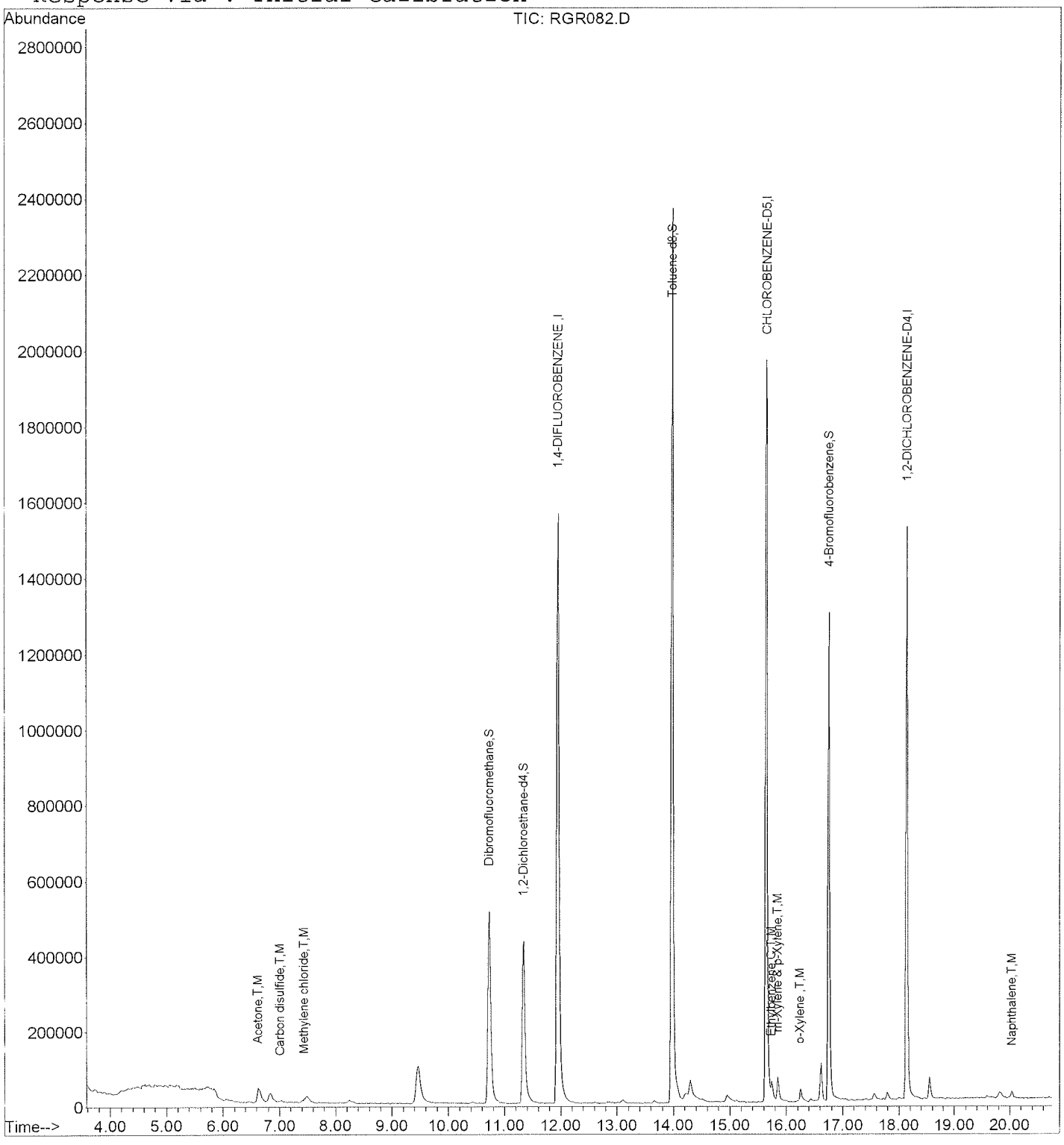
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	1937903	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1418668	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.13	152	451972	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	10.73	111	630340	10.39	ug/l	0.00
Spiked Amount 10.000			Recovery =	103.90%		
40) 1,2-Dichloroethane-d4	11.34	65	505110	9.84	ug/l	0.00
Spiked Amount 10.000			Recovery =	98.40%		
55) Toluene-d8	13.97	98	1890711	10.11	ug/l	0.00
Spiked Amount 10.000			Recovery =	101.10%		
75) 4-Bromofluorobenzene	16.75	95	554224	10.36	ug/l	0.00
Spiked Amount 10.000			Recovery =	103.60%		
Target Compounds						Qvalue
14) Acetone	6.63	43	123453	11.07	ug/l	93
17) Carbon disulfide	7.01	76	26945	0.15	ug/l	86
18) Methylene chloride	7.44	49	17038	0.14	ug/l	96
67) Ethylbenzene	15.74	91	34061	0.12	ug/l	99
69) m-Xylene & p-Xylene	15.84	91	55540	0.26	ug/l	99
70) o-Xylene	16.24	91	29558	0.14	ug/l	95
97) Naphthalene	20.03	128	20982	0.33	ug/l	99

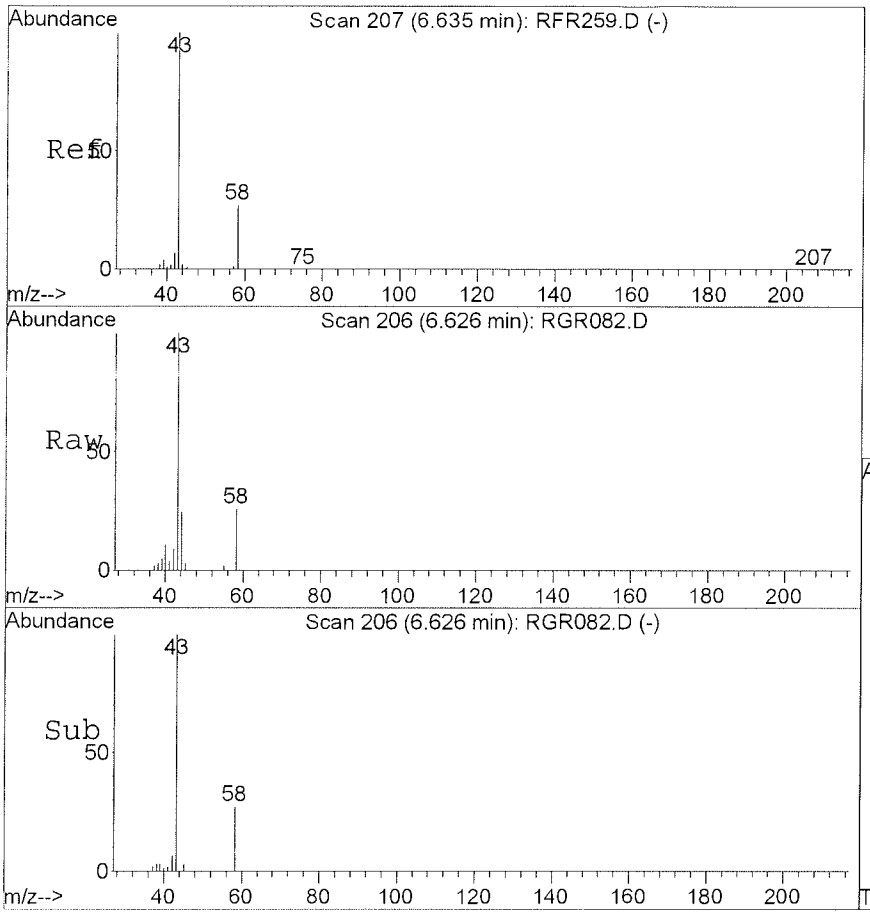
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR082.D Vial: 17
Acq On : 5 Jul 2019 6:39 pm Operator: VLu
Sample : 19G038-02 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:14 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration

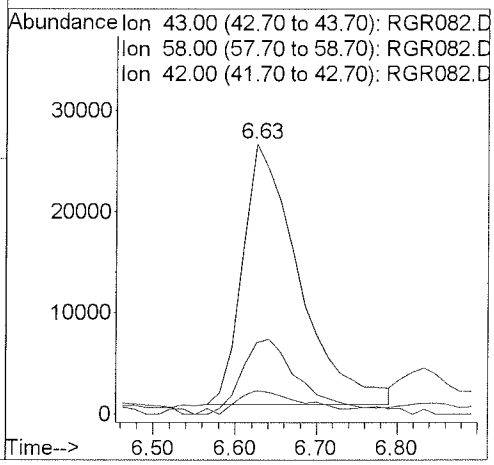


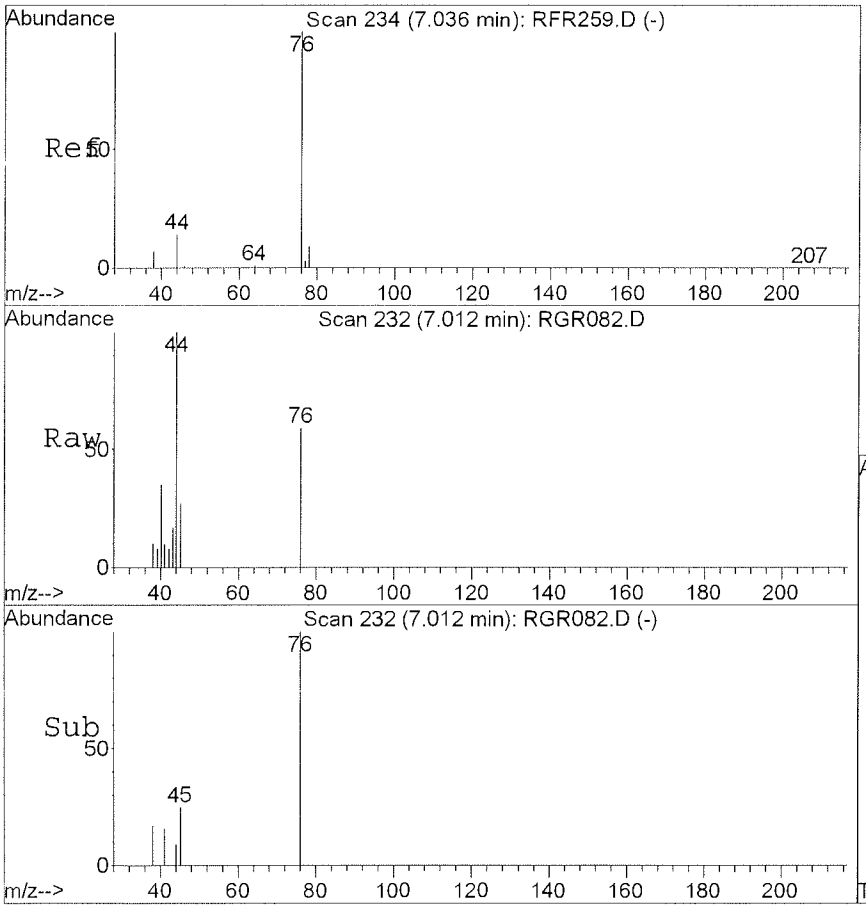


#14
Acetone
Concen: 11.07 ug/l
RT: 6.63 min Scan# 206
Delta R.T. -0.01 min
Lab File: RGR082.D
Acq: 5 Jul 2019 6:39 pm

Tgt Ion: 43 Resp: 123453

Ion	Ratio	Lower	Upper
43	100		
58	31.1	0.0	58.5
42	12.2	0.0	37.5

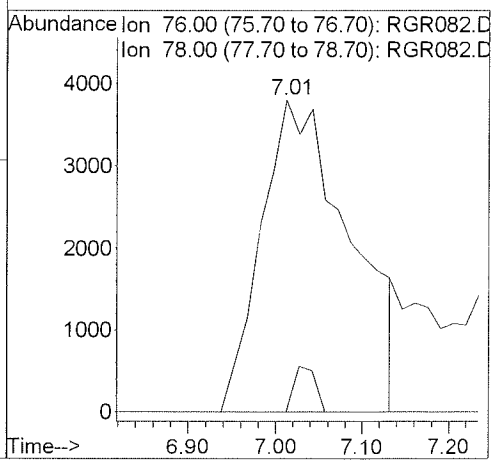


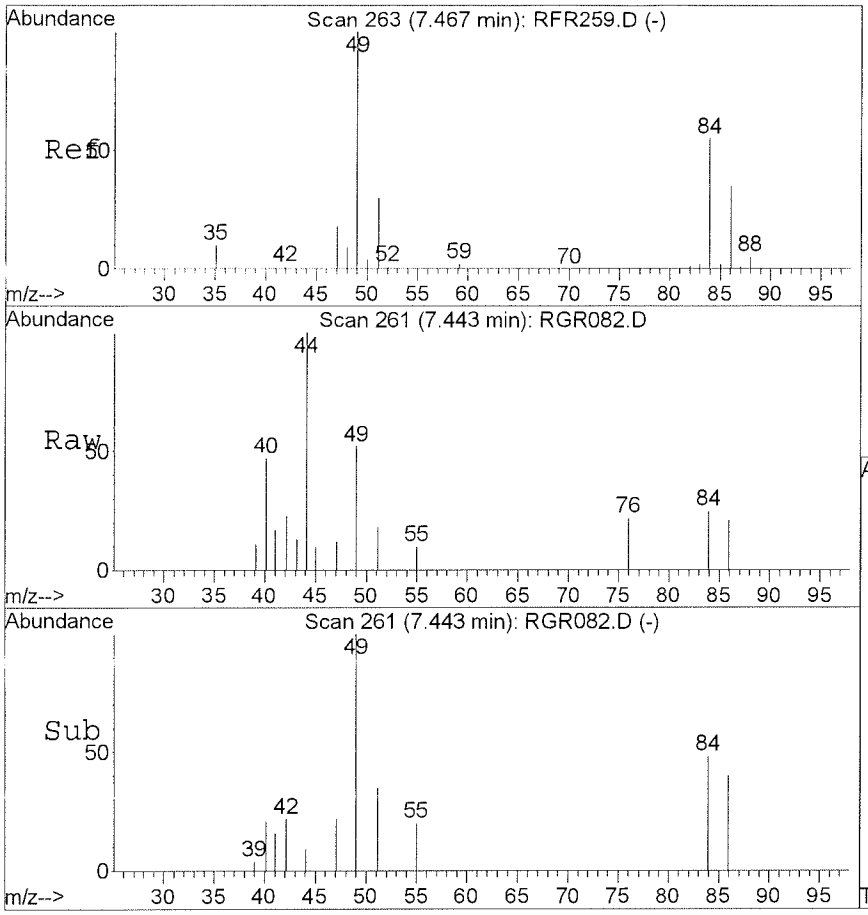


#17
Carbon disulfide
Concen: 0.15 ug/l
RT: 7.01 min Scan# 232
Delta R.T. -0.02 min
Lab File: RGR082.D
Acq: 5 Jul 2019 6:39 pm

Tgt Ion: 76 Resp: 26945

Ion	Ratio	Lower	Upper
76	100		
78	3.5	0.0	38.5

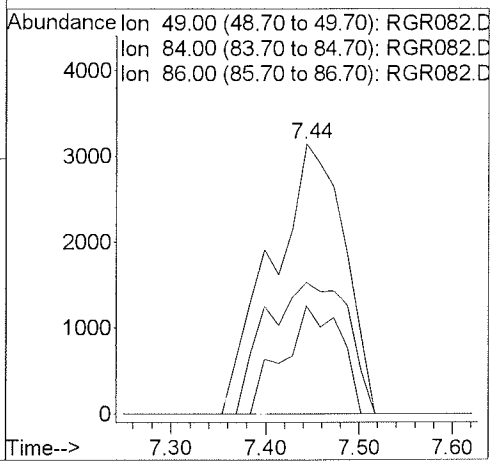


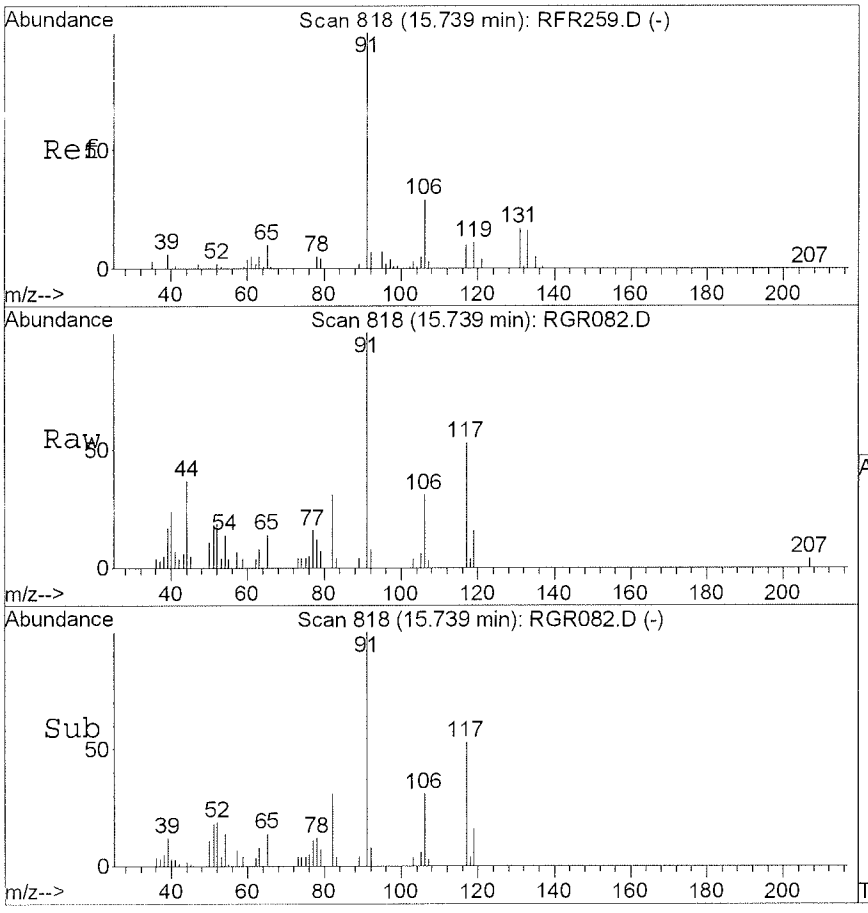


#18
Methylene chloride
Concen: 0.14 ug/l
RT: 7.44 min Scan# 261
Delta R.T. -0.02 min
Lab File: RGR082.D
Acq: 5 Jul 2019 6:39 pm

Tgt Ion: 49 Resp: 17038

Ion	Ratio	Lower	Upper
49	100		
84	54.9	26.9	86.9
86	31.7	5.8	65.8

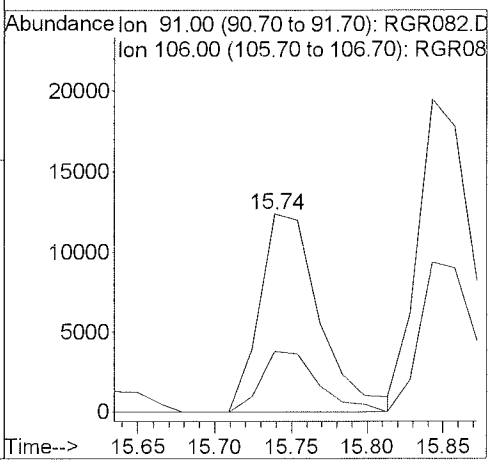


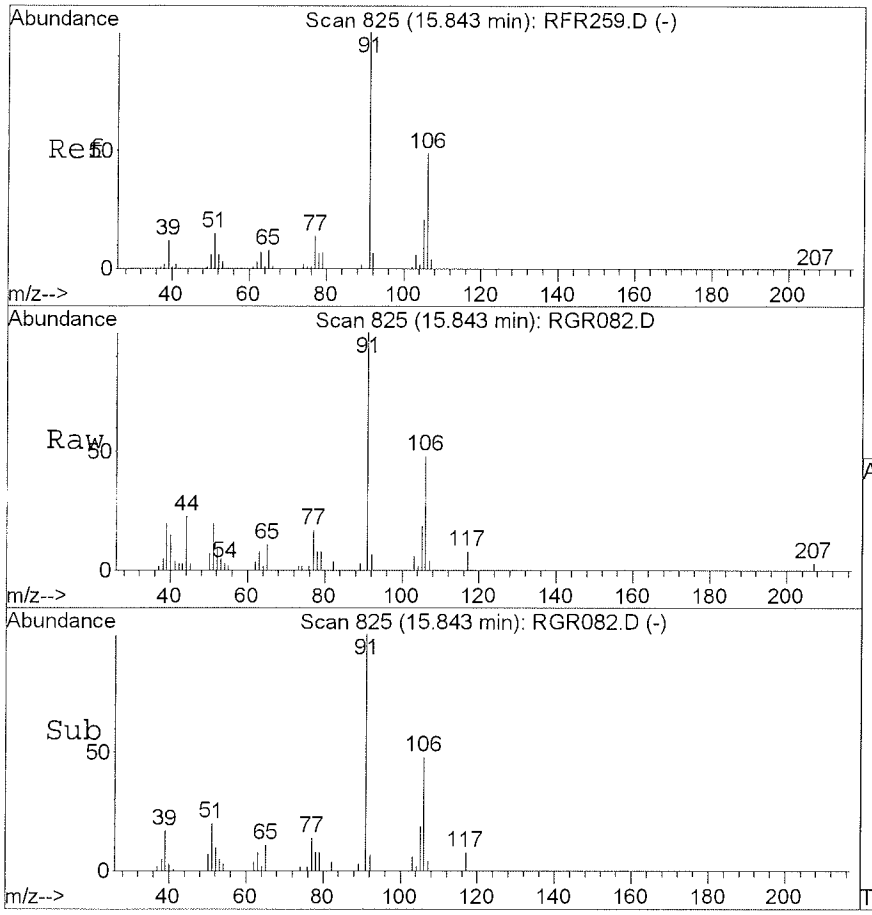


#67
Ethylbenzene
Concen: 0.12 ug/l
RT: 15.74 min Scan# 818
Delta R.T. 0.00 min
Lab File: RGR082.D
Acq: 5 Jul 2019 6:39 pm

Tgt Ion: 91 Resp: 34061

Ion	Ratio	Lower	Upper
91	100		
106	29.1	0.0	58.5

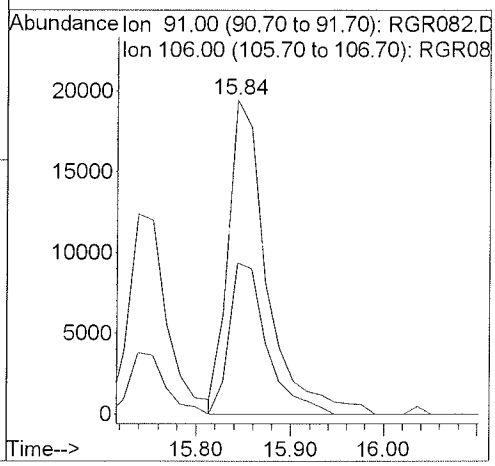


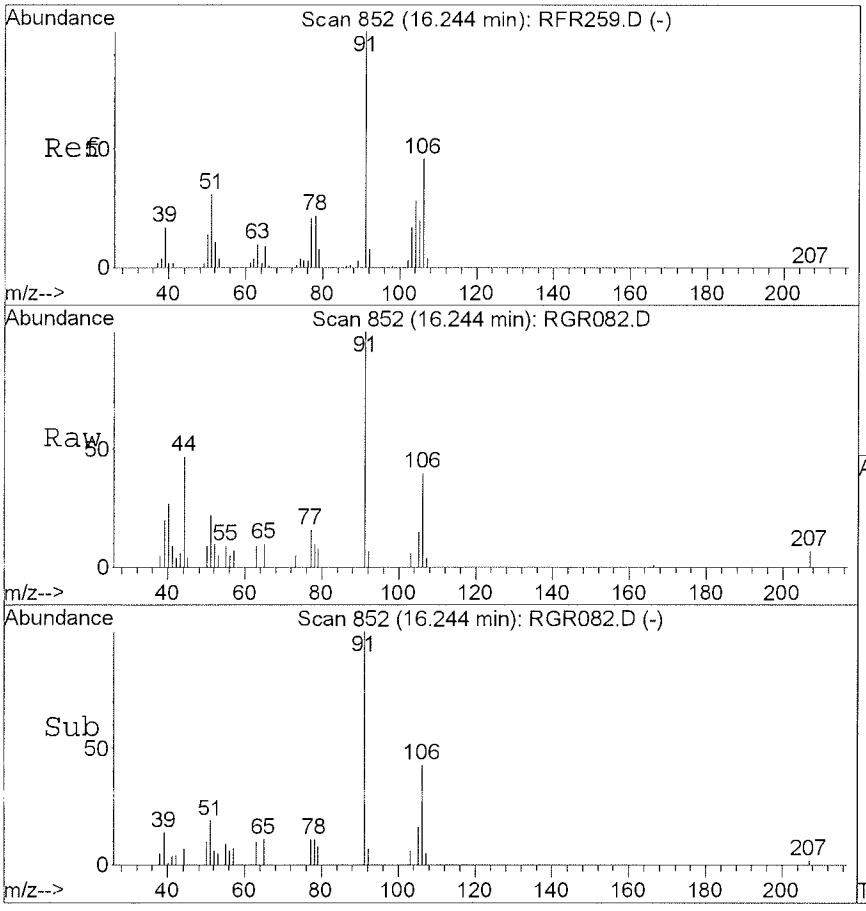


#69
m-Xylene & p-Xylene
Concen: 0.26 ug/l
RT: 15.84 min Scan# 825
Delta R.T. 0.00 min
Lab File: RGR082.D
Acq: 5 Jul 2019 6:39 pm

Tgt Ion: 91 Resp: 55540

Ion	Ratio	Lower	Upper
91	100		
106	46.8	17.7	77.7

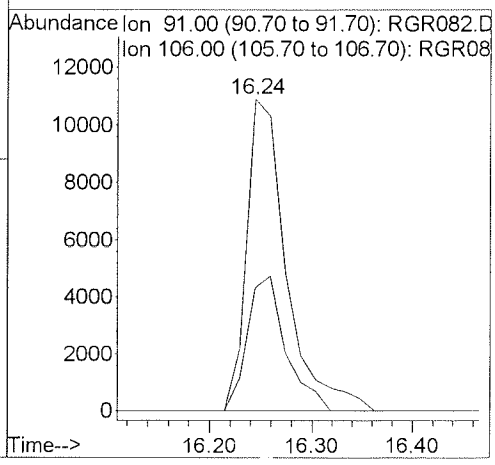


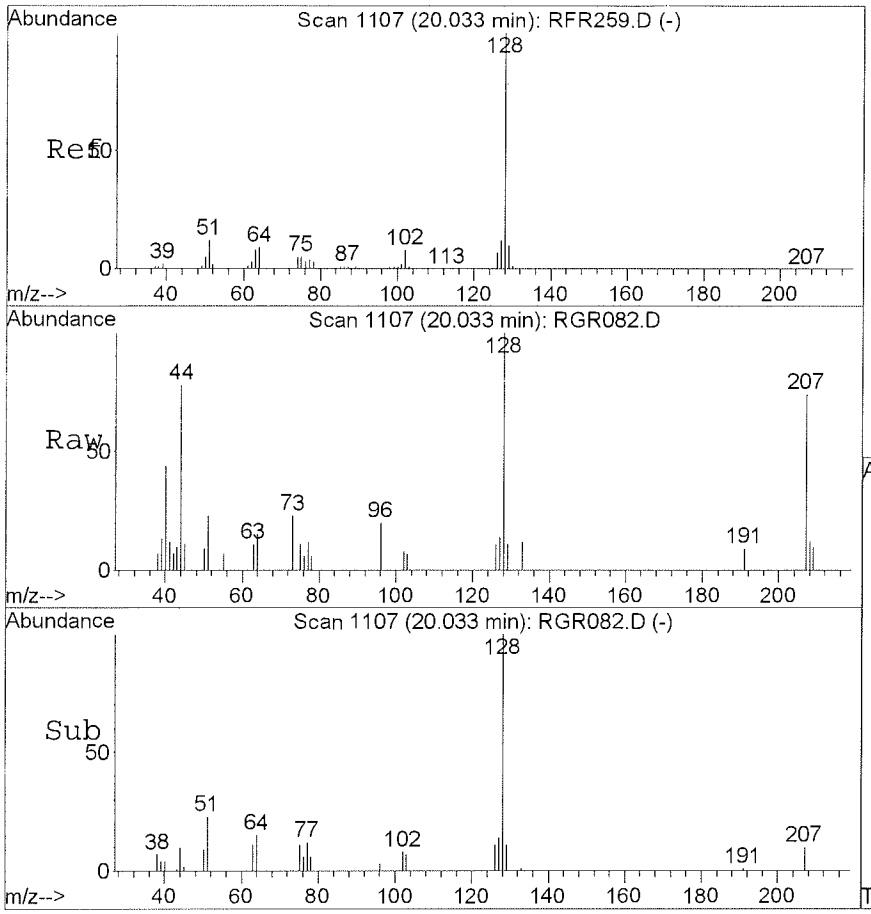


#70
o-Xylene
Concen: 0.14 ug/l
RT: 16.24 min Scan# 852
Delta R.T. 0.00 min
Lab File: RGR082.D
Acq: 5 Jul 2019 6:39 pm

Tgt Ion: 91 Resp: 29558

Ion	Ratio	Lower	Upper
91	100		
106	42.0	15.5	75.5

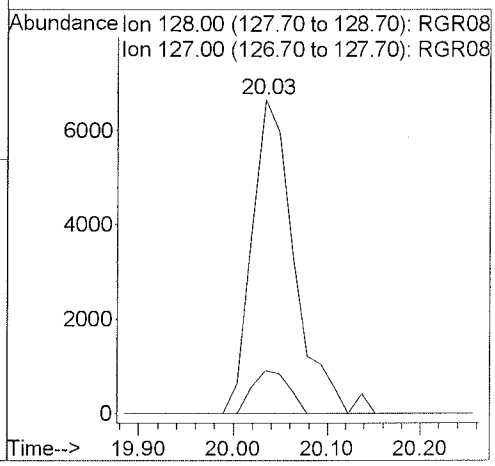




#97
Naphthalene
Concen: 0.33 ug/l
RT: 20.03 min Scan# 1107
Delta R.T. 0.00 min
Lab File: RGR082.D
Acq: 5 Jul 2019 6:39 pm

Tgt Ion:128 Resp: 20982

Ion	Ratio	Lower	Upper
128	100		
127	11.8	0.0	42.0



METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/26/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 19:06
Sample ID: OU2-SB-TB20	Date Analyzed: 07/05/19 19:06
Lab Samp ID: G038-03	Dilution Factor: 1
Lab File ID: RGR083	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	3.5J	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	0.11J	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	0.13J	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	0.35J	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	0.13J	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.0	10.00	100	70-130
BROMOFLUOROBENZENE	10.6	10.00	106	70-130
TOLUENE-D8	9.65	10.00	96.5	70-130
DIBROMOFLUOROMETHANE	10.3	10.00	103	70-130

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR083.D Vial: 18
Acq On : 5 Jul 2019 7:06 pm Operator: VLu
Sample : 19G038-03 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:16 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

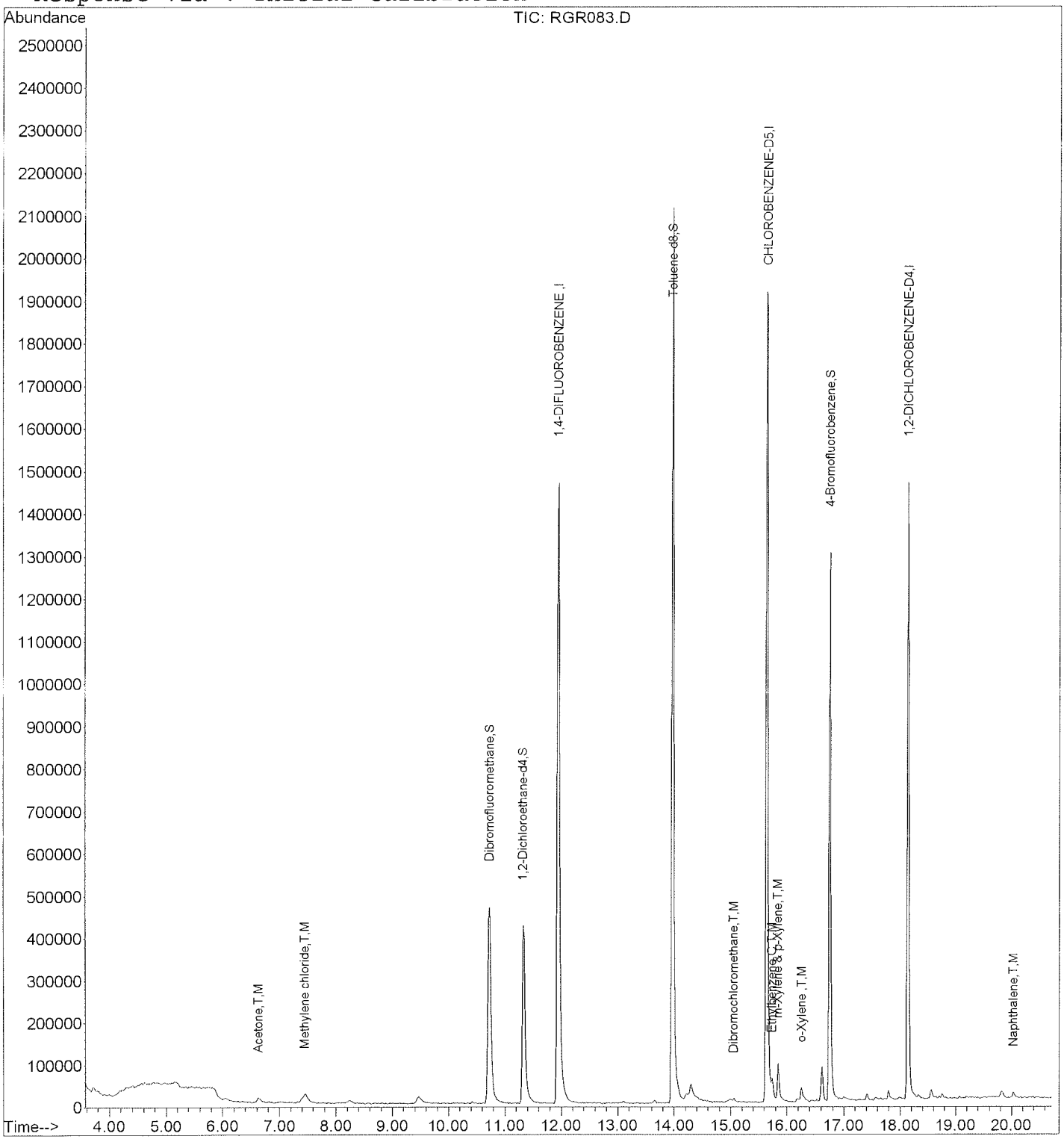
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	1847396	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1362133	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.13	152	427362	10.00	ug/l	-0.02
System Monitoring Compounds						
34) Dibromofluoromethane	10.73	111	595235	10.29	ug/l	0.00
Spiked Amount 10.000			Recovery =	102.90%		
40) 1,2-Dichloroethane-d4	11.33	65	490641	10.03	ug/l	-0.01
Spiked Amount 10.000			Recovery =	100.30%		
55) Toluene-d8	13.97	98	1732165	9.65	ug/l	0.00
Spiked Amount 10.000			Recovery =	96.50%		
75) 4-Bromofluorobenzene	16.75	95	535730	10.60	ug/l	0.00
Spiked Amount 10.000			Recovery =	106.00%		
Target Compounds						Qvalue
14) Acetone	6.63	43	37615	3.54	ug/l	92
18) Methylene chloride	7.45	49	38177	0.33	ug/l	98
63) Dibromochloromethane	15.06	129	4654	0.11	ug/l	92
67) Ethylbenzene	15.74	91	35341	0.13	ug/l	99
69) m-Xylene & p-Xylene	15.84	91	71727	0.35	ug/l	97
70) o-Xylene	16.26	91	25206	0.13	ug/l	96
97) Naphthalene	20.03	128	15253	0.25	ug/l	98

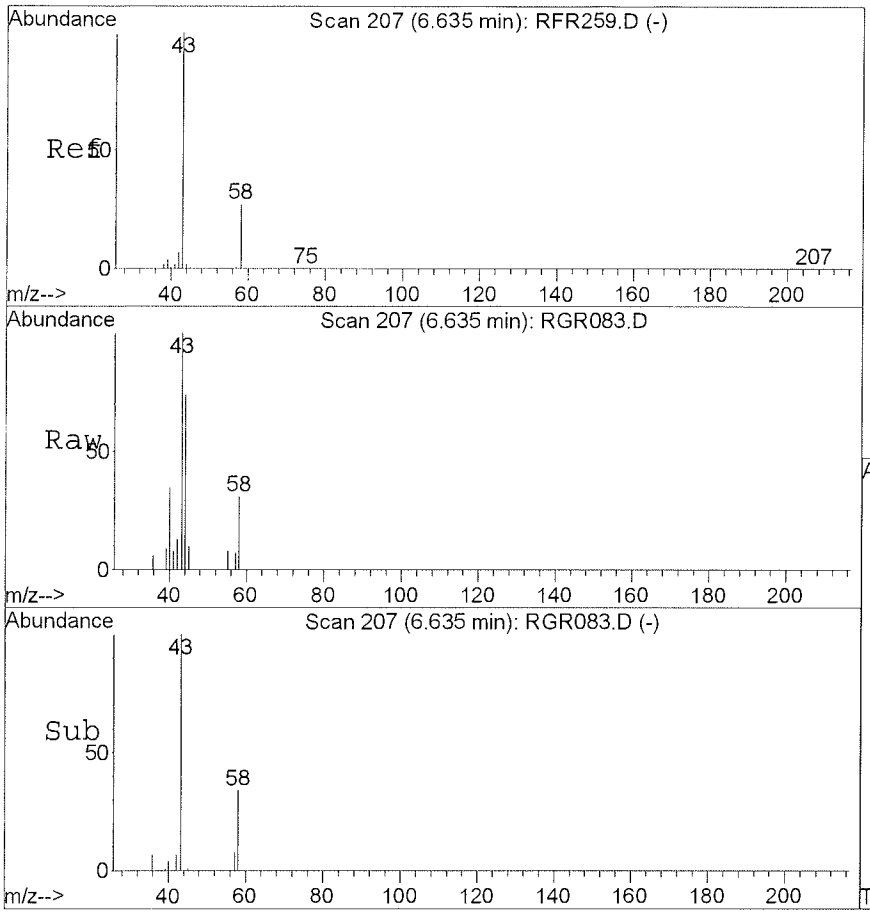
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR083.D Vial: 18
Acq On : 5 Jul 2019 7:06 pm Operator: VLu
Sample : 19G038-03 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:16 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration

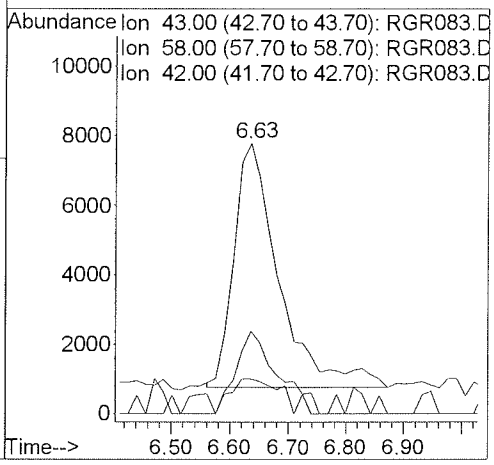


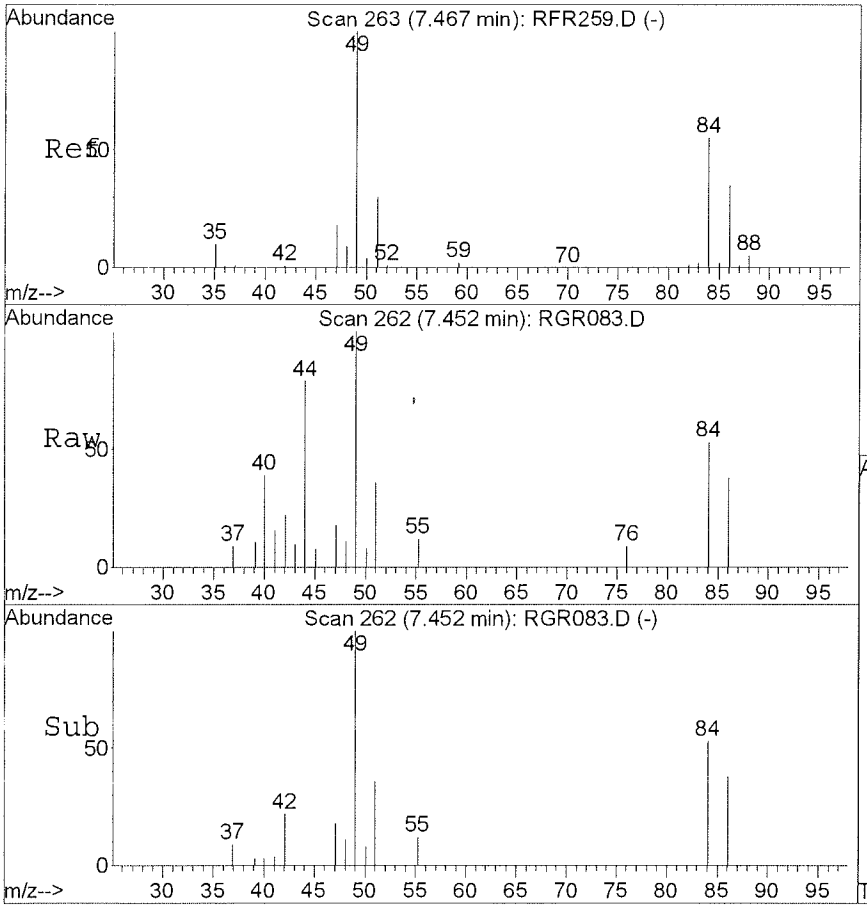


#14
Acetone
Concen: 3.54 ug/l
RT: 6.63 min Scan# 207
Delta R.T. 0.00 min
Lab File: RGR083.D
Acq: 5 Jul 2019 7:06 pm

Tgt Ion: 43 Resp: 37615

Ion	Ratio	Lower	Upper
43	100		
58	30.4	0.0	58.5
42	15.4	0.0	37.5

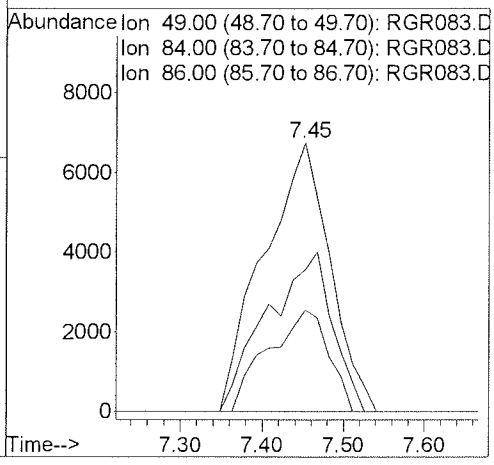


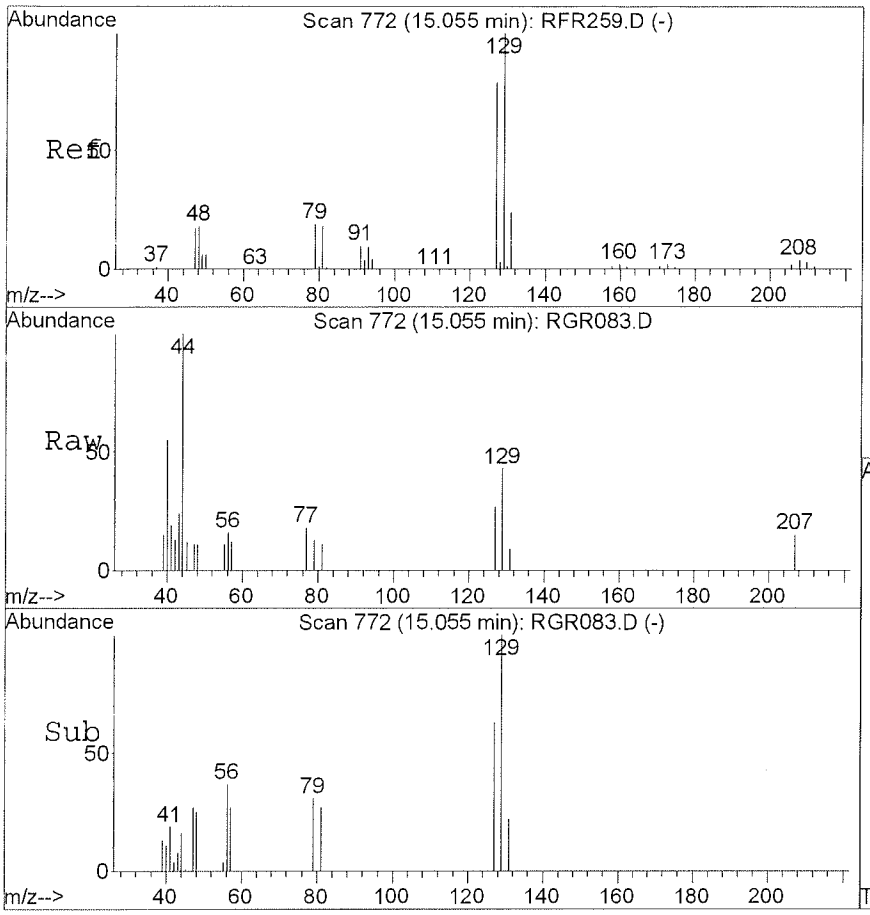


#18
Methylene chloride
Concen: 0.33 ug/l
RT: 7.45 min Scan# 262
Delta R.T. -0.01 min
Lab File: RGR083.D
Acq: 5 Jul 2019 7:06 pm

Tgt Ion: 49 Resp: 38177

Ion	Ratio	Lower	Upper
49	100		
84	58.3	26.9	86.9
86	34.6	5.8	65.8

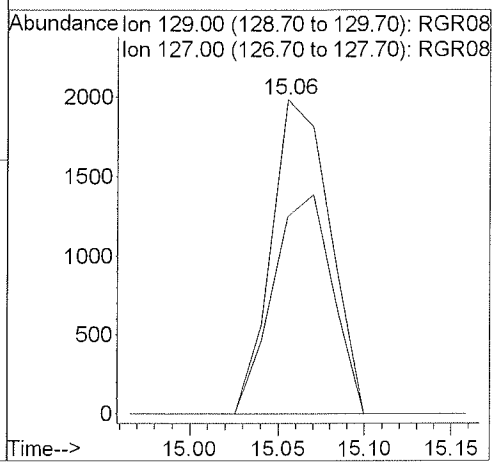


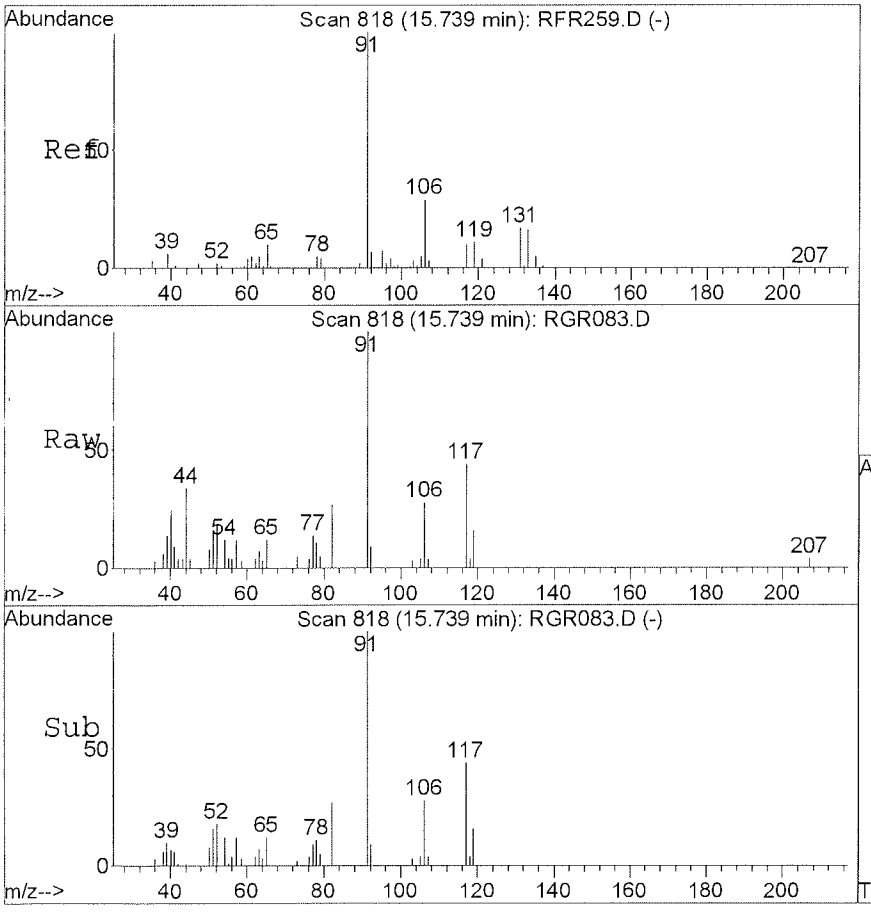


#63
Dibromochloromethane
Concen: 0.11 ug/l
RT: 15.06 min Scan# 772
Delta R.T. -0.00 min
Lab File: RGR083.D
Acq: 5 Jul 2019 7:06 pm

Tgt Ion:129 Resp: 4654

Ion	Ratio	Lower	Upper
129	100		
127	71.4	48.3	108.3

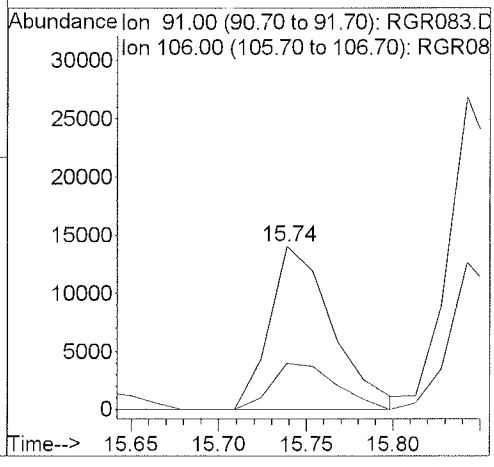


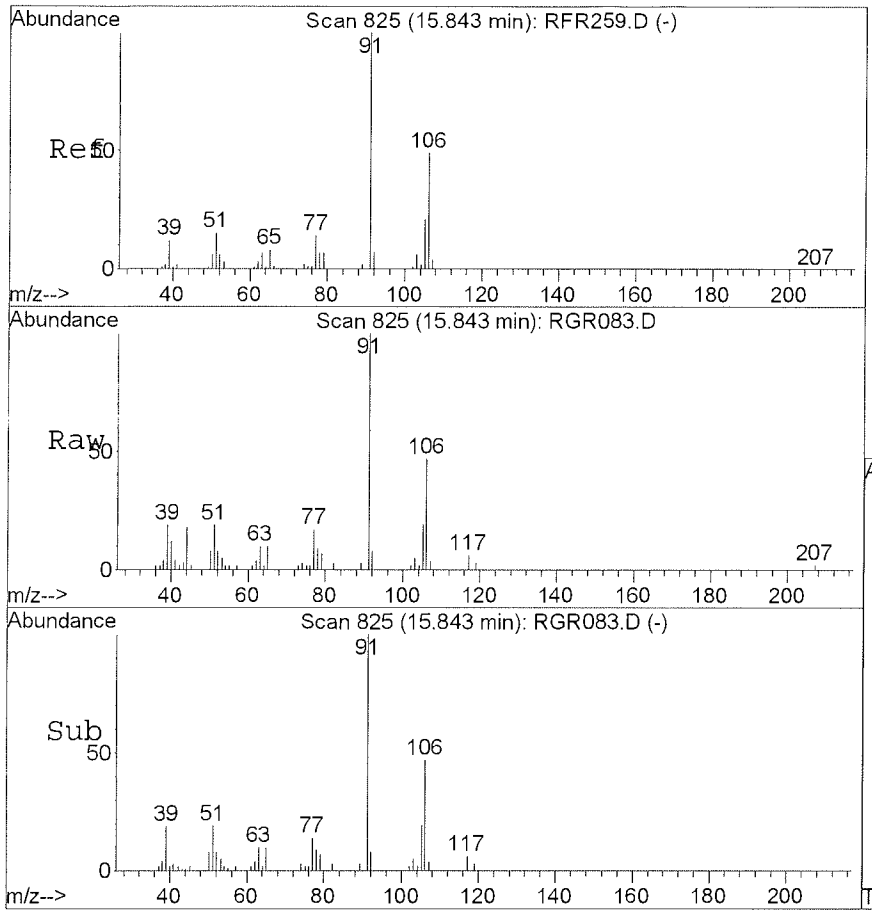


#67
Ethylbenzene
Concen: 0.13 ug/l
RT: 15.74 min Scan# 818
Delta R.T. -0.00 min
Lab File: RGR083.D
Acq: 5 Jul 2019 7:06 pm

Tgt Ion: 91 Resp: 35341

Ion	Ratio	Lower	Upper
91	100		
106	29.2	0.0	58.5

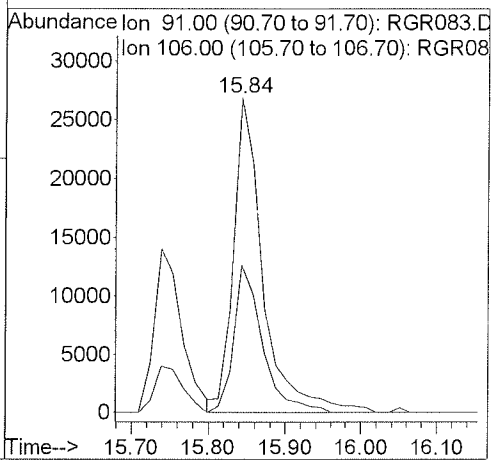


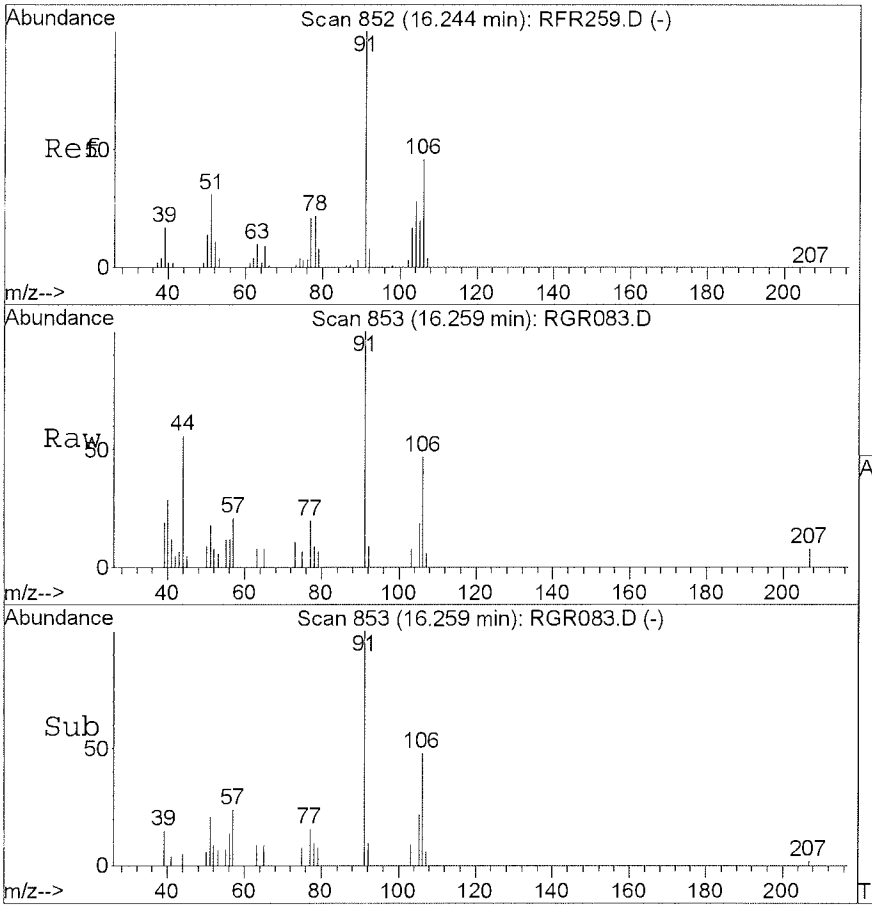


#69
m-Xylene & p-Xylene
Concen: 0.35 ug/l
RT: 15.84 min Scan# 825
Delta R.T. 0.00 min
Lab File: RGR083.D
Acq: 5 Jul 2019 7:06 pm

Tgt Ion: 91 Resp: 71727

Ion	Ratio	Lower	Upper
91	100		
106	45.8	17.7	77.7

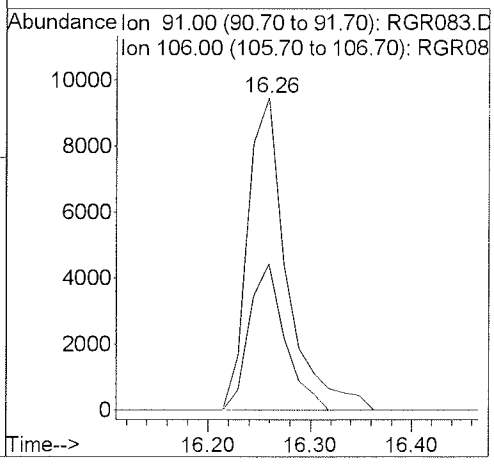


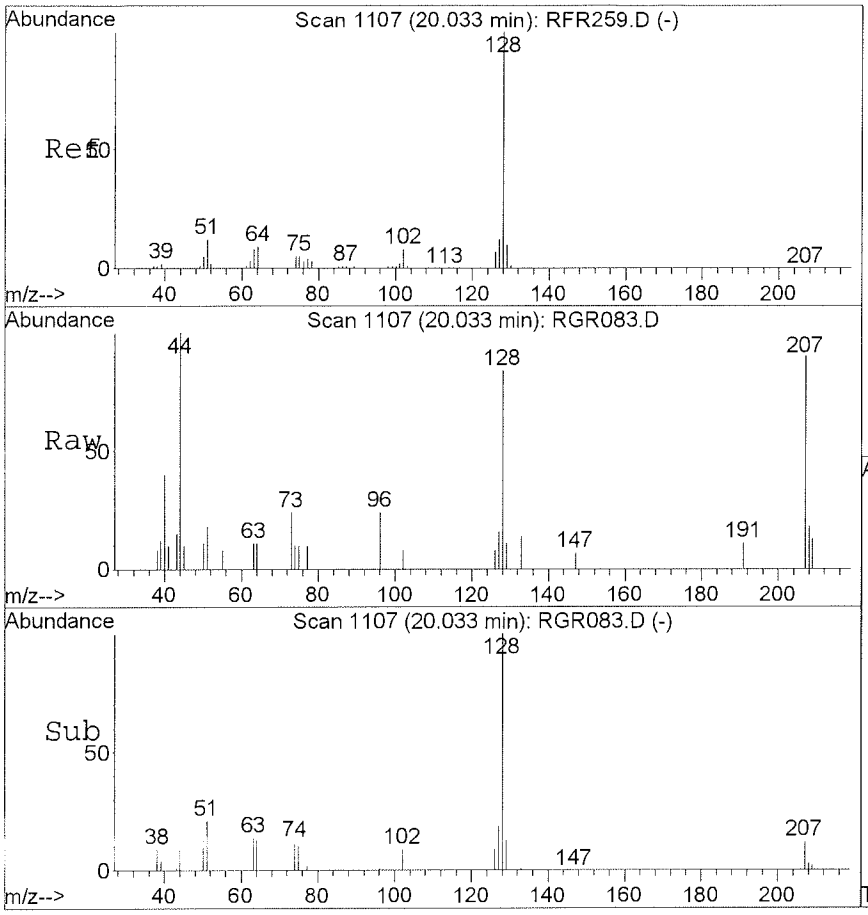


#70
o-Xylene
Concen: 0.13 ug/l
RT: 16.26 min Scan# 853
Delta R.T. 0.01 min
Lab File: RGR083.D
Acq: 5 Jul 2019 7:06 pm

Tgt Ion: 91 Resp: 25206

Ion	Ratio	Lower	Upper
91	100		
106	42.8	15.5	75.5

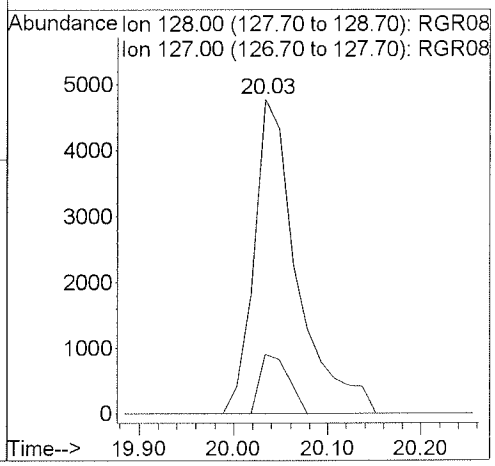




#97
Naphthalene
Concen: 0.25 ug/l
RT: 20.03 min Scan# 1107
Delta R.T. 0.00 min
Lab File: RGR083.D
Acq: 5 Jul 2019 7:06 pm

Tgt Ion:128 Resp: 15253

Ion	Ratio	Lower	Upper
128	100		
127	12.6	0.0	42.0



METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/27/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 19:33
Sample ID: OU2-SB-EB22	Date Analyzed: 07/05/19 19:33
Lab Samp ID: G038-04	Dilution Factor: 1
Lab File ID: RGR084	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	5.0J	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	3.4J	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	0.16J	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	9.92	10.00	99.2	70-130
DIBROMOFLUOROMETHANE	10.7	10.00	107	70-130

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR084.D Vial: 19
Acq On : 5 Jul 2019 7:33 pm Operator: VLu
Sample : 19G038-04 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:17 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

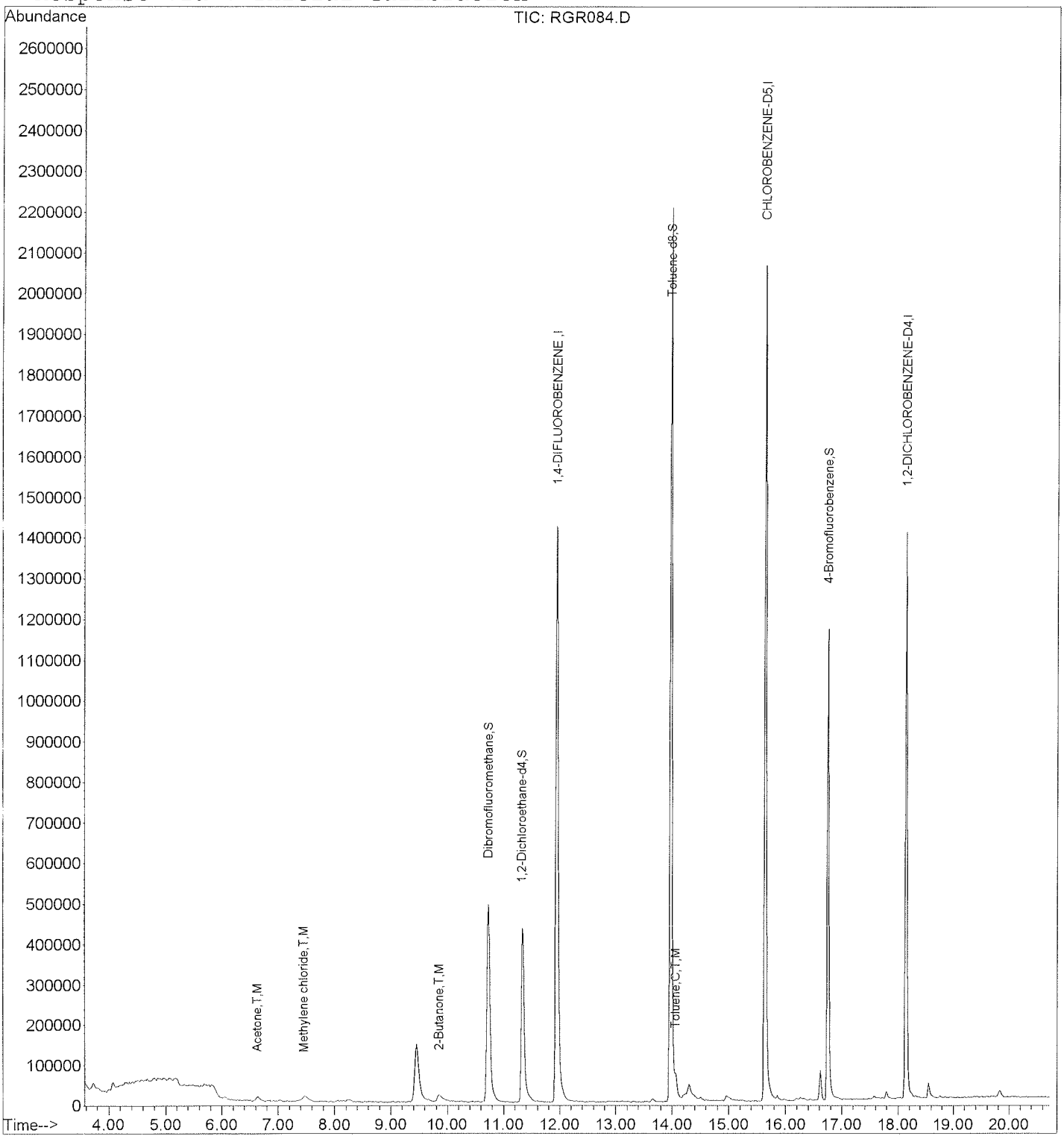
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	1842497	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.64	117	1373272	10.00	ug/l	-0.01
72) 1,2-DICHLOROBENZENE-D4	18.13	152	418486	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	10.73	111	616557	10.69	ug/l	0.00
Spiked Amount 10.000			Recovery = 106.90%			
40) 1,2-Dichloroethane-d4	11.33	65	513154	10.52	ug/l	-0.01
Spiked Amount 10.000			Recovery = 105.20%			
55) Toluene-d8	13.97	98	1794859	9.92	ug/l	0.00
Spiked Amount 10.000			Recovery = 99.20%			
75) 4-Bromofluorobenzene	16.75	95	515966	10.42	ug/l	0.00
Spiked Amount 10.000			Recovery = 104.20%			
Target Compounds						Qvalue
14) Acetone	6.63	43	36080	3.40	ug/l	93
18) Methylene chloride	7.45	49	14555	0.13	ug/l	99
29) 2-Butanone	9.85	43	74857	4.96	ug/l	96
56) Toluene	14.06	91	40886	0.16	ug/l	99

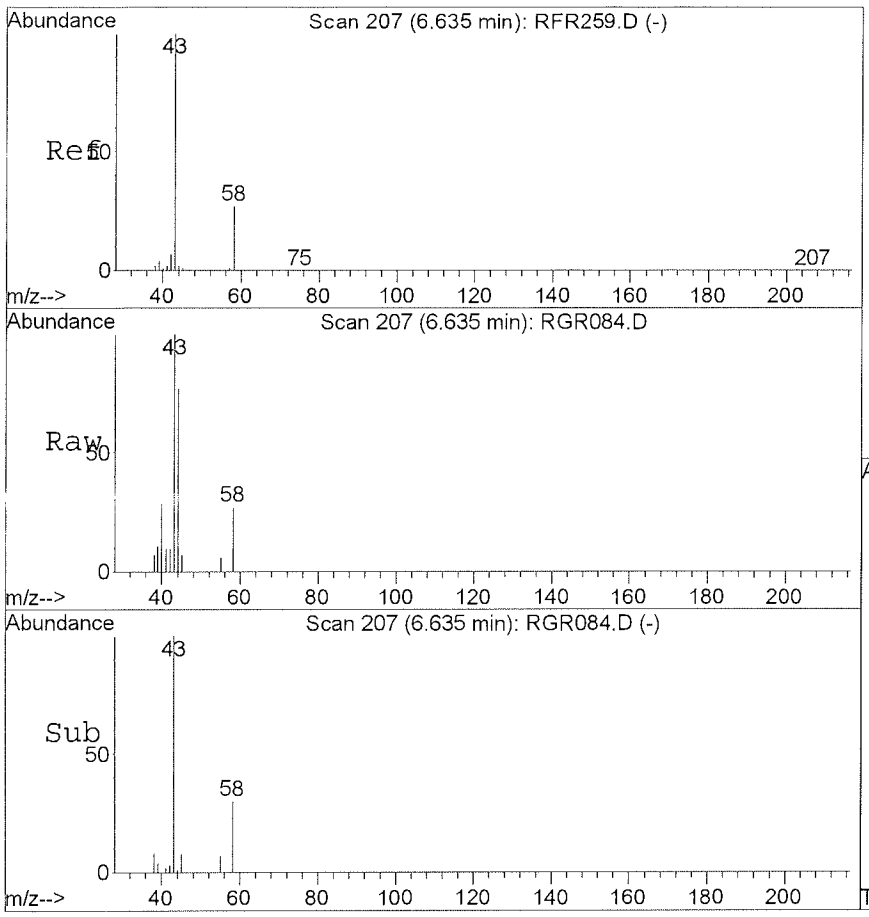
(#) = qualifier out of range (m) = manual integration
RGR084.D VOF3F17.M Mon Jul 08 11:17:48 2019 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR084.D Vial: 19
Acq On : 5 Jul 2019 7:33 pm Operator: VLu
Sample : 19G038-04 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:17 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration

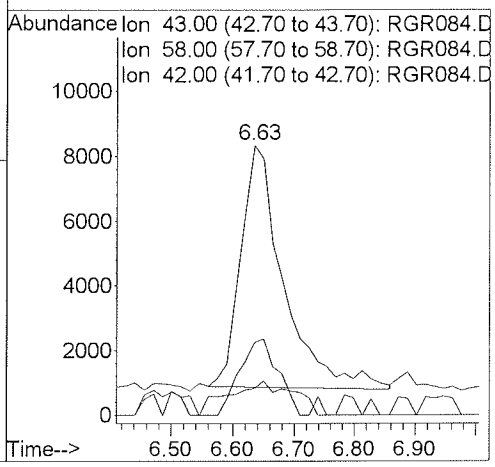


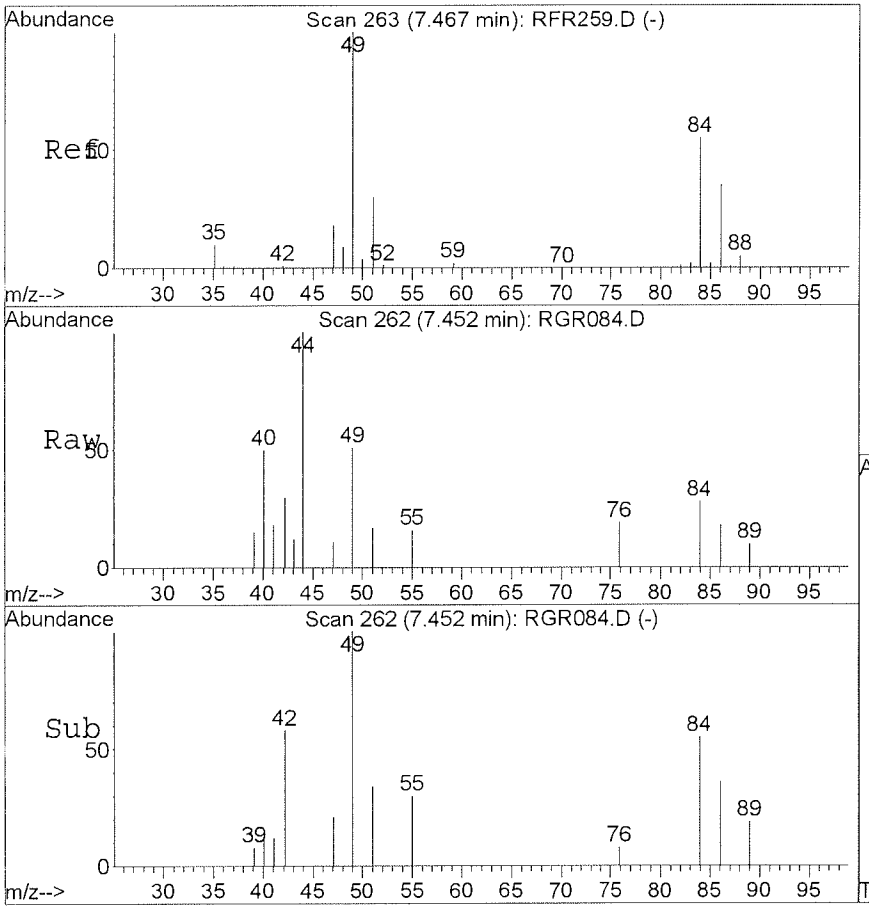


#14
Acetone
Concen: 3.40 ug/l
RT: 6.63 min Scan# 207
Delta R.T. 0.00 min
Lab File: RGR084.D
Acq: 5 Jul 2019 7:33 pm

Tgt Ion: 43 Resp: 36080

Ion	Ratio	Lower	Upper
43	100		
58	28.2	0.0	58.5
42	18.4	0.0	37.5

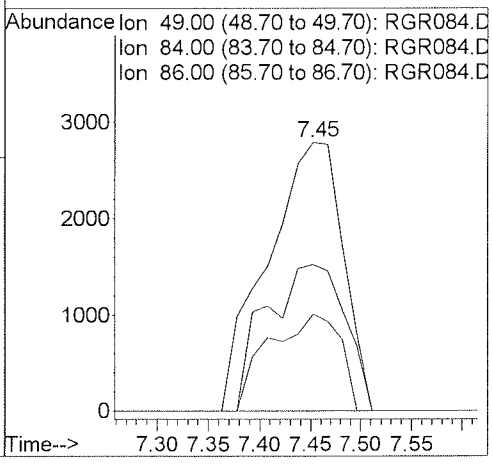


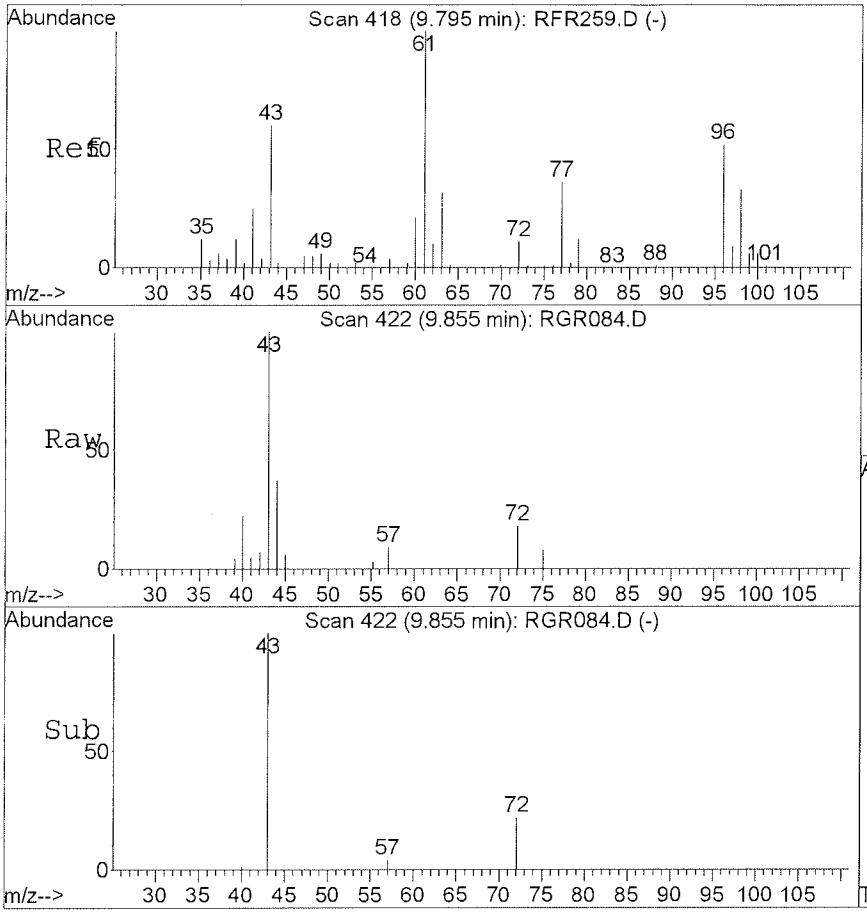


#18
Methylene chloride
Concen: 0.13 ug/l
RT: 7.45 min Scan# 262
Delta R.T. -0.01 min
Lab File: RGR084.D
Acq: 5 Jul 2019 7:33 pm

Tgt Ion: 49 Resp: 14555

Ion	Ratio	Lower	Upper
49	100		
84	56.8	26.9	86.9
86	34.0	5.8	65.8

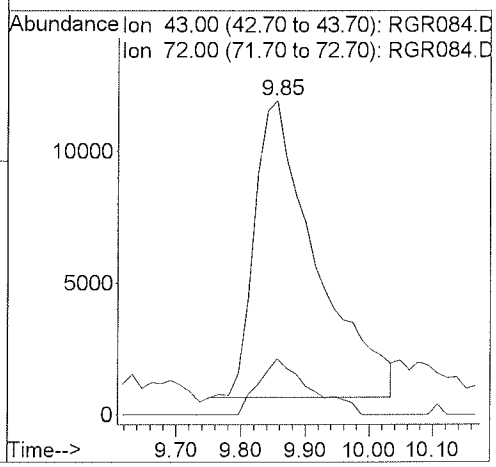


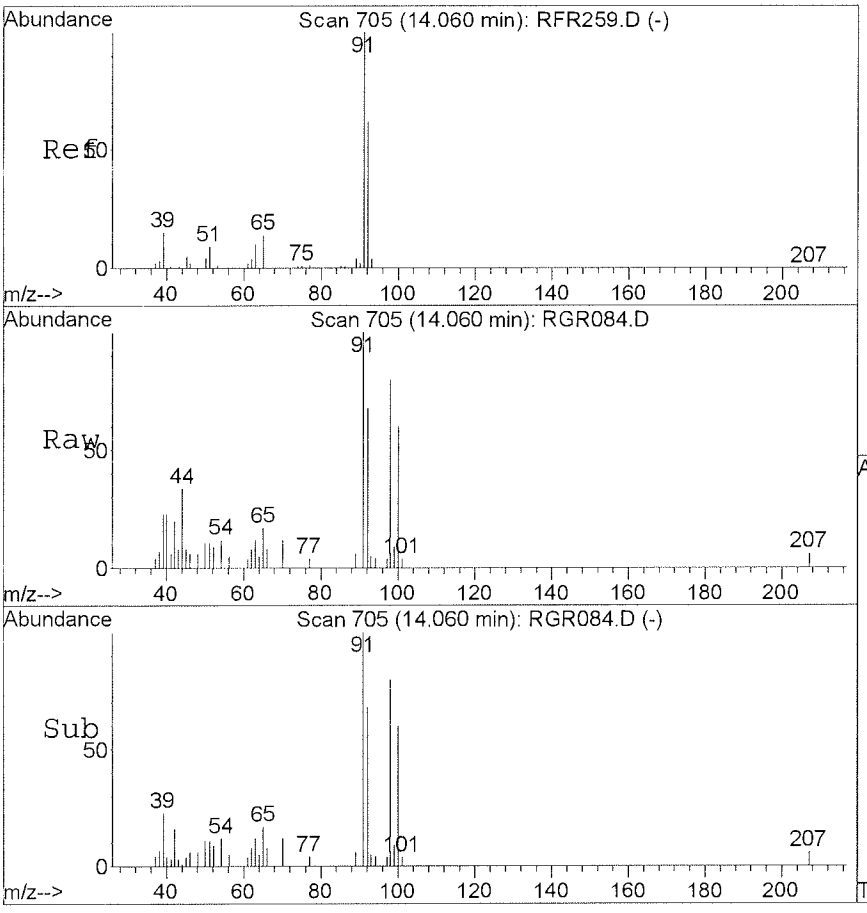


#29
2-Butanone
Concen: 4.96 ug/l
RT: 9.85 min Scan# 422
Delta R.T. 0.06 min
Lab File: RGR084.D
Acq: 5 Jul 2019 7:33 pm

Tgt Ion: 43 Resp: 74857

Ion	Ratio	Lower	Upper
43	100		
72	15.9	0.0	47.5

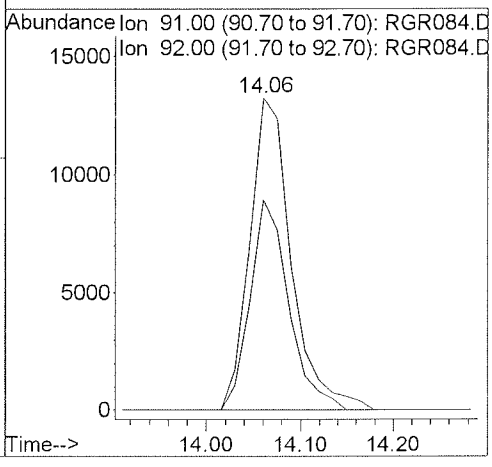




#56
Toluene
Concen: 0.16 ug/l
RT: 14.06 min Scan# 705
Delta R.T. 0.00 min
Lab File: RGR084.D
Acq: 5 Jul 2019 7:33 pm

Tgt Ion: 91 Resp: 40886

Ion	Ratio	Lower	Upper
91	100		
92	62.7	32.3	92.3



METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 06/28/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 20:01
Sample ID: OU2-SB-EB23	Date Analyzed: 07/05/19 20:01
Lab Samp ID: G038-05	Dilution Factor: 1
Lab File ID: RGR085	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	5.7J	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	0.19J	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	0.52J	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.6	10.00	106	70-130
BROMOFLUOROBENZENE	10.7	10.00	107	70-130
TOLUENE-D8	9.64	10.00	96.4	70-130
DIBROMOFLUOROMETHANE	10.6	10.00	106	70-130

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR085.D Vial: 20
Acq On : 5 Jul 2019 8:01 pm Operator: VLu
Sample : 19G038-05 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:18 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

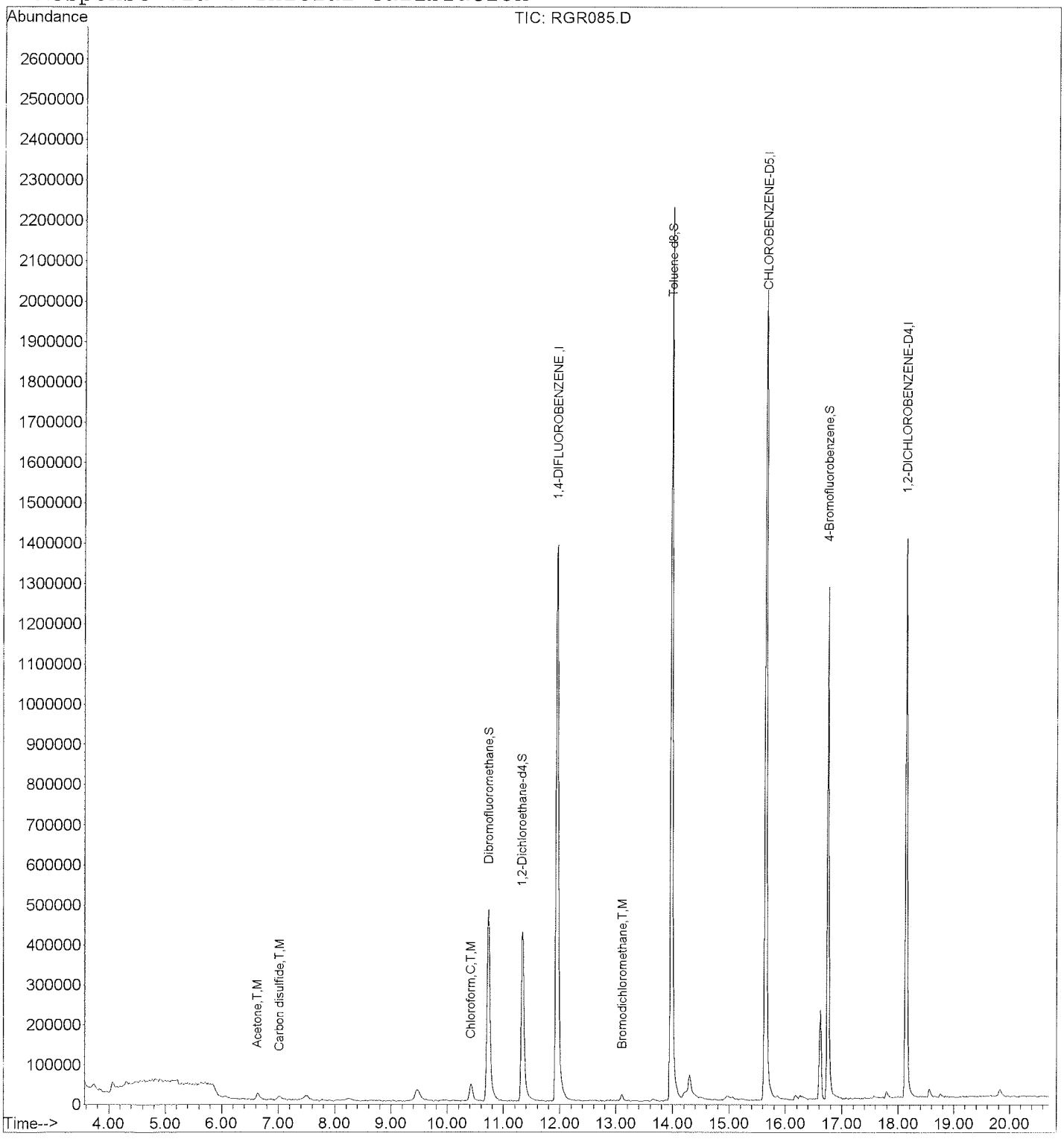
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	1768939	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1390826	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.13	152	410675	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	10.73	111	585166	10.56	ug/l	0.00
Spiked Amount 10.000			Recovery =	105.60%		
40) 1,2-Dichloroethane-d4	11.33	65	497263	10.61	ug/l	-0.01
Spiked Amount 10.000			Recovery =	106.10%		
55) Toluene-d8	13.97	98	1767195	9.64	ug/l	0.00
Spiked Amount 10.000			Recovery =	96.40%		
75) 4-Bromofluorobenzene	16.75	95	518021	10.66	ug/l	0.00
Spiked Amount 10.000			Recovery =	106.60%		
Target Compounds						Qvalue
14) Acetone	6.64	43	58509	5.75	ug/l	90
17) Carbon disulfide	7.02	76	39415	0.24	ug/l	90
33) Chloroform	10.42	83	63519	0.52	ug/l	96
50) Bromodichloromethane	13.11	83	14229	0.19	ug/l	94

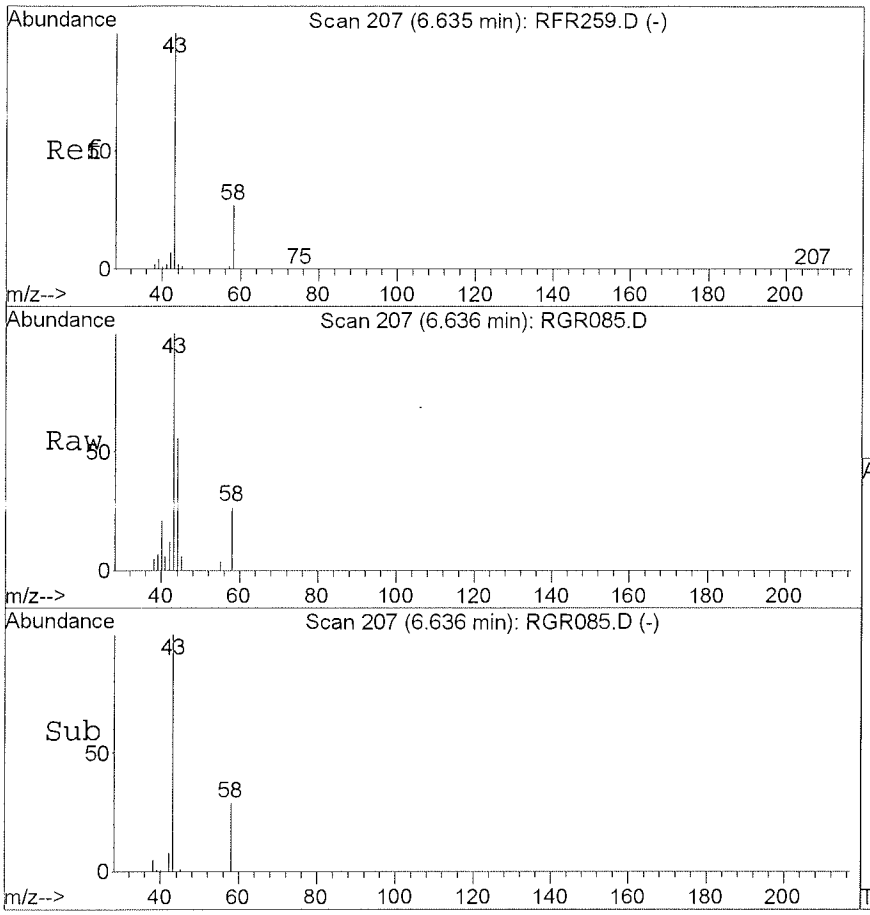
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR085.D Vial: 20
Acq On : 5 Jul 2019 8:01 pm Operator: VLu
Sample : 19G038-05 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:18 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration

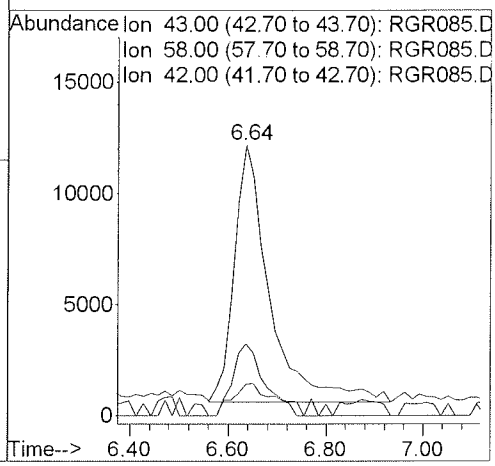


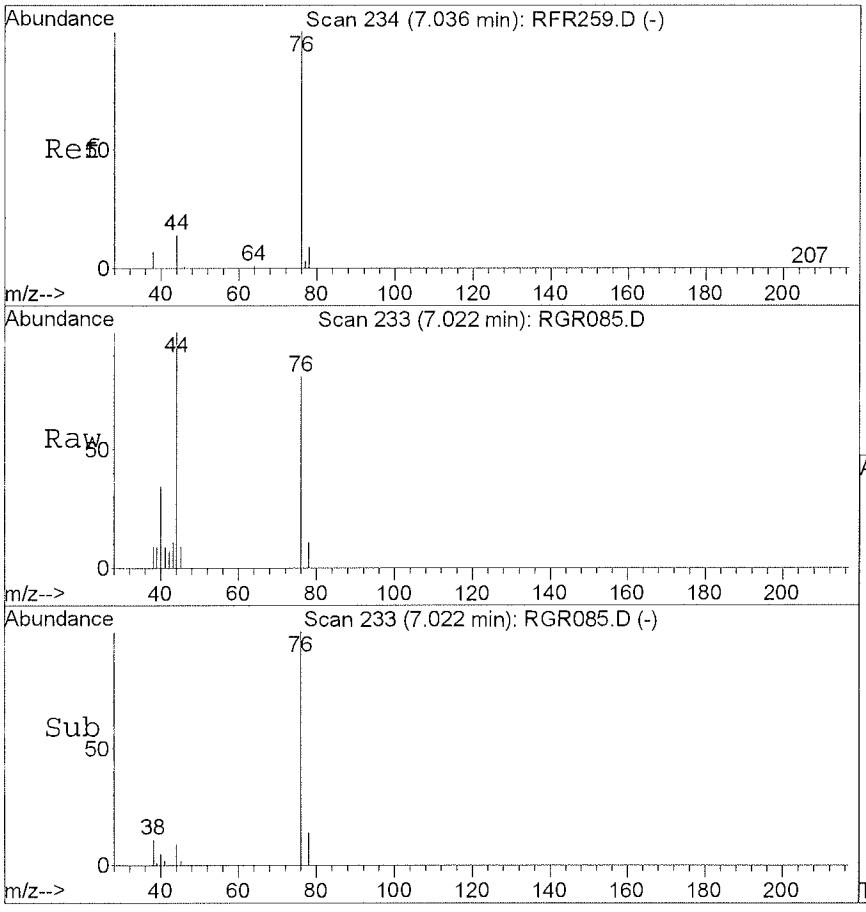


#14
Acetone
Concen: 5.75 ug/l
RT: 6.64 min Scan# 207
Delta R.T. 0.00 min
Lab File: RGR085.D
Acq: 5 Jul 2019 8:01 pm

Tgt Ion: 43 Resp: 58509

Ion	Ratio	Lower	Upper
43	100		
58	24.8	0.0	58.5
42	15.3	0.0	37.5

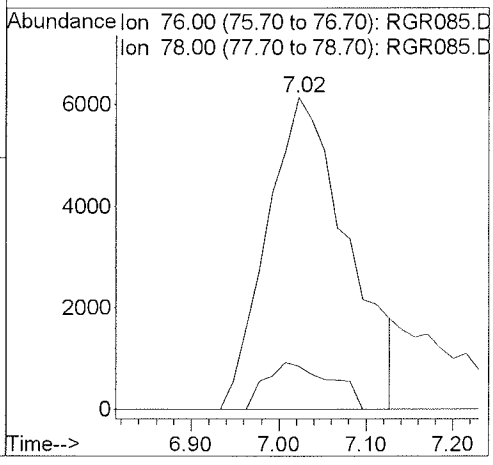


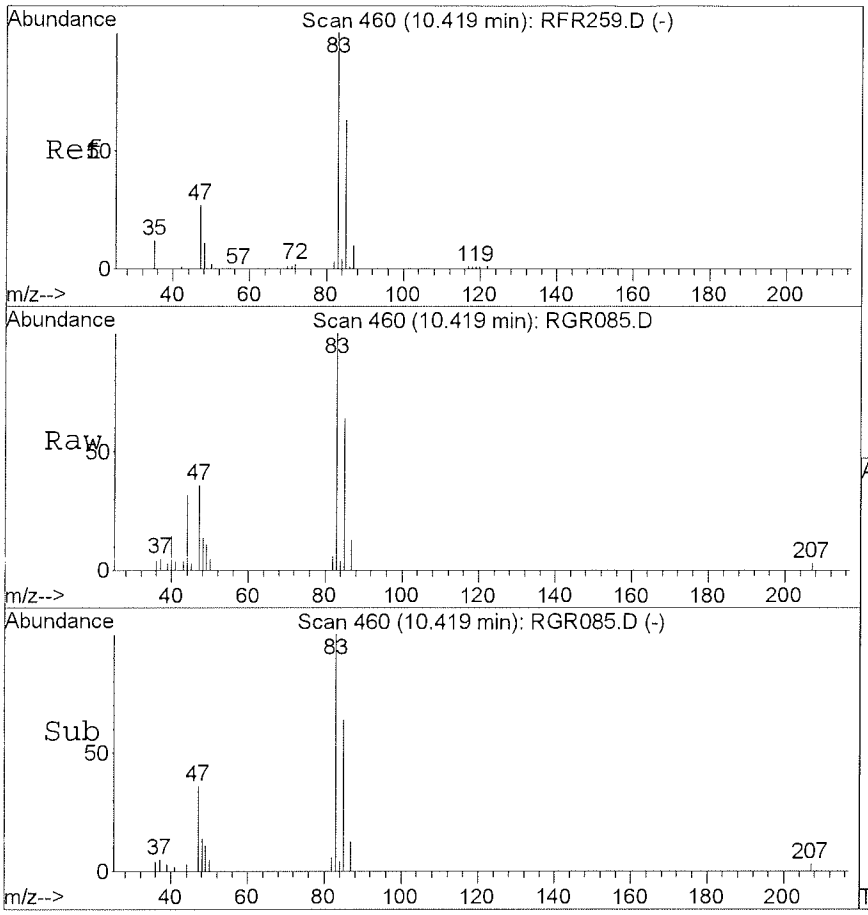


#17
Carbon disulfide
Concen: 0.24 ug/l
RT: 7.02 min Scan# 233
Delta R.T. -0.01 min
Lab File: RGR085.D
Acq: 5 Jul 2019 8:01 pm

Tgt Ion: 76 Resp: 39415

Ion	Ratio	Lower	Upper
76	100		
78	12.2	0.0	38.5

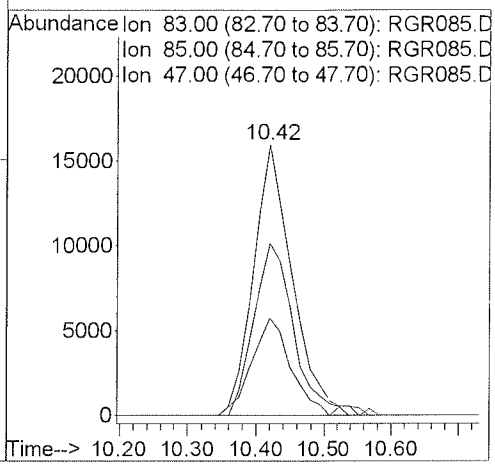


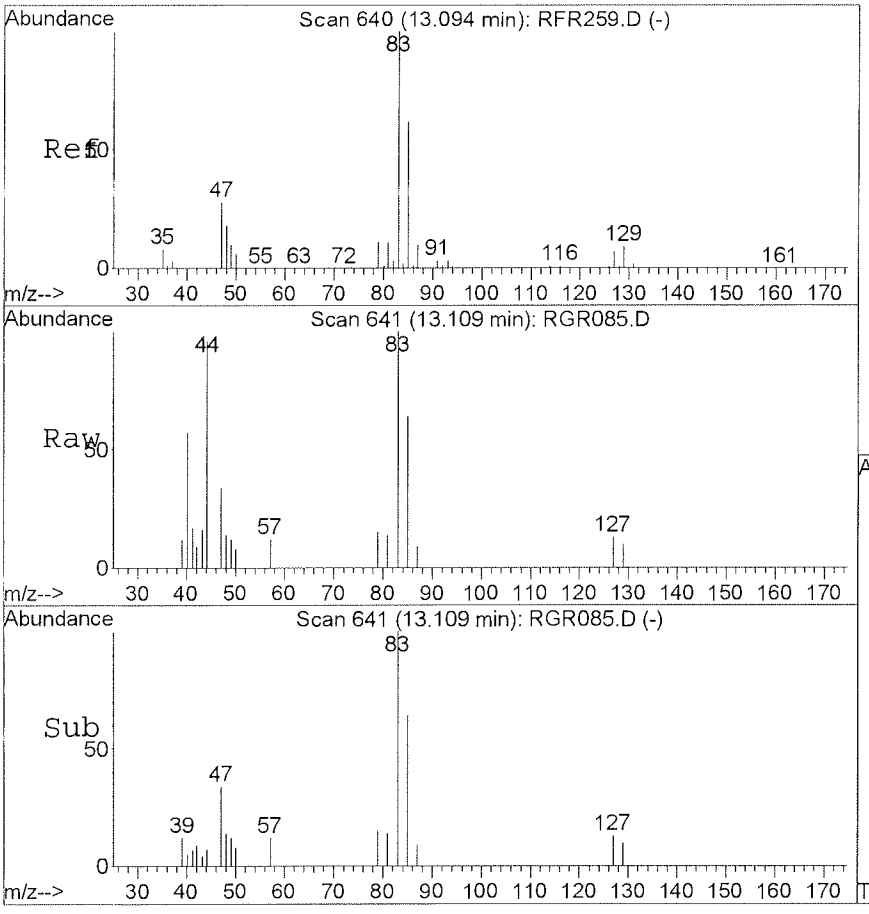


#33
Chloroform
Concen: 0.52 ug/l
RT: 10.42 min Scan# 460
Delta R.T. 0.00 min
Lab File: RGR085.D
Acq: 5 Jul 2019 8:01 pm

Tgt Ion: 83 Resp: 63519

Ion	Ratio	Lower	Upper
83	100		
85	65.7	33.5	93.5
47	36.7	3.0	63.0

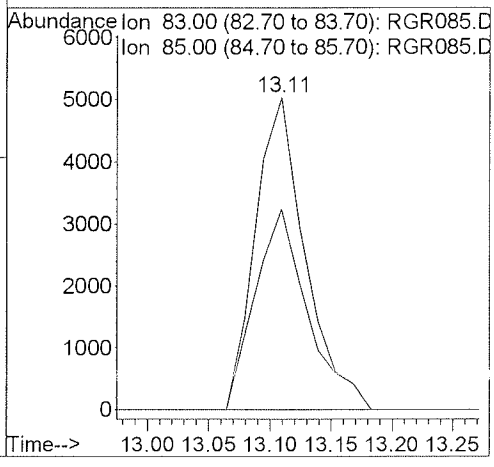




#50
Bromodichloromethane
Concen: 0.19 ug/l
RT: 13.11 min Scan# 641
Delta R.T. 0.02 min
Lab File: RGR085.D
Acq: 5 Jul 2019 8:01 pm

Tgt Ion: 83 Resp: 14229

Ion	Ratio	Lower	Upper
83	100		
85	68.0	33.0	93.0



METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/01/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 20:28
Sample ID: OU2-SB-EB24	Date Analyzed: 07/05/19 20:28
Lab Samp ID: G038-06	Dilution Factor: 1
Lab File ID: RGR086	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	4.7J	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	14	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	0.21J	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	0.58J	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-130
BROMOFLUOROBENZENE	10.7	10.00	107	70-130
TOLUENE-D8	10.1	10.00	101	70-130
DIBROMOFLUOROMETHANE	10.5	10.00	105	70-130

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR086.D Vial: 21
Acq On : 5 Jul 2019 8:28 pm Operator: VLu
Sample : 19G038-06 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:23 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

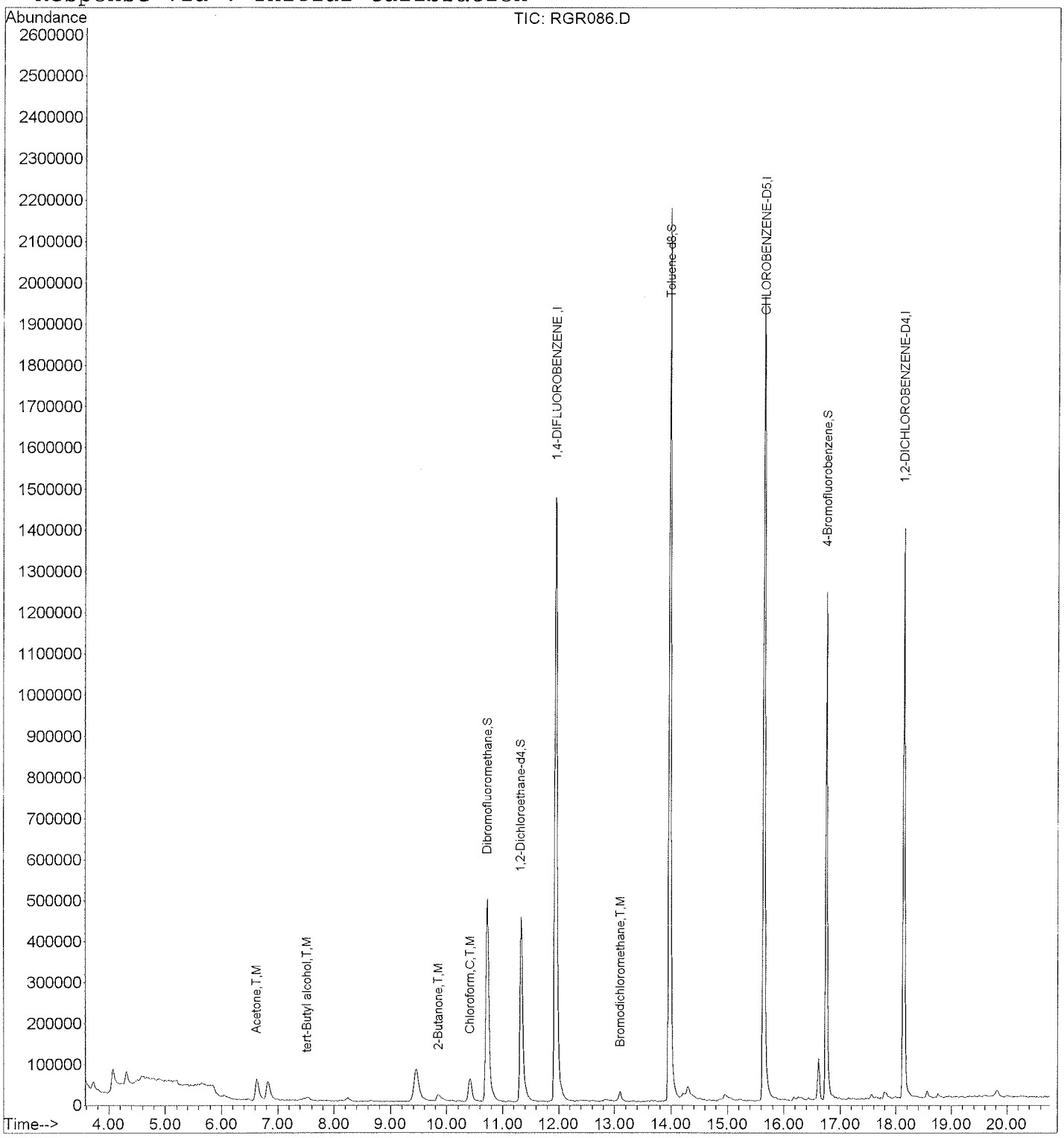
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	1870526	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1331783	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.13	152	409706	10.00	ug/l	-0.02
System Monitoring Compounds						
34) Dibromofluoromethane	10.73	111	617350	10.54	ug/l	0.00
Spiked Amount 10.000			Recovery = 105.40%			
40) 1,2-Dichloroethane-d4	11.32	65	520843	10.51	ug/l	-0.02
Spiked Amount 10.000			Recovery = 105.10%			
55) Toluene-d8	13.97	98	1774158	10.11	ug/l	0.00
Spiked Amount 10.000			Recovery = 101.10%			
75) 4-Bromofluorobenzene	16.75	95	520152	10.73	ug/l	0.00
Spiked Amount 10.000			Recovery = 107.30%			
Target Compounds						Qvalue
14) Acetone	6.63	43	153649	14.28	ug/l	98
19) tert-Butyl alcohol	7.52	59	25835	8.95	ug/l	100
29) 2-Butanone	9.85	43	71847	4.69	ug/l	96
33) Chloroform	10.42	83	75494	0.58	ug/l	99
50) Bromodichloromethane	13.11	83	16846	0.21	ug/l	95

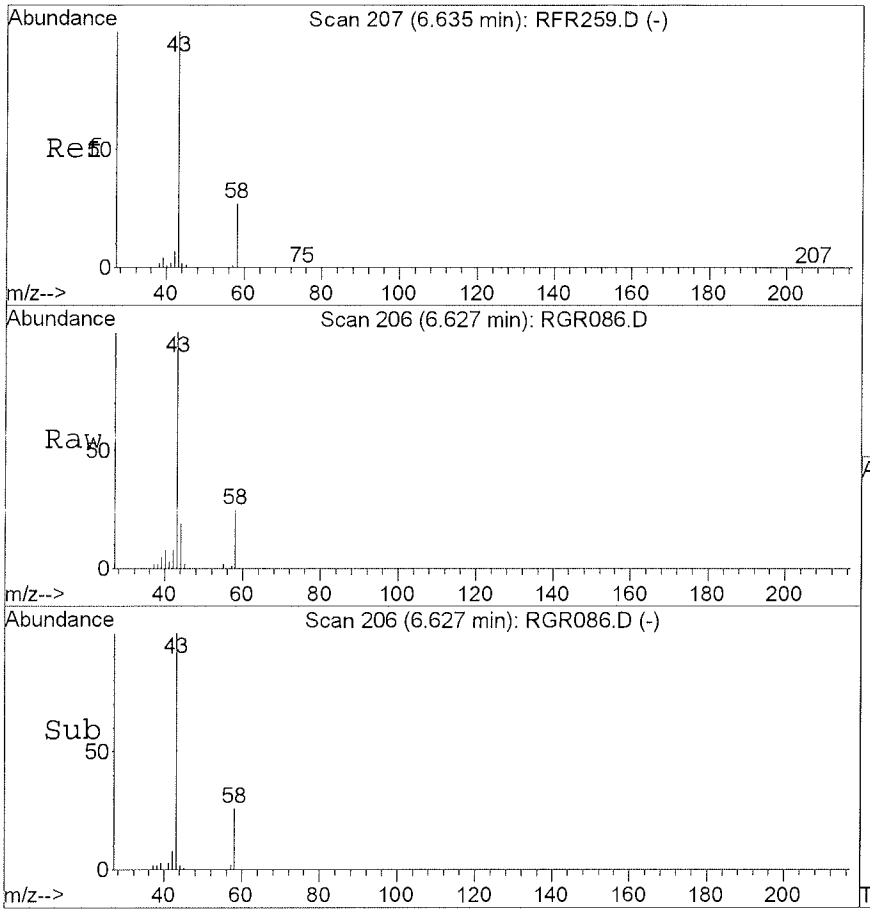
(#) = qualifier out of range (m) = manual integration
RGR086.D VOF3F17.M Mon Jul 08 11:23:28 2019 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR086.D Vial: 21
Acq On : 5 Jul 2019 8:28 pm Operator: VLu
Sample : 19G038-06 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:23 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration

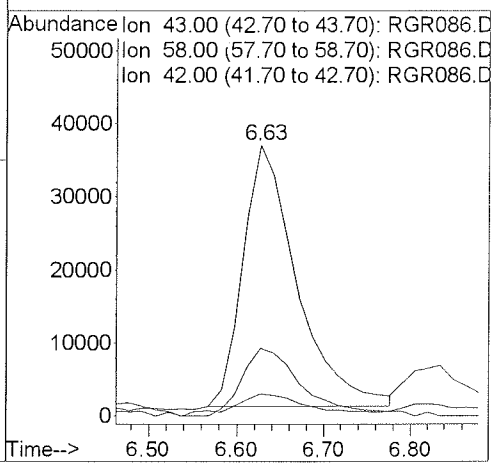


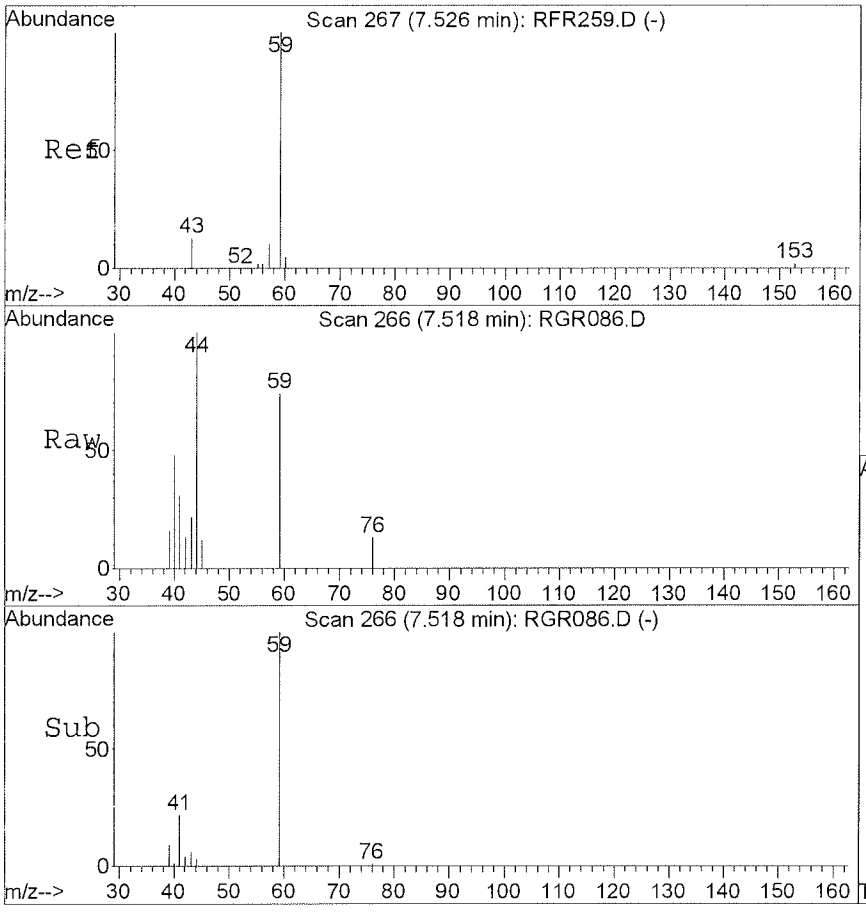


#14
Acetone
Concen: 14.28 ug/l
RT: 6.63 min Scan# 206
Delta R.T. -0.01 min
Lab File: RGR086.D
Acq: 5 Jul 2019 8:28 pm

Tgt Ion: 43 Resp: 153649

Ion	Ratio	Lower	Upper
43	100		
58	29.5	0.0	58.5
42	7.9	0.0	37.5

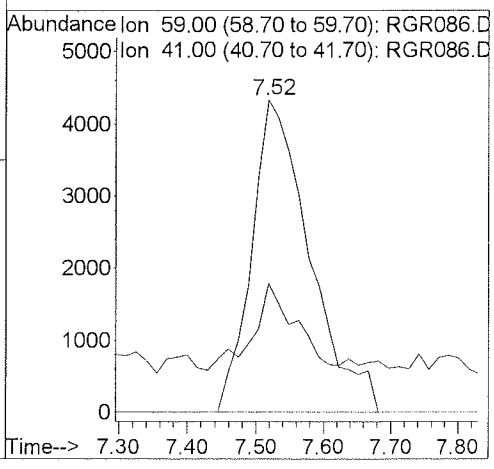


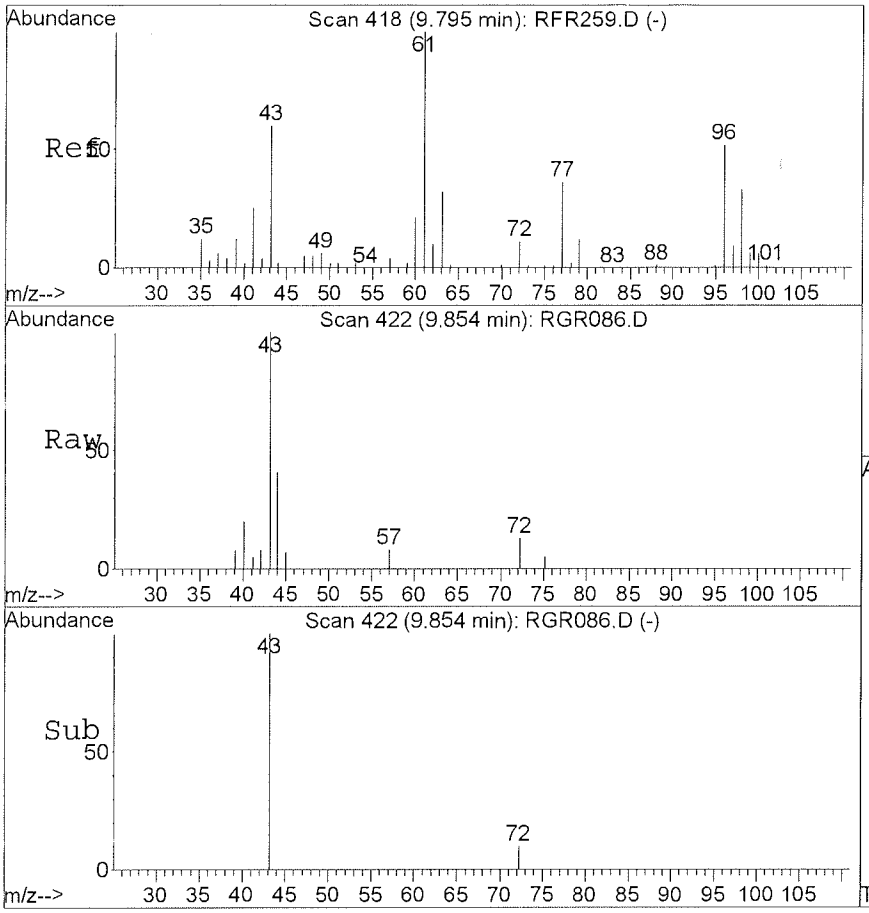


#19
tert-Butyl alcohol
Concen: 8.95 ug/l
RT: 7.52 min Scan# 266
Delta R.T. -0.01 min
Lab File: RGR086.D
Acq: 5 Jul 2019 8:28 pm

Tgt Ion: 59 Resp: 25835

Ion	Ratio	Lower	Upper
59	100		
41	20.6	0.0	30.0

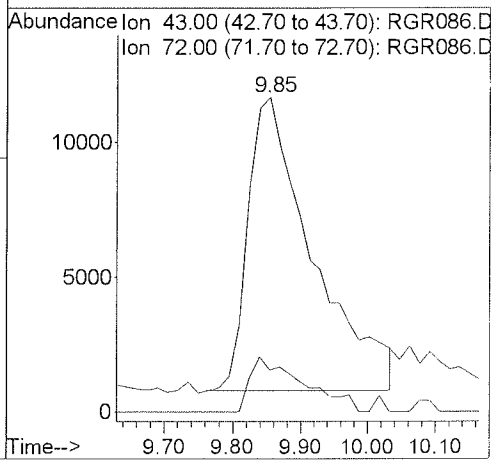


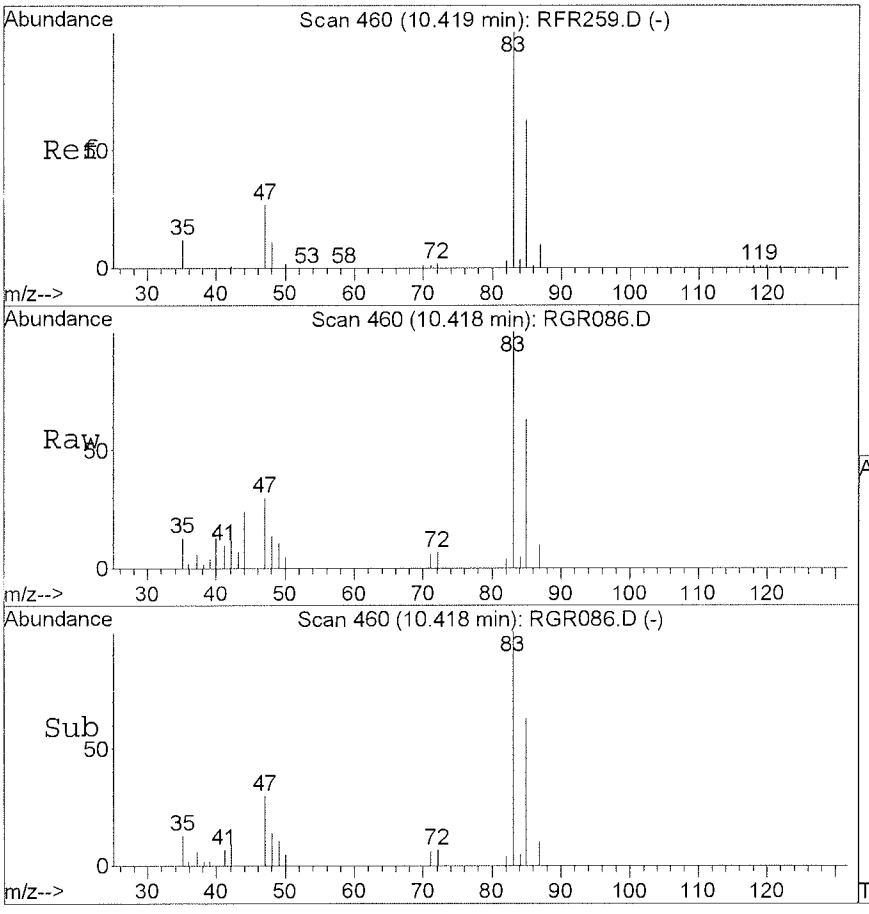


#29
2-Butanone
Concen: 4.69 ug/l
RT: 9.85 min Scan# 422
Delta R.T. 0.06 min
Lab File: RGR086.D
Acq: 5 Jul 2019 8:28 pm

Tgt Ion: 43 Resp: 71847

Ion	Ratio	Lower	Upper
43	100		
72	15.7	0.0	47.5

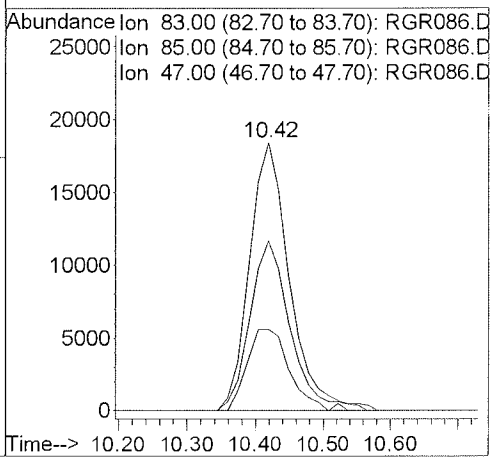


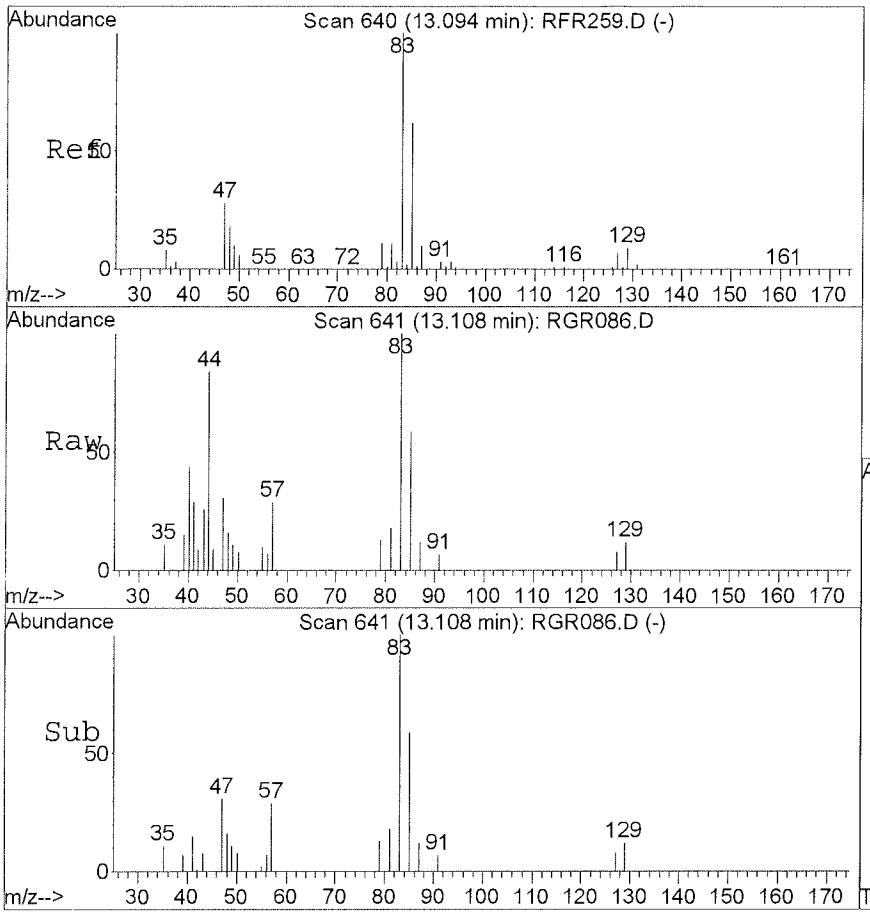


#33
Chloroform
Concen: 0.58 ug/l
RT: 10.42 min Scan# 460
Delta R.T. -0.00 min
Lab File: RGR086.D
Acq: 5 Jul 2019 8:28 pm

Tgt Ion: 83 Resp: 75494

Ion	Ratio	Lower	Upper
83	100		
85	63.9	33.5	93.5
47	32.5	3.0	63.0

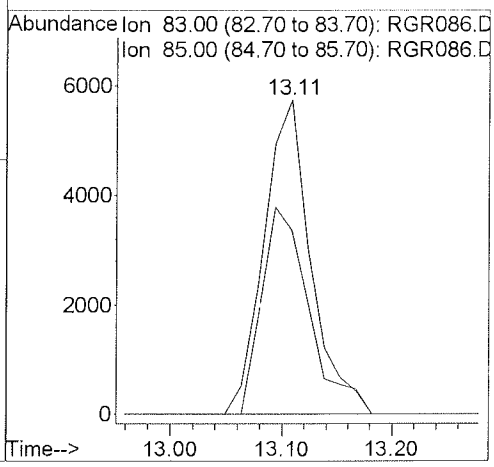




#50
Bromodichloromethane
Concen: 0.21 ug/l
RT: 13.11 min Scan# 641
Delta R.T. 0.01 min
Lab File: RGR086.D
Acq: 5 Jul 2019 8:28 pm

Tgt Ion: 83 Resp: 16846

Ion	Ratio	Lower	Upper
83	100		
85	66.8	33.0	93.0



METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/02/19
Project : VHA-SLC	Date Received: 07/03/19
Batch No. : 19G038	Date Extracted: 07/05/19 20:55
Sample ID: OU2-SB-EB25	Date Analyzed: 07/05/19 20:55
Lab Samp ID: G038-07	Dilution Factor: 1
Lab File ID: RGR087	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	6.2J	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	14	10	2.6
BENZENE	0.11J	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	0.24J	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	0.66J	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.8	10.00	108	70-130
BROMOFLUOROBENZENE	11.0	10.00	110	70-130
TOLUENE-D8	10.1	10.00	101	70-130
DIBROMOFLUOROMETHANE	10.6	10.00	106	70-130

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR087.D Vial: 22
Acq On : 5 Jul 2019 8:55 pm Operator: VLu
Sample : 19G038-07 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:22 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

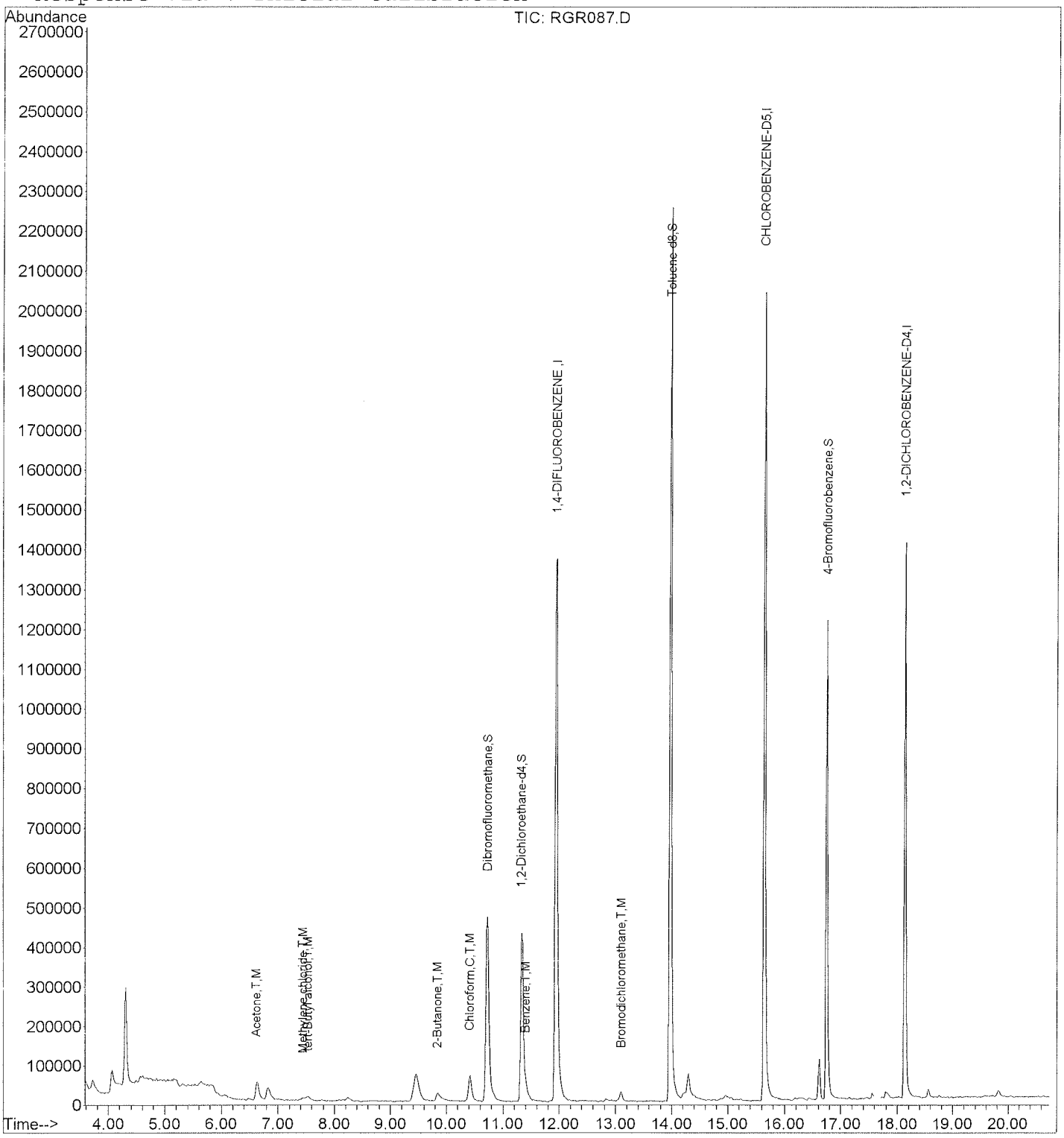
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	1759882	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.64	117	1323577	10.00	ug/l	-0.01
72) 1,2-DICHLOROBENZENE-D4	18.13	152	401646	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	10.73	111	582242	10.57	ug/l	0.00
Spiked Amount 10.000			Recovery =	105.70%		
40) 1,2-Dichloroethane-d4	11.33	65	503012	10.79	ug/l	-0.01
Spiked Amount 10.000			Recovery =	107.90%		
55) Toluene-d8	13.97	98	1764338	10.11	ug/l	0.00
Spiked Amount 10.000			Recovery =	101.10%		
75) 4-Bromofluorobenzene	16.75	95	521951	10.98	ug/l	0.00
Spiked Amount 10.000			Recovery =	109.80%		
Target Compounds						Qvalue
14) Acetone	6.63	43	136896	13.52	ug/l	98
18) Methylene chloride	7.44	49	11735	0.11	ug/l	84
19) tert-Butyl alcohol	7.53	59	28853	10.62	ug/l	100
29) 2-Butanone	9.84	43	89350	6.20	ug/l	99
33) Chloroform	10.42	83	80987	0.66	ug/l	99
42) Benzene	11.40	78	31444	0.11	ug/l	91
50) Bromodichloromethane	13.11	83	18223	0.24	ug/l	93

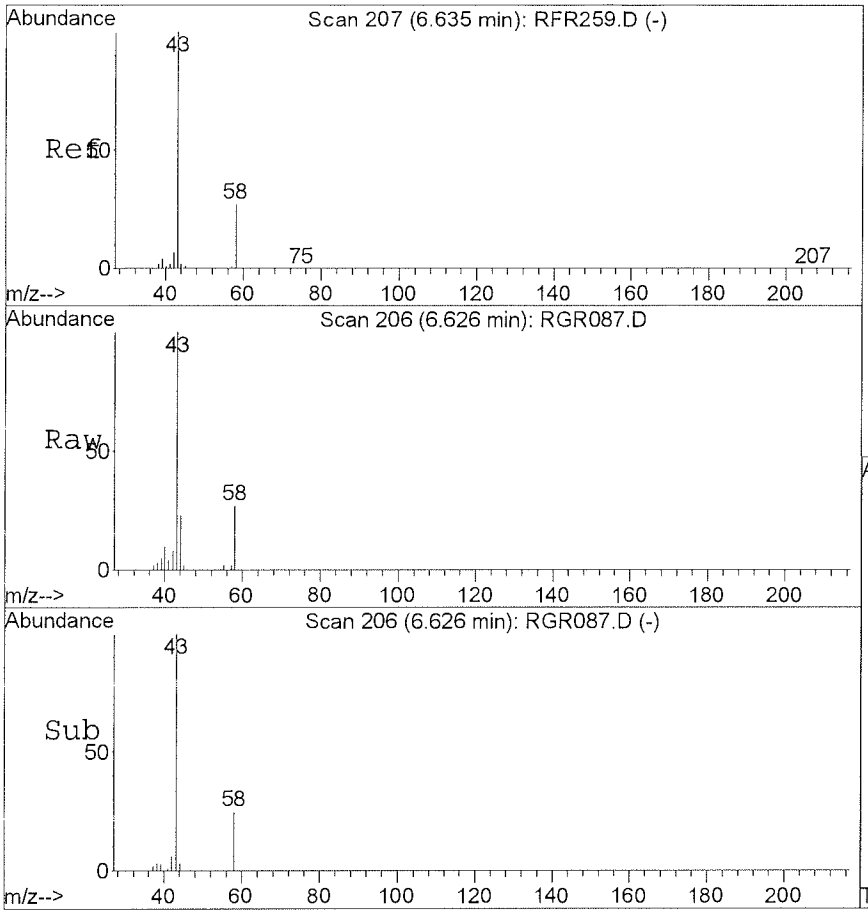
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR087.D Vial: 22
Acq On : 5 Jul 2019 8:55 pm Operator: VLu
Sample : 19G038-07 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 11:22 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration

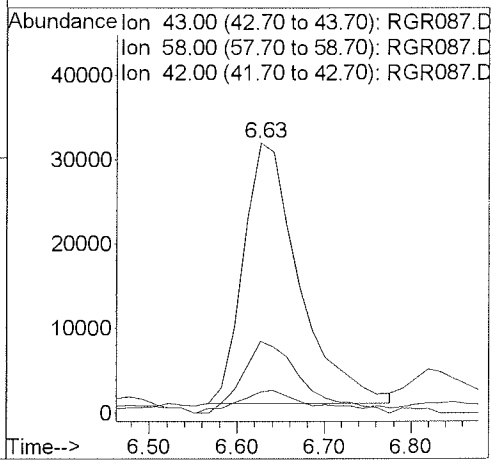


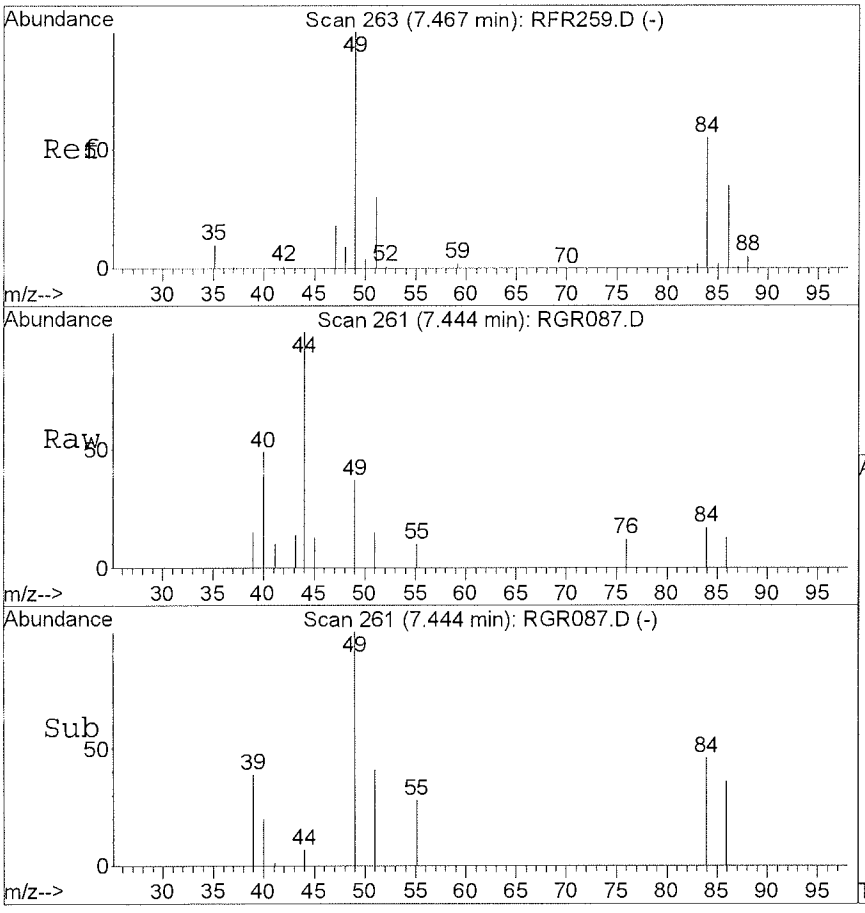


#14
Acetone
Concen: 13.52 ug/l
RT: 6.63 min Scan# 206
Delta R.T. -0.01 min
Lab File: RGR087.D
Acq: 5 Jul 2019 8:55 pm

Tgt Ion: 43 Resp: 136896

Ion	Ratio	Lower	Upper
43	100		
58	29.7	0.0	58.5
42	7.9	0.0	37.5

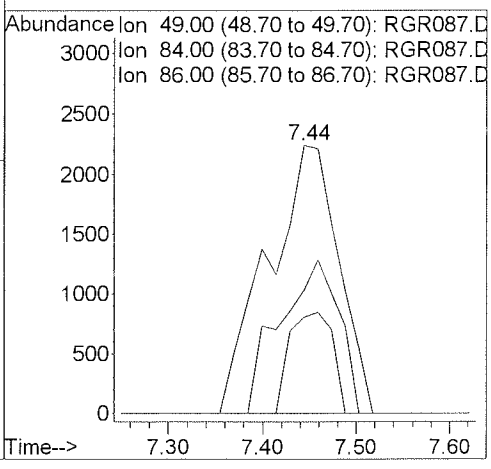


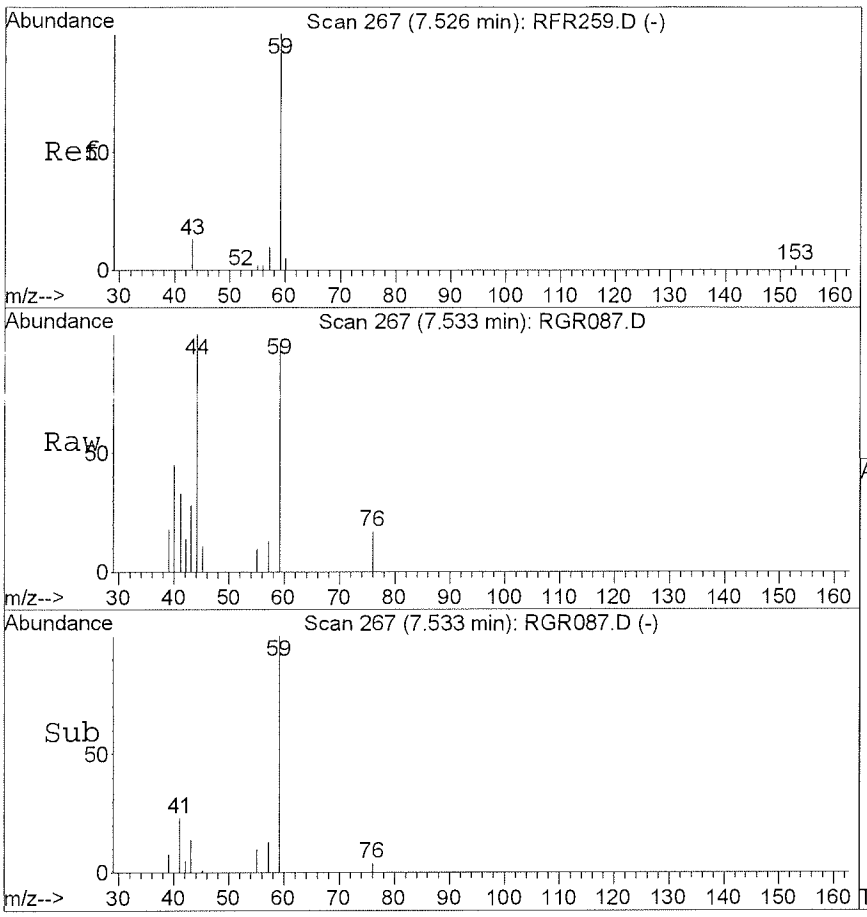


#18
Methylene chloride
Concen: 0.11 ug/l
RT: 7.44 min Scan# 261
Delta R.T. -0.02 min
Lab File: RGR087.D
Acq: 5 Jul 2019 8:55 pm

Tgt Ion: 49 Resp: 11735

Ion	Ratio	Lower	Upper
49	100		
84	48.2	26.9	86.9
86	23.1	5.8	65.8

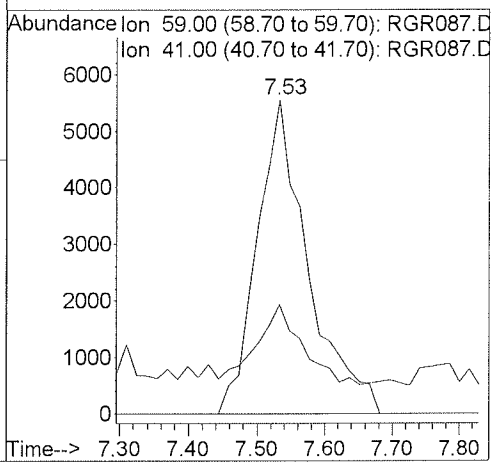


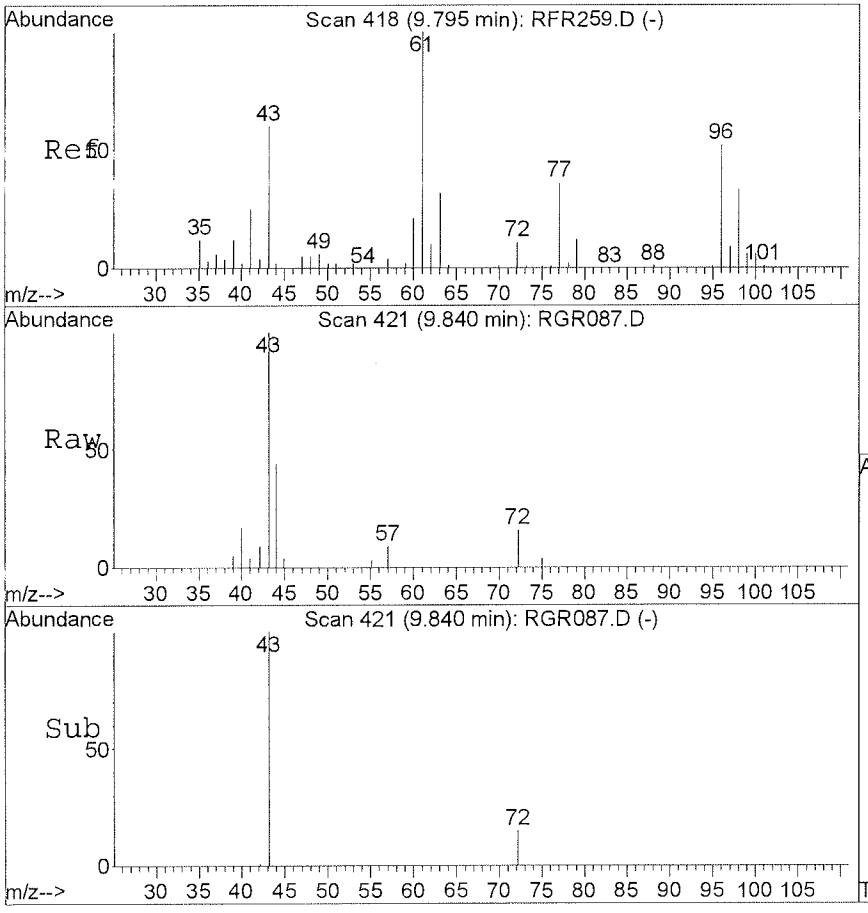


#19
tert-Butyl alcohol
Concen: 10.62 ug/l
RT: 7.53 min Scan# 267
Delta R.T. 0.01 min
Lab File: RGR087.D
Acq: 5 Jul 2019 8:55 pm

Tgt Ion: 59 Resp: 28853

Ion	Ratio	Lower	Upper
59	100		
41	21.7	0.0	30.0

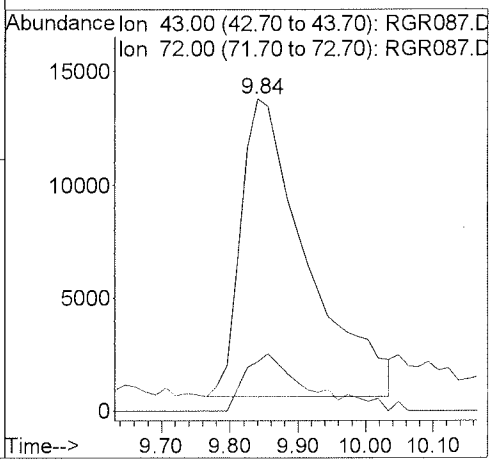


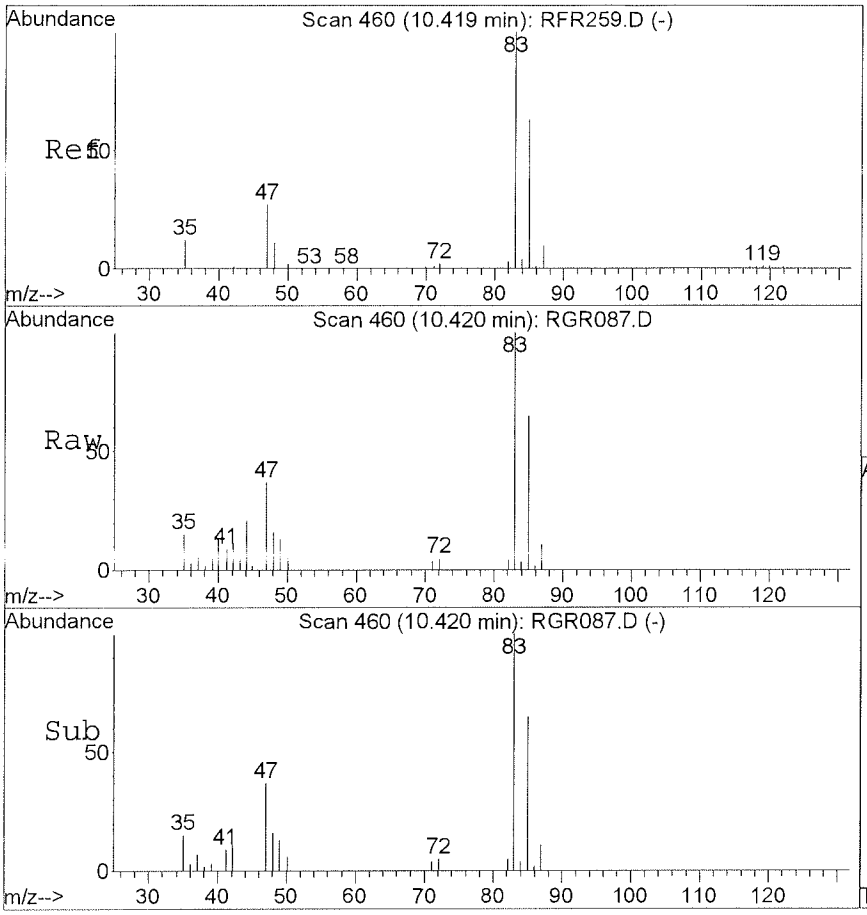


#29
2-Butanone
Concen: 6.20 ug/l
RT: 9.84 min Scan# 421
Delta R.T. 0.05 min
Lab File: RGR087.D
Acq: 5 Jul 2019 8:55 pm

Tgt Ion: 43 Resp: 89350

Ion	Ratio	Lower	Upper
43	100		
72	18.1	0.0	47.5

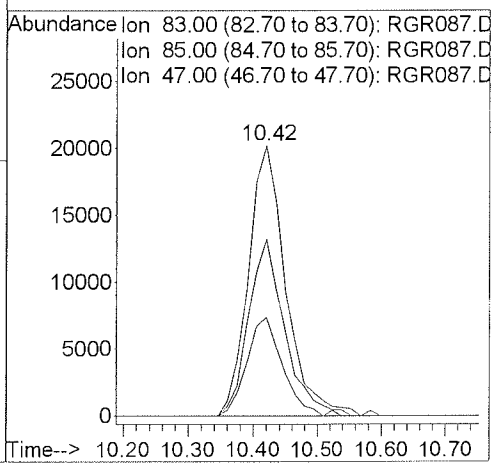


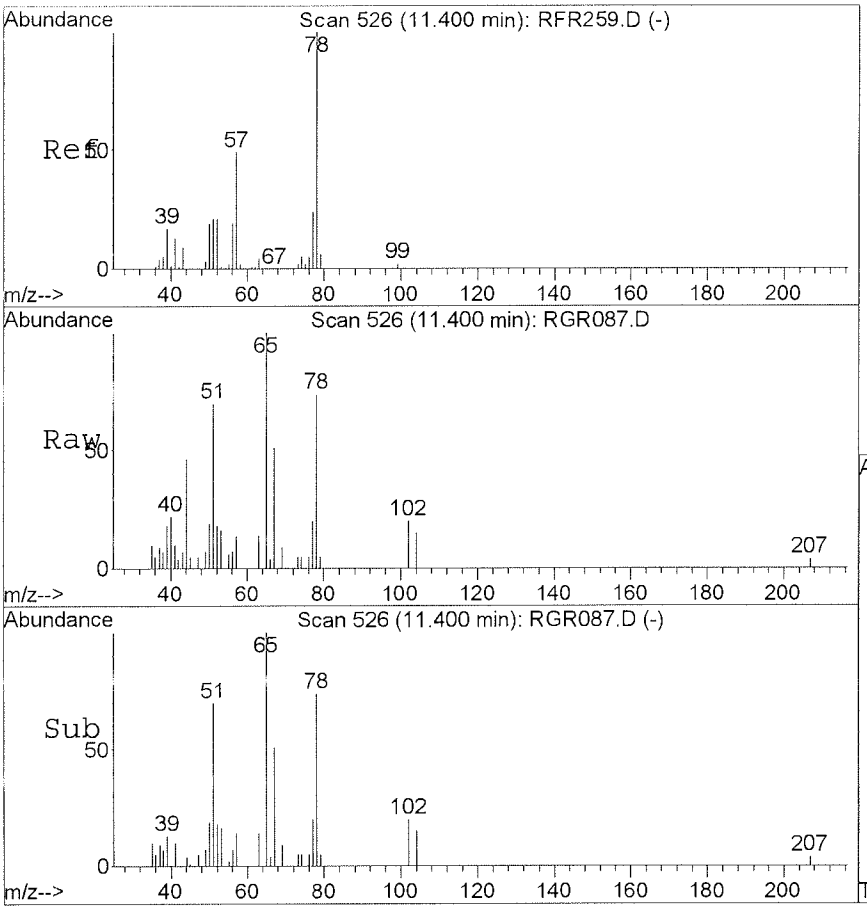


#33
Chloroform
Concen: 0.66 ug/l
RT: 10.42 min Scan# 460
Delta R.T. 0.00 min
Lab File: RGR087.D
Acq: 5 Jul 2019 8:55 pm

Tgt Ion: 83 Resp: 80987

Ion	Ratio	Lower	Upper
83	100		
85	63.4	33.5	93.5
47	35.1	3.0	63.0

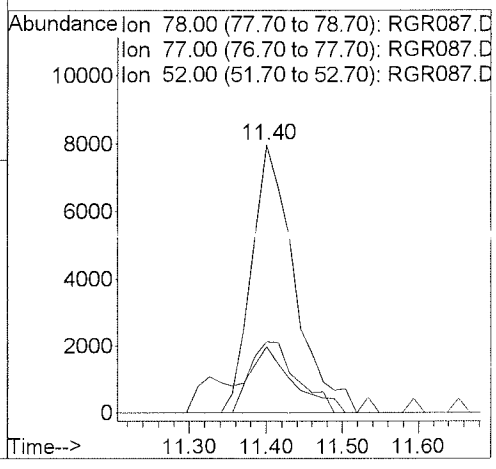


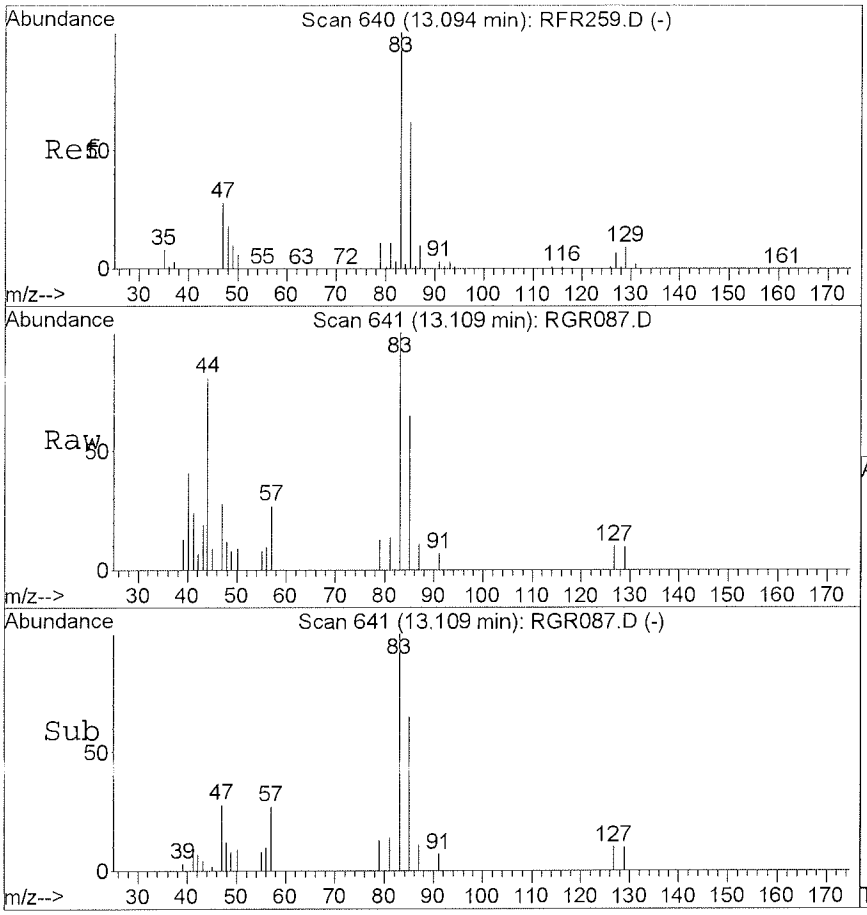


#42
Benzene
Concen: 0.11 ug/l
RT: 11.40 min Scan# 526
Delta R.T. 0.00 min
Lab File: RGR087.D
Acq: 5 Jul 2019 8:55 pm

Tgt Ion: 78 Resp: 31444

Ion	Ratio	Lower	Upper
78	100		
77	28.5	0.0	53.6
52	25.1	0.0	51.3

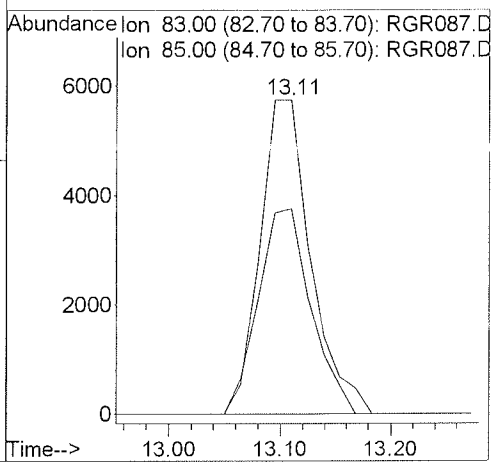




#50
Bromodichloromethane
Concen: 0.24 ug/l
RT: 13.11 min Scan# 641
Delta R.T. 0.02 min
Lab File: RGR087.D
Acq: 5 Jul 2019 8:55 pm

Tgt Ion: 83 Resp: 18223

Ion	Ratio	Lower	Upper
83	100		
85	68.0	33.0	93.0



QC SUMMARIES

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/05/19
Batch No. : 19G038	Date Extracted: 07/05/19 13:08
Sample ID: MBLK1W	Date Analyzed: 07/05/19 13:08
Lab Samp ID: VOF3G03B	Dilution Factor: 1
Lab File ID: RGR070	Matrix : WATER
Ext Btch ID: VOF3G03	% Moisture : NA
Calib. Ref.: RFR259	Instrument ID : F3

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	ND	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.86	10.00	98.6	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	10.5	10.00	105	70-130
DIBROMOFLUOROMETHANE	10.2	10.00	102	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G038
METHOD: SW5030B/8260C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: VOF3G03B VOF3G03X VOF3G03Y
LAB FILE ID: RGR070 RGR072 RGR073
DATE EXTRACTED: 07/05/1913:08 07/05/1914:09 07/05/1914:36 DATE COLLECTED: NA
DATE ANALYZED: 07/05/1913:08 07/05/1914:09 07/05/1914:36 DATE RECEIVED: 07/05/19
PREP. BATCH: VOF3G03 VOF3G03 VOF3G03
CALIB. REF: RFR259 RFR259 RFR259

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	10.6	106	10.0	10.4	104	2	74-131	20
1,1,2,2-Tetrachloroethane	ND	10.0	10.4	104	10.0	10.1	101	2	71-121	20
1,1,2-Trichloroethane	ND	10.0	9.81	98	10.0	10.0	100	2	80-119	20
1,1-Dichloroethane	ND	10.0	9.92	99	10.0	9.76	98	2	77-125	20
1,1-Dichloroethene	ND	10.0	9.71	97	10.0	9.49	95	2	71-131	20
1,2,3-Trichlorobenzene	ND	10.0	10.1	101	10.0	9.80	98	3	69-129	20
1,2,4-Trichlorobenzene	ND	10.0	10.1	101	10.0	9.64	96	4	69-130	20
1,2,4-Trimethylbenzene	ND	10.0	9.93	99	10.0	9.84	98	1	76-124	20
1,2-Dibromo-3-chloropropane	ND	10.0	10.9	109	10.0	10.7	107	2	62-138	20
1,2-Dichlorobenzene	ND	10.0	9.91	99	10.0	9.89	99	0	80-119	20
1,2-Dichloroethane	ND	10.0	9.84	98	10.0	9.83	98	0	73-128	20
1,2-Dichloropropane	ND	10.0	9.75	98	10.0	9.82	98	1	78-122	20
1,3,5-Trimethylbenzene	ND	10.0	9.96	100	10.0	9.66	97	3	75-124	20
1,3-Dichlorobenzene	ND	10.0	9.94	99	10.0	10.3	103	3	80-119	20
1,4-Dichlorobenzene	ND	10.0	9.75	98	10.0	9.86	99	1	79-118	20
2-Butanone	ND	50.0	48.1	96	50.0	47.6	95	1	56-143	20
2-Hexanone	ND	50.0	49.2	98	50.0	48.6	97	1	57-139	20
Acetone	ND	50.0	42.4	85	50.0	40.0	80	6	39-160	20
Benzene	ND	10.0	9.83	98	10.0	9.95	100	1	79-120	20
Bromochloromethane	ND	10.0	10.3	103	10.0	10.1	101	3	78-120	20
Bromodichloromethane	ND	10.0	10.4	104	10.0	10.3	103	1	79-125	20
Bromoform	ND	10.0	11.5	115	10.0	11.0	110	5	66-130	20
Bromomethane	ND	10.0	9.71	97	10.0	9.20	92	5	53-141	20
Carbon Disulfide	ND	10.0	12.6	126	10.0	12.7	127	1	64-133	20
Carbon Tetrachloride	ND	10.0	10.9	109	10.0	10.9	109	0	72-136	20
Chlorobenzene	ND	10.0	10.3	103	10.0	10.0	100	2	82-118	20
Chloroethane	ND	10.0	9.87	99	10.0	9.22	92	7	60-138	20
Chloroform	ND	10.0	9.93	99	10.0	9.75	98	2	79-124	20
Chloromethane	ND	10.0	8.76	88	10.0	8.43	84	4	50-139	20
cis-1,2-Dichloroethylene	ND	10.0	9.73	97	10.0	9.74	97	0	78-123	20
Dibromochloromethane	ND	10.0	10.6	106	10.0	10.7	107	1	74-126	20

Dichlorodifluoromethane	ND	10.0	8.16	82	10.0	7.58	76	7	32-152	20
Ethylbenzene	ND	10.0	10.2	102	10.0	10.2	102	1	79-121	20
Isopropylbenzene	ND	10.0	10.2	102	10.0	9.64	96	5	72-131	20
m,p-Xylene	ND	20.0	20.8	104	20.0	20.2	101	3	80-121	20
4-Methyl-2-Pentanone	ND	50.0	48.9	98	50.0	47.4	95	3	67-130	20
Methylene Chloride	ND	10.0	9.79	98	10.0	9.66	97	1	74-124	20
tert-Butyl Methyl Ether	ND	10.0	9.52	95	10.0	9.42	94	1	71-124	20
o-Xylene	ND	10.0	9.85	99	10.0	9.77	98	1	78-122	20
Styrene	ND	10.0	10.6	106	10.0	10.3	103	2	78-123	20
Tetrachloroethene	ND	10.0	9.72	97	10.0	9.76	98	0	74-129	20
Toluene	ND	10.0	9.71	97	10.0	9.82	98	1	80-121	20
Trans-1,2-DCE	ND	10.0	10.1	101	10.0	9.99	100	2	75-124	20
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	20.0	19.8	99	20.0	20.1	101	2	77-123	20
cis-1,3-Dichloropropene	ND	10.0	9.89	99	10.0	9.81	98	1	75-124	20
Trans-1,3-Dichloropropene	ND	10.0	9.90	99	10.0	10.3	103	4	73-127	20
TCE	ND	10.0	9.94	99	10.0	9.76	98	2	79-123	20
Trichlorofluoromethane	ND	10.0	12.3	123	10.0	11.5	115	7	65-141	20
Vinyl Chloride	ND	10.0	9.10	91	10.0	8.72	87	4	58-137	20
1,2-Dibromoethane	ND	10.0	10.2	102	10.0	10.2	102	0	77-121	20
Vinyl Acetate	ND	10.0	10.2	102	10.0	10.1	101	1	54-146	20
Trichlorotrifluoroethane	ND	10.0	11.5	115	10.0	11.1	111	4	70-136	20
Methyl Acetate	ND	10.0	9.86	99	10.0	9.99	100	1	50-136	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.2	102	10.0	10.2	102	70-130
Bromofluorobenzene	10.0	10.4	104	10.0	9.92	99	70-130
Toluene-d8	10.0	10.1	101	10.0	10.2	102	70-130
Dibromofluoromethane	10.0	10.3	103	10.0	10.3	103	70-130

QC DATA

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR070.D Vial: 5
Acq On : 5 Jul 2019 1:08 pm Operator: VLu
Sample : VOF3G03B 25mL Inst : F3
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 9:30 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.93	114	2010004	10.00	ug/l	-0.01
54) CHLOROBENZENE-D5	15.63	117	1409482	10.00	ug/l	-0.01
72) 1,2-DICHLOROBENZENE-D4	18.13	152	443035	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	10.72	111	640817	10.18	ug/l	-0.01
Spiked Amount 10.000			Recovery = 101.80%			
40) 1,2-Dichloroethane-d4	11.33	65	524607	9.86	ug/l	-0.01
Spiked Amount 10.000			Recovery = 98.60%			
55) Toluene-d8	13.97	98	1951271	10.50	ug/l	0.00
Spiked Amount 10.000			Recovery = 105.00%			
75) 4-Bromofluorobenzene	16.75	95	547417	10.44	ug/l	0.00
Spiked Amount 10.000			Recovery = 104.40%			
Target Compounds						Qvalue
18) Methylene chloride	7.45	49	18954	0.15	ug/l	93

(#) = qualifier out of range (m) = manual integration

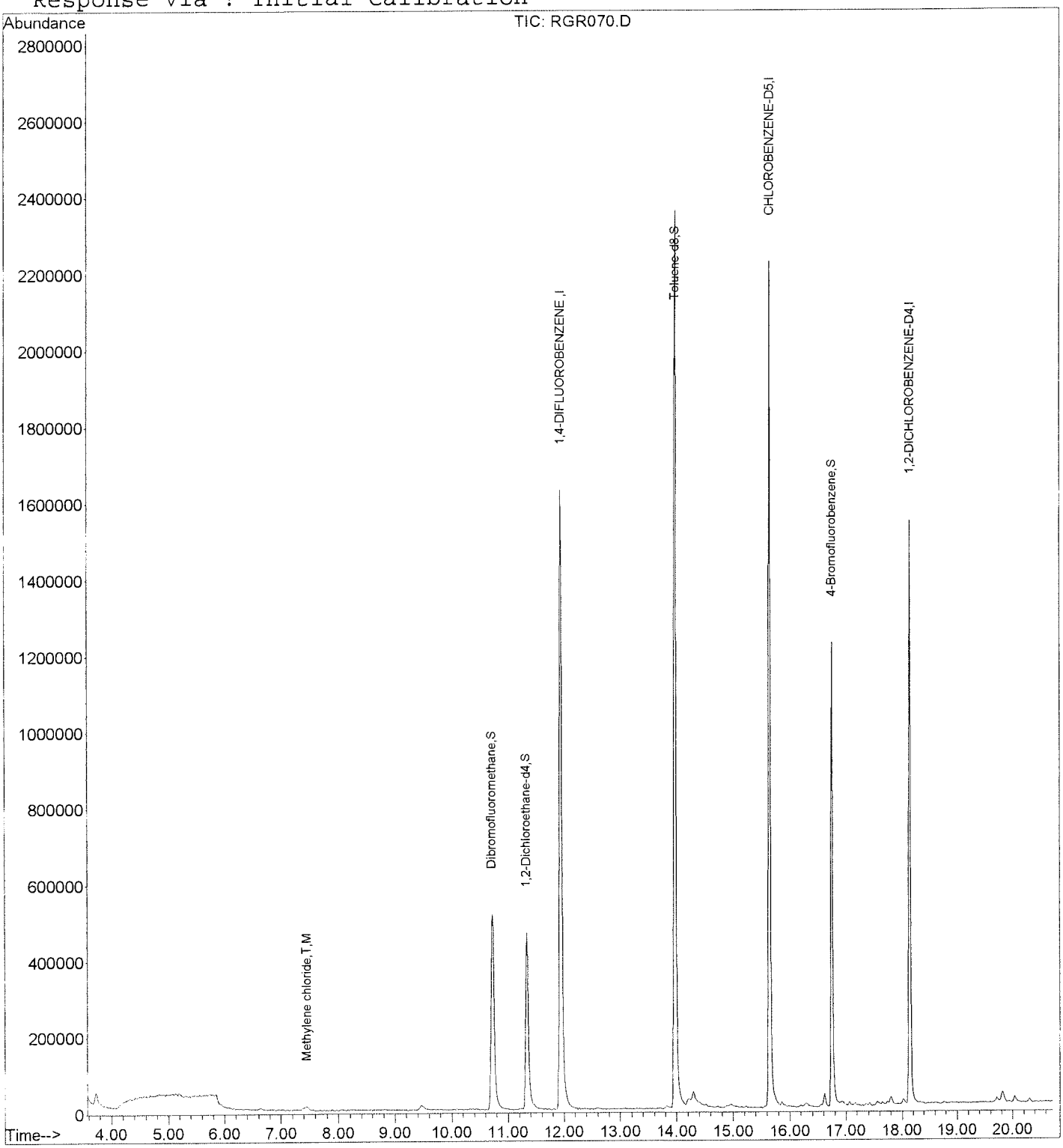
Quantitation Report

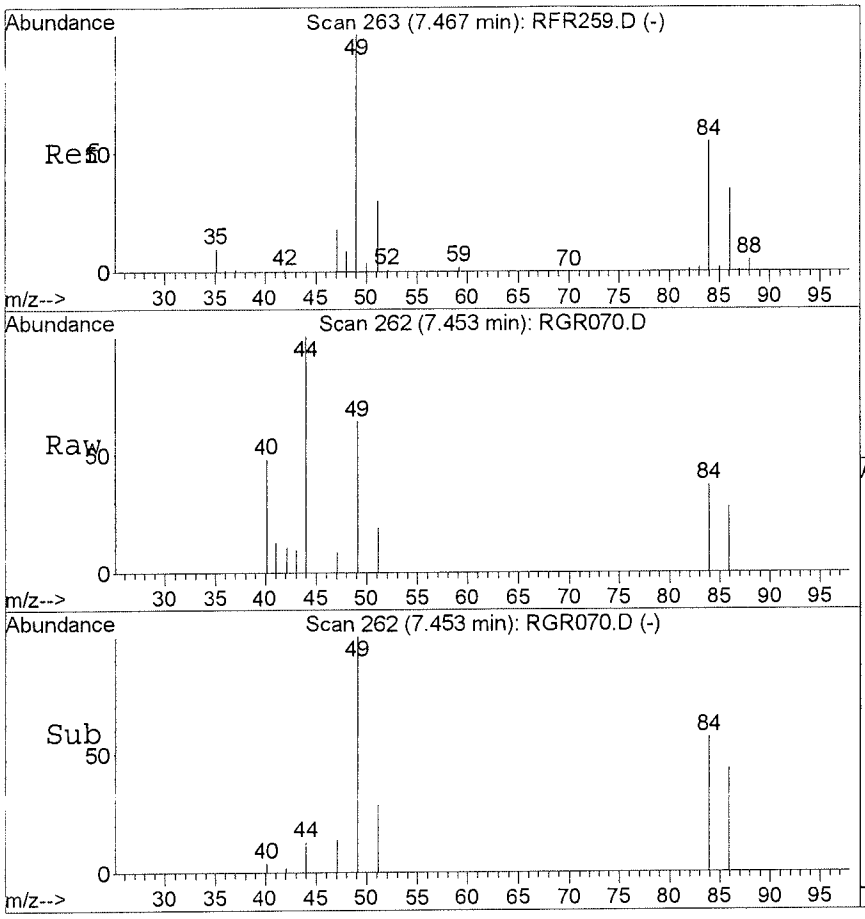
Data File : C:\HPCHEM\1\DATA\19G05\RGR070.D
Acq On : 5 Jul 2019 1:08 pm
Sample : VOF3G03B 25mL
Misc : DF=1.0
MS Integration Params: RTE.P
Quant Time: Jul 8 9:30 2019

Vial: 5
Operator: VLu
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

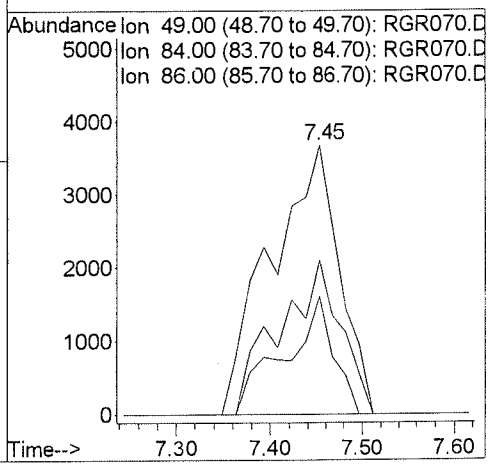
Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration





#18
Methylene chloride
Concen: 0.15 ug/l
RT: 7.45 min Scan# 262
Delta R.T. -0.01 min
Lab File: RGR070.D
Acq: 5 Jul 2019 1:08 pm

Tgt Ion: 49	Resp:	18954	
Ion	Ratio	Lower	Upper
49	100		
84	51.7	26.9	86.9
86	31.9	5.8	65.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR072.D Vial: 7
Acq On : 5 Jul 2019 2:09 pm Operator: VLu
Sample : VOF3G03X Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 9:30 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.93	114	1868817	10.00 ug/l	-0.02
54) CHLOROBENZENE-D5	15.63	117	1410107	10.00 ug/l	-0.02
72) 1,2-DICHLOROBENZENE-D4	18.13	152	467688	10.00 ug/l	-0.01
System Monitoring Compounds					
34) Dibromofluoromethane	10.72	111	603794	10.32 ug/l	-0.02
Spiked Amount 10.000			Recovery =	103.20%	
40) 1,2-Dichloroethane-d4	11.33	65	502772	10.16 ug/l	-0.01
Spiked Amount 10.000			Recovery =	101.60%	
55) Toluene-d8	13.97	98	1874448	10.08 ug/l	0.00
Spiked Amount 10.000			Recovery =	100.80%	
75) 4-Bromofluorobenzene	16.75	95	572911	10.35 ug/l	0.00
Spiked Amount 10.000			Recovery =	103.50%	
Target Compounds					Qvalue
2) Chlorotrifluoroethylene	3.71	116	407689	9.11 ug/l	99
3) Dichlorodifluoromethane	3.79	85	723401	8.16 ug/l	98
4) Chloromethane	4.19	50	1165061	8.76 ug/l	100
5) 2-Chloro-1,1,1-trifluoroet	4.55	118	789177	10.85 ug/l	100
6) Vinyl chloride	4.38	62	1011483	9.10 ug/l	90
7) Bromomethane	5.02	94	633987	9.71 ug/l	99
8) Chloroethane	5.20	64	616549	9.87 ug/l	98
9) Dichlorofluoromethane	5.53	67	1712547	11.28 ug/l	98
10) Trichlorofluoromethane	5.61	101	903787	12.27 ug/l	99
11) Acrolein	6.37	56	267684	51.91 ug/l	98
12) 1,1,2-Trichloro-1,2,2-trif	6.48	151	434222	11.51 ug/l	99
13) 1,1-Dichloroethene	6.55	61	1450310	9.71 ug/l	99
14) Acetone	6.61	43	455675	42.38 ug/l	98
15) Iodomethane	6.91	142	1209355	11.37 ug/l	100
16) Methyl acetate	7.15	74	46763	9.86 ug/l #	62
17) Carbon disulfide	7.01	76	2214815	12.57 ug/l	98
18) Methylene chloride	7.44	49	1134987	9.79 ug/l	99
19) tert-Butyl alcohol	7.50	59	155536	53.92 ug/l #	100
20) tert-Butyl methyl ether (M	7.78	73	1086414	9.52 ug/l	99
21) trans-1,2-Dichloroethene	7.86	61	1379393	10.15 ug/l	100
22) Acrylonitrile	7.86	53	561123	46.03 ug/l	98
23) Isopropyl ether (DIPE)	8.61	45	3055974	9.91 ug/l	100
24) 1,1-Dichloroethane	8.65	63	1666025	9.92 ug/l	100
25) Vinyl acetate	8.67	86	66503	10.22 ug/l #	29
26) tert-Butyl ethyl ether (ET	9.30	59	1794552	9.00 ug/l	99
27) 2,2-Dichloropropane	9.77	77	659859	10.65 ug/l	98
28) cis-1,2-Dichloroethene	9.79	96	746686	9.73 ug/l	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\19G05\RGR072.D
Acq On : 5 Jul 2019 2:09 pm
Sample : VOF3G03X
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 8 9:30 2019

Vial: 7
Operator: VLu
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29) 2-Butanone	9.79	43	736002	48.10 ug/l		100
30) 2-Butanol	10.09	45	115940	46.68 ug/l		88
31) Bromochloromethane	10.30	128	284857	10.31 ug/l		99
32) Tetrahydrofuran	10.37	42	89227	10.36 ug/l		99
33) Chloroform	10.40	83	1290181	9.93 ug/l		100
35) 1,1,1-Trichloroethane	10.75	97	911275	10.59 ug/l		100
36) Cyclohexane	10.82	56	1817040	13.21 ug/l		98
37) 1,1-Dichloropropene	11.01	110	349960	9.81 ug/l		100
38) Carbon tetrachloride	11.03	119	840656	10.90 ug/l		98
39) tert-Amyl alcohol	11.30	59	105250	47.85 ug/l	#	68
41) 2,2,4-Trimethylpentane	11.38	57	3724119	15.45 ug/l		94
42) Benzene	11.38	78	2939685	9.83 ug/l		99
43) 1,2-Dichloroethane	11.44	62	692986	9.84 ug/l		98
44) tert-Amyl methyl ether (TA	11.44	87	227259	9.85 ug/l	#	91
45) Trichloroethene	12.37	130	752674	9.94 ug/l		99
46) Methylcyclohexane	12.60	83	1271377	10.92 ug/l		100
47) 1,2-Dichloropropane	12.71	63	779548	9.75 ug/l		97
48) 1,4-Dioxane	12.89	88	43605	192.53 ug/l		96
49) Dibromomethane	12.92	93	279292	9.91 ug/l		99
50) Bromodichloromethane	13.09	83	822797	10.41 ug/l		100
51) 2-Chloroethyl vinyl ether	13.44	63	90170	8.73 ug/l		96
52) cis-1,3-Dichloropropene	13.64	75	1010682	9.89 ug/l		99
53) 4-Methyl-2-pentanone	13.78	43	1624271	48.87 ug/l		98
56) Toluene	14.04	91	2488921	9.71 ug/l		99
57) Ethyl methacrylate	14.33	69	462202	10.28 ug/l		99
58) trans-1,3-Dichloropropene	14.33	75	740441	9.90 ug/l		99
59) 1,1,2-Trichloroethane	14.56	97	317891	9.81 ug/l		99
60) Tetrachloroethene	14.71	164	502241	9.72 ug/l		98
61) 2-Hexanone	14.77	43	1104583	49.20 ug/l		99
62) 1,3-Dichloropropane	14.76	76	678979	10.33 ug/l		99
63) Dibromochloromethane	15.06	129	458114	10.58 ug/l		99
64) 1,2-Dibromoethane	15.20	107	332417	10.21 ug/l		99
65) 1-Chlorohexane	15.55	91	1107623	10.04 ug/l		98
66) Chlorobenzene	15.66	112	1525534	10.29 ug/l		98
67) Ethylbenzene	15.72	91	2870769	10.24 ug/l		100
68) 1,1,1,2-Tetrachloroethane	15.74	131	519659	10.35 ug/l		99
69) m-Xylene & p-Xylene	15.83	91	4366407	20.82 ug/l		99
70) o-Xylene	16.24	91	2029765	9.85 ug/l		99
71) Styrene	16.26	104	1559402	10.55 ug/l		100
73) Bromoform	16.51	173	198137	11.52 ug/l		99
74) Isopropylbenzene	16.56	105	2629281	10.15 ug/l		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR072.D Vial: 7
Acq On : 5 Jul 2019 2:09 pm Operator: VLu
Sample : VOF3G03X Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 9:30 2019 Quant Results File: VOF3F17.RES

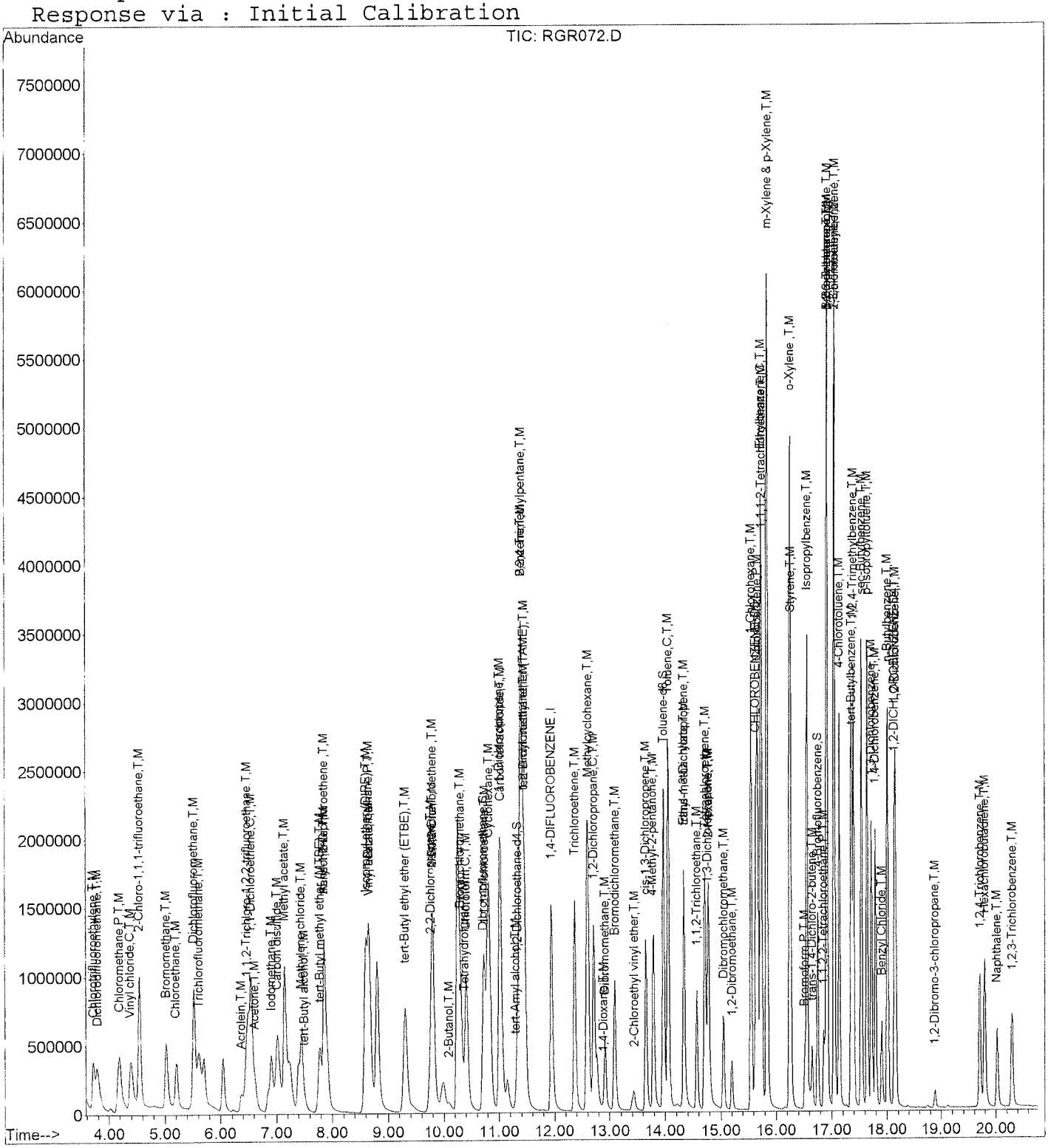
Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
76)	1,1,2,2-Tetrachloroethane	16.85	83	376883	10.35	ug/l		99
77)	trans-1,4-Dichloro-2-buten	16.65	53	111723	10.79	ug/l		98
78)	n-Propylbenzene	16.91	91	3306222	10.01	ug/l		100
79)	1,2,3-Trichloropropane	16.91	110	77860	10.27	ug/l	#	68
80)	Bromobenzene	16.91	156	513745	10.15	ug/l		99
81)	1,3,5-Trimethylbenzene	17.05	105	1933280	9.96	ug/l		99
82)	2-Chlorotoluene	17.05	91	1943506	9.86	ug/l		100
83)	4-Chlorotoluene	17.14	91	1683117	10.00	ug/l		99
84)	tert-Butylbenzene	17.36	134	425713	9.73	ug/l		100
85)	1,2,4-Trimethylbenzene	17.39	105	1846734	9.93	ug/l		99
86)	sec-Butylbenzene	17.54	105	2694711	9.88	ug/l		100
87)	p-Isopropyltoluene	17.64	119	2137239	9.94	ug/l		100
88)	1,3-Dichlorobenzene	17.72	146	952698	9.94	ug/l		99
90)	1,4-Dichlorobenzene	17.79	146	931257	9.75	ug/l		99
91)	Benzyl Chloride	17.91	91	531815	10.60	ug/l		99
92)	n-Butylbenzene	18.01	91	2179876	9.93	ug/l		99
93)	1,2-Dichlorobenzene	18.15	146	787917	9.91	ug/l		100
94)	1,2-Dibromo-3-chloropropan	18.89	157	45622	10.85	ug/l		94
95)	1,2,4-Trichlorobenzene	19.71	180	429508	10.06	ug/l		99
96)	Hexachlorobutadiene	19.80	225	292286	9.78	ug/l		99
97)	Naphthalene	20.02	128	632686	9.52	ug/l		100
98)	1,2,3-Trichlorobenzene	20.30	180	324774	10.14	ug/l		100

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\19G05\RGR072.D Vial: 7
Acq On : 5 Jul 2019 2:09 pm Operator: VLu
Sample : VOF3G03X Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 9:30 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR073.D Vial: 8
Acq On : 5 Jul 2019 2:36 pm Operator: VLu
Sample : VOF3G03Y Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 9:31 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	1880638	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1397671	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.13	152	478960	10.00	ug/l	-0.02
System Monitoring Compounds						
34) Dibromofluoromethane	10.72	111	605787	10.29	ug/l	-0.02
Spiked Amount 10.000			Recovery =	102.90%		
40) 1,2-Dichloroethane-d4	11.32	65	509212	10.22	ug/l	-0.02
Spiked Amount 10.000			Recovery =	102.20%		
55) Toluene-d8	13.97	98	1884333	10.23	ug/l	0.00
Spiked Amount 10.000			Recovery =	102.30%		
75) 4-Bromofluorobenzene	16.75	95	562187	9.92	ug/l	0.00
Spiked Amount 10.000			Recovery =	99.20%		
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.71	116	401980	8.92	ug/l	99
3) Dichlorodifluoromethane	3.78	85	675800	7.58	ug/l	96
4) Chloromethane	4.19	50	1128789	8.43	ug/l	100
5) 2-Chloro-1,1,1-trifluoroet	4.54	118	756006	10.33	ug/l	99
6) Vinyl chloride	4.39	62	974357	8.72	ug/l	90
7) Bromomethane	5.02	94	604494	9.20	ug/l	99
8) Chloroethane	5.21	64	579564	9.22	ug/l	99
9) Dichlorofluoromethane	5.52	67	1632763	10.69	ug/l	99
10) Trichlorofluoromethane	5.61	101	849617	11.46	ug/l	99
11) Acrolein	6.37	56	260224	50.14	ug/l	99
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	420789	11.08	ug/l	100
13) 1,1-Dichloroethene	6.55	61	1426528	9.49	ug/l	100
14) Acetone	6.62	43	432422	39.96	ug/l	98
15) Iodomethane	6.90	142	1198974	11.21	ug/l	99
16) Methyl acetate	7.14	74	47720	9.99	ug/l #	64
17) Carbon disulfide	7.02	76	2251188	12.70	ug/l	99
18) Methylene chloride	7.45	49	1126800	9.66	ug/l	100
19) tert-Butyl alcohol	7.51	59	159662	55.00	ug/l #	100
20) tert-Butyl methyl ether (M	7.78	73	1081716	9.42	ug/l	100
21) trans-1,2-Dichloroethene	7.86	61	1366541	9.99	ug/l	99
22) Acrylonitrile	7.87	53	575070	46.88	ug/l	97
23) Isopropyl ether (DIPE)	8.61	45	3026488	9.75	ug/l	99
24) 1,1-Dichloroethane	8.66	63	1649474	9.76	ug/l	100
25) Vinyl acetate	8.66	86	65933	10.08	ug/l #	31
26) tert-Butyl ethyl ether (ET	9.30	59	1826188	9.10	ug/l	99
27) 2,2-Dichloropropane	9.76	77	657155	10.54	ug/l	99
28) cis-1,2-Dichloroethene	9.79	96	752123	9.74	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR073.D Vial: 8
Acq On : 5 Jul 2019 2:36 pm Operator: VLu
Sample : VOF3G03Y Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 9:31 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29)	2-Butanone	9.79	43	733255	47.62	ug/l		99
30)	2-Butanol	10.11	45	116918	46.78	ug/l		95
31)	Bromochloromethane	10.30	128	279536	10.06	ug/l		99
32)	Tetrahydrofuran	10.36	42	90135	10.40	ug/l		96
33)	Chloroform	10.40	83	1275605	9.75	ug/l		100
35)	1,1,1-Trichloroethane	10.75	97	902487	10.42	ug/l		100
36)	Cyclohexane	10.82	56	1794999	12.96	ug/l		98
37)	1,1-Dichloropropene	11.01	110	361501	10.07	ug/l		100
38)	Carbon tetrachloride	11.03	119	848230	10.93	ug/l		97
39)	tert-Amyl alcohol	11.29	59	109052	49.26	ug/l	#	73
41)	2,2,4-Trimethylpentane	11.38	57	3799741	15.66	ug/l		94
42)	Benzene	11.38	78	2994075	9.95	ug/l		100
43)	1,2-Dichloroethane	11.44	62	696901	9.83	ug/l		98
44)	tert-Amyl methyl ether (TA	11.44	87	230590	9.94	ug/l	#	92
45)	Trichloroethene	12.36	130	743585	9.76	ug/l		99
46)	Methylcyclohexane	12.60	83	1246726	10.64	ug/l		99
47)	1,2-Dichloropropane	12.71	63	789716	9.82	ug/l		97
48)	1,4-Dioxane	12.88	88	44632	195.82	ug/l		96
49)	Dibromomethane	12.91	93	277251	9.78	ug/l		100
50)	Bromodichloromethane	13.09	83	819613	10.30	ug/l		100
51)	2-Chloroethyl vinyl ether	13.43	63	93850	9.03	ug/l		98
52)	cis-1,3-Dichloropropene	13.64	75	1008814	9.81	ug/l		99
53)	4-Methyl-2-pentanone	13.79	43	1584883	47.39	ug/l		98
56)	Toluene	14.04	91	2495266	9.82	ug/l		100
57)	Ethyl methacrylate	14.33	69	474971	10.66	ug/l		99
58)	trans-1,3-Dichloropropene	14.33	75	763581	10.30	ug/l		99
59)	1,1,2-Trichloroethane	14.56	97	322135	10.03	ug/l		99
60)	Tetrachloroethene	14.71	164	499960	9.76	ug/l		99
61)	2-Hexanone	14.77	43	1080874	48.59	ug/l		99
62)	1,3-Dichloropropane	14.76	76	661729	10.16	ug/l		100
63)	Dibromochloromethane	15.05	129	458955	10.69	ug/l		98
64)	1,2-Dibromoethane	15.20	107	330381	10.24	ug/l		99
65)	1-Chlorohexane	15.54	91	1096168	10.03	ug/l		99
66)	Chlorobenzene	15.68	112	1474926	10.04	ug/l		98
67)	Ethylbenzene	15.72	91	2828702	10.18	ug/l		99
68)	1,1,1,2-Tetrachloroethane	15.74	131	520217	10.46	ug/l		100
69)	m-Xylene & p-Xylene	15.84	91	4206169	20.23	ug/l		99
70)	o-Xylene	16.24	91	1995698	9.77	ug/l		99
71)	Styrene	16.26	104	1513336	10.33	ug/l		99
73)	Bromoform	16.51	173	192948	10.95	ug/l		99
74)	Isopropylbenzene	16.56	105	2555706	9.64	ug/l		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR073.D Vial: 8
Acq On : 5 Jul 2019 2:36 pm Operator: VLu
Sample : VOF3G03Y Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 8 9:31 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
76)	1,1,2,2-Tetrachloroethane	16.85	83	376941	10.11	ug/l		100
77)	trans-1,4-Dichloro-2-buten	16.64	53	106352	10.03	ug/l		98
78)	n-Propylbenzene	16.91	91	3356697	9.92	ug/l		100
79)	1,2,3-Trichloropropane	16.91	110	80117	10.32	ug/l	#	65
80)	Bromobenzene	16.91	156	523151	10.09	ug/l		99
81)	1,3,5-Trimethylbenzene	17.05	105	1919150	9.66	ug/l		99
82)	2-Chlorotoluene	17.05	91	1951727	9.67	ug/l		100
83)	4-Chlorotoluene	17.13	91	1711392	9.93	ug/l		100
84)	tert-Butylbenzene	17.36	134	434394	9.69	ug/l		97
85)	1,2,4-Trimethylbenzene	17.39	105	1874916	9.84	ug/l		99
86)	sec-Butylbenzene	17.54	105	2721069	9.74	ug/l		100
87)	p-Isopropyltoluene	17.64	119	2115441	9.60	ug/l		99
88)	1,3-Dichlorobenzene	17.73	146	1008898	10.28	ug/l		99
90)	1,4-Dichlorobenzene	17.80	146	964659	9.86	ug/l		99
91)	Benzyl Chloride	17.91	91	533491	10.38	ug/l		99
92)	n-Butylbenzene	18.01	91	2206083	9.82	ug/l		100
93)	1,2-Dichlorobenzene	18.16	146	804725	9.89	ug/l		99
94)	1,2-Dibromo-3-chloropropan	18.89	157	45961	10.68	ug/l		95
95)	1,2,4-Trichlorobenzene	19.71	180	421494	9.64	ug/l		99
96)	Hexachlorobutadiene	19.79	225	289854	9.47	ug/l		99
97)	Naphthalene	20.02	128	639168	9.39	ug/l		100
98)	1,2,3-Trichlorobenzene	20.30	180	321450	9.80	ug/l		100

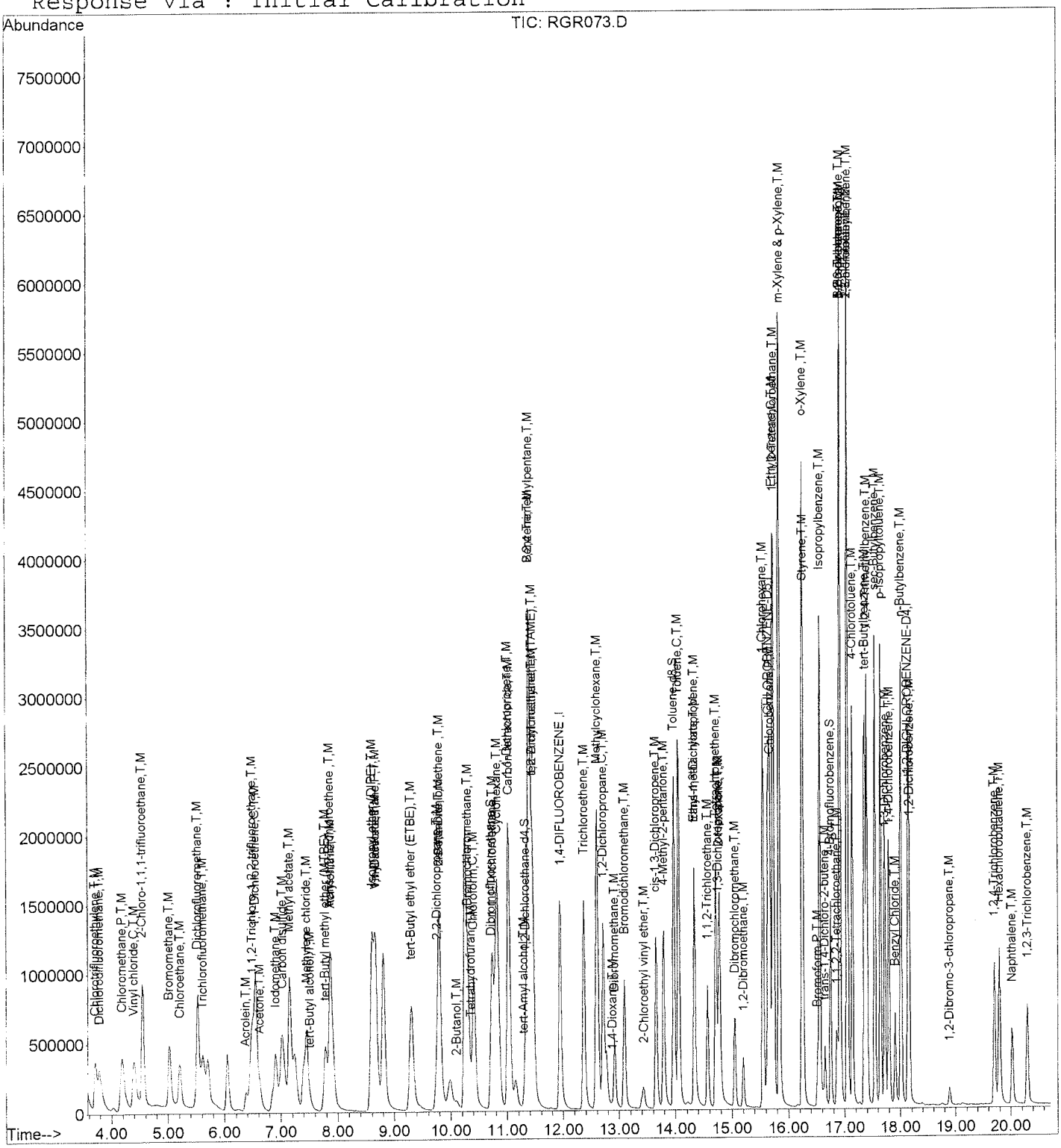
(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\19G05\RGR073.D
Acq On : 5 Jul 2019 2:36 pm
Sample : VOF3G03Y
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 8 9:31 2019

Vial: 8
Operator: VLu
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



INITIAL CALIBRATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc Contract: VHA-SLC
Lab Code: EMXT Case No.: SAS No.: SDG No.: 19G038
Lab File ID: RFR253 BFB Injection Date : 06/17/19
Instrument ID: F3 BFB Injection Time : 13:24
GC Column: ZB-624 ID:0.25mm (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	29.43
75	30.0 - 60.0% of mass 95	52.66
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.16
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	62.93
175	5.0 - 9.0% of mass 174	4.66(7.4)1
176	95.0 - 101.0% of mass 174	61.00(96.9)1
177	5.0 - 9.0% of mass 176	4.07(6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	VOF3F171	RFR254	06/17/19	13:57
2	VSTD0.5	VOF3F172	RFR255	06/17/19	14:24
3	VSTD01	VOF3F173	RFR256	06/17/19	14:51
4	VSTD02	VOF3F174	RFR257	06/17/19	15:19
5	VSTD05	VOF3F175	RFR258	06/17/19	15:46
6	VSTD010	VOF3F176	RFR259	06/17/19	16:13
7	VSTD020	VOF3F177	RFR260	06/17/19	16:58
8	VSTD030	VOF3F178	RFR261	06/17/19	17:26
9	VSTD050	VOF3F179	RFR262	06/17/19	17:53
10	VSTD100	VOF3F1710	RFR263	06/17/19	18:20
11	VSTD010	IVOF3F1701	RFR266	06/17/19	19:41

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :F3
Beginning DateTime :06/17/19 13:57
Spike Units :PPB
IC File :RFR259

Column Spec :ZB-624 ID :0.25MM
Ending DateTime :06/17/19 18:20
HPChem Method :VOF3F17

M	IDX	Parameters	.3 13:57 RFR254	.5 14:24 RFR255	1 14:51 RFR256	2 15:19 RFR257	5 15:46 RFR258	10 16:13 RFR259	20 16:58 RFR260	30 17:26 RFR261	50 17:53 RFR262	100 18:20 RFR263	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	11.9510
	2	Chlorotrifluoroethylene	------	0.179	0.229	0.237	0.230	0.270	0.276	0.244	0.251	------	0.240	12.52	3.7084
	3	Dichlorodifluoromethane	------	0.401	0.517	0.476	0.451	0.504	0.520	0.452	0.450	0.497	0.474	8.30	3.7814
	4	Chloromethane	------	0.660	0.753	0.761	0.687	0.743	0.759	0.684	0.662	0.698	0.712	5.91	4.1826
	5	2-Chloro-1,1,1-trifluoroethane	------	0.291	0.374	0.376	0.370	0.418	0.450	0.393	0.391	0.438	0.389	11.97	4.5607
	6	Vinyl chloride	------	0.470	0.600	0.623	0.584	0.638	0.665	0.586	0.567	0.618	0.594	9.35	4.3907
	7	Bromomethane	------	0.275	0.360	0.358	0.339	0.375	0.392	0.356	0.339	------	0.349	10.03	5.0439
	8	Chloroethane	------	0.302	0.353	0.349	0.335	0.358	0.377	0.326	0.301	0.307	0.334	8.15	5.2195
	9	Dichlorofluoromethane	0.808	0.813	0.856	0.895	0.774	0.799	0.885	0.784	0.741	0.768	0.812	6.29	5.5379
	10	Trichlorofluoromethane	------	0.305	0.402	0.406	0.388	0.422	0.444	0.383	0.380	0.417	0.394	9.94	5.6273
5	11	Acrolein	------	------	0.027	0.031	0.029	0.028	0.027	0.027	0.026	0.026	0.028	6.60	6.3780
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	------	0.163	0.208	0.219	0.188	0.188	0.230	0.208	0.201	0.212	0.202	9.81	6.4891
	13	1,1-Dichloroethene	0.771	0.775	0.834	0.897	0.756	0.777	0.891	0.780	0.737	0.774	0.799	6.96	6.5647
5	14	Acetone	------	------	0.064	0.068	0.059	0.060	0.052	0.050	0.049	------	0.058	13.02	6.6293
	15	Iodomethane	------	0.491	0.554	0.591	0.533	0.545	0.631	0.597	0.572	0.606	0.569	7.51	6.9201
	16	Methyl acetate	------	------	0.015	0.020	0.025	0.027	0.024	0.026	0.026	0.027	0.024	18.07	7.1655
	17	Carbon disulfide	------	0.791	0.935	0.881	0.953	0.980	1.082	0.974	0.897	0.993	0.943	8.66	7.0340
	18	Methylene chloride	------	0.725	0.629	0.671	0.612	0.610	0.640	0.586	0.557	0.553	0.620	8.81	7.4633
5	19	tert-Butyl alcohol	------	------	0.013	0.016	0.017	0.017	0.015	0.015	0.016	0.016	0.015	8.49	7.5221
	20	tert-Butyl methyl ether (MTBE)	0.590	0.666	0.472	0.657	0.635	0.644	0.594	0.615	0.615	0.616	0.610	8.96	7.7951
	21	trans-1,2-Dichloroethene	0.689	0.739	0.748	0.815	0.710	0.719	0.778	0.715	0.681	0.681	0.728	6.02	7.8723
5	22	Acrylonitrile	------	0.067	0.055	0.068	0.070	0.068	0.064	0.065	0.065	0.064	0.065	6.43	7.8810
	23	Isopropyl ether (DIPE)	1.684	1.656	1.467	1.841	1.686	1.760	1.679	1.641	1.604	1.487	1.650	6.82	8.6136
	24	1,1-Dichloroethane	0.862	0.893	0.898	0.979	0.882	0.926	0.955	0.895	0.853	0.849	0.899	4.80	8.6700
	25	Vinyl acetate	------	------	0.016	0.023	0.033	0.036	0.035	0.035	0.036	0.037	0.032	24.52	8.6862
	26	tert-Butyl ethyl ether (ETBE)	1.233	1.182	0.908	1.118	1.052	1.078	1.028	1.024	1.026	1.021	1.067	8.61	9.3164
	27	2,2-Dichloropropane	0.356	0.356	0.361	0.362	0.318	0.314	0.326	0.309	0.281	------	0.331	8.64	9.7801
	28	cis-1,2-Dichloroethene	0.392	0.415	0.394	0.430	0.402	0.402	0.429	0.417	0.410	0.413	0.410	3.21	9.8142
5	29	2-Butanone	0.075	0.078	0.059	0.084	0.093	0.092	0.084	0.084	0.087	0.083	0.082	11.86	9.8246
5	30	2-Butanol	------	------	------	0.010	0.013	0.015	0.013	0.013	0.014	0.015	0.013	13.04	10.1113
	31	Bromochloromethane	0.129	0.140	0.129	0.158	0.147	0.153	0.154	0.155	0.155	0.160	0.148	7.76	10.3224
	32	Tetrahydrofuran	------	------	0.038	0.051	0.047	0.048	0.046	0.048	0.047	0.045	0.046	8.62	10.3820
	33	Chloroform	0.664	0.697	0.675	0.753	0.687	0.712	0.727	0.700	0.671	0.668	0.695	4.12	10.4205
	34	Dibromofluoromethane	------	0.237	0.260	0.295	0.321	0.334	0.342	0.334	0.339	0.357	0.313	13.04	10.7344
	35	1,1,1-Trichloroethane	0.449	0.461	0.477	0.504	0.445	0.459	0.490	0.465	0.431	0.423	0.460	5.48	10.7519
	36	Cyclohexane	0.580	0.615	0.796	0.768	0.777	0.782	0.852	0.752	0.723	0.716	0.736	11.24	10.8232
	37	1,1-Dichloropropene	0.164	0.186	0.190	0.205	0.184	0.190	0.206	0.197	0.194	0.194	0.191	6.23	11.0327
	38	Carbon tetrachloride	0.347	0.380	0.427	0.445	0.402	0.415	0.451	0.429	0.418	0.414	0.413	7.47	11.0357
5	39	tert-Amyl alcohol	------	------	------	0.010	0.012	0.013	0.011	0.012	0.012	0.013	0.012	9.19	11.3085
	40	1,2-Dichloroethane-d4	------	0.240	0.223	0.253	0.281	0.285	0.281	0.275	0.268	0.277	0.265	8.12	11.3420
	41	2,2,4-Trimethylpentane	------	0.993	1.343	1.310	1.271	1.370	1.540	1.291	1.263	1.227	1.290	11.15	11.3998
	42	Benzene	1.504	1.528	1.548	1.705	1.525	1.583	1.714	1.677	1.614	------	1.600	5.09	11.4047
	43	1,2-Dichloroethane	0.369	0.386	0.342	0.412	0.383	0.391	0.387	0.378	0.364	0.356	0.377	5.29	11.4651
	44	tert-Amyl methyl ether (TAME)	0.122	0.133	0.100	0.128	0.120	0.130	0.124	0.124	0.125	0.127	0.123	7.39	11.4636
	45	Trichloroethene	0.344	0.380	0.395	0.426	0.387	0.403	0.431	0.420	0.423	0.444	0.405	7.33	12.3775
	46	Methylcyclohexane	------	0.514	0.608	0.620	0.618	0.645	0.700	0.625	0.627	0.649	0.623	7.85	12.6051
	47	1,2-Dichloropropane	0.399	0.436	0.401	0.470	0.419	0.444	0.439	0.425	0.417	------	0.428	5.19	12.7256
20	48	1,4-Dioxane	------	------	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	8.76	12.8988
	49	Dibromomethane	0.133	0.151	0.131	0.165	0.151	0.158	0.154	0.154	0.156	0.155	0.151	7.03	12.9303
	50	Bromodichloromethane	0.376	0.416	0.382	0.449	0.422	0.444	0.450	0.437	0.428	0.423	0.423	6.10	13.0997
	51	2-Chloroethyl vinyl ether	------	------	0.042	0.052	0.055	0.060	0.056	0.058	0.064	------	0.055	12.43	13.4463
	52	cis-1,3-Dichloropropene	0.515	0.538	0.478	0.569	0.531	0.560	0.583	0.565	0.562	0.567	0.547	5.79	13.6613
5	53	4-Methyl-2-pentanone	0.164	0.177	0.136	0.185	0.194	0.205	0.177	0.181	0.189	0.169	0.178	10.73	13.8025

SG
6/20/19

	54	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	15.6510
	55	Toluene-d8	------	1.067	1.230	1.239	1.337	1.355	1.397	1.464	1.456	------	1.318	10.15	13.9779
	56	Toluene	1.648	1.697	1.810	1.923	1.770	1.845	1.868	1.971	1.836	------	1.819	5.62	14.0646
	57	Ethyl methacrylate	0.328	0.314	0.270	0.328	0.318	0.333	0.310	0.325	0.333	0.330	0.319	5.89	14.3553
	58	trans-1,3-Dichloropropene	0.572	0.561	0.490	0.561	0.512	0.531	0.509	0.521	0.522	0.522	0.530	4.93	14.3419
	59	1,1,2-Trichloroethane	0.218	0.229	0.213	0.249	0.229	0.240	0.222	0.233	0.229	0.235	0.230	4.59	14.5737
	60	Tetrachloroethene	0.300	0.341	0.371	0.381	0.342	0.357	0.383	0.397	0.378	0.414	0.366	8.89	14.7194
5	61	2-Hexanone	------	0.113	0.093	0.143	0.165	0.181	0.151	0.168	0.168	0.157	0.149	19.22	14.7944
	62	1,3-Dichloropropane	0.410	0.441	0.432	0.507	0.483	0.499	0.456	0.494	0.473	0.465	0.466	6.74	14.7729
	63	Dibromochloromethane	0.245	0.275	0.274	0.326	0.301	0.327	0.314	0.334	0.332	0.342	0.307	10.54	15.0581
	64	1,2-Dibromoethane	0.205	0.212	0.206	0.249	0.234	0.244	0.231	0.242	0.240	0.245	0.231	7.27	15.2097
	65	1-Chlorohexane	0.746	0.753	0.804	0.834	0.729	0.758	0.840	0.826	0.770	0.763	0.782	5.14	15.5619
	66	Chlorobenzene	0.945	0.964	1.038	1.119	1.001	1.048	1.106	1.124	1.113	------	1.051	6.59	15.6809
	67	Ethylbenzene	1.842	1.888	2.028	2.106	1.909	2.005	2.170	2.236	1.716	------	1.989	8.39	15.7404
	68	1,1,1,2-Tetrachloroethane	0.306	0.326	0.341	0.373	0.340	0.364	0.371	0.386	0.370	0.382	0.356	7.38	15.7506
2	69	m-Xylene & p-Xylene	1.357	1.417	1.516	1.595	1.412	1.554	1.609	1.440	------	------	1.488	6.30	15.8446
	70	o-Xylene	1.397	1.381	1.499	1.568	1.354	1.466	1.534	1.546	1.404	------	1.461	5.45	16.2456
	71	Styrene	0.972	0.987	1.016	1.123	0.989	1.098	1.129	1.153	1.119	0.894	1.048	8.33	16.2647
	72	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	18.1459
	73	Bromoform	------	0.338	0.314	0.363	0.331	0.378	0.388	0.393	0.387	0.418	0.368	9.21	16.5230
	74	Isopropylbenzene	5.211	5.569	6.045	6.121	4.936	5.495	6.136	5.873	4.448	------	5.537	10.55	16.5593
	75	4-Bromofluorobenzene	0.978	1.158	1.154	1.150	1.141	1.245	1.276	1.260	1.199	1.270	1.183	7.59	16.7551
	76	1,1,2,2-Tetrachloroethane	0.736	0.820	0.748	0.845	0.756	0.802	0.771	0.778	0.747	0.780	0.778	4.50	16.8695
	77	trans-1,4-Dichloro-2-butene	0.239	0.209	0.182	0.235	0.194	0.231	0.236	0.233	0.223	0.231	0.221	8.87	16.6570
	78	n-Propylbenzene	6.338	6.902	7.420	7.558	6.329	7.115	7.493	7.360	------	------	7.064	7.06	16.9237
	79	1,2,3-Trichloropropane	0.148	0.153	0.141	0.180	0.167	0.178	0.161	0.173	0.160	0.159	0.162	7.87	16.9275
	80	Bromobenzene	0.943	1.059	1.025	1.143	1.000	1.102	1.137	1.158	1.091	1.169	1.083	6.90	16.9230
	81	1,3,5-Trimethylbenzene	3.821	4.087	4.455	4.451	3.802	4.120	4.472	4.472	3.670	------	4.150	7.89	17.0513
	82	2-Chlorotoluene	3.947	4.128	4.536	4.633	3.825	4.155	4.487	4.473	3.745	------	4.214	7.85	17.0546
	83	4-Chlorotoluene	3.215	3.560	3.650	3.964	3.308	3.586	3.861	3.822	3.417	------	3.598	7.09	17.1454
	84	tert-Butylbenzene	0.832	0.896	1.024	1.026	0.842	0.887	0.988	0.987	0.929	0.946	0.936	7.53	17.3599
	85	1,2,4-Trimethylbenzene	3.608	3.911	4.124	4.279	3.599	3.877	4.194	4.257	3.939	------	3.976	6.49	17.4013
	86	sec-Butylbenzene	5.311	5.662	6.180	6.483	5.358	5.821	6.579	6.388	4.700	------	5.831	10.88	17.5450
	87	p-Isopropyltoluene	4.284	4.464	4.794	5.129	4.161	4.250	5.179	4.980	4.154	------	4.600	9.19	17.6457
	88	1,3-Dichlorobenzene	1.735	1.997	2.046	2.186	1.912	2.022	2.242	2.129	2.108	2.109	2.048	7.09	17.7329
	89	1,2,3-Trimethylbenzene	3.350	3.686	3.665	3.984	3.351	3.673	3.922	3.858	3.474	------	3.663	6.41	17.7910
	90	1,4-Dichlorobenzene	1.962	1.973	1.939	2.212	1.833	2.013	2.166	2.173	2.057	2.092	2.042	5.89	17.8057
	91	Benzyl Chloride	1.077	1.104	0.916	1.073	0.973	1.088	1.096	1.120	1.105	1.176	1.073	6.96	17.9141
	92	n-Butylbenzene	3.959	4.611	4.975	5.086	4.347	4.693	5.236	5.061	4.257	------	4.692	9.29	18.0139
	93	1,2-Dichlorobenzene	1.513	1.653	1.670	1.846	1.591	1.708	1.775	1.729	1.719	1.793	1.700	5.77	18.1623
	94	1,2-Dibromo-3-chloropropane	------	0.070	0.069	0.092	0.085	0.097	0.094	0.099	0.098	0.105	0.090	14.14	18.9022
	95	1,2,4-Trichlorobenzene	0.798	0.850	0.765	0.943	0.834	0.936	0.985	1.010	0.978	1.028	0.913	10.27	19.7121
	96	Hexachlorobutadiene	0.565	0.618	0.644	0.698	0.570	0.630	0.710	0.682	0.627	0.642	0.639	7.62	19.8013
	97	Naphthalene	1.264	1.343	1.149	1.441	1.358	1.539	1.482	1.558	1.526	1.544	1.420	9.72	20.0346
	98	1,2,3-Trichlorobenzene	0.555	0.648	0.560	0.706	0.648	0.740	0.751	0.766	0.735	0.739	0.685	11.43	20.3035

Spike Amount = Nominal Amount * M
Ave_%RSD : 8.4 Max_%RSD : 24.5

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
16	Methyl acetate	-0.00118	0.02659	0.9996
25	Vinyl acetate	-0.00233	0.03710	0.9998
61	2-Hexanone	-0.01562	0.16238	0.9986

SA 6/20/19

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :F3
Beginning DateTime :06/17/19 13:57
Spike Units :PPB
IC File :RFR259

Column Spec :ZB-624 ID :0.25MM
Ending DateTime :06/17/19 18:20
HPChem Method :VOF3F17

M	IDX	Parameters	.3 13:57 RFR254	.5 14:24 RFR255	1 14:51 RFR256	2 15:19 RFR257	5 15:46 RFR258	10 16:13 RFR259	20 16:58 RFR260	30 17:26 RFR261	50 17:53 RFR262	100 18:20 RFR263	AvDRec	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	11.9510
	2	Chlorotrifluoroethylene	------	75	95	99	96	112	115	102	105	------	8.6	12.52	3.7084
	3	Dichlorodifluoromethane	------	85	109	100	95	106	110	95	95	105	6.7	8.30	3.7814
	4	Chloromethane	------	93	106	107	96	104	107	96	93	98	5.3	5.91	4.1826
	5	2-Chloro-1,1,1-trifluoroethane	------	75	96	97	95	107	116	101	101	113	8.3	11.97	4.5607
	6	Vinyl chloride	------	79	101	105	98	107	112	99	95	104	6.4	9.35	4.3907
	7	Bromomethane	------	79	103	103	97	107	112	102	97	------	6.8	10.03	5.0439
	8	Chloroethane	------	90	106	104	100	107	113	98	90	92	6.7	8.15	5.2195
	9	Dichlorofluoromethane	100	100	105	110	95	98	109	97	91	95	4.9	6.29	5.5379
	10	Trichlorofluoromethane	------	77	102	103	98	107	113	97	96	106	6.8	9.94	5.6273
5	11	Acrolein	------	------	96	111	104	100	96	96	93	93	4.9	6.60	6.3780
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	------	81	103	108	93	93	114	103	100	105	7.4	9.81	6.4891
	13	1,1-Dichloroethene	96	97	104	112	95	97	112	98	92	97	5.6	6.96	6.5647
5	14	Acetone	------	------	110	117	102	103	90	86	84	------	10.3	13.02	6.6293
	15	Iodomethane	------	86	97	104	94	96	111	105	101	107	6	7.51	6.9201
	16	Methyl acetate	------	------	99	98	102	107	94	98	100	101	2.6	18.07	7.1655
	17	Carbon disulfide	------	84	99	93	101	104	115	103	95	105	6.3	8.66	7.0340
	18	Methylene chloride	------	117	101	108	99	98	103	95	90	89	6.6	8.81	7.4633
5	19	tert-Butyl alcohol	------	------	87	107	113	113	100	100	107	107	7.5	8.49	7.5221
	20	tert-Butyl methyl ether (MTBE)	97	109	77	108	104	106	97	101	101	101	5.8	8.96	7.7951
	21	trans-1,2-Dichloroethene	95	102	103	112	98	99	107	98	94	94	4.7	6.02	7.8723
5	22	Acrylonitrile	------	103	85	105	108	105	98	100	100	98	4.3	6.43	7.8810
	23	Isopropyl ether (DIPE)	102	100	89	112	102	107	102	99	97	90	4.9	6.82	8.6136
	24	1,1-Dichloroethane	96	99	100	109	98	103	106	100	95	94	3.6	4.80	8.6700
	25	Vinyl acetate	------	------	105	95	102	102	98	97	100	101	2.5	24.52	8.6862
	26	tert-Butyl ethyl ether (ETBE)	116	111	85	105	99	101	96	96	96	96	6.4	8.61	9.3164
	27	2,2-Dichloropropane	108	108	109	109	96	95	98	93	85	------	7.3	8.64	9.7801
	28	cis-1,2-Dichloroethene	96	101	96	105	98	98	105	102	100	101	2.5	3.21	9.8142
5	29	2-Butanone	91	95	72	102	113	112	102	102	106	101	8.2	11.86	9.8246
5	30	2-Butanol	------	------	------	77	100	115	100	100	108	115	8.8	13.04	10.1113
	31	Bromochloromethane	87	95	87	107	99	103	104	105	105	108	6.4	7.76	10.3224
	32	Tetrahydrofuran	------	------	83	111	102	104	100	104	102	98	5.4	8.62	10.3820
	33	Chloroform	96	100	97	108	99	102	105	101	97	96	3.2	4.12	10.4205
	34	Dibromofluoromethane	------	76	83	94	103	107	109	107	108	114	10.5	13.04	10.7344
	35	1,1,1-Trichloroethane	98	100	104	110	97	100	107	101	94	92	4.1	5.48	10.7519
	36	Cyclohexane	79	84	108	104	106	106	116	102	98	97	8.4	11.24	10.8232
	37	1,1-Dichloropropene	86	97	99	107	96	99	108	103	102	102	4.3	6.23	11.0327
	38	Carbon tetrachloride	84	92	103	108	97	100	109	104	101	100	5.3	7.47	11.0357
5	39	tert-Amyl alcohol	------	------	------	83	100	108	92	100	100	108	6	9.19	11.3085
	40	1,2-Dichloroethane-d4	------	91	84	95	106	108	106	104	101	105	6.5	8.12	11.3420
	41	2,2,4-Trimethylpentane	------	77	104	102	99	106	119	100	98	95	7	11.15	11.3998
	42	Benzene	94	96	97	107	95	99	107	105	101	------	4.3	5.09	11.4047
	43	1,2-Dichloroethane	98	102	91	109	102	104	103	100	97	94	4	5.29	11.4651
	44	tert-Amyl methyl ether (TAME)	99	108	81	104	98	106	101	101	102	103	4.6	7.39	11.4636
	45	Trichloroethene	85	94	98	105	96	100	106	104	104	110	5.8	7.33	12.3775
	46	Methylcyclohexane	------	83	98	100	99	104	112	100	101	104	4.7	7.85	12.6051
	47	1,2-Dichloropropane	93	102	94	110	98	104	103	99	97	------	4	5.19	12.7256
20	48	1,4-Dioxane	------	------	100	100	100	100	100	100	100	100	0	8.76	12.8988

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	49	Dibromomethane	88	100	87	109	100	105	102	102	103	103	4.9	7.03	12.9303
	50	Bromodichloromethane	89	98	90	106	100	105	106	103	101	100	4.5	6.10	13.0997
	51	2-Chloroethyl vinyl ether	------	------	76	95	100	109	102	105	116	------	8.8	12.43	13.4463
	52	cis-1,3-Dichloropropene	94	98	87	104	97	102	107	103	103	104	4.6	5.79	13.6613
5	53	4-Methyl-2-pentanone	92	99	76	104	109	115	99	102	106	95	7.4	10.73	13.8025
	54	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	15.6510
	55	Toluene-d8	------	81	93	94	101	103	106	111	110	------	7.9	10.15	13.9779
	56	Toluene	91	93	100	106	97	101	103	108	101	------	4.3	5.62	14.0646
	57	Ethyl methacrylate	103	98	85	103	100	104	97	102	104	103	4	5.89	14.3553
	58	trans-1,3-Dichloropropene	108	106	92	106	97	100	96	98	98	98	3.9	4.93	14.3419
	59	1,1,2-Trichloroethane	95	100	93	108	100	104	97	101	100	102	3.3	4.59	14.5737
	60	Tetrachloroethene	82	93	101	104	93	98	105	108	103	113	6.9	8.89	14.7194
5	61	2-Hexanone	------	108	77	98	106	113	94	104	104	97	7.7	19.22	14.7944
	62	1,3-Dichloropropane	88	95	93	109	104	107	98	106	102	100	5.4	6.74	14.7729
	63	Dibromochloromethane	80	90	89	106	98	107	102	109	108	111	8.7	10.54	15.0581
	64	1,2-Dibromoethane	89	92	89	108	101	106	100	105	104	106	6	7.27	15.2097
	65	1-Chlorohexane	95	96	103	107	93	97	107	106	98	98	4.5	5.14	15.5619
	66	Chlorobenzene	90	92	99	106	95	100	105	107	106	------	5.5	6.59	15.6809
	67	Ethylbenzene	93	95	102	106	96	101	109	112	86	------	6.7	8.39	15.7404
	68	1,1,1,2-Tetrachloroethane	86	92	96	105	96	102	104	108	104	107	6.2	7.38	15.7506
2	69	m-Xylene & p-Xylene	91	95	102	107	95	104	108	97	------	------	5.4	6.30	15.8446
	70	o-Xylene	96	95	103	107	93	100	105	106	96	------	4.7	5.45	16.2456
	71	Styrene	93	94	97	107	94	105	108	110	107	85	7.3	8.33	16.2647
	72	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	18.1459
	73	Bromoform	------	92	85	99	90	103	105	107	105	114	7.5	9.21	16.5230
	74	Isopropylbenzene	94	101	109	111	89	99	111	106	80	------	8.3	10.55	16.5593
	75	4-Bromofluorobenzene	83	98	98	97	96	105	108	107	101	107	5.7	7.59	16.7551
	76	1,1,2,2-Tetrachloroethane	95	105	96	109	97	103	99	100	96	100	3.4	4.50	16.8695
	77	trans-1,4-Dichloro-2-butene	108	95	82	106	88	105	107	105	101	105	7.2	8.87	16.6570
	78	n-Propylbenzene	90	98	105	107	90	101	106	104	------	------	5.7	7.06	16.9237
	79	1,2,3-Trichloropropane	91	94	87	111	103	110	99	107	99	98	6.2	7.87	16.9275
	80	Bromobenzene	87	98	95	106	92	102	105	107	101	108	5.6	6.90	16.9230
	81	1,3,5-Trimethylbenzene	92	98	107	107	92	99	108	108	88	------	6.7	7.89	17.0513
	82	2-Chlorotoluene	94	98	108	110	91	99	106	106	89	------	6.7	7.85	17.0546
	83	4-Chlorotoluene	89	99	101	110	92	100	107	106	95	------	5.6	7.09	17.1454
	84	tert-Butylbenzene	89	96	109	110	90	95	106	105	99	101	6.2	7.53	17.3599
	85	1,2,4-Trimethylbenzene	91	98	104	108	91	98	105	107	99	------	5.3	6.49	17.4013
	86	sec-Butylbenzene	91	97	106	111	92	100	113	110	81	------	8.8	10.88	17.5450
	87	p-Isopropyltoluene	93	97	104	112	90	92	113	108	90	------	8.1	9.19	17.6457
	88	1,3-Dichlorobenzene	85	98	100	107	93	99	109	104	103	103	5.2	7.09	17.7329
	89	1,2,3-Trimethylbenzene	91	101	100	109	91	100	107	105	95	------	4.9	6.41	17.7910
	90	1,4-Dichlorobenzene	96	97	95	108	90	99	106	106	101	102	4.8	5.89	17.8057
	91	Benzyl Chloride	100	103	85	100	91	101	102	104	103	110	4.8	6.96	17.9141
	92	n-Butylbenzene	84	98	106	108	93	100	112	108	91	------	7.5	9.29	18.0139
	93	1,2-Dichlorobenzene	89	97	98	109	94	100	104	102	101	105	4.4	5.77	18.1623
	94	1,2-Dibromo-3-chloropropane	------	78	77	102	94	108	104	110	109	117	11.2	14.14	18.9022
	95	1,2,4-Trichlorobenzene	87	93	84	103	91	103	108	111	107	113	8.8	10.27	19.7121
	96	Hexachlorobutadiene	88	97	101	109	89	99	111	107	98	100	5.7	7.62	19.8013
	97	Naphthalene	89	95	81	101	96	108	104	110	107	109	8	9.72	20.0346
	98	1,2,3-Trichlorobenzene	81	95	82	103	95	108	110	112	107	108	9.6	11.43	20.3035

For 8260 c
SG
6/26/19

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
Total Cpnds : 98

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	11.95	1.000	A	1	A	B
2	T	Chlorotrifluoroethylene	116	3.71	0.310	A	2	A	B
3	T	Dichlorodifluoromethane	85	3.78	0.316	A	1	A	B
4	T	Chloromethane	50	4.18	0.350	A	1	A	B
5	T	2-Chloro-1,1,1-trifluoroethane	118	4.57	0.382	A	2	A	B
6	T	Vinyl chloride	62	4.39	0.367	A	1	A	B
7	T	Bromomethane	94	5.04	0.422	A	1	A	B
8	T	Chloroethane	64	5.22	0.437	A	2	A	B
9	T	Dichlorofluoromethane	67	5.55	0.464	A	1	A	B
10	T	Trichlorofluoromethane	101	5.62	0.471	A	1	A	B
11	T	Acrolein	56	6.38	0.534	A	1	A	B
12	T	1,1,2-Trichloro-1,2,2-trifluor	151	6.49	0.543	A	1	A	B
13	T	1,1-Dichloroethene	61	6.56	0.549	A	2	A	B
14	T	Acetone	43	6.63	0.555	A	2	A	B
15	T	Iodomethane	142	6.93	0.580	A	1	A	B
16	T	Methyl acetate	74	7.17	0.600	L	1	A	B
17	T	Carbon disulfide	76	7.04	0.589	A	1	A	B
18	T	Methylene chloride	49	7.47	0.625	A	2	A	B
19	T	tert-Butyl alcohol	59	7.53	0.630	A	1	A	B
20	T	tert-Butyl methyl ether (MTBE)	73	7.79	0.652	A	1	A	B
21	T	trans-1,2-Dichloroethene	61	7.87	0.658	A	2	A	B
22	T	Acrylonitrile	53	7.88	0.660	A	2	A	B
23	T	Isopropyl ether (DIPE)	45	8.62	0.721	A	1	A	B
24	T	1,1-Dichloroethane	63	8.67	0.725	A	2	A	B
25	T	Vinyl acetate	86	8.68	0.726	L	1	A	B
26	T	tert-Butyl ethyl ether (ETBE)	59	9.32	0.780	A	1	A	B
27	T	2,2-Dichloropropane	77	9.78	0.818	A	2	A	B
28	T	cis-1,2-Dichloroethene	96	9.81	0.821	A	2	A	B
29	T	2-Butanone	43	9.80	0.820	A	1	A	B
30	T	2-Butanol	45	10.11	0.846	A	1	A	B
31	T	Bromochloromethane	128	10.33	0.864	A	2	A	B
32	T	Tetrahydrofuran	42	10.37	0.868	A	2	A	B
33	T	Chloroform	83	10.42	0.872	A	2	A	B
34	S	Dibromofluoromethane	111	10.73	0.898	A	2	A	B
35	T	1,1,1-Trichloroethane	97	10.76	0.901	A	2	A	B
36	T	Cyclohexane	56	10.82	0.905	A	2	A	B
37	T	1,1-Dichloropropene	110	11.03	0.923	A	1	A	B
38	T	Carbon tetrachloride	119	11.03	0.923	A	1	A	B
39	T	tert-Amyl alcohol	59	11.31	0.947	A	2	A	B
40	S	1,2-Dichloroethane-d4	65	11.34	0.949	A	1	A	B
41	T	2,2,4-Trimethylpentane	57	11.40	0.954	A	3	A	B
42	T	Benzene	78	11.40	0.954	A	2	A	B
43	T	1,2-Dichloroethane	62	11.46	0.959	A	1	A	B
44	T	tert-Amyl methyl ether (TAME)	87	11.46	0.959	A	2	A	B
45	T	Trichloroethene	130	12.38	1.036	A	3	A	B
46	T	Methylcyclohexane	83	12.60	1.055	A	2	A	B
47	T	1,2-Dichloropropane	63	12.72	1.065	A	2	A	B
48	T	1,4-Dioxane	88	12.90	1.080	A	1	A	B
49	T	Dibromomethane	93	12.93	1.082	A	2	A	B
50	T	Bromodichloromethane	83	13.09	1.096	A	1	A	B
51	T	2-Chloroethyl vinyl ether	63	13.44	1.124	A	1	A	B
52	T	cis-1,3-Dichloropropene	75	13.66	1.143	A	3	A	B
53	T	4-Methyl-2-pentanone	43	13.79	1.154	A	3	A	B

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54	I	CHLOROBENZENE-D5	117	15.65	1.000	A	2	A	B
55	S	Toluene-d8	98	13.97	0.893	A	1	A	B
56	T	Toluene	91	14.06	0.898	A	1	A	B
57	T	Ethyl methacrylate	69	14.34	0.916	A	2	A	B
58	T	trans-1,3-Dichloropropene	75	14.33	0.915	A	2	A	B
59	T	1,1,2-Trichloroethane	97	14.56	0.931	A	3	A	B
60	T	Tetrachloroethene	164	14.71	0.940	A	3	A	B
61	T	2-Hexanone	43	14.79	0.945	L	2	A	B
62	T	1,3-Dichloropropane	76	14.77	0.944	A	1	A	B
63	T	Dibromochloromethane	129	15.06	0.962	A	1	A	B
64	T	1,2-Dibromoethane	107	15.20	0.972	A	1	A	B
65	T	1-Chlorohexane	91	15.56	0.994	A	3	A	B
66	P,M	Chlorobenzene	112	15.68	1.002	A	3	A	B
67	T	Ethylbenzene	91	15.74	1.006	A	1	A	B
68	T	1,1,1,2-Tetrachloroethane	131	15.74	1.006	A	3	A	B
69	T	m-Xylene & p-Xylene	91	15.84	1.012	A	1	A	B
70	T	o-Xylene	91	16.24	1.038	A	1	A	B
71	T	Styrene	104	16.26	1.039	A	2	A	B
72	I	1,2-DICHLOROBENZENE-D4	152	18.15	1.000	A	1	A	B
73	T	Bromoform	173	16.53	0.911	A	2	A	B
74	T	Isopropylbenzene	105	16.56	0.912	A	3	A	B
75	S	4-Bromofluorobenzene	95	16.75	0.923	A	2	A	B
76	T	1,1,2,2-Tetrachloroethane	83	16.87	0.930	A	1	A	B
77	T	trans-1,4-Dichloro-2-butene	53	16.65	0.917	A	1	A	B
78	T	n-Propylbenzene	91	16.91	0.932	A	2	A	B
79	T	1,2,3-Trichloropropane	110	16.93	0.933	A	1	A	B
80	T	Bromobenzene	156	16.91	0.932	A	2	A	B
81	T	1,3,5-Trimethylbenzene	105	17.05	0.939	A	2	A	B
82	T	2-Chlorotoluene	91	17.05	0.939	A	1	A	B
83	T	4-Chlorotoluene	91	17.14	0.944	A	1	A	B
84	T	tert-Butylbenzene	134	17.36	0.957	A	2	A	B
85	T	1,2,4-Trimethylbenzene	105	17.39	0.958	A	1	A	B
86	T	sec-Butylbenzene	105	17.54	0.966	A	1	A	B
87	T	p-Isopropyltoluene	119	17.64	0.972	A	2	A	B
88	T	1,3-Dichlorobenzene	146	17.73	0.977	A	2	A	B
89	T	1,2,3-Trimethylbenzene	105	17.79	0.980	A	2	A	B
90	T	1,4-Dichlorobenzene	146	17.80	0.981	A	2	A	B
91	T	Benzyl Chloride	91	17.91	0.987	A	3	A	B
92	T	n-Butylbenzene	91	18.01	0.993	A	2	A	B
93	T	1,2-Dichlorobenzene	146	18.16	1.001	A	2	A	B
94	T	1,2-Dibromo-3-chloropropane	157	18.90	1.042	A	2	A	B
95	T	1,2,4-Trichlorobenzene	180	19.71	1.086	A	2	A	B
96	T	Hexachlorobutadiene	225	19.80	1.091	A	2	A	B
97	T	Naphthalene	128	20.03	1.104	A	1	A	B
98	T	1,2,3-Trichlorobenzene	180	20.30	1.119	A	2	A	B

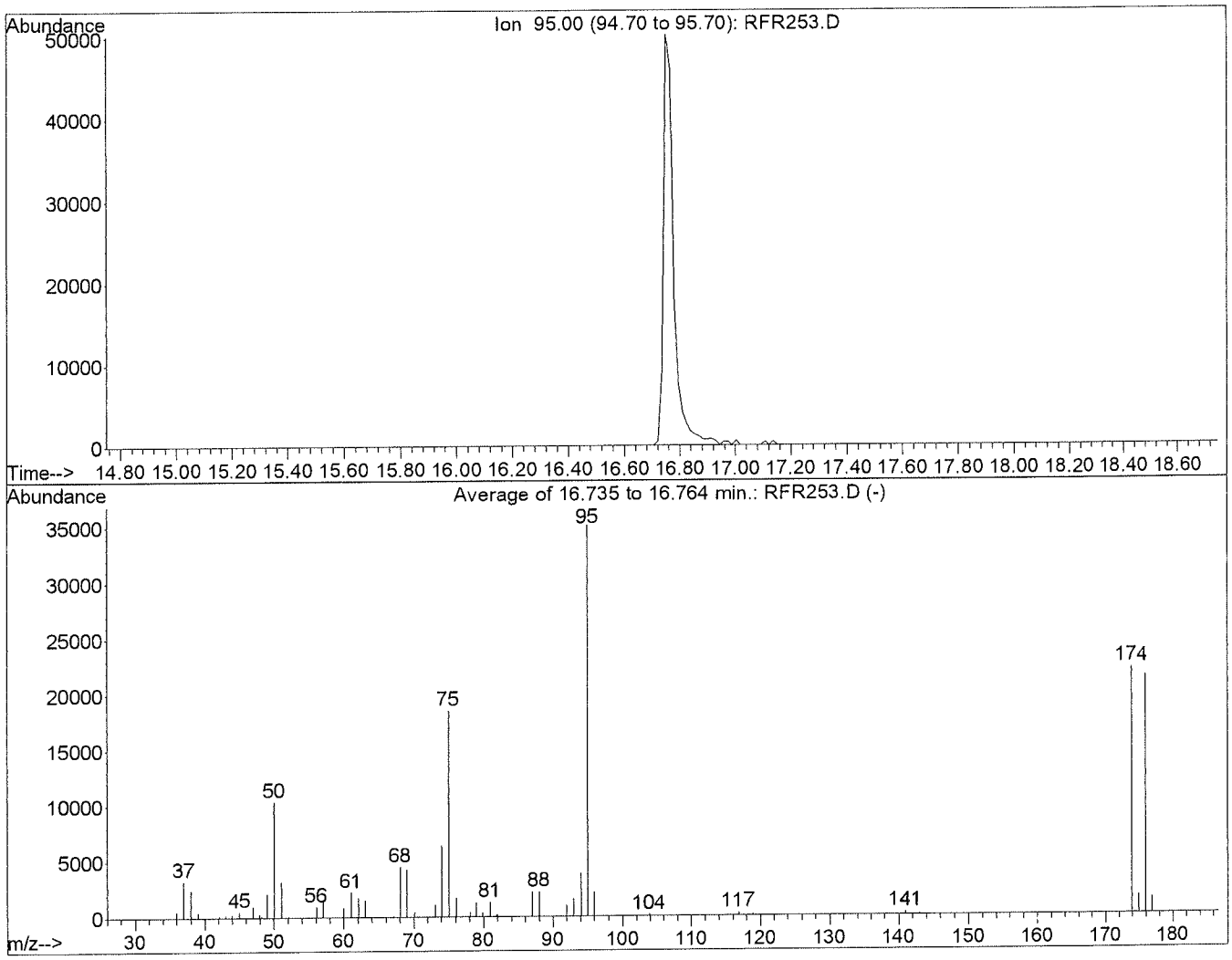
Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VOF3F17.M Wed Jun 19 17:32:09 2019

SW 6/20/19

Data File : C:\HPCHEM\1\DATA\19F17\RFR253.D
Acq On : 17 Jun 2019 1:24 pm
Sample : BFBF3F09
Misc : T/CHK
MS Integration Params: RTE.P
Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL

Vial: 1
Operator: DNguye
Inst : F3
Multiplr: 1.00



AutoFind: Scans 886, 887, 888; Background Corrected with Scan 882

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.4	10346	PASS
75	95	30	60	52.7	18514	PASS
95	95	100	100	100.0	35155	PASS
96	95	5	9	6.2	2167	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	62.9	22122	PASS
175	174	5	9	7.4	1639	PASS
176	174	95	101	96.9	21443	PASS
177	176	5	9	6.7	1431	PASS

RFR253.D VOF3F17.M Wed Jun 19 17:33:18 2019 SA 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR254.D
Acq On : 17 Jun 2019 1:57 pm
Sample : VOF3F171
Misc : 0.3ppb 8260/1.5ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 17:36 2019

Vial: 2
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2070285	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1602604	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	524886	10.00	ug/l	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	10.75	111	10890	0.17	ug/l	0.01
Spiked Amount 10.000			Recovery = 1.70%			
40) 1,2-Dichloroethane-d4	11.35	65	11579	0.21	ug/l	0.01
Spiked Amount 10.000			Recovery = 2.10%			
55) Toluene-d8	14.00	98	36601	0.17	ug/l	0.03
Spiked Amount 10.000			Recovery = 1.70%			
75) 4-Bromofluorobenzene	16.76	95	15403	0.25	ug/l	0.01
Spiked Amount 10.000			Recovery = 2.50%			
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.74	116	7353	0.15	ug/l #	33
3) Dichlorodifluoromethane	3.78	85	15316	0.16	ug/l	100
4) Chloromethane	4.17	50	37333	0.25	ug/l	99
5) 2-Chloro-1,1,1-trifluoroet	4.57	118	11197	0.14	ug/l #	28
6) Vinyl chloride	4.38	62	23159	0.19	ug/l	93
7) Bromomethane	5.03	94	14119	0.20	ug/l	96
8) Chloroethane	5.22	64	14143	0.20	ug/l	70
9) Dichlorofluoromethane	5.55	67	50180	0.30	ug/l	97
10) Trichlorofluoromethane	5.63	101	8697	0.11	ug/l	77
11) Acrolein	6.38	56	12002	2.10	ug/l	99
12) 1,1,2-Trichloro-1,2,2-trif	6.47	151	5822	0.14	ug/l	82
13) 1,1-Dichloroethene	6.58	61	47857	0.29	ug/l	94
14) Acetone	6.64	43	42437	3.56	ug/l #	95
15) Iodomethane	6.92	142	30210	0.26	ug/l	91
17) Carbon disulfide	7.04	76	30365	0.16	ug/l	98
18) Methylene chloride	7.45	49	46705	0.36	ug/l	97
19) tert-Butyl alcohol	7.54	59	6455	2.02	ug/l #	100
20) tert-Butyl methyl ether (M	7.79	73	36672	0.29	ug/l	86
21) trans-1,2-Dichloroethene	7.88	61	42762	0.28	ug/l	98
22) Acrylonitrile	7.91	53	21134	1.56	ug/l	90
23) Isopropyl ether (DIPE)	8.62	45	104596	0.31	ug/l	97
24) 1,1-Dichloroethane	8.68	63	53510	0.29	ug/l	96
26) tert-Butyl ethyl ether (ET	9.32	59	76561	0.35	ug/l	98
27) 2,2-Dichloropropane	9.79	77	22127	0.32	ug/l	94
28) cis-1,2-Dichloroethene	9.82	96	24336	0.29	ug/l	97
29) 2-Butanone	9.88	43	23375	1.38	ug/l	80
31) Bromochloromethane	10.33	128	7985	0.26	ug/l	91

(#) = qualifier out of range (m) = manual integration

SM 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR254.D Vial: 2
Acq On : 17 Jun 2019 1:57 pm Operator: DNguye
Sample : VOF3F171 Inst : F3
Misc : 0.3ppb 8260/1.5ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 17:36 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
32) Tetrahydrofuran	10.42	42	3745	0.39 ug/l	#	51
33) Chloroform	10.42	83	41235	0.29 ug/l		99
35) 1,1,1-Trichloroethane	10.75	97	27914	0.29 ug/l		95
36) Cyclohexane	10.82	56	36035	0.24 ug/l		91
37) 1,1-Dichloropropene	11.04	110	10173	0.26 ug/l		97
38) Carbon tetrachloride	11.03	119	21550	0.25 ug/l		97
39) tert-Amyl alcohol	11.34	59	2767	1.14 ug/l		71
41) 2,2,4-Trimethylpentane	11.40	57	45689	0.17 ug/l		81
42) Benzene	11.41	78	93440	0.28 ug/l		94
43) 1,2-Dichloroethane	11.47	62	22935	0.29 ug/l		98
44) tert-Amyl methyl ether (TA	11.47	87	7576	0.30 ug/l	#	74
45) Trichloroethene	12.38	130	21371	0.25 ug/l		97
46) Methylcyclohexane	12.60	83	25317	0.20 ug/l		99
47) 1,2-Dichloropropane	12.74	63	24772	0.28 ug/l	#	60
49) Dibromomethane	12.94	93	8272	0.27 ug/l		98
50) Bromodichloromethane	13.11	83	23378	0.27 ug/l		98
52) cis-1,3-Dichloropropene	13.67	75	31988	0.28 ug/l		91
53) 4-Methyl-2-pentanone	13.82	43	50950	1.38 ug/l		95
56) Toluene	14.07	91	79249	0.27 ug/l		99
57) Ethyl methacrylate	14.40	69	15774	0.31 ug/l		83
58) trans-1,3-Dichloropropene	14.36	75	27477	0.32 ug/l	#	75
59) 1,1,2-Trichloroethane	14.58	97	10460	0.28 ug/l		97
60) Tetrachloroethene	14.73	164	14416	0.25 ug/l		97
61) 2-Hexanone	14.85	43	21636	1.79 ug/l	#	60
62) 1,3-Dichloropropane	14.79	76	19725	0.26 ug/l		79
63) Dibromochloromethane	15.07	129	11773	0.24 ug/l		98
64) 1,2-Dibromoethane	15.22	107	9880	0.27 ug/l		91
65) 1-Chlorohexane	15.56	91	35871	0.29 ug/l		98
66) Chlorobenzene	15.68	112	45410	0.27 ug/l	#	66
67) Ethylbenzene	15.74	91	88539	0.28 ug/l		98
68) 1,1,1,2-Tetrachloroethane	15.75	131	14714	0.26 ug/l	#	1
69) m-Xylene & p-Xylene	15.84	91	130472	0.55 ug/l		100
70) o-Xylene	16.24	91	67165	0.29 ug/l		95
71) Styrene	16.27	104	46733	0.28 ug/l		97
73) Bromoform	16.53	173	4479	0.23 ug/l		96
74) Isopropylbenzene	16.57	105	82055	0.28 ug/l		95
76) 1,1,2,2-Tetrachloroethane	16.87	83	11588	0.28 ug/l		100
77) trans-1,4-Dichloro-2-buten	16.67	53	3770	0.32 ug/l		71
78) n-Propylbenzene	16.93	91	99796	0.27 ug/l		99
79) 1,2,3-Trichloropropane	16.93	110	2325	0.27 ug/l		95
80) Bromobenzene	16.93	156	14851	0.26 ug/l		93

(#) = qualifier out of range (m) = manual integration
RFR254.D VOF3F17.M Wed Jun 19 17:37:25 2019 SC 6/20/19 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR254.D
Acq On : 17 Jun 2019 1:57 pm
Sample : VOF3F171
Misc : 0.3ppb 8260/1.5ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 17:36 2019

Vial: 2
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
81)	1,3,5-Trimethylbenzene	17.06	105	60160	0.28 ug/l		100
82)	2-Chlorotoluene	17.06	91	62147	0.28 ug/l		98
83)	4-Chlorotoluene	17.15	91	50624	0.27 ug/l		98
84)	tert-Butylbenzene	17.36	134	13106	0.27 ug/l		96
85)	1,2,4-Trimethylbenzene	17.40	105	56817	0.27 ug/l		98
86)	sec-Butylbenzene	17.55	105	83623	0.27 ug/l		98
87)	p-Isopropyltoluene	17.66	119	67454	0.28 ug/l		99
88)	1,3-Dichlorobenzene	17.74	146	27322	0.25 ug/l		97
89)	1,2,3-Trimethylbenzene	17.79	105	52745	0.27 ug/l		99
90)	1,4-Dichlorobenzene	17.80	146	30893	0.29 ug/l		96
91)	Benzyl Chloride	17.92	91	16960	0.30 ug/l		92
92)	n-Butylbenzene	18.01	91	62345	0.25 ug/l		96
93)	1,2-Dichlorobenzene	18.16	146	23832	0.27 ug/l	#	71
94)	1,2-Dibromo-3-chloropropan	18.90	157	865	0.18 ug/l	#	1
95)	1,2,4-Trichlorobenzene	19.72	180	12558	0.26 ug/l		98
96)	Hexachlorobutadiene	19.81	225	8901	0.27 ug/l		96
97)	Naphthalene	20.05	128	19905	0.27 ug/l		99
98)	1,2,3-Trichlorobenzene	20.31	180	8738	0.24 ug/l		95

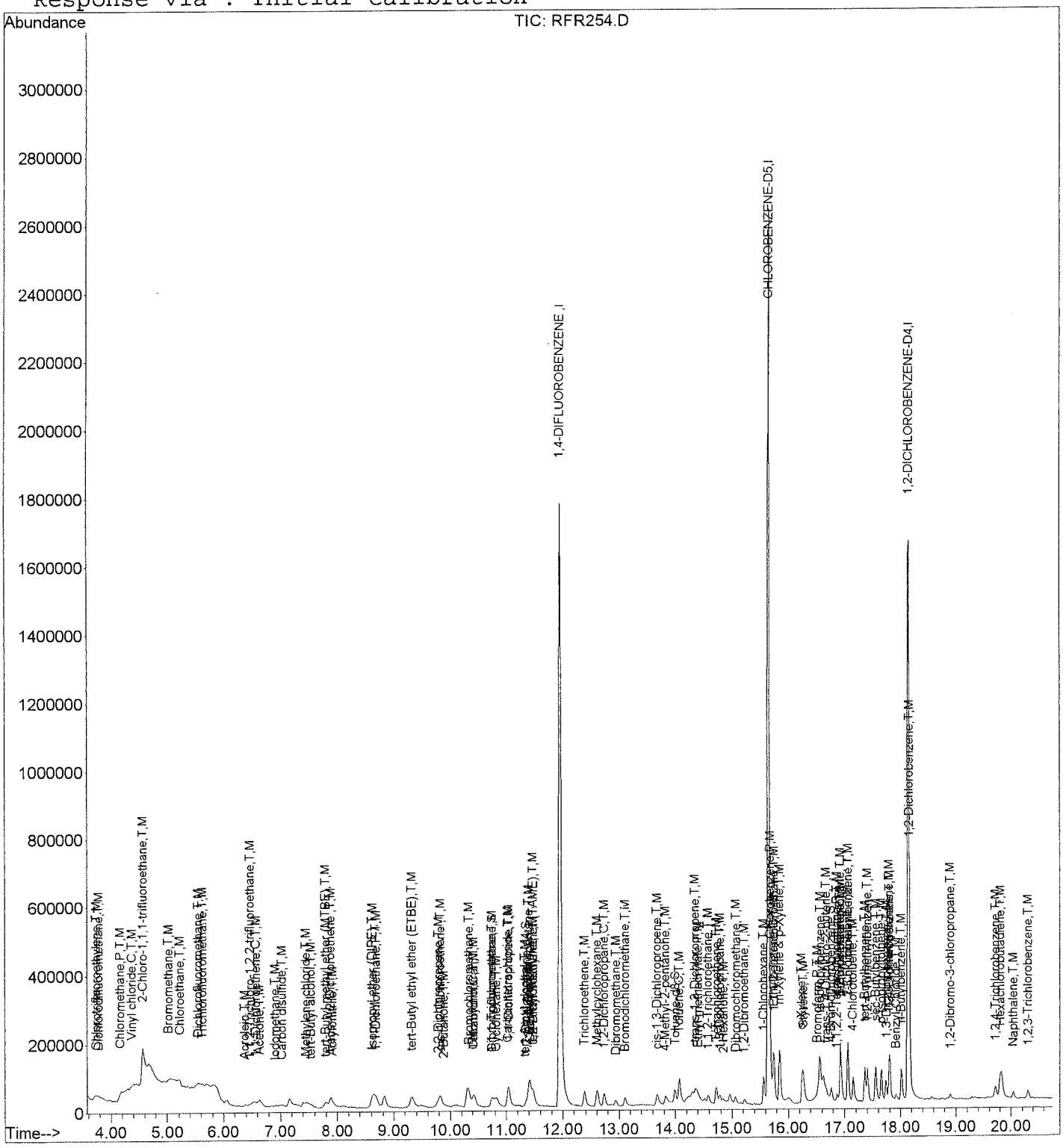
SA 6/20/19

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\19F17\RFR254.D
Acq On : 17 Jun 2019 1:57 pm
Sample : VOF3F171
Misc : 0.3ppb 8260/1.5ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 17:36 2019

Vial: 2
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



SA 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR255.D
Acq On : 17 Jun 2019 2:24 pm
Sample : VOF3F172
Misc : 0.5ppb 8260/2.5ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 17:38 2019

Vial: 3
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2134837	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1641126	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	506872	10.00	ug/l	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	10.75	111	25248	0.38	ug/l	0.01
Spiked Amount 10.000			Recovery =	3.80%		
40) 1,2-Dichloroethane-d4	11.35	65	25624	0.45	ug/l	0.01
Spiked Amount 10.000			Recovery =	4.50%		
55) Toluene-d8	13.98	98	87594	0.40	ug/l	0.01
Spiked Amount 10.000			Recovery =	4.00%		
75) 4-Bromofluorobenzene	16.76	95	29346	0.49	ug/l	0.01
Spiked Amount 10.000			Recovery =	4.90%		
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.71	116	19108	0.37	ug/l #	67
3) Dichlorodifluoromethane	3.78	85	42753	0.42	ug/l	98
4) Chloromethane	4.18	50	70459	0.46	ug/l	95
5) 2-Chloro-1,1,1-trifluoroet	4.57	118	31060	0.37	ug/l	78
6) Vinyl chloride	4.39	62	50135	0.40	ug/l	89
7) Bromomethane	5.05	94	29305	0.39	ug/l	97
8) Chloroethane	5.24	64	32213	0.45	ug/l	96
9) Dichlorofluoromethane	5.54	67	86760	0.50	ug/l	98
10) Trichlorofluoromethane	5.67	101	32553	0.39	ug/l	96
11) Acrolein	6.38	56	20951	3.56	ug/l	83
12) 1,1,2-Trichloro-1,2,2-trif	6.50	151	17425	0.40	ug/l	80
13) 1,1-Dichloroethene	6.58	61	82739	0.48	ug/l	94
14) Acetone	6.64	43	50300	4.09	ug/l	81
15) Iodomethane	6.92	142	52444	0.43	ug/l	99
16) Methyl acetate	7.17	74	980	0.62	ug/l #	1
17) Carbon disulfide	7.04	76	84423	0.42	ug/l	96
18) Methylene chloride	7.45	49	77423	0.58	ug/l	96
19) tert-Butyl alcohol	7.53	59	11058	3.36	ug/l #	100
20) tert-Butyl methyl ether (M	7.79	73	71097	0.55	ug/l	94
21) trans-1,2-Dichloroethene	7.88	61	78928	0.51	ug/l	96
22) Acrylonitrile	7.90	53	35726	2.57	ug/l	93
23) Isopropyl ether (DIPE)	8.62	45	176741	0.50	ug/l	100
24) 1,1-Dichloroethane	8.68	63	95324	0.50	ug/l	98
25) Vinyl acetate	8.71	86	857	0.74	ug/l #	2
26) tert-Butyl ethyl ether (ET	9.32	59	126185	0.55	ug/l	100
27) 2,2-Dichloropropane	9.78	77	38015	0.54	ug/l	95
28) cis-1,2-Dichloroethene	9.82	96	44297	0.51	ug/l	94

(#) = qualifier out of range (m) = manual integration SA 6/20/19
RFR255.D VOF3F17.M Wed Jun 19 17:38:54 2019 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR255.D
Acq On : 17 Jun 2019 2:24 pm
Sample : VOF3F172
Misc : 0.5ppb 8260/2.5ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 17:38 2019

Vial: 3
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	2-Butanone	9.87	43	41708	2.39 ug/l		98
31)	Bromochloromethane	10.33	128	14919	0.47 ug/l		93
32)	Tetrahydrofuran	10.39	42	6511	0.66 ug/l	#	57
33)	Chloroform	10.42	83	74410	0.50 ug/l		99
35)	1,1,1-Trichloroethane	10.75	97	49156	0.50 ug/l		99
36)	Cyclohexane	10.82	56	65670	0.42 ug/l		98
37)	1,1-Dichloropropene	11.04	110	19810	0.49 ug/l		99
38)	Carbon tetrachloride	11.03	119	40509	0.46 ug/l		95
39)	tert-Amyl alcohol	11.34	59	5616	2.23 ug/l		60
41)	2,2,4-Trimethylpentane	11.40	57	105994	0.38 ug/l		91
42)	Benzene	11.41	78	163117	0.48 ug/l		97
43)	1,2-Dichloroethane	11.47	62	41241	0.51 ug/l		97
44)	tert-Amyl methyl ether (TA	11.47	87	14203	0.54 ug/l	#	89
45)	Trichloroethene	12.38	130	40530	0.47 ug/l		96
46)	Methylcyclohexane	12.60	83	54904	0.41 ug/l		97
47)	1,2-Dichloropropane	12.72	63	46487	0.51 ug/l	#	63
49)	Dibromomethane	12.94	93	16068	0.50 ug/l		94
50)	Bromodichloromethane	13.11	83	44428	0.49 ug/l		99
51)	2-Chloroethyl vinyl ether	13.48	63	5127	0.43 ug/l		86
52)	cis-1,3-Dichloropropene	13.67	75	57433	0.49 ug/l		95
53)	4-Methyl-2-pentanone	13.82	43	94212	2.48 ug/l		97
56)	Toluene	14.07	91	139224	0.47 ug/l		99
57)	Ethyl methacrylate	14.39	69	25747	0.49 ug/l		79
58)	trans-1,3-Dichloropropene	14.36	75	46018	0.53 ug/l	#	72
59)	1,1,2-Trichloroethane	14.58	97	18780	0.50 ug/l		98
60)	Tetrachloroethene	14.73	164	28022	0.47 ug/l		97
61)	2-Hexanone	14.83	43	46262	2.70 ug/l		80
62)	1,3-Dichloropropane	14.77	76	36185	0.47 ug/l		91
63)	Dibromochloromethane	15.05	129	22559	0.45 ug/l		97
64)	1,2-Dibromoethane	15.22	107	17418	0.46 ug/l		95
65)	1-Chlorohexane	15.56	91	61792	0.48 ug/l		98
66)	Chlorobenzene	15.68	112	79078	0.46 ug/l		80
67)	Ethylbenzene	15.74	91	154892	0.47 ug/l		100
68)	1,1,1,2-Tetrachloroethane	15.75	131	26718	0.46 ug/l	#	1
69)	m-Xylene & p-Xylene	15.84	91	232508	0.95 ug/l		100
70)	o-Xylene	16.24	91	113350	0.47 ug/l		99
71)	Styrene	16.27	104	80949	0.47 ug/l		95
73)	Bromoform	16.53	173	8554	0.46 ug/l		95
74)	Isopropylbenzene	16.56	105	141150	0.50 ug/l		98
76)	1,1,2,2-Tetrachloroethane	16.87	83	20781	0.53 ug/l		95
77)	trans-1,4-Dichloro-2-buten	16.66	53	5296	0.47 ug/l		97

(#) = qualifier out of range (m) = manual integration

SA 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR255.D
Acq On : 17 Jun 2019 2:24 pm
Sample : VOF3F172
Misc : 0.5ppb 8260/2.5ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 17:38 2019

Vial: 3
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
78)	n-Propylbenzene	16.93	91	174933	0.49 ug/l		99
79)	1,2,3-Trichloropropane	16.93	110	3884	0.47 ug/l		97
80)	Bromobenzene	16.93	156	26835	0.49 ug/l		93
81)	1,3,5-Trimethylbenzene	17.05	105	103567	0.49 ug/l		97
82)	2-Chlorotoluene	17.06	91	104626	0.49 ug/l		100
83)	4-Chlorotoluene	17.15	91	90234	0.49 ug/l		100
84)	tert-Butylbenzene	17.36	134	22713	0.48 ug/l		97
85)	1,2,4-Trimethylbenzene	17.40	105	99113	0.49 ug/l		99
86)	sec-Butylbenzene	17.55	105	143494	0.49 ug/l		98
87)	p-Isopropyltoluene	17.64	119	113144	0.49 ug/l		97
88)	1,3-Dichlorobenzene	17.73	146	50618	0.49 ug/l		97
89)	1,2,3-Trimethylbenzene	17.79	105	93419	0.50 ug/l		97
90)	1,4-Dichlorobenzene	17.80	146	50015	0.48 ug/l		97
91)	Benzyl Chloride	17.92	91	27975	0.51 ug/l		92
92)	n-Butylbenzene	18.01	91	116848	0.49 ug/l		98
93)	1,2-Dichlorobenzene	18.16	146	41895	0.49 ug/l		85
94)	1,2-Dibromo-3-chloropropan	18.90	157	1771	0.39 ug/l	#	1
95)	1,2,4-Trichlorobenzene	19.72	180	21536	0.47 ug/l		96
96)	Hexachlorobutadiene	19.79	225	15673	0.48 ug/l		98
97)	Naphthalene	20.03	128	34048	0.47 ug/l		99
98)	1,2,3-Trichlorobenzene	20.30	180	16411	0.47 ug/l		99

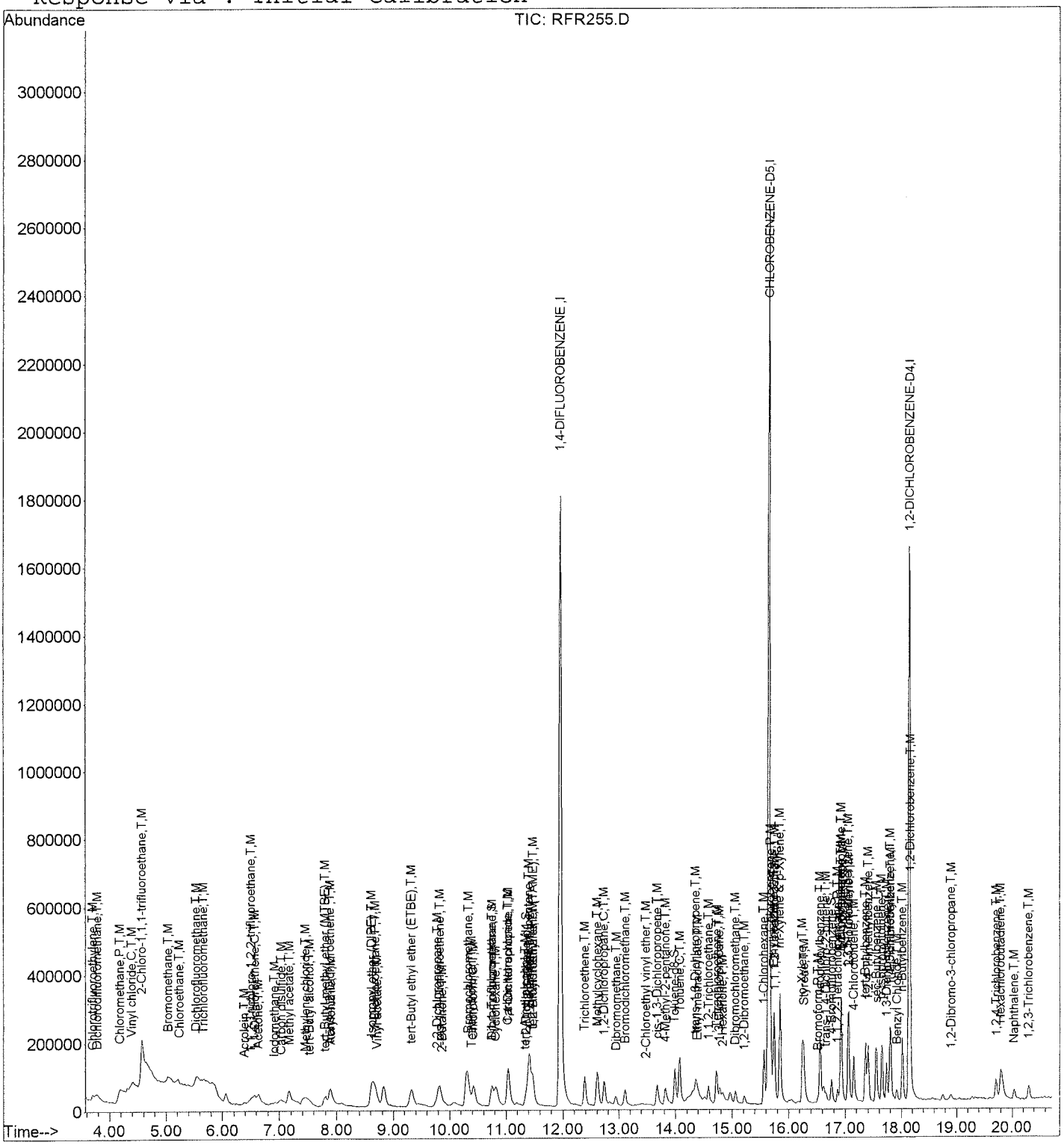
SA 6/20/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR255.D Vial: 3
Acq On : 17 Jun 2019 2:24 pm Operator: DNguye
Sample : VOF3F172 Inst : F3
Misc : 0.5ppb 8260/2.5ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 17:38 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



RFR255.D VOF3F17.M Wed Jun 19 17:38:55 2019 Page 4

SC 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR256.D
Acq On : 17 Jun 2019 2:51 pm
Sample : VOF3F173
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:25 2019

Vial: 4
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.96	114	2043837	10.00	ug/l	0.02
54) CHLOROBENZENE-D5	15.66	117	1482266	10.00	ug/l	0.02
72) 1,2-DICHLOROBENZENE-D4	18.16	152	453692	10.00	ug/l	0.02
System Monitoring Compounds						
34) Dibromofluoromethane	10.75	111	53184	0.83	ug/l	0.02
Spiked Amount 10.000			Recovery =	8.30%		
40) 1,2-Dichloroethane-d4	11.37	65	45565	0.84	ug/l	0.03
Spiked Amount 10.000			Recovery =	8.40%		
55) Toluene-d8	14.00	98	182299	0.93	ug/l	0.03
Spiked Amount 10.000			Recovery =	9.30%		
75) 4-Bromofluorobenzene	16.78	95	52346	0.98	ug/l	0.03
Spiked Amount 10.000			Recovery =	9.80%		
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.71	116	46828	0.96	ug/l	86
3) Dichlorodifluoromethane	3.78	85	105593	1.09	ug/l	96
4) Chloromethane	4.19	50	153980	1.06	ug/l	98
5) 2-Chloro-1,1,1-trifluoroet	4.56	118	76349	0.96	ug/l	89
6) Vinyl chloride	4.39	62	122531	1.01	ug/l	94
7) Bromomethane	5.05	94	73621	1.03	ug/l	96
8) Chloroethane	5.23	64	72048	1.05	ug/l	97
9) Dichlorofluoromethane	5.54	67	175017	1.05	ug/l	98
10) Trichlorofluoromethane	5.63	101	82091	1.02	ug/l	96
11) Acrolein	6.39	56	27083	4.80	ug/l	85
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	42493	1.03	ug/l	93
13) 1,1-Dichloroethene	6.56	61	170535	1.04	ug/l	98
14) Acetone	6.64	43	65820	5.60	ug/l	97
15) Iodomethane	6.92	142	113161	0.97	ug/l	98
16) Methyl acetate	7.20	74	2985	0.99	ug/l #	38
17) Carbon disulfide	7.04	76	191001	0.99	ug/l	98
18) Methylene chloride	7.47	49	128524	1.01	ug/l	99
19) tert-Butyl alcohol	7.53	59	12961	4.11	ug/l #	100
20) tert-Butyl methyl ether (M	7.81	73	96421	0.77	ug/l	93
21) trans-1,2-Dichloroethene	7.89	61	152835	1.03	ug/l	98
22) Acrylonitrile	7.92	53	56634	4.25	ug/l	94
23) Isopropyl ether (DIPE)	8.62	45	299853	0.89	ug/l	100
24) 1,1-Dichloroethane	8.68	63	183480	1.00	ug/l	99
25) Vinyl acetate	8.74	86	3226	1.05	ug/l #	36
26) tert-Butyl ethyl ether (ET	9.32	59	185659	0.85	ug/l	100
27) 2,2-Dichloropropane	9.80	77	73785	1.09	ug/l	96
28) cis-1,2-Dichloroethene	9.82	96	80571	0.96	ug/l	98

(#) = qualifier out of range (m) = manual integration SU 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR256.D Vial: 4
Acq On : 17 Jun 2019 2:51 pm Operator: DNguye
Sample : VOF3F173 Inst : F3
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:25 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	2-Butanone	9.88	43	60029	3.59 ug/l		93
30)	2-Butanol	10.20	45	5898	2.17 ug/l		99
31)	Bromochloromethane	10.35	128	26423	0.87 ug/l		92
32)	Tetrahydrofuran	10.40	42	7667	0.81 ug/l		82
33)	Chloroform	10.43	83	137889	0.97 ug/l		98
35)	1,1,1-Trichloroethane	10.78	97	97549	1.04 ug/l		99
36)	Cyclohexane	10.84	56	162731	1.08 ug/l		98
37)	1,1-Dichloropropene	11.04	110	38826	0.99 ug/l		96
38)	Carbon tetrachloride	11.04	119	87344	1.04 ug/l		100
39)	tert-Amyl alcohol	11.34	59	7114	2.96 ug/l	#	60
41)	2,2,4-Trimethylpentane	11.40	57	274480	1.04 ug/l		92
42)	Benzene	11.41	78	316477	0.97 ug/l		98
43)	1,2-Dichloroethane	11.49	62	69853	0.91 ug/l		98
44)	tert-Amyl methyl ether (TA	11.47	87	20409	0.81 ug/l	#	90
45)	Trichloroethene	12.40	130	80668	0.97 ug/l		98
46)	Methylcyclohexane	12.62	83	124261	0.98 ug/l		99
47)	1,2-Dichloropropane	12.74	63	82044	0.94 ug/l	#	67
48)	1,4-Dioxane	12.93	88	3945	15.93 ug/l		96
49)	Dibromomethane	12.95	93	26798	0.87 ug/l		97
50)	Bromodichloromethane	13.12	83	78127	0.90 ug/l		99
51)	2-Chloroethyl vinyl ether	13.50	63	8625	0.76 ug/l		92
52)	cis-1,3-Dichloropropene	13.69	75	97625	0.87 ug/l		93
53)	4-Methyl-2-pentanone	13.82	43	138767	3.82 ug/l		99
56)	Toluene	14.07	91	268322	1.00 ug/l		99
57)	Ethyl methacrylate	14.39	69	40054	0.85 ug/l		96
58)	trans-1,3-Dichloropropene	14.37	75	72696	0.93 ug/l	#	76
59)	1,1,2-Trichloroethane	14.59	97	31633	0.93 ug/l		94
60)	Tetrachloroethene	14.73	164	55025	1.01 ug/l		99
61)	2-Hexanone	14.83	43	69014	3.83 ug/l		85
62)	1,3-Dichloropropane	14.79	76	64100	0.93 ug/l		97
63)	Dibromochloromethane	15.07	129	40628	0.89 ug/l		98
64)	1,2-Dibromoethane	15.23	107	30491	0.89 ug/l		95
65)	1-Chlorohexane	15.58	91	119211	1.03 ug/l		99
66)	Chlorobenzene	15.69	112	153911	0 99 ug/l		91
67)	Ethylbenzene	15.75	91	300536	1.02 ug/l		100
68)	1,1,1,2-Tetrachloroethane	15.77	131	50618	0.96 ug/l	#	66
69)	m-Xylene & p-Xylene	15.86	91	449552	2.04 ug/l		98
70)	o-Xylene	16.26	91	222136	1.03 ug/l		99
71)	Styrene	16.29	104	150662	0.97 ug/l		98
73)	Bromoform	16.54	173	14255	0.85 ug/l		98
74)	Isopropylbenzene	16.57	105	274271	1.09 ug/l		98

(#) = qualifier out of range (m) = manual integration
RFR256.D VOF3F17.M Wed Jun 19 17:39:48 2019 SA 6/20/19 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR256.D Vial: 4
Acq On : 17 Jun 2019 2:51 pm Operator: DNguye
Sample : VOF3F173 Inst : F3
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:25 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
76)	1,1,2,2-Tetrachloroethane	16.88	83	33919	0.96 ug/l		99
77)	trans-1,4-Dichloro-2-buten	16.68	53	8276	0.82 ug/l		85
78)	n-Propylbenzene	16.94	91	336641	1.05 ug/l		99
79)	1,2,3-Trichloropropane	16.94	110	6407	0.87 ug/l		89
80)	Bromobenzene	16.94	156	46513	0.95 ug/l		93
81)	1,3,5-Trimethylbenzene	17.06	105	202136	1.07 ug/l		100
82)	2-Chlorotoluene	17.08	91	205803	1.08 ug/l		98
83)	4-Chlorotoluene	17.17	91	165585	1.01 ug/l		100
84)	tert-Butylbenzene	17.37	134	46437	1.09 ug/l		98
85)	1,2,4-Trimethylbenzene	17.42	105	187116	1.04 ug/l		99
86)	sec-Butylbenzene	17.57	105	280402	1.06 ug/l		100
87)	p-Isopropyltoluene	17.66	119	217514	1.04 ug/l		98
88)	1,3-Dichlorobenzene	17.75	146	92813	1.00 ug/l		98
89)	1,2,3-Trimethylbenzene	17.80	105	166272	1.00 ug/l		99
90)	1,4-Dichlorobenzene	17.82	146	87978	0.95 ug/l		99
91)	Benzyl Chloride	17.94	91	41559	0.85 ug/l		95
92)	n-Butylbenzene	18.03	91	225726	1.06 ug/l		99
93)	1,2-Dichlorobenzene	18.18	146	75758	0.98 ug/l		85
94)	1,2-Dibromo-3-chloropropan	18.92	157	3137	0.77 ug/l	#	60
95)	1,2,4-Trichlorobenzene	19.72	180	34712	0.84 ug/l		99
96)	Hexachlorobutadiene	19.81	225	29209	1.01 ug/l		98
97)	Naphthalene	20.05	128	52143	0.81 ug/l		99
98)	1,2,3-Trichlorobenzene	20.32	180	25415	0.82 ug/l		96

SA 6/20/19

(#) = qualifier out of range (m) = manual integration

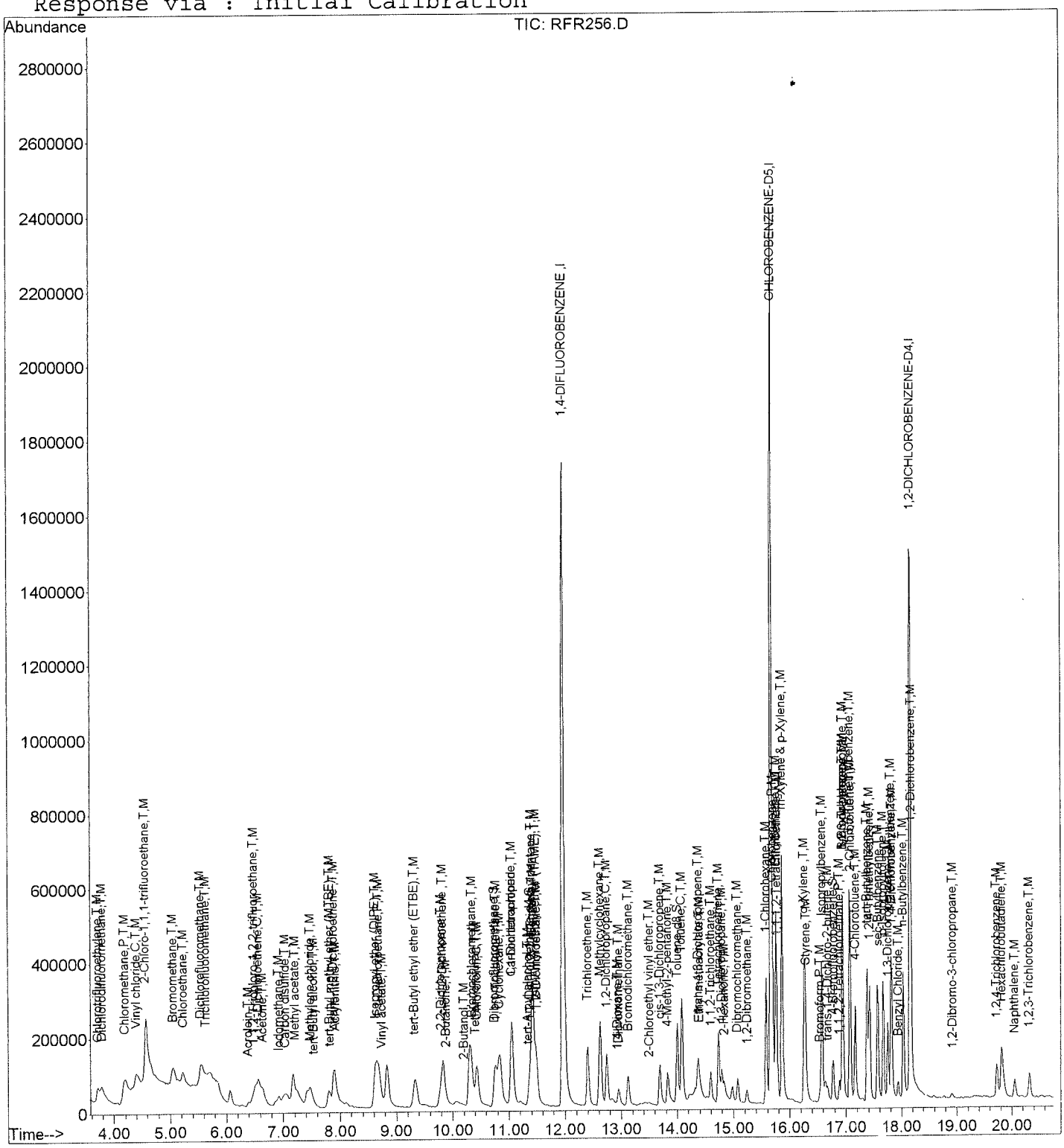
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR256.D
Acq On : 17 Jun 2019 2:51 pm
Sample : VOF3F173
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:25 2019

Vial: 4
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



RFR256.D VOF3F17.M Wed Jun 19 17:39:49 2019 Page 4

6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR257.D
Acq On : 17 Jun 2019 3:19 pm
Sample : VOF3F174
Misc : 2.0ppb 8260/10ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:25 2019

Vial: 5
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2057770	10.00	ug/l		0.00
54) CHLOROBENZENE-D5	15.65	117	1534463	10.00	ug/l		0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	503452	10.00	ug/l		0.00
System Monitoring Compounds							
34) Dibromofluoromethane	10.73	111	121416	1.88	ug/l		0.00
Spiked Amount 10.000			Recovery = 18.80%				
40) 1,2-Dichloroethane-d4	11.34	65	104282	1.91	ug/l		0.00
Spiked Amount 10.000			Recovery = 19.10%				
55) Toluene-d8	13.97	98	380114	1.88	ug/l		0.00
Spiked Amount 10.000			Recovery = 18.80%				
75) 4-Bromofluorobenzene	16.75	95	115814	1.94	ug/l		0.00
Spiked Amount 10.000			Recovery = 19.40%				
Target Compounds							Qvalue
2) Chlorotrifluoroethylene	3.71	116	97430	1.98	ug/l		93
3) Dichlorodifluoromethane	3.79	85	195758	2.01	ug/l		92
4) Chloromethane	4.19	50	313276	2.14	ug/l		99
5) 2-Chloro-1,1,1-trifluoroet	4.56	118	154876	1.93	ug/l		96
6) Vinyl chloride	4.39	62	256337	2.10	ug/l		100
7) Bromomethane	5.05	94	147465	2.05	ug/l		97
8) Chloroethane	5.21	64	143789	2.09	ug/l		96
9) Dichlorofluoromethane	5.54	67	368299	2.20	ug/l		100
10) Trichlorofluoromethane	5.61	101	167034	2.06	ug/l		96
11) Acrolein	6.39	56	64598	11.38	ug/l		89
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	89929	2.16	ug/l		98
13) 1,1-Dichloroethene	6.56	61	369010	2.24	ug/l		100
14) Acetone	6.64	43	140875	11.90	ug/l		97
15) Iodomethane	6.92	142	243409	2.08	ug/l		99
16) Methyl acetate	7.17	74	8344	1.97	ug/l	#	36
17) Carbon disulfide	7.02	76	362524	1.87	ug/l		99
18) Methylene chloride	7.47	49	276100	2.16	ug/l		99
19) tert-Butyl alcohol	7.53	59	33370	10.51	ug/l	#	100
20) tert-Butyl methyl ether (M	7.80	73	270298	2.15	ug/l		99
21) trans-1,2-Dichloroethene	7.87	61	335546	2.24	ug/l		100
22) Acrylonitrile	7.89	53	140212	10.45	ug/l		99
23) Isopropyl ether (DIPE)	8.62	45	757598	2.23	ug/l		100
24) 1,1-Dichloroethane	8.67	63	403116	2.18	ug/l		99
25) Vinyl acetate	8.71	86	9634	1.89	ug/l	#	16
26) tert-Butyl ethyl ether (ET	9.32	59	460048	2.10	ug/l		99
27) 2,2-Dichloropropane	9.76	77	148914	2.18	ug/l		98
28) cis-1,2-Dichloroethene	9.81	96	177115	2.10	ug/l		99

(#) = qualifier out of range (m) = manual integration SA 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR257.D
Acq On : 17 Jun 2019 3:19 pm
Sample : VOF3F174
Misc : 2.0ppb 8260/10ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:25 2019

Vial: 5
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) 2-Butanone	9.84	43	172948	10.26 ug/l	99
30) 2-Butanol	10.14	45	19918	7.28 ug/l	82
31) Bromochloromethane	10.31	128	64840	2.13 ug/l	95
32) Tetrahydrofuran	10.39	42	21028	2.22 ug/l	94
33) Chloroform	10.42	83	309777	2.16 ug/l	98
35) 1,1,1-Trichloroethane	10.76	97	207304	2.19 ug/l	99
36) Cyclohexane	10.82	56	315972	2.09 ug/l	98
37) 1,1-Dichloropropene	11.03	110	84214	2.14 ug/l	99
38) Carbon tetrachloride	11.04	119	183171	2.16 ug/l	99
39) tert-Amyl alcohol	11.32	59	20931	8.64 ug/l #	67
41) 2,2,4-Trimethylpentane	11.40	57	539152	2.03 ug/l	99
42) Benzene	11.40	78	701819	2.13 ug/l	98
43) 1,2-Dichloroethane	11.46	62	169530	2.19 ug/l	99
44) tert-Amyl methyl ether (TA	11.46	87	52747	2.08 ug/l	96
45) Trichloroethene	12.38	130	175140	2.10 ug/l	97
46) Methylcyclohexane	12.60	83	255069	1.99 ug/l	97
47) 1,2-Dichloropropane	12.72	63	193422	2.20 ug/l #	59
48) 1,4-Dioxane	12.91	88	10190	40.86 ug/l	75
49) Dibromomethane	12.93	93	67814	2.19 ug/l	98
50) Bromodichloromethane	13.09	83	184992	2.13 ug/l	100
51) 2-Chloroethyl vinyl ether	13.46	63	21562	1.90 ug/l	94
52) cis-1,3-Dichloropropene	13.66	75	234029	2.08 ug/l	97
53) 4-Methyl-2-pentanone	13.81	43	381224	10.42 ug/l	99
56) Toluene	14.06	91	590016	2.11 ug/l	99
57) Ethyl methacrylate	14.36	69	100592	2.06 ug/l	94
58) trans-1,3-Dichloropropene	14.34	75	172090	2.12 ug/l	93
59) 1,1,2-Trichloroethane	14.58	97	76449	2.17 ug/l	94
60) Tetrachloroethene	14.71	164	116782	2.08 ug/l	98
61) 2-Hexanone	14.80	43	219838	9.78 ug/l	94
62) 1,3-Dichloropropane	14.77	76	155729	2.18 ug/l	100
63) Dibromochloromethane	15.05	129	100173	2.13 ug/l	98
64) 1,2-Dibromoethane	15.20	107	76367	2.16 ug/l	96
65) 1-Chlorohexane	15.56	91	255944	2.13 ug/l	99
66) Chlorobenzene	15.68	112	343539	2.13 ug/l	96
67) Ethylbenzene	15.74	91	646236	2.12 ug/l	99
68) 1,1,1,2-Tetrachloroethane	15.74	131	114349	2.09 ug/l	91
69) m-Xylene & p-Xylene	15.84	91	978856	4.29 ug/l	99
70) o-Xylene	16.24	91	481348	2.15 ug/l	100
71) Styrene	16.26	104	344488	2.14 ug/l	98
73) Bromoform	16.53	173	36504	1.97 ug/l	99
74) Isopropylbenzene	16.56	105	616367	2.21 ug/l	99

(#) = qualifier out of range (m) = manual integration

SA 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR257.D
Acq On : 17 Jun 2019 3:19 pm
Sample : VOF3F174
Misc : 2.0ppb 8260/10ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:25 2019

Vial: 5
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
76)	1,1,2,2-Tetrachloroethane	16.87	83	85120	2.17 ug/l		98
77)	trans-1,4-Dichloro-2-buten	16.66	53	23628	2.12 ug/l		94
78)	n-Propylbenzene	16.91	91	760973	2.14 ug/l		99
79)	1,2,3-Trichloropropane	16.93	110	18167	2.23 ug/l		87
80)	Bromobenzene	16.93	156	115049	2.11 ug/l		98
81)	1,3,5-Trimethylbenzene	17.05	105	448215	2.15 ug/l		99
82)	2-Chlorotoluene	17.05	91	466475	2.20 ug/l		99
83)	4-Chlorotoluene	17.15	91	399155	2.20 ug/l		99
84)	tert-Butylbenzene	17.36	134	103273	2.19 ug/l		97
85)	1,2,4-Trimethylbenzene	17.40	105	430810	2.15 ug/l		99
86)	sec-Butylbenzene	17.54	105	652735	2.22 ug/l		99
87)	p-Isopropyltoluene	17.64	119	516476	2.23 ug/l		99
88)	1,3-Dichlorobenzene	17.73	146	220079	2.13 ug/l		98
89)	1,2,3-Trimethylbenzene	17.79	105	401179	2.18 ug/l		98
90)	1,4-Dichlorobenzene	17.80	146	222730	2.17 ug/l		99
91)	Benzyl Chloride	17.91	91	107992	2.00 ug/l		99
92)	n-Butylbenzene	18.01	91	512097	2.17 ug/l		99
93)	1,2-Dichlorobenzene	18.16	146	185891	2.17 ug/l		98
94)	1,2-Dibromo-3-chloropropan	18.90	157	9295	2.05 ug/l	#	75
95)	1,2,4-Trichlorobenzene	19.71	180	94912	2.07 ug/l		97
96)	Hexachlorobutadiene	19.79	225	70328	2.19 ug/l		99
97)	Naphthalene	20.03	128	145070	2.03 ug/l		99
98)	1,2,3-Trichlorobenzene	20.30	180	71101	2.06 ug/l		98

Sc 6/20/19

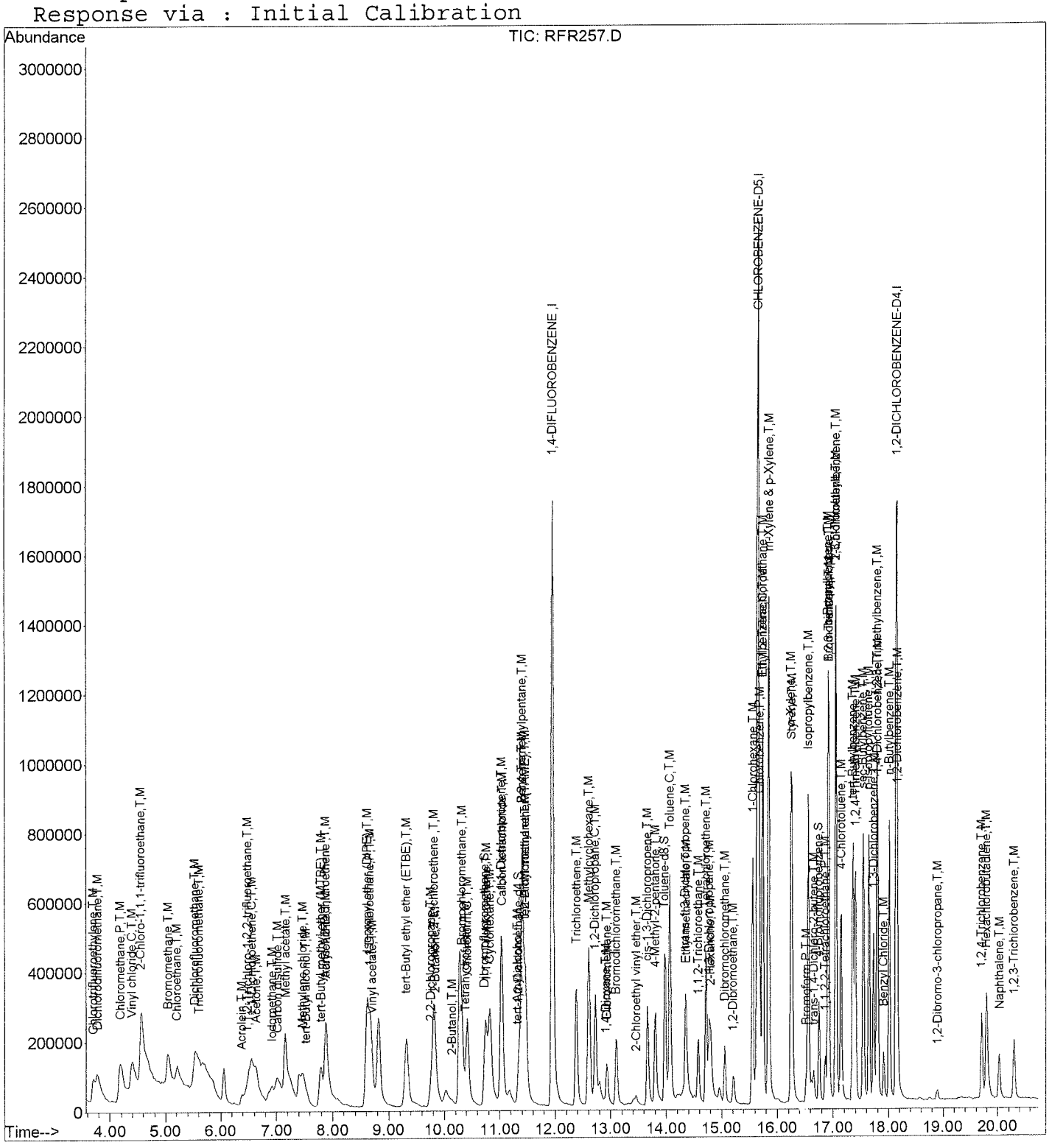
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR257.D
Acq On : 17 Jun 2019 3:19 pm
Sample : VOF3F174
Misc : 2.0ppb 8260/10ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:25 2019

Vial: 5
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



SH 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR258.D
Acq On : 17 Jun 2019 3:46 pm
Sample : VOF3F175
Misc : 5.0ppb 8260/25ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 6
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2187319	10.00	ug/l		0.00
54) CHLOROBENZENE-D5	15.65	117	1631561	10.00	ug/l		0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	572214	10.00	ug/l		0.00
System Monitoring Compounds							
34) Dibromofluoromethane	10.73	111	350706	5.12	ug/l		0.00
Spiked Amount 10.000			Recovery =	51.20%			
40) 1,2-Dichloroethane-d4	11.34	65	307341	5.31	ug/l		0.00
Spiked Amount 10.000			Recovery =	53.10%			
55) Toluene-d8	13.97	98	1090701	5.07	ug/l		0.00
Spiked Amount 10.000			Recovery =	50.70%			
75) 4-Bromofluorobenzene	16.75	95	326539	4.82	ug/l		0.00
Spiked Amount 10.000			Recovery =	48.20%			
Target Compounds							Qvalue
2) Chlorotrifluoroethylene	3.71	116	251185	4.79	ug/l		96
3) Dichlorodifluoromethane	3.78	85	493177	4.76	ug/l		96
4) Chloromethane	4.18	50	751118	4.82	ug/l		98
5) 2-Chloro-1,1,1-trifluoroet	4.57	118	404734	4.76	ug/l		98
6) Vinyl chloride	4.39	62	638998	4.91	ug/l		100
7) Bromomethane	5.04	94	370517	4.85	ug/l		100
8) Chloroethane	5.22	64	366146	5.01	ug/l		98
9) Dichlorofluoromethane	5.54	67	846157	4.76	ug/l		100
10) Trichlorofluoromethane	5.62	101	424878	4.93	ug/l		97
11) Acrolein	6.38	56	157738	26.13	ug/l		99
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	205638	4.66	ug/l		97
13) 1,1-Dichloroethene	6.56	61	827127	4.73	ug/l		99
14) Acetone	6.63	43	321908	25.58	ug/l		97
15) Iodomethane	6.92	142	582974	4.68	ug/l		99
16) Methyl acetate	7.17	74	27209	5.12	ug/l	#	76
17) Carbon disulfide	7.04	76	1042010	5.05	ug/l		99
18) Methylene chloride	7.47	49	669551	4.93	ug/l		99
19) tert-Butyl alcohol	7.53	59	90305	26.75	ug/l	#	100
20) tert-Butyl methyl ether (M	7.79	73	694377	5.20	ug/l		99
21) trans-1,2-Dichloroethene	7.87	61	776664	4.88	ug/l		99
22) Acrylonitrile	7.88	53	382853	26.83	ug/l		99
23) Isopropyl ether (DIPE)	8.61	45	1843897	5.11	ug/l		100
24) 1,1-Dichloroethane	8.67	63	964104	4.90	ug/l		100
25) Vinyl acetate	8.68	86	36269	5.10	ug/l	#	1
26) tert-Butyl ethyl ether (ET	9.32	59	1150206	4.93	ug/l		100
27) 2,2-Dichloropropane	9.78	77	347919	4.80	ug/l		99
28) cis-1,2-Dichloroethene	9.81	96	439820	4.90	ug/l		100

(#) = qualifier out of range (m) = manual integration SU 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR258.D
Acq On : 17 Jun 2019 3:46 pm
Sample : VOF3F175
Misc : 5.0ppb 8260/25ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 6
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) 2-Butanone	9.81	43	506627	28.29 ug/l	98
30) 2-Butanol	10.14	45	73516	25.29 ug/l	89
31) Bromochloromethane	10.32	128	160273	4.96 ug/l	99
32) Tetrahydrofuran	10.39	42	51001	5.06 ug/l	97
33) Chloroform	10.42	83	751730	4.94 ug/l	100
35) 1,1,1-Trichloroethane	10.75	97	486631	4.83 ug/l	100
36) Cyclohexane	10.82	56	849936	5.28 ug/l	99
37) 1,1-Dichloropropene	11.03	110	201475	4.82 ug/l	99
38) Carbon tetrachloride	11.04	119	439346	4.87 ug/l	98
39) tert-Amyl alcohol	11.31	59	64739	25.14 ug/l	98
41) 2,2,4-Trimethylpentane	11.40	57	1390363	4.93 ug/l	99
42) Benzene	11.40	78	1667608	4.77 ug/l	99
43) 1,2-Dichloroethane	11.46	62	419201	5.09 ug/l	99
44) tert-Amyl methyl ether (TA	11.46	87	131424	4.87 ug/l	94
45) Trichloroethene	12.38	130	423703	4.78 ug/l	99
46) Methylcyclohexane	12.60	83	676191	4.96 ug/l	99
47) 1,2-Dichloropropane	12.72	63	458574	4.90 ug/l	99
48) 1,4-Dioxane	12.90	88	28068	105.88 ug/l	98
49) Dibromomethane	12.93	93	165552	5.02 ug/l	100
50) Bromodichloromethane	13.09	83	461728	4.99 ug/l	100
51) 2-Chloroethyl vinyl ether	13.45	63	59607	4.93 ug/l	99
52) cis-1,3-Dichloropropene	13.66	75	581275	4.86 ug/l	98
53) 4-Methyl-2-pentanone	13.79	43	1062671	27.32 ug/l	100
56) Toluene	14.06	91	1444118	4.87 ug/l	100
57) Ethyl methacrylate	14.34	69	259258	4.99 ug/l	100
58) trans-1,3-Dichloropropene	14.34	75	417437	4.83 ug/l	98
59) 1,1,2-Trichloroethane	14.56	97	186825	4.98 ug/l	98
60) Tetrachloroethene	14.71	164	278871	4.66 ug/l	98
61) 2-Hexanone	14.79	43	674040	26.40 ug/l	98
62) 1,3-Dichloropropane	14.77	76	394263	5.18 ug/l	100
63) Dibromochloromethane	15.06	129	245525	4.90 ug/l	100
64) 1,2-Dibromoethane	15.20	107	191233	5.08 ug/l	99
65) 1-Chlorohexane	15.56	91	594311	4.66 ug/l	99
66) Chlorobenzene	15.68	112	816886	4.76 ug/l	99
67) Ethylbenzene	15.74	91	1556954	4.80 ug/l	99
68) 1,1,1,2-Tetrachloroethane	15.75	131	277625	4.78 ug/l	98
69) m-Xylene & p-Xylene	15.84	91	2304193	9.49 ug/l	100
70) o-Xylene	16.24	91	1104611	4.63 ug/l	99
71) Styrene	16.26	104	807111	4.72 ug/l	99
73) Bromoform	16.53	173	94815	4.51 ug/l	99
74) Isopropylbenzene	16.56	105	1412131	4.46 ug/l	99

(#) = qualifier out of range (m) = manual integration

6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR258.D Vial: 6
Acq On : 17 Jun 2019 3:46 pm Operator: DNguye
Sample : VOF3F175 Inst : F3
Misc : 5.0ppb 8260/25ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
76) 1,1,2,2-Tetrachloroethane	16.87	83	216291	4.86 ug/l	96
77) trans-1,4-Dichloro-2-buten	16.66	53	55504	4.38 ug/l	96
78) n-Propylbenzene	16.93	91	1810652	4.48 ug/l	99
79) 1,2,3-Trichloropropane	16.93	110	47915	5.17 ug/l	97
80) Bromobenzene	16.93	156	286247	4.62 ug/l	99
81) 1,3,5-Trimethylbenzene	17.05	105	1087681	4.58 ug/l	99
82) 2-Chlorotoluene	17.05	91	1094294	4.54 ug/l	100
83) 4-Chlorotoluene	17.14	91	946402	4.60 ug/l	100
84) tert-Butylbenzene	17.36	134	240970	4.50 ug/l	99
85) 1,2,4-Trimethylbenzene	17.40	105	1029583	4.52 ug/l	99
86) sec-Butylbenzene	17.54	105	1532924	4.59 ug/l	99
87) p-Isopropyltoluene	17.64	119	1190617	4.52 ug/l	99
88) 1,3-Dichlorobenzene	17.73	146	547027	4.67 ug/l	99
89) 1,2,3-Trimethylbenzene	17.79	105	958799	4.57 ug/l	99
90) 1,4-Dichlorobenzene	17.80	146	524511	4.49 ug/l	98
91) Benzyl Chloride	17.91	91	278506	4.54 ug/l	99
92) n-Butylbenzene	18.01	91	1243626	4.63 ug/l	99
93) 1,2-Dichlorobenzene	18.16	146	455143	4.68 ug/l	99
94) 1,2-Dibromo-3-chloropropan	18.90	157	24421	4.75 ug/l	95
95) 1,2,4-Trichlorobenzene	19.71	180	238517	4.57 ug/l	99
96) Hexachlorobutadiene	19.81	225	163099	4.46 ug/l	99
97) Naphthalene	20.03	128	388483	4.78 ug/l	99
98) 1,2,3-Trichlorobenzene	20.30	180	185409	4.73 ug/l	99

SH 6/20/19

(#) = qualifier out of range (m) = manual integration

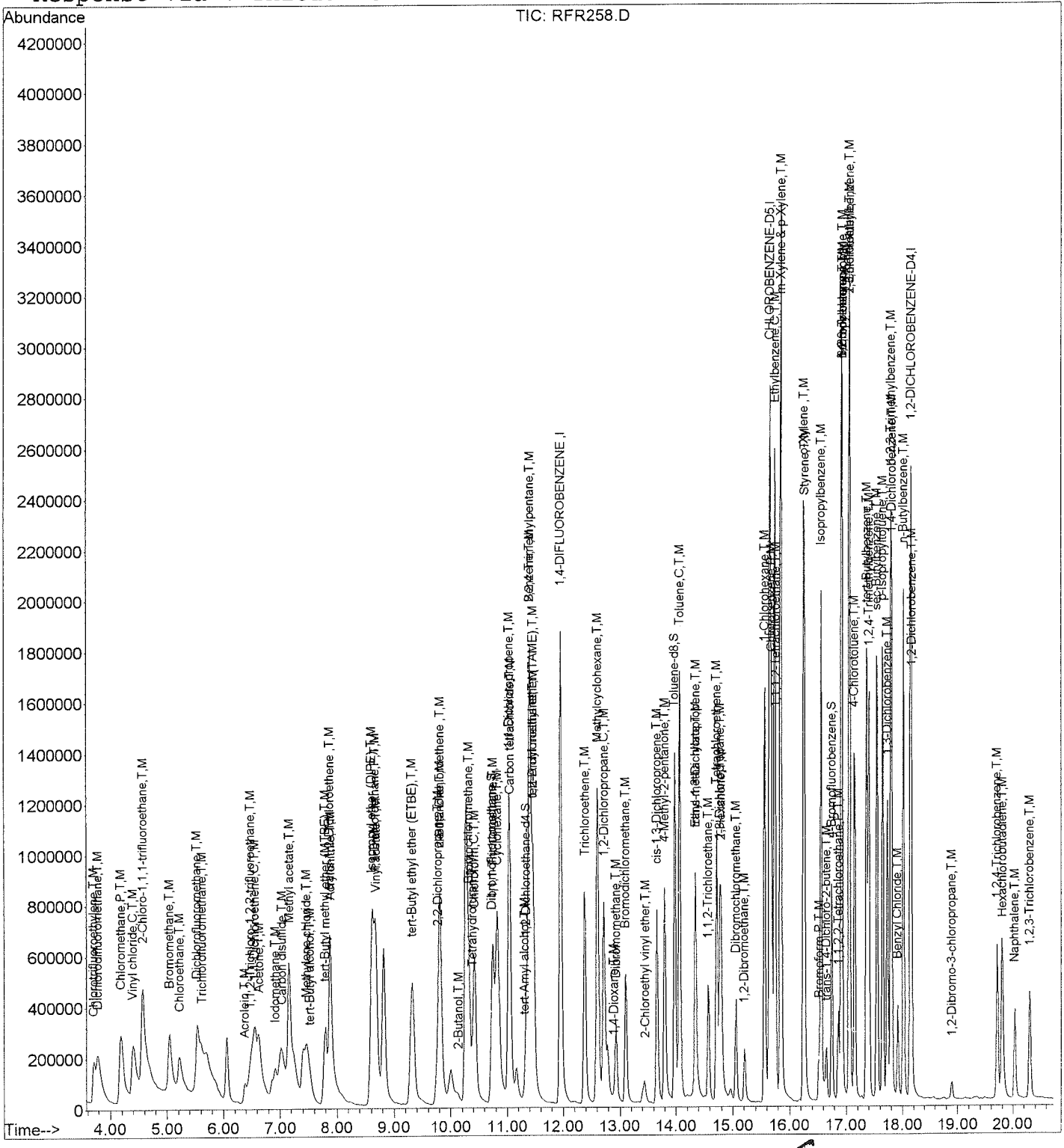
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR258.D
Acq On : 17 Jun 2019 3:46 pm
Sample : VOF3F175
Misc : 5.0ppb 8260/25ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 6
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR259.D Vial: 7
Acq On : 17 Jun 2019 4:13 pm Operator: DNguye
Sample : VOF3F176 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2230407	10.00	ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1666498	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	568601	10.00	ug/l	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	10.73	111	745090	10.67	ug/l	0.00
Spiked Amount 10.000			Recovery =	106.70%		
40) 1,2-Dichloroethane-d4	11.34	65	635283	10.76	ug/l	0.00
Spiked Amount 10.000			Recovery =	107.60%		
55) Toluene-d8	13.97	98	2257475	10.28	ug/l	0.00
Spiked Amount 10.000			Recovery =	102.80%		
75) 4-Bromofluorobenzene	16.75	95	707632	10.52	ug/l	0.00
Spiked Amount 10.000			Recovery =	105.20%		
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.71	116	602952	11.29	ug/l	100
3) Dichlorodifluoromethane	3.78	85	1124961	10.64	ug/l	100
4) Chloromethane	4.18	50	1657268	10.44	ug/l	100
5) 2-Chloro-1,1,1-trifluoroet	4.57	118	932338	10.74	ug/l	100
6) Vinyl chloride	4.39	62	1422269	10.73	ug/l	100
7) Bromomethane	5.04	94	837169	10.75	ug/l	100
8) Chloroethane	5.22	64	798626	10.72	ug/l	100
9) Dichlorofluoromethane	5.55	67	1781761	9.84	ug/l	100
10) Trichlorofluoromethane	5.62	101	940367	10.70	ug/l	100
11) Acrolein	6.38	56	311611	50.63	ug/l	100
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	419187	9.31	ug/l	100
13) 1,1-Dichloroethene	6.56	61	1733337	9.72	ug/l	100
14) Acetone	6.63	43	671911	52.35	ug/l	100
15) Iodomethane	6.93	142	1216364	9.59	ug/l	100
16) Methyl acetate	7.17	74	60827	10.70	ug/l	100
17) Carbon disulfide	7.04	76	2185658	10.39	ug/l	100
18) Methylene chloride	7.47	49	1360917	9.83	ug/l	100
19) tert-Butyl alcohol	7.53	59	187398	54.44	ug/l #	100
20) tert-Butyl methyl ether (M	7.79	73	1436601	10.55	ug/l	100
21) trans-1,2-Dichloroethene	7.87	61	1602845	9.88	ug/l	100
22) Acrylonitrile	7.88	53	758118	52.11	ug/l	100
23) Isopropyl ether (DIPE)	8.62	45	3924739	10.66	ug/l	100
24) 1,1-Dichloroethane	8.67	63	2065559	10.30	ug/l	100
25) Vinyl acetate	8.68	86	79275	10.21	ug/l	100
26) tert-Butyl ethyl ether (ET	9.32	59	2403353	10.10	ug/l	100
27) 2,2-Dichloropropane	9.78	77	700845	9.48	ug/l	100
28) cis-1,2-Dichloroethene	9.81	96	896885	9.80	ug/l	100

(#) = qualifier out of range (m) = manual integration
RFR259.D VOF3F17.M Wed Jun 19 17:40:20 2019 SU 6/20/19 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR259.D
Acq On : 17 Jun 2019 4:13 pm
Sample : VOF3F176
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 7
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) 2-Butanone	9.80	43	1022785	56.00 ug/l	100
30) 2-Butanol	10.11	45	165711	55.90 ug/l	100
31) Bromochloromethane	10.33	128	340844	10.34 ug/l	100
32) Tetrahydrofuran	10.37	42	107980	10.50 ug/l	100
33) Chloroform	10.42	83	1587826	10.24 ug/l	100
35) 1,1,1-Trichloroethane	10.76	97	1024140	9.97 ug/l	100
36) Cyclohexane	10.82	56	1743096	10.62 ug/l	100
37) 1,1-Dichloropropene	11.03	110	423955	9.95 ug/l	100
38) Carbon tetrachloride	11.03	119	926164	10.06 ug/l	100
39) tert-Amyl alcohol	11.31	59	146722	55.89 ug/l	100
41) 2,2,4-Trimethylpentane	11.40	57	3056238	10.62 ug/l	100
42) Benzene	11.40	78	3531103	9.90 ug/l	100
43) 1,2-Dichloroethane	11.46	62	872550	10.38 ug/l	100
44) tert-Amyl methyl ether (TA	11.46	87	290207	10.54 ug/l	100
45) Trichloroethene	12.38	130	899054	9.95 ug/l	100
46) Methylcyclohexane	12.60	83	1439034	10.36 ug/l	100
47) 1,2-Dichloropropane	12.72	63	989508	10.37 ug/l	100
48) 1,4-Dioxane	12.90	88	56588	209.35 ug/l	100
49) Dibromomethane	12.93	93	352712	10.49 ug/l	100
50) Bromodichloromethane	13.09	83	991005	10.51 ug/l	100
51) 2-Chloroethyl vinyl ether	13.44	63	133160	10.81 ug/l	100
52) cis-1,3-Dichloropropene	13.66	75	1249876	10.25 ug/l	100
53) 4-Methyl-2-pentanone	13.79	43	2291166	57.76 ug/l	100
56) Toluene	14.06	91	3075251	10.15 ug/l	100
57) Ethyl methacrylate	14.34	69	554357	10.44 ug/l	100
58) trans-1,3-Dichloropropene	14.33	75	885712	10.02 ug/l	100
59) 1,1,2-Trichloroethane	14.56	97	400457	10.46 ug/l	100
60) Tetrachloroethene	14.71	164	595678	9.75 ug/l	100
61) 2-Hexanone	14.79	43	1509344	56.74 ug/l	100
62) 1,3-Dichloropropane	14.77	76	830753	10.69 ug/l	100
63) Dibromochloromethane	15.06	129	545528	10.66 ug/l	100
64) 1,2-Dibromoethane	15.20	107	406640	10.57 ug/l	100
65) 1-Chlorohexane	15.56	91	1263832	9.69 ug/l	100
66) Chlorobenzene	15.68	112	1747194	9.98 ug/l	100
67) Ethylbenzene	15.74	91	3340856	10.08 ug/l	100
68) 1,1,1,2-Tetrachloroethane	15.74	131	606439	10.22 ug/l	100
69) m-Xylene & p-Xylene	15.84	91	5179669	20.89 ug/l	100
70) o-Xylene	16.24	91	2443320	10.03 ug/l	100
71) Styrene	16.26	104	1829692	10.48 ug/l	100
73) Bromoform	16.53	173	215170	10.29 ug/l	100
74) Isopropylbenzene	16.56	105	3124676	9.92 ug/l	100

(#) = qualifier out of range (m) = manual integration SA 6/20/19

Data File : C:\HPCHEM\1\DATA\19F17\RFR259.D
Acq On : 17 Jun 2019 4:13 pm
Sample : VOF3F176
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 7
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
76) 1,1,2,2-Tetrachloroethane	16.87	83	455816	10.30 ug/l	100
77) trans-1,4-Dichloro-2-buten	16.65	53	131607	10.45 ug/l	100
78) n-Propylbenzene	16.91	91	4045831	10.07 ug/l	100
79) 1,2,3-Trichloropropane	16.93	110	101176	10.98 ug/l	100
80) Bromobenzene	16.91	156	626840	10.18 ug/l	100
81) 1,3,5-Trimethylbenzene	17.05	105	2342744	9.93 ug/l	100
82) 2-Chlorotoluene	17.05	91	2362258	9.86 ug/l	100
83) 4-Chlorotoluene	17.14	91	2039119	9.97 ug/l	100
84) tert-Butylbenzene	17.36	134	504215	9.48 ug/l	100
85) 1,2,4-Trimethylbenzene	17.39	105	2204611	9.75 ug/l	100
86) sec-Butylbenzene	17.54	105	3310070	9.98 ug/l	100
87) p-Isopropyltoluene	17.64	119	2416535	9.24 ug/l	100
88) 1,3-Dichlorobenzene	17.73	146	1149525	9.87 ug/l	100
89) 1,2,3-Trimethylbenzene	17.79	105	2088305	10.03 ug/l	100
90) 1,4-Dichlorobenzene	17.80	146	1144751	9.86 ug/l	100
91) Benzyl Chloride	17.91	91	618409	10.14 ug/l	100
92) n-Butylbenzene	18.01	91	2668449	10.00 ug/l	100
93) 1,2-Dichlorobenzene	18.16	146	970995	10.05 ug/l	100
94) 1,2-Dibromo-3-chloropropan	18.90	157	54889	10.74 ug/l	100
95) 1,2,4-Trichlorobenzene	19.71	180	532010	10.25 ug/l	100
96) Hexachlorobutadiene	19.80	225	358217	9.86 ug/l	100
97) Naphthalene	20.03	128	875013	10.83 ug/l	100
98) 1,2,3-Trichlorobenzene	20.30	180	420863	10.81 ug/l	100

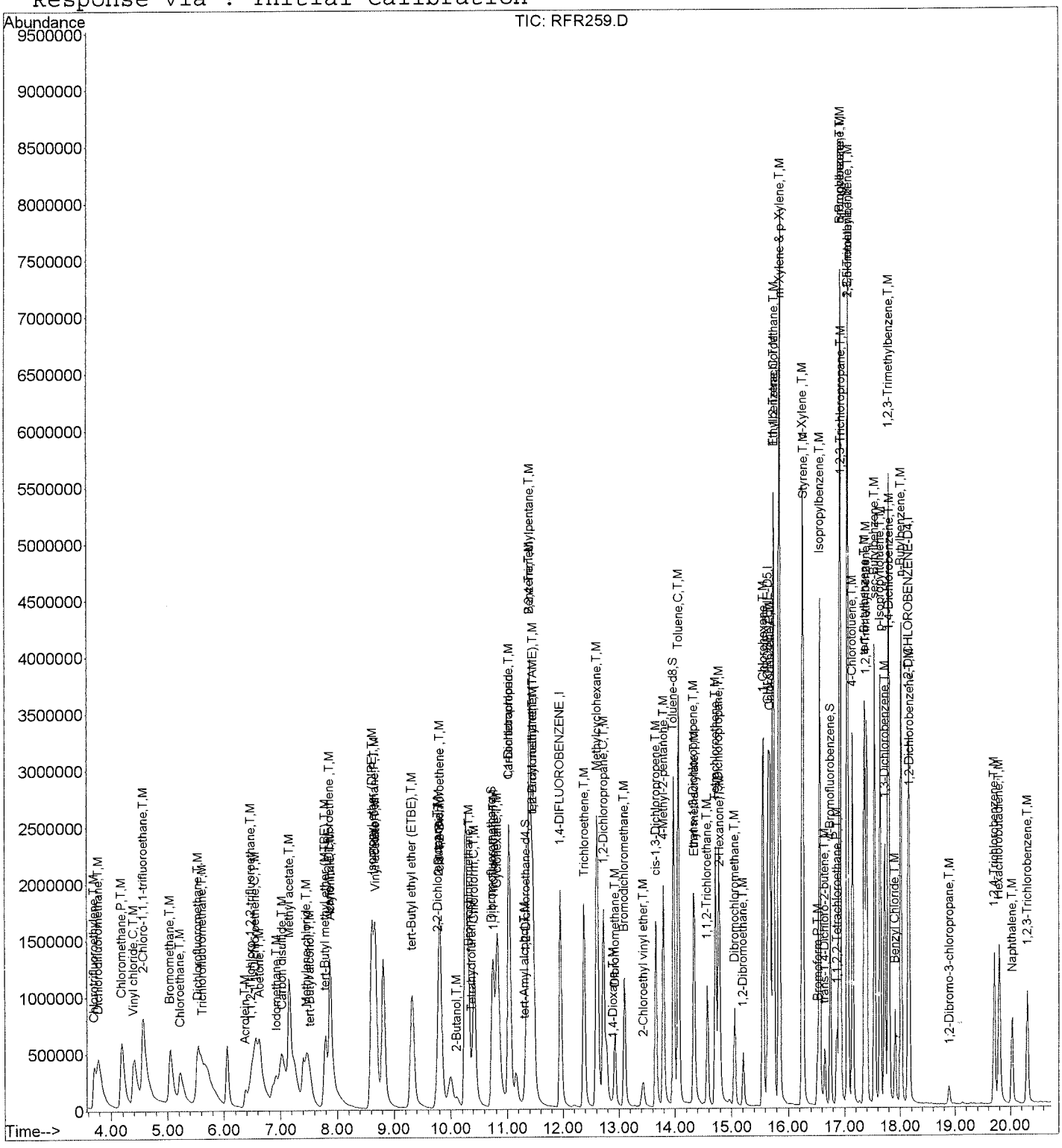
SA 6/20/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR259.D Vial: 7
Acq On : 17 Jun 2019 4:13 pm Operator: DNguye
Sample : VOF3F176 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



3a 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR260.D
Acq On : 17 Jun 2019 4:58 pm
Sample : VOF3F177
Misc : 20ppb 8260/100ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 8
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2133298	10.00	ug/l		0.00
54) CHLOROBENZENE-D5	15.65	117	1683416	10.00	ug/l		0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	545786	10.00	ug/l		0.00
System Monitoring Compounds							
34) Dibromofluoromethane	10.73	111	1457576	21.82	ug/l		0.00
Spiked Amount 10.000			Recovery =	218.20%			
40) 1,2-Dichloroethane-d4	11.34	65	1199296	21.23	ug/l		0.00
Spiked Amount 10.000			Recovery =	212.30%			
55) Toluene-d8	13.99	98	4702447	21.19	ug/l		0.02
Spiked Amount 10.000			Recovery =	211.90%			
75) 4-Bromofluorobenzene	16.75	95	1393178	21.57	ug/l		0.00
Spiked Amount 10.000			Recovery =	215.70%			
Target Compounds							Qvalue
2) Chlorotrifluoroethylene	3.71	116	1176630	23.03	ug/l		99
3) Dichlorodifluoromethane	3.78	85	2218101	21.93	ug/l		99
4) Chloromethane	4.18	50	3239713	21.33	ug/l		100
5) 2-Chloro-1,1,1-trifluoroet	4.55	118	1920238	23.14	ug/l		98
6) Vinyl chloride	4.39	62	2836626	22.37	ug/l		100
7) Bromomethane	5.04	94	1674191	22.47	ug/l		100
8) Chloroethane	5.22	64	1607647	22.55	ug/l		99
9) Dichlorofluoromethane	5.53	67	3774042	21.78	ug/l		100
10) Trichlorofluoromethane	5.62	101	1895354	22.54	ug/l		99
11) Acrolein	6.37	56	579373	98.42	ug/l		100
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	981733	22.79	ug/l		99
13) 1,1-Dichloroethene	6.56	61	3802994	22.31	ug/l		99
14) Acetone	6.62	43	1100920	89.69	ug/l		98
15) Iodomethane	6.92	142	2692251	22.18	ug/l		99
16) Methyl acetate	7.15	74	103951	18.77	ug/l		100
17) Carbon disulfide	7.04	76	4614596	22.95	ug/l		100
18) Methylene chloride	7.47	49	2731770	20.64	ug/l		99
19) tert-Butyl alcohol	7.51	59	313667	95.26	ug/l	#	100
20) tert-Butyl methyl ether (M	7.79	73	2534226	19.46	ug/l		98
21) trans-1,2-Dichloroethene	7.87	61	3320428	21.39	ug/l		98
22) Acrylonitrile	7.87	53	1361957	97.87	ug/l		99
23) Isopropyl ether (DIPE)	8.61	45	7161529	20.34	ug/l		99
24) 1,1-Dichloroethane	8.67	63	4074942	21.25	ug/l		100
25) Vinyl acetate	8.68	86	150219	19.61	ug/l	#	51
26) tert-Butyl ethyl ether (ET	9.32	59	4388113	19.28	ug/l		99
27) 2,2-Dichloropropane	9.78	77	1389262	19.65	ug/l		99
28) cis-1,2-Dichloroethene	9.81	96	1829885	20.90	ug/l		98

(#) = qualifier out of range (m) = manual integration

SA 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR260.D
Acq On : 17 Jun 2019 4:58 pm
Sample : VOF3F177
Misc : 20ppb 8260/100ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 8
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) 2-Butanone	9.80	43	1791157	102.54 ug/l	99
30) 2-Butanol	10.11	45	276047	97.36 ug/l	93
31) Bromochloromethane	10.32	128	655272	20.79 ug/l	98
32) Tetrahydrofuran	10.38	42	195242	19.85 ug/l	97
33) Chloroform	10.42	83	3102738	20.92 ug/l	99
35) 1,1,1-Trichloroethane	10.75	97	2092586	21.31 ug/l	99
36) Cyclohexane	10.84	56	3636721	23.16 ug/l	100
37) 1,1-Dichloropropene	11.03	110	877351	21.54 ug/l	99
38) Carbon tetrachloride	11.04	119	1923373	21.84 ug/l	98
39) tert-Amyl alcohol	11.31	59	227226	90.49 ug/l	96
41) 2,2,4-Trimethylpentane	11.40	57	6572530	23.88 ug/l	96
42) Benzene	11.40	78	7313078	21.43 ug/l	99
43) 1,2-Dichloroethane	11.46	62	1650385	20.53 ug/l	100
44) tert-Amyl methyl ether (TA	11.46	87	527140	20.02 ug/l	95
45) Trichloroethene	12.38	130	1839758	21.28 ug/l	98
46) Methylcyclohexane	12.60	83	2985629	22.47 ug/l	98
47) 1,2-Dichloropropane	12.72	63	1874091	20.53 ug/l	99
48) 1,4-Dioxane	12.89	88	104460	404.04 ug/l	87
49) Dibromomethane	12.93	93	655632	20.39 ug/l	97
50) Bromodichloromethane	13.09	83	1920697	21.29 ug/l	100
51) 2-Chloroethyl vinyl ether	13.44	63	238921	20.27 ug/l	99
52) cis-1,3-Dichloropropene	13.66	75	2487686	21.33 ug/l	99
53) 4-Methyl-2-pentanone	13.79	43	3786256	99.80 ug/l	98
56) Toluene	14.06	91	6288788	20.54 ug/l	99
57) Ethyl methacrylate	14.34	69	1043137	19.44 ug/l	97
58) trans-1,3-Dichloropropene	14.34	75	1715353	19.22 ug/l	97
59) 1,1,2-Trichloroethane	14.58	97	747814	19.34 ug/l	99
60) Tetrachloroethene	14.73	164	1289478	20.90 ug/l	98
61) 2-Hexanone	14.79	43	2544082	94.03 ug/l	99
62) 1,3-Dichloropropane	14.77	76	1536726	19.58 ug/l	100
63) Dibromochloromethane	15.06	129	1057642	20.46 ug/l	99
64) 1,2-Dibromoethane	15.20	107	779365	20.05 ug/l	100
65) 1-Chlorohexane	15.56	91	2827262	21.47 ug/l	99
66) Chlorobenzene	15.68	112	3722620	21.04 ug/l	98
67) Ethylbenzene	15.74	91	7307268	21.83 ug/l	100
68) 1,1,1,2-Tetrachloroethane	15.75	131	1249082	20.85 ug/l	98
69) m-Xylene & p-Xylene	15.84	91	10836064	43.27 ug/l	100
70) o-Xylene	16.24	91	5166172	21.00 ug/l	100
71) Styrene	16.26	104	3802300	21.55 ug/l	99
73) Bromoform	16.53	173	423101	21.08 ug/l	100
74) Isopropylbenzene	16.56	105	6698262	22.16 ug/l	99

(#) = qualifier out of range (m) = manual integration

SA 6/20/19

Data File : C:\HPCHEM\1\DATA\19F17\RFR260.D Vial: 8
Acq On : 17 Jun 2019 4:58 pm Operator: DNguye
Sample : VOF3F177 Inst : F3
Misc : 20ppb 8260/100ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
76)	1,1,2,2-Tetrachloroethane	16.87	83	841660	19.81 ug/l		99
77)	trans-1,4-Dichloro-2-buten	16.66	53	257067	21.27 ug/l		97
78)	n-Propylbenzene	16.93	91	8178971	21.21 ug/l		100
79)	1,2,3-Trichloropropane	16.93	110	176248	19.92 ug/l	#	69
80)	Bromobenzene	16.93	156	1240901	21.00 ug/l		97
81)	1,3,5-Trimethylbenzene	17.06	105	4881707	21.55 ug/l		99
82)	2-Chlorotoluene	17.06	91	4897744	21.29 ug/l		100
83)	4-Chlorotoluene	17.15	91	4214917	21.46 ug/l		100
84)	tert-Butylbenzene	17.36	134	1078160	21.11 ug/l		98
85)	1,2,4-Trimethylbenzene	17.40	105	4577962	21.09 ug/l		100
86)	sec-Butylbenzene	17.55	105	7181123	22.56 ug/l		100
87)	p-Isopropyltoluene	17.66	119	5653369	22.52 ug/l		99
88)	1,3-Dichlorobenzene	17.73	146	2446881	21.89 ug/l		99
89)	1,2,3-Trimethylbenzene	17.79	105	4281430	21.42 ug/l		100
90)	1,4-Dichlorobenzene	17.80	146	2363980	21.21 ug/l		99
91)	Benzyl Chloride	17.91	91	1196736	20.44 ug/l		100
92)	n-Butylbenzene	18.01	91	5715378	22.32 ug/l		100
93)	1,2-Dichlorobenzene	18.16	146	1937789	20.89 ug/l		99
94)	1,2-Dibromo-3-chloropropan	18.90	157	102338	20.86 ug/l		94
95)	1,2,4-Trichlorobenzene	19.72	180	1075451	21.59 ug/l		100
96)	Hexachlorobutadiene	19.81	225	775064	22.23 ug/l		99
97)	Naphthalene	20.03	128	1617919	20.87 ug/l		100
98)	1,2,3-Trichlorobenzene	20.30	180	819765	21.93 ug/l		98

SA 6/20/19

(#) = qualifier out of range (m) = manual integration

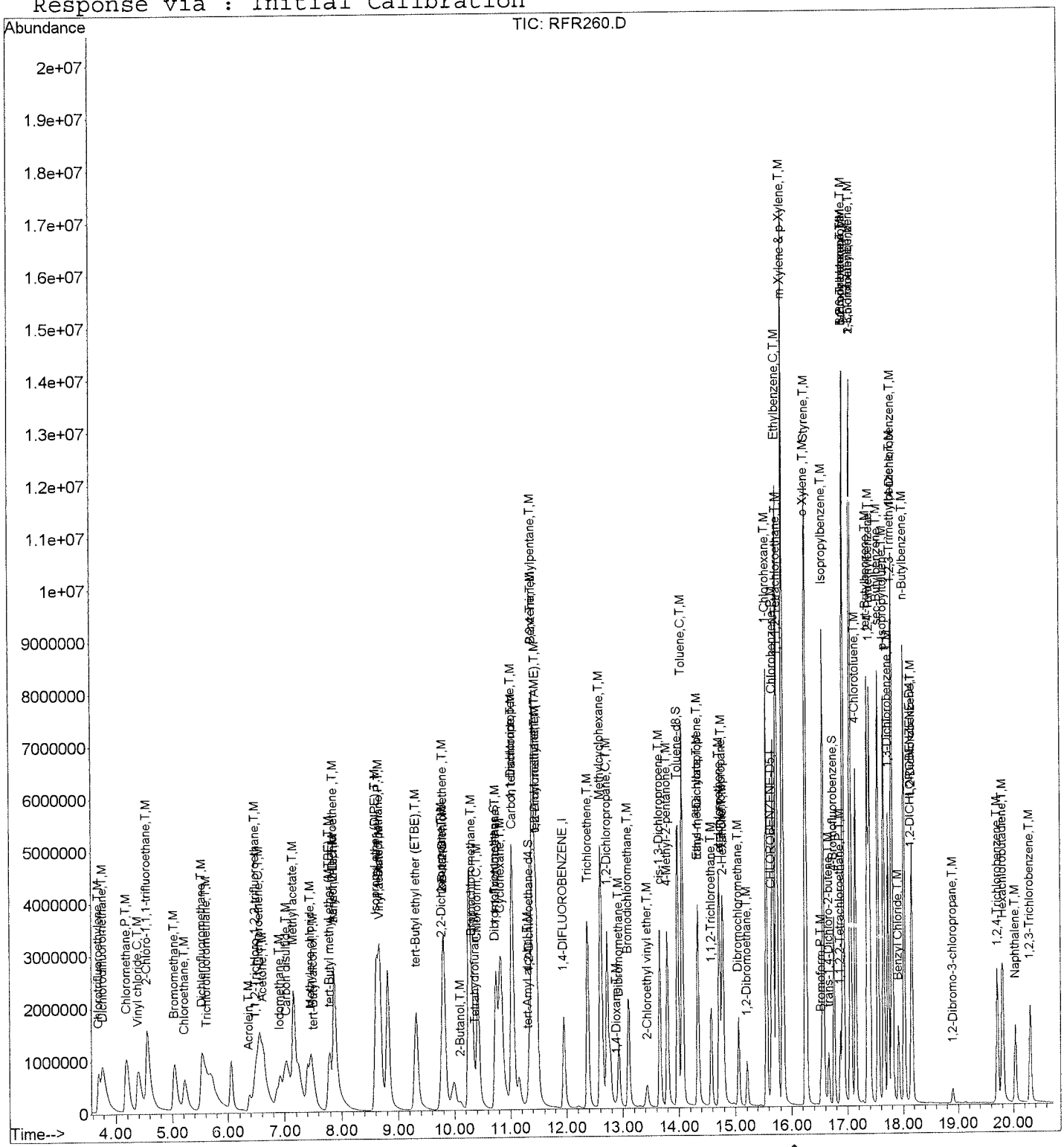
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR260.D
Acq On : 17 Jun 2019 4:58 pm
Sample : VOF3F177
Misc : 20ppb 8260/100ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 8
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



6/28/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR261.D
Acq On : 17 Jun 2019 5:26 pm
Sample : VOF3F178
Misc : 30ppb 8260/150ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 9
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2287450	10.00	ug/l		0.00
54) CHLOROBENZENE-D5	15.65	117	1670922	10.00	ug/l		0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	565568	10.00	ug/l		0.00
System Monitoring Compounds							
34) Dibromofluoromethane	10.73	111	2295095	32.04	ug/l		0.00
Spiked Amount 10.000			Recovery =	320.40%			
40) 1,2-Dichloroethane-d4	11.34	65	1887533	31.16	ug/l		0.00
Spiked Amount 10.000			Recovery =	311.60%			
55) Toluene-d8	13.97	98	7340802	33.33	ug/l		0.00
Spiked Amount 10.000			Recovery =	333.30%			
75) 4-Bromofluorobenzene	16.75	95	2137771	31.95	ug/l		0.00
Spiked Amount 10.000			Recovery =	319.50%			
Target Compounds							Qvalue
2) Chlorotrifluoroethylene	3.71	116	1675783	30.59	ug/l		99
3) Dichlorodifluoromethane	3.78	85	3100027	28.59	ug/l		97
4) Chloromethane	4.18	50	4692599	28.82	ug/l		100
5) 2-Chloro-1,1,1-trifluoroet	4.56	118	2699405	30.33	ug/l		99
6) Vinyl chloride	4.39	62	4023200	29.59	ug/l		100
7) Bromomethane	5.05	94	2440179	30.55	ug/l		99
8) Chloroethane	5.22	64	2239035	29.29	ug/l		99
9) Dichlorofluoromethane	5.54	67	5377487	28.94	ug/l		100
10) Trichlorofluoromethane	5.63	101	2628387	29.15	ug/l		99
11) Acrolein	6.38	56	922269	146.11	ug/l		98
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	1430172	30.97	ug/l		99
13) 1,1-Dichloroethene	6.56	61	5350863	29.27	ug/l		99
14) Acetone	6.62	43	1706173	129.63	ug/l		98
15) Iodomethane	6.92	142	4097919	31.49	ug/l		97
16) Methyl acetate	7.16	74	175657	29.33	ug/l		95
17) Carbon disulfide	7.04	76	6684209	31.00	ug/l		100
18) Methylene chloride	7.47	49	4024182	28.35	ug/l		97
19) tert-Butyl alcohol	7.51	59	519133	147.04	ug/l	#	100
20) tert-Butyl methyl ether (M	7.79	73	4221807	30.23	ug/l		97
21) trans-1,2-Dichloroethene	7.87	61	4907449	29.49	ug/l		97
22) Acrylonitrile	7.87	53	2234874	149.77	ug/l		98
23) Isopropyl ether (DIPE)	8.61	45	11258539	29.82	ug/l		98
24) 1,1-Dichloroethane	8.67	63	6139807	29.85	ug/l		100
25) Vinyl acetate	8.67	86	242127	29.16	ug/l	#	83
26) tert-Butyl ethyl ether (ET	9.32	59	7024619	28.78	ug/l		98
27) 2,2-Dichloropropane	9.78	77	2119089	27.95	ug/l		99
28) cis-1,2-Dichloroethene	9.81	96	2862407	30.48	ug/l		97

(#) = qualifier out of range (m) = manual integration SA 6/20/19
RFR261.D VOF3F17.M Wed Jun 19 17:40:39 2019 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR261.D
Acq On : 17 Jun 2019 5:26 pm
Sample : VOF3F178
Misc : 30ppb 8260/150ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 9
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) 2-Butanone	9.79	43	2884174	153.99 ug/l	98
30) 2-Butanol	10.11	45	458842	150.93 ug/l	89
31) Bromochloromethane	10.31	128	1061188	31.39 ug/l	95
32) Tetrahydrofuran	10.37	42	328003	31.11 ug/l	97
33) Chloroform	10.42	83	4801043	30.18 ug/l	99
35) 1,1,1-Trichloroethane	10.75	97	3188998	30.28 ug/l	98
36) Cyclohexane	10.82	56	5162190	30.65 ug/l	97
37) 1,1-Dichloropropene	11.03	110	1352783	30.97 ug/l	100
38) Carbon tetrachloride	11.04	119	2943256	31.17 ug/l	98
39) tert-Amyl alcohol	11.31	59	395330	146.82 ug/l	96
41) 2,2,4-Trimethylpentane	11.40	57	8862561	30.03 ug/l	98
42) Benzene	11.40	78	11508430	31.45 ug/l	98
43) 1,2-Dichloroethane	11.46	62	2594795	30.10 ug/l	100
44) tert-Amyl methyl ether (TA	11.46	87	853859	30.25 ug/l	95
45) Trichloroethene	12.37	130	2879445	31.06 ug/l	99
46) Methylcyclohexane	12.60	83	4291004	30.12 ug/l	98
47) 1,2-Dichloropropane	12.72	63	2916880	29.81 ug/l	99
48) 1,4-Dioxane	12.89	88	160823	580.12 ug/l	87
49) Dibromomethane	12.92	93	1053743	30.56 ug/l	97
50) Bromodichloromethane	13.09	83	2995795	30.97 ug/l	100
51) 2-Chloroethyl vinyl ether	13.42	63	398008	31.49 ug/l	99
52) cis-1,3-Dichloropropene	13.66	75	3876289	30.99 ug/l	97
53) 4-Methyl-2-pentanone	13.79	43	6218648	152.86 ug/l	97
56) Toluene	14.06	91	9879768	32.51 ug/l	99
57) Ethyl methacrylate	14.34	69	1628526	30.58 ug/l	96
58) trans-1,3-Dichloropropene	14.33	75	2613726	29.50 ug/l	97
59) 1,1,2-Trichloroethane	14.56	97	1169323	30.46 ug/l	99
60) Tetrachloroethene	14.71	164	1990976	32.52 ug/l	97
61) 2-Hexanone	14.77	43	4212613	156.22 ug/l	98
62) 1,3-Dichloropropane	14.77	76	2478246	31.82 ug/l	99
63) Dibromochloromethane	15.06	129	1675026	32.64 ug/l	100
64) 1,2-Dibromoethane	15.20	107	1214958	31.49 ug/l	99
65) 1-Chlorohexane	15.56	91	4140732	31.68 ug/l	96
66) Chlorobenzene	15.68	112	5632217	32.07 ug/l	97
67) Ethylbenzene	15.74	91	11210313	33.74 ug/l	99
68) 1,1,1,2-Tetrachloroethane	15.75	131	1935961	32.55 ug/l	99
69) m-Xylene & p-Xylene	15.84	91	14437478	58.08 ug/l	90
70) o-Xylene	16.24	91	7748582	31.74 ug/l	100
71) Styrene	16.26	104	5782108	33.02 ug/l	99
73) Bromoform	16.51	173	667575	32.09 ug/l	99
74) Isopropylbenzene	16.56	105	9965414	31.82 ug/l	99

(#) = qualifier out of range (m) = manual integration

SU 6/20/19

Data File : C:\HPCHEM\1\DATA\19F17\RFR261.D Vial: 9
Acq On : 17 Jun 2019 5:26 pm Operator: DNguye
Sample : VOF3F178 Inst : F3
Misc : 30ppb 8260/150ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
76)	1,1,2,2-Tetrachloroethane	16.87	83	1320356	30.00	ug/l	100
77)	trans-1,4-Dichloro-2-buten	16.65	53	395868	31.62	ug/l	98
78)	n-Propylbenzene	16.91	91	12488357	31.26	ug/l	99
79)	1,2,3-Trichloropropane	16.93	110	293012	31.96	ug/l	98
80)	Bromobenzene	16.91	156	1964424	32.08	ug/l	96
81)	1,3,5-Trimethylbenzene	17.05	105	7587364	32.33	ug/l	100
82)	2-Chlorotoluene	17.05	91	7589959	31.84	ug/l	100
83)	4-Chlorotoluene	17.14	91	6483963	31.86	ug/l	99
84)	tert-Butylbenzene	17.36	134	1674843	31.65	ug/l	98
85)	1,2,4-Trimethylbenzene	17.40	105	7223335	32.12	ug/l	99
86)	sec-Butylbenzene	17.54	105	10839161	32.87	ug/l	100
87)	p-Isopropyltoluene	17.64	119	8450099	32.48	ug/l	99
88)	1,3-Dichlorobenzene	17.73	146	3611630	31.17	ug/l	99
89)	1,2,3-Trimethylbenzene	17.79	105	6546026	31.60	ug/l	100
90)	1,4-Dichlorobenzene	17.80	146	3686253	31.92	ug/l	99
91)	Benzyl Chloride	17.91	91	1900779	31.33	ug/l	100
92)	n-Butylbenzene	18.01	91	8586847	32.36	ug/l	100
93)	1,2-Dichlorobenzene	18.16	146	2933419	30.52	ug/l	99
94)	1,2-Dibromo-3-chloropropan	18.90	157	167393	32.93	ug/l	87
95)	1,2,4-Trichlorobenzene	19.71	180	1714319	33.21	ug/l	99
96)	Hexachlorobutadiene	19.80	225	1157755	32.05	ug/l	100
97)	Naphthalene	20.03	128	2644201	32.91	ug/l	100
98)	1,2,3-Trichlorobenzene	20.30	180	1300272	33.57	ug/l	100

Su 6/20/19

(#) = qualifier out of range (m) = manual integration

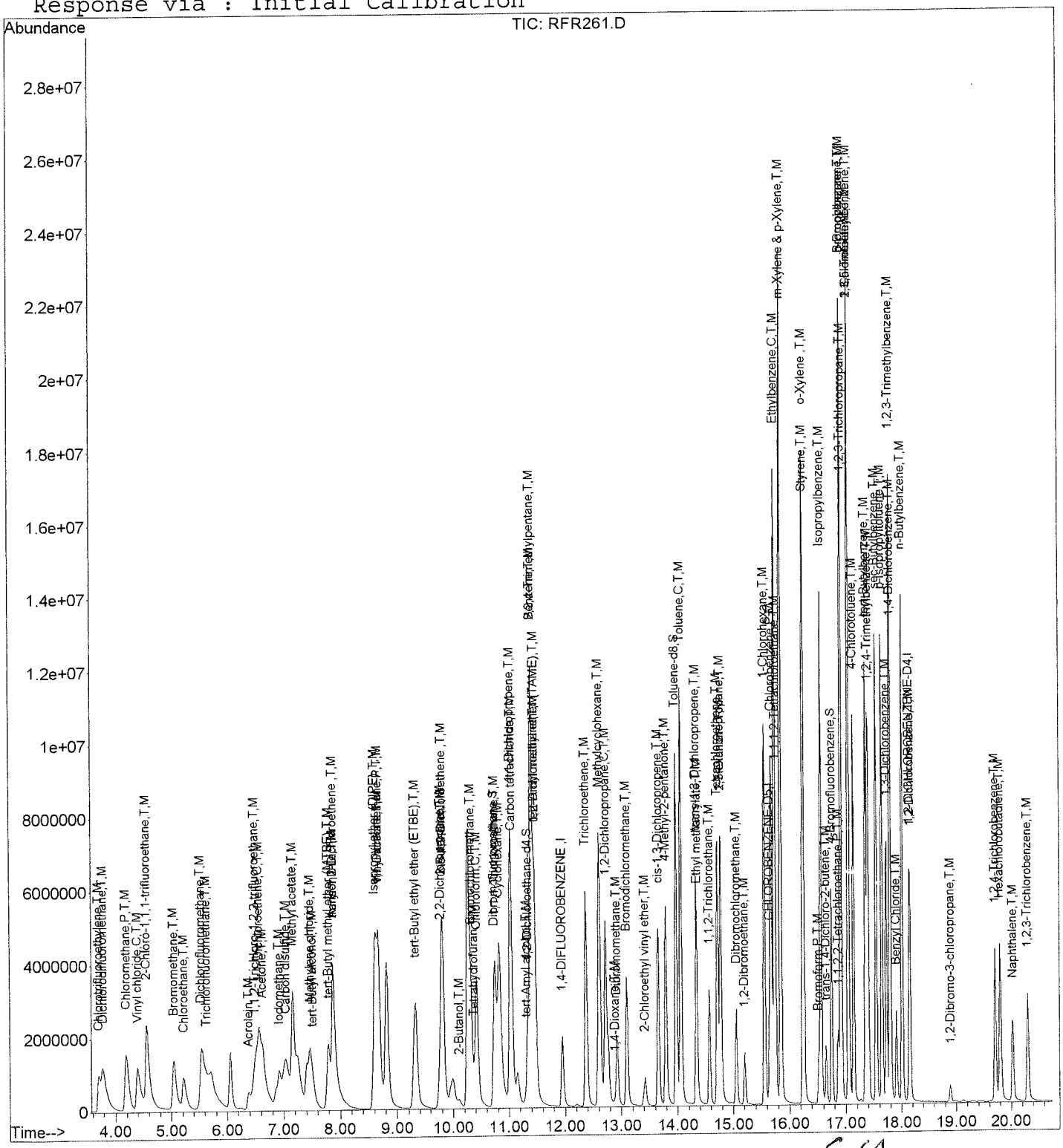
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR261.D
Acq On : 17 Jun 2019 5:26 pm
Sample : VOF3F178
Misc : 30ppb 8260/150ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 9
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



SCI 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR262.D
Acq On : 17 Jun 2019 5:53 pm
Sample : VOF3F179
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 10
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2352787	10.00	ug/l		0.00
54) CHLOROBENZENE-D5	15.65	117	1764577	10.00	ug/l		0.00
72) 1,2-DICHLOROBENZENE-D4	18.13	152	633168	10.00	ug/l		-0.01
System Monitoring Compounds							
34) Dibromofluoromethane	10.73	111	3985563	54.10	ug/l		0.00
Spiked Amount 10.000			Recovery =	541.00%			
40) 1,2-Dichloroethane-d4	11.33	65	3148568	50.53	ug/l		-0.01
Spiked Amount 10.000			Recovery =	505.30%			
55) Toluene-d8	13.97	98	12847634	55.24	ug/l		0.00
Spiked Amount 10.000			Recovery =	552.40%			
75) 4-Bromofluorobenzene	16.75	95	3795886	50.67	ug/l		0.00
Spiked Amount 10.000			Recovery =	506.70%			
Target Compounds							Qvalue
2) Chlorotrifluoroethylene	3.71	116	2956614	52.46	ug/l		98
3) Dichlorodifluoromethane	3.78	85	5293924	47.46	ug/l		98
4) Chloromethane	4.18	50	7787420	46.49	ug/l		99
5) 2-Chloro-1,1,1-trifluoroet	4.55	118	4605031	50.31	ug/l		98
6) Vinyl chloride	4.39	62	6668444	47.68	ug/l		99
7) Bromomethane	5.03	94	3982960	48.48	ug/l		99
8) Chloroethane	5.21	64	3535137	44.97	ug/l		99
9) Dichlorofluoromethane	5.53	67	8720794	45.64	ug/l		100
10) Trichlorofluoromethane	5.62	101	4473406	48.24	ug/l		99
11) Acrolein	6.37	56	1548878	238.57	ug/l		98
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	2361273	49.71	ug/l		99
13) 1,1-Dichloroethene	6.56	61	8667887	46.10	ug/l		98
14) Acetone	6.62	43	2909660	214.92	ug/l		99
15) Iodomethane	6.92	142	6727490	50.26	ug/l		96
16) Methyl acetate	7.15	74	310260	50.04	ug/l	#	85
17) Carbon disulfide	7.04	76	10549978	47.56	ug/l		99
18) Methylene chloride	7.45	49	6547903	44.85	ug/l		95
19) tert-Butyl alcohol	7.51	59	926091	255.02	ug/l	#	100
20) tert-Butyl methyl ether (M	7.79	73	7238235	50.39	ug/l		97
21) trans-1,2-Dichloroethene	7.87	61	8011299	46.80	ug/l		96
22) Acrylonitrile	7.87	53	3837775	250.05	ug/l		98
23) Isopropyl ether (DIPE)	8.61	45	18869217	48.60	ug/l		97
24) 1,1-Dichloroethane	8.67	63	10030829	47.42	ug/l		99
25) Vinyl acetate	8.67	86	429339	49.82	ug/l	#	67
26) tert-Butyl ethyl ether (ET	9.31	59	12065976	48.07	ug/l		98
27) 2,2-Dichloropropane	9.77	77	3309520	42.43	ug/l		99
28) cis-1,2-Dichloroethene	9.81	96	4823595	49.94	ug/l		95

(#) = qualifier out of range (m) = manual integration

RFR262.D VOF3F17.M Wed Jun 19 17:40:46 2019

SA 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR262.D
Acq On : 17 Jun 2019 5:53 pm
Sample : VOF3F179
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 10
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29)	2-Butanone	9.80	43	5122411	265.90	ug/l		97
30)	2-Butanol	10.09	45	836851	267.63	ug/l		92
31)	Bromochloromethane	10.32	128	1819750	52.34	ug/l	#	88
32)	Tetrahydrofuran	10.37	42	552760	50.97	ug/l		97
33)	Chloroform	10.42	83	7895082	48.25	ug/l		99
35)	1,1,1-Trichloroethane	10.75	97	5067083	46.78	ug/l		98
36)	Cyclohexane	10.82	56	8508072	49.12	ug/l		97
37)	1,1-Dichloropropene	11.03	110	2282684	50.81	ug/l		100
38)	Carbon tetrachloride	11.03	119	4918545	50.64	ug/l		98
39)	tert-Amyl alcohol	11.30	59	725804	262.08	ug/l		95
41)	2,2,4-Trimethylpentane	11.40	57	14860690	48.96	ug/l		97
42)	Benzene	11.40	78	18987929	50.44	ug/l		97
43)	1,2-Dichloroethane	11.46	62	4279640	48.27	ug/l		100
44)	tert-Amyl methyl ether (TA	11.46	87	1476356	50.85	ug/l		95
45)	Trichloroethene	12.37	130	4982011	52.25	ug/l		97
46)	Methylcyclohexane	12.60	83	7371009	50.30	ug/l		95
47)	1,2-Dichloropropane	12.72	63	4910456	48.78	ug/l		99
48)	1,4-Dioxane	12.89	88	299674	1050.97	ug/l		85
49)	Dibromomethane	12.92	93	1839850	51.88	ug/l		95
50)	Bromodichloromethane	13.09	83	5040003	50.65	ug/l		100
51)	2-Chloroethyl vinyl ether	13.42	63	752608	57.89	ug/l		99
52)	cis-1,3-Dichloropropene	13.64	75	6607579	51.36	ug/l		97
53)	4-Methyl-2-pentanone	13.79	43	11145501	266.36	ug/l		97
56)	Toluene	14.06	91	16197286	50.47	ug/l		97
57)	Ethyl methacrylate	14.33	69	2934045	52.16	ug/l		94
58)	trans-1,3-Dichloropropene	14.33	75	4607323	49.25	ug/l		96
59)	1,1,2-Trichloroethane	14.57	97	2019589	49.82	ug/l		98
60)	Tetrachloroethene	14.71	164	3334516	51.57	ug/l		96
61)	2-Hexanone	14.77	43	7399900	259.22	ug/l		97
62)	1,3-Dichloropropane	14.76	76	4174644	50.75	ug/l		99
63)	Dibromochloromethane	15.06	129	2933087	54.13	ug/l		98
64)	1,2-Dibromoethane	15.20	107	2120114	52.03	ug/l		99
65)	1-Chlorohexane	15.56	91	6789256	49.19	ug/l		94
66)	Chlorobenzene	15.68	112	9822437	52.97	ug/l		84
67)	Ethylbenzene	15.74	91	15139804	43.14	ug/l		89
68)	1,1,1,2-Tetrachloroethane	15.74	131	3268398	52.04	ug/l		98
69)	m-Xylene & p-Xylene	15.84	91	17777705	67.73	ug/l		66
70)	o-Xylene	16.24	91	12391384	48.06	ug/l		96
71)	Styrene	16.26	104	9875969	53.40	ug/l		97
73)	Bromoform	16.51	173	1225455	52.63	ug/l		100
74)	Isopropylbenzene	16.56	105	14083146	40.17	ug/l		94

(#) = qualifier out of range (m) = manual integration

6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR262.D Vial: 10
Acq On : 17 Jun 2019 5:53 pm Operator: DNguye
Sample : VOF3F179 Inst : F3
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
76)	1,1,2,2-Tetrachloroethane	16.87	83	2365349	48.00	ug/l	100
77)	trans-1,4-Dichloro-2-buten	16.65	53	705366	50.32	ug/l	96
78)	n-Propylbenzene	16.91	91	15223438	34.03	ug/l	85
79)	1,2,3-Trichloropropane	16.91	110	505303	49.23	ug/l	97
80)	Bromobenzene	16.91	156	3453341	50.37	ug/l	93
81)	1,3,5-Trimethylbenzene	17.05	105	11617374	44.21	ug/l	94
82)	2-Chlorotoluene	17.05	91	11855943	44.43	ug/l	97
83)	4-Chlorotoluene	17.14	91	10817834	47.48	ug/l	100
84)	tert-Butylbenzene	17.36	134	2942374	49.66	ug/l	96
85)	1,2,4-Trimethylbenzene	17.39	105	12471536	49.53	ug/l	100
86)	sec-Butylbenzene	17.54	105	14878957	40.30	ug/l	91
87)	p-Isopropyltoluene	17.64	119	13150453	45.15	ug/l	97
88)	1,3-Dichlorobenzene	17.73	146	6673290	51.45	ug/l	99
89)	1,2,3-Trimethylbenzene	17.79	105	10996820	47.42	ug/l	98
90)	1,4-Dichlorobenzene	17.80	146	6510765	50.36	ug/l	98
91)	Benzyl Chloride	17.91	91	3499641	51.52	ug/l	99
92)	n-Butylbenzene	18.01	91	13477112	45.37	ug/l	92
93)	1,2-Dichlorobenzene	18.16	146	5441851	50.57	ug/l	98
94)	1,2-Dibromo-3-chloropropan	18.89	157	310629	54.59	ug/l	88
95)	1,2,4-Trichlorobenzene	19.71	180	3095994	53.58	ug/l	99
96)	Hexachlorobutadiene	19.80	225	1986136	49.11	ug/l	100
97)	Naphthalene	20.02	128	4829867	53.70	ug/l	100
98)	1,2,3-Trichlorobenzene	20.30	180	2327439	53.67	ug/l	99

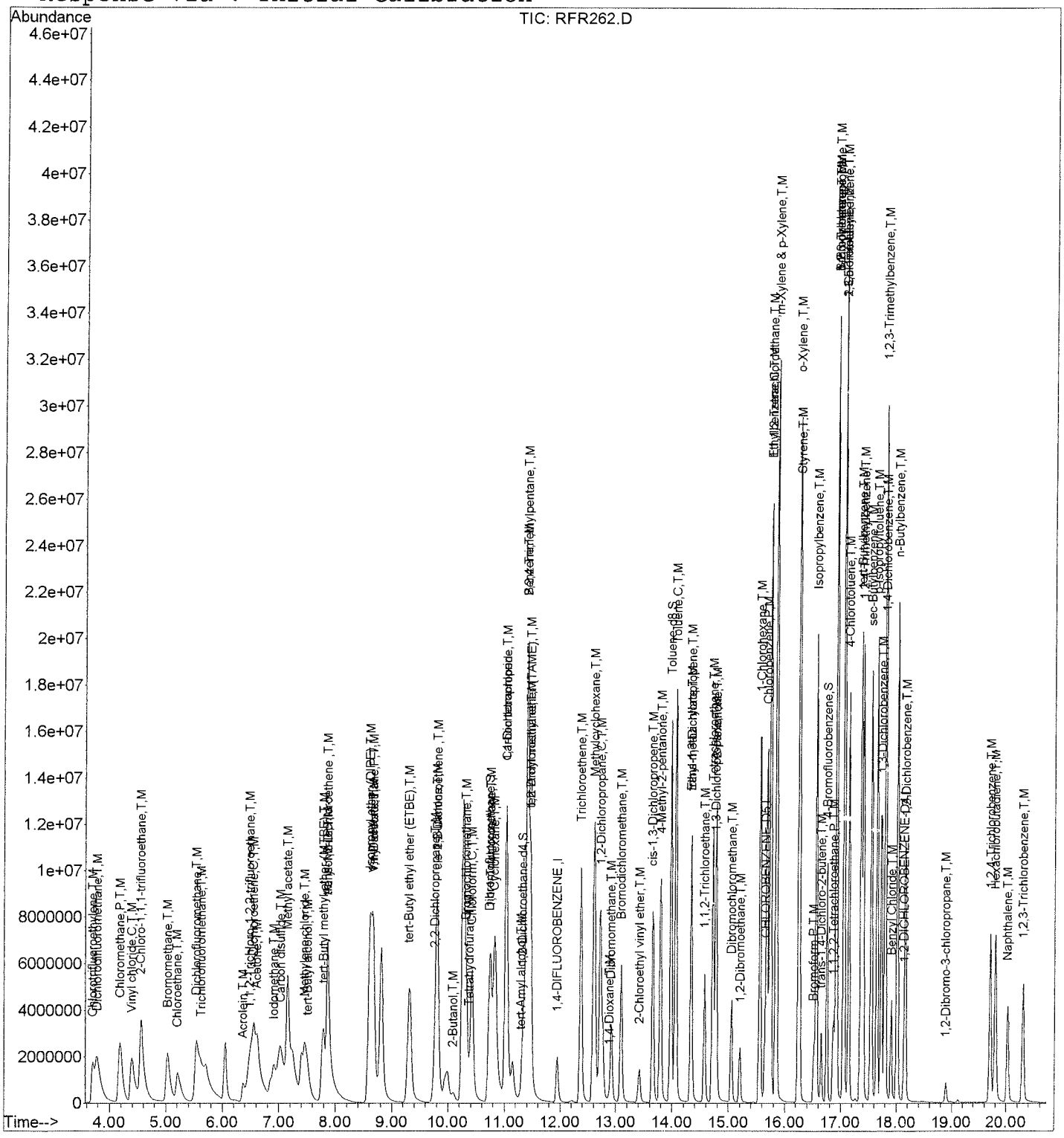
SU 6/20/19

(#) = qualifier out of range (m) = manual integration
RFR262.D VOF3F17.M Wed Jun 19 17:40:46 2019 Page 3

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR262.D Vial: 10
Acq On : 17 Jun 2019 5:53 pm Operator: DNguye
Sample : VOF3F179 Inst : F3
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR263.D
Acq On : 17 Jun 2019 6:20 pm
Sample : VOF3F1710
Misc : 100ppb 8260/500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 11
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2200792	10.00 ug/l	0.00
54) CHLOROBENZENE-D5	15.65	117	1685251	10.00 ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	594875	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	10.73	111	7854542	113.97 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1139.70%	
40) 1,2-Dichloroethane-d4	11.33	65	6105293	104.75 ug/l	-0.01
Spiked Amount 10.000			Recovery	= 1047.50%	
55) Toluene-d8	13.97	98	19979896	89.95 ug/l	0.00
Spiked Amount 10.000			Recovery	= 899.50%	
75) 4-Bromofluorobenzene	16.75	95	7557507	107.38 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1073.80%	
Target Compounds					Qvalue
2) Chlorotrifluoroethylene	3.71	116	5896417	111.86 ug/l	97
3) Dichlorodifluoromethane	3.77	85	10938472	104.84 ug/l	99
4) Chloromethane	4.17	50	15353763	98.00 ug/l	99
5) 2-Chloro-1,1,1-trifluoroet	4.56	118	9634222	112.52 ug/l	96
6) Vinyl chloride	4.38	62	13609646	104.02 ug/l	99
7) Bromomethane	5.02	94	7571004	98.51 ug/l	98
8) Chloroethane	5.20	64	6759685	91.92 ug/l	99
9) Dichlorofluoromethane	5.52	67	16903047	94.56 ug/l	100
10) Trichlorofluoromethane	5.61	101	9178388	105.82 ug/l	99
11) Acrolein	6.37	56	2827942	465.67 ug/l	97
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	4669305	105.09 ug/l	99
13) 1,1-Dichloroethene	6.56	61	17032041	96.84 ug/l	97
14) Acetone	6.62	43	4998460	394.71 ug/l	99
15) Iodomethane	6.92	142	13331187	106.47 ug/l	94
16) Methyl acetate	7.14	74	588862	101.08 ug/l #	85
17) Carbon disulfide	7.03	76	21855376	105.34 ug/l	99
18) Methylene chloride	7.46	49	12180332	89.20 ug/l	91
19) tert-Butyl alcohol	7.53	59	1725567	507.99 ug/l #	100
20) tert-Butyl methyl ether (M	7.78	73	13561795	100.94 ug/l	95
21) trans-1,2-Dichloroethene	7.86	61	14983352	93.58 ug/l	94
22) Acrylonitrile	7.86	53	7084655	493.48 ug/l	99
23) Isopropyl ether (DIPE)	8.61	45	32723598	90.10 ug/l	95
24) 1,1-Dichloroethane	8.67	63	18682151	94.42 ug/l	99
25) Vinyl acetate	8.67	86	820785	101.16 ug/l #	56
26) tert-Butyl ethyl ether (ET	9.30	59	22468741	95.69 ug/l	97
27) 2,2-Dichloropropane	9.77	77	5657113	77.55 ug/l	98
28) cis-1,2-Dichloroethene	9.81	96	9095290	100.68 ug/l	93

(#) = qualifier out of range (m) = manual integration
RFR263.D VOF3F17.M Wed Jun 19 17:40:57 2019

SA 6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR263.D
Acq On : 17 Jun 2019 6:20 pm
Sample : VOF3F1710
Misc : 100ppb 8260/500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 11
Operator: DNguye
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29) 2-Butanone	9.78	43	9147818	507.64 ug/l		96
30) 2-Butanol	10.09	45	1596574	545.85 ug/l		95
31) Bromochloromethane	10.31	128	3527870	108.48 ug/l	#	82
32) Tetrahydrofuran	10.37	42	981165	96.71 ug/l		99
33) Chloroform	10.42	83	14709555	96.11 ug/l		98
35) 1,1,1-Trichloroethane	10.75	97	9305980	91.85 ug/l		97
36) Cyclohexane	10.82	56	15763875	97.29 ug/l		95
37) 1,1-Dichloropropene	11.03	110	4279064	101.82 ug/l		100
38) Carbon tetrachloride	11.03	119	9118925	100.37 ug/l		97
39) tert-Amyl alcohol	11.30	59	1399340	540.17 ug/l		93
41) 2,2,4-Trimethylpentane	11.40	57	27009605	95.14 ug/l		96
42) Benzene	11.40	78	27694537	78.65 ug/l		92
43) 1,2-Dichloroethane	11.46	62	7826251	94.37 ug/l		99
44) tert-Amyl methyl ether (TA	11.46	87	2801108	103.13 ug/l		95
45) Trichloroethene	12.37	130	9770814	109.55 ug/l		96
46) Methylcyclohexane	12.60	83	14280113	104.17 ug/l		92
47) 1,2-Dichloropropane	12.71	63	8993917	95.52 ug/l		99
48) 1,4-Dioxane	12.89	88	559413	2097.38 ug/l		85
49) Dibromomethane	12.92	93	3404247	102.61 ug/l		93
50) Bromodichloromethane	13.09	83	9317518	100.10 ug/l		100
51) 2-Chloroethyl vinyl ether	13.42	63	1534846	126.22 ug/l		99
52) cis-1,3-Dichloropropene	13.64	75	12472424	103.65 ug/l		95
53) 4-Methyl-2-pentanone	13.79	43	18579983	474.70 ug/l		91
56) Toluene	14.06	91	21505211	70.17 ug/l		74
57) Ethyl methacrylate	14.33	69	5560277	103.51 ug/l		91
58) trans-1,3-Dichloropropene	14.33	75	8797829	98.47 ug/l		94
59) 1,1,2-Trichloroethane	14.56	97	3957163	102.21 ug/l		97
60) Tetrachloroethene	14.71	164	6973867	112.93 ug/l		94
61) 2-Hexanone	14.77	43	13207185	483.58 ug/l		95
62) 1,3-Dichloropropane	14.76	76	7830730	99.68 ug/l		99
63) Dibromochloromethane	15.06	129	5758267	111.26 ug/l		97
64) 1,2-Dibromoethane	15.20	107	4120649	105.88 ug/l		99
65) 1-Chlorohexane	15.56	91	12855493	97.52 ug/l		93
66) Chlorobenzene	15.68	112	16100426	90.91 ug/l		92
67) Ethylbenzene	15.72	91	18905749	56.41 ug/l		52
68) 1,1,1,2-Tetrachloroethane	15.75	131	6430684	107.21 ug/l		98
69) m-Xylene & p-Xylene	15.72	91	18905749	75.41 ug/l		91
70) o-Xylene	16.24	91	17505989	71.09 ug/l		71
71) Styrene	16.26	104	15066947	85.30 ug/l		83
73) Bromoform	16.51	173	2485229	113.59 ug/l		99
74) Isopropylbenzene	16.56	105	19125001	58.06 ug/l		74

(#) = qualifier out of range (m) = manual integration
RFR263.D VOF3F17.M Wed Jun 19 17:40:57 2019

6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR263.D Vial: 11
Acq On : 17 Jun 2019 6:20 pm Operator: DNguye
Sample : VOF3F1710 Inst : F3
Misc : 100ppb 8260/500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
76)	1,1,2,2-Tetrachloroethane	16.87	83	4641470	100.25	ug/l		99
77)	trans-1,4-Dichloro-2-buten	16.65	53	1376666	104.53	ug/l		95
78)	n-Propylbenzene	16.91	91	18465616	43.94	ug/l		53
79)	1,2,3-Trichloropropane	16.93	110	947945	98.30	ug/l		95
80)	Bromobenzene	16.91	156	6955301	107.99	ug/l	#	80
81)	1,3,5-Trimethylbenzene	17.05	105	15992942	64.78	ug/l		66
82)	2-Chlorotoluene	17.05	91	15948981	63.62	ug/l		68
83)	4-Chlorotoluene	17.14	91	15056666	70.34	ug/l		71
84)	tert-Butylbenzene	17.36	134	5628872	101.12	ug/l	#	73
85)	1,2,4-Trimethylbenzene	17.40	105	15669123	66.24	ug/l	#	57
86)	sec-Butylbenzene	17.54	105	18439479	53.16	ug/l		58
87)	p-Isopropyltoluene	17.64	119	16496256	60.29	ug/l		67
88)	1,3-Dichlorobenzene	17.73	146	12547320	102.97	ug/l		96
89)	1,2,3-Trimethylbenzene	17.79	105	16378949	75.18	ug/l		76
90)	1,4-Dichlorobenzene	17.80	146	12444385	102.45	ug/l		96
91)	Benzyl Chloride	17.91	91	6996668	109.63	ug/l		99
92)	n-Butylbenzene	18.01	91	18698973	67.00	ug/l		76
93)	1,2-Dichlorobenzene	18.16	146	10664238	105.47	ug/l		97
94)	1,2-Dibromo-3-chloropropan	18.89	157	625119	116.93	ug/l		86
95)	1,2,4-Trichlorobenzene	19.71	180	6116098	112.66	ug/l		99
96)	Hexachlorobutadiene	19.80	225	3820319	100.53	ug/l		99
97)	Naphthalene	20.03	128	9185048	108.70	ug/l		100
98)	1,2,3-Trichlorobenzene	20.30	180	4397071	107.93	ug/l		99

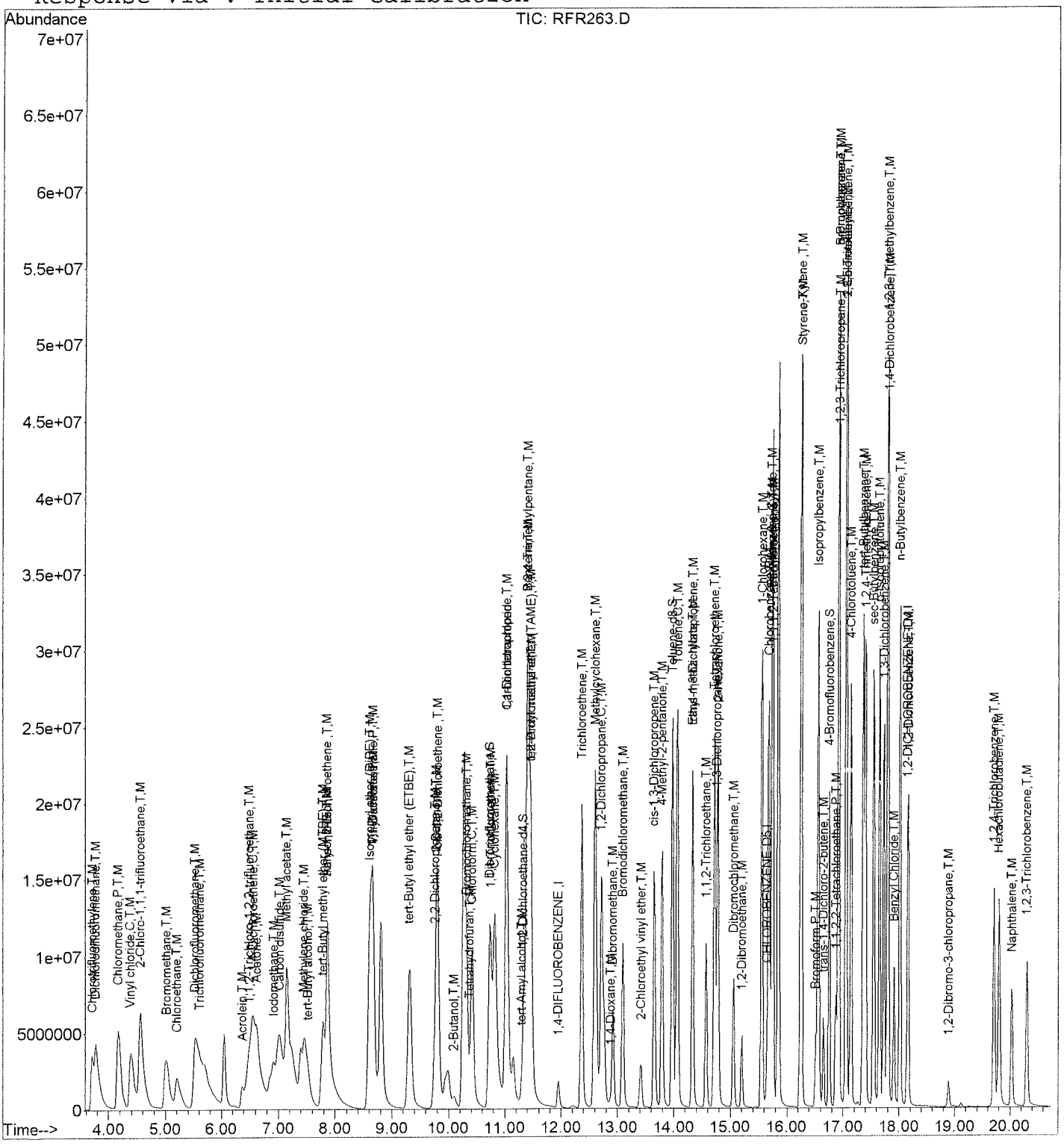
SU 6/20/19

(#) = qualifier out of range (m) = manual integration
RFR263.D VOF3F17.M Wed Jun 19 17:40:57 2019 Page 3

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR263.D Vial: 11
Acq On : 17 Jun 2019 6:20 pm Operator: DNguye
Sample : VOF3F1710 Inst : F3
Misc : 100ppb 8260/500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



SU 6/20/19

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :F3
IC Beginning DateTime :06/17/19 13:57
SpTke Amount :10 PPB
CC/CV File :RFR266
IC File :RFR259

Column Spec :ZB-624 ID :0.25MM
IC Ending DateTime :06/17/19 18:20
HPChem Method :VOF3F17
Date_Time :06/17/19 19:41

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AVRRF	CC_Rtm	AVRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	2229543	1	1	11.949	11.951	0				
	2	Chlorotrifluoroethylene	10.402	4.0	555508	0.249	0.240	3.708	3.708	12.52				
	3	Dichlorodifluoromethane	10.542	5.4	1114253	0.500	0.474	3.783	3.781	8.30				
	4	Chloromethane	10.397	4.0	1650309	0.740	0.712	4.184	4.183	5.91				
	5	2-Chloro-1,1,1-trifluoroethane	11.238	12.4	974801	0.437	0.389	4.555	4.561	11.97				
	6	Vinyl chloride	10.753	7.5	1425210	0.639	0.594	4.392	4.391	9.35				
	7	Bromomethane	10.901	9.0	848717	0.381	0.349	5.045	5.044	10.03				
	8	Chloroethane	10.700	7.0	797116	0.358	0.334	5.224	5.220	8.15				
	9	Dichlorofluoromethane	9.317	-6.8	1687231	0.757	0.812	5.536	5.538	6.29				
	10	Trichlorofluoromethane	11.097	11.0	975163	0.437	0.394	5.625	5.627	9.94				
5	11	Acrolein	48.328	-3.3	297326	0.027	0.028	6.383	6.378	6.60				
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	10.059	0.6	452796	0.203	0.202	6.487	6.489	9.81				
	13	1,1-Dichloroethene	9.222	-7.8	1643155	0.737	0.799	6.561	6.565	6.96				
5	14	Acetone	43.134	-13.7	553371	0.050	0.058	6.621	6.629	13.02				
	15	Iodomethane	10.297	3.0	1306226	0.586	0.569	6.918	6.920	7.51				
	16	Methyl acetate	10.742	7.4	61046	0.027	0.024	7.156	7.166	18.07	-0.0012	0.0266		0.9996
	17	Carbon disulfide	10.172	1.7	2138032	0.959	0.943	7.037	7.034	8.66				
	18	Methylene chloride	9.178	-8.2	1269584	0.569	0.620	7.468	7.463	8.81				
5	19	tert-Butyl alcohol	47.696	-4.6	164131	0.015	0.015	7.527	7.522	8.49				
	20	tert-Butyl methyl ether (MTBE)	10.380	3.8	1412868	0.634	0.610	7.795	7.795	8.96				
	21	trans-1,2-Dichloroethene	9.586	-4.1	1554836	0.697	0.728	7.869	7.872	6.02				
5	22	Acrylonitrile	48.990	-2.0	712506	0.064	0.065	7.869	7.881	6.43				
	23	Isopropyl ether (DIPE)	9.737	-2.6	3582833	1.607	1.650	8.605	8.614	6.82				
	24	1,1-Dichloroethane	9.623	-3.8	1928869	0.865	0.899	8.665	8.670	4.80				
	25	Vinyl acetate	10.894	8.9	84912	0.038	0.032	8.680	8.686	24.52	-0.0023	0.0371		0.9998
	26	tert-Butyl ethyl ether (ETBE)	9.616	-3.8	2287470	1.026	1.067	9.319	9.316	8.61				
	27	2,2-Dichloropropane	9.329	-6.7	689445	0.309	0.331	9.779	9.780	8.64				
	28	cis-1,2-Dichloroethene	9.930	-0.7	908854	0.408	0.410	9.809	9.814	3.21				
5	29	2-Butanone	50.626	1.3	924203	0.083	0.082	9.809	9.825	11.86				
5	30	2-Butanol	51.118	2.2	151469	0.014	0.013	10.106	10.111	13.04				
	31	Bromochloromethane	10.005	0.0	329616	0.148	0.148	10.314	10.322	7.76				
	32	Tetrahydrofuran	10.435	4.4	107249	0.048	0.046	10.374	10.382	8.62				
	33	Chloroform	9.655	-3.5	1496933	0.671	0.695	10.418	10.420	4.12				
	34	Dibromofluoromethane	10.217	2.2	713292	0.320	0.313	10.730	10.734	13.04				
	35	1,1,1-Trichloroethane	9.633	-3.7	988756	0.443	0.460	10.745	10.752	5.48				
	36	Cyclohexane	11.013	10.1	1807759	0.811	0.736	10.819	10.823	11.24				
	37	1,1-Dichloropropene	9.869	-1.3	420150	0.188	0.191	11.027	11.033	6.23				
	38	Carbon tetrachloride	10.208	2.1	939535	0.421	0.413	11.027	11.036	7.47				
5	39	tert-Amyl alcohol	51.469	2.9	135074	0.012	0.012	11.310	11.309	9.19				
	40	1,2-Dichloroethane-d4	9.504	-5.0	561155	0.252	0.265	11.340	11.342	8.12				
	41	2,2,4-Trimethylpentane	9.689	-3.1	2786692	1.250	1.290	11.399	11.400	11.15				
	42	Benzene	9.626	-3.7	3433695	1.540	1.600	11.399	11.405	5.09				
	43	1,2-Dichloroethane	9.738	-2.6	818094	0.367	0.377	11.458	11.465	5.29				
	44	tert-Amyl methyl ether (TAME)	10.067	0.7	276985	0.124	0.123	11.458	11.464	7.39				
	45	Trichloroethene	10.071	0.7	910029	0.408	0.405	12.365	12.377	7.33				
	46	Methylcyclohexane	10.624	6.2	1475395	0.662	0.623	12.603	12.605	7.85				
	47	1,2-Dichloropropane	9.887	-1.1	943111	0.423	0.428	12.721	12.726	5.19				
20	48	1,4-Dioxane	206.728	3.4	55859	0.001	0.001	12.900	12.899	8.76				
	49	Dibromomethane	10.265	2.6	344984	0.155	0.151	12.929	12.930	7.03				
	50	Bromodichloromethane	10.018	0.2	944623	0.424	0.423	13.093	13.100	6.10				
	51	2-Chloroethyl vinyl ether	10.592	5.9	130487	0.059	0.055	13.435	13.446	12.43				
	52	cis-1,3-Dichloropropene	10.132	1.3	1235117	0.554	0.547	13.658	13.661	5.79				
5	53	4-Methyl-2-pentanone	50.524	1.0	2003383	0.180	0.178	13.791	13.802	10.73				
	54	CHLOROBENZENE-D5	10.000	0	1734447	1	1	15.649	15.651	0				
	55	Toluene-d8	9.596	-4.0	2193837	1.265	1.318	13.970	13.978	10.15				
	56	Toluene	9.751	-2.5	3075692	1.773	1.819	14.059	14.065	5.62				
	57	Ethyl methacrylate	9.816	-1.8	542688	0.313	0.319	14.341	14.355	5.89				
	58	trans-1,3-Dichloropropene	9.280	-7.2	853335	0.492	0.530	14.326	14.342	4.93				
	59	1,1,2-Trichloroethane	10.029	0.3	399621	0.230	0.230	14.564	14.574	4.59				
	60	Tetrachloroethene	9.676	-3.2	614952	0.355	0.366	14.713	14.719	8.89				
5	61	2-Hexanone	48.318	-3.4	1333761	0.154	0.149	14.787	14.794	19.22	-0.0156	0.1624		0.9986
	62	1,3-Dichloropropane	9.946	-0.5	804180	0.464	0.466	14.772	14.773	6.74				
	63	Dibromochloromethane	10.143	1.4	540266	0.311	0.307	15.054	15.058	10.54				
	64	1,2-Dibromoethane	10.159	1.6	406926	0.235	0.231	15.203	15.210	7.27				
	65	1-Chlorohexane	9.455	-5.5	1282780	0.740	0.782	15.560	15.562	5.14				
	66	Chlorobenzene	9.922	-0.8	1808621	1.043	1.051	15.679	15.681	6.59				
	67	Ethylbenzene	9.800	-2.0	3380367	1.949	1.989	15.738	15.740	8.39				
	68	1,1,1,2-Tetrachloroethane	9.821	-1.8	606272	0.350	0.356	15.738	15.751	7.38				
2	69	m-Xylene & p-Xylene	19.471	-2.6	5023732	1.448	1.488	15.842	15.845	6.30				
	70	o-Xylene	9.618	-3.8	2437463	1.405	1.461	16.243	16.246	5.45				
	71	Styrene	9.894	-1.1	1798688	1.037	1.048	16.258	16.265	8.33				
	72	1,2-DICHLOROBENZENE-D4	10.000	0	569872	1	1	18.145	18.146	0				
	73	Bromoform	10.173	1.7	213203	0.374	0.368	16.525	16.523	9.21				
	74	Isopropylbenzene	9.929	-0.7	3133173	5.498	5.537	16.555	16.559	10.55				
	75	4-Bromofluorobenzene	9.852	-1.5	664244	1.166	1.183	16.748	16.755	7.59				
	76	1,1,2,2-Tetrachloroethane	10.405	4.1	461509	0.810	0.778	16.867	16.869	4.50				
	77	trans-1,4-Dichloro-2-butene	8.664	-13.4	109311	0.192	0.221	16.644	16.657	8.87				
	78	n-Propylbenzene	9.591	-4.1	3861030	6.775	7.064	16.912	16.924	7.06				
	79	1,2,3-Trichloropropane	10.364	3.6	95742	0.168	0.162	16.927	16.927	7.87				
	80	Bromobenzene	10.092	0.9	622702	1.093	1.083	16.912	16.923	6.90				
	81	1,3,5-Trimethylbenzene	9.937	-0.6	2349994	4.124	4.150	17.045	17.051	7.89				
	82	2-Chlorotoluene	9.905	-0.9	2378862	4.174	4.214	17.045	17.055	7.85				
	83	4-Chlorotoluene	9.974	-0.3	2045109	3.589	3.598	17.135	17.145	7.09				
	84	tert-Butylbenzene	9.781	-2.2	521571	0.915	0.936	17.358	17.360	7.53				
	85	1,2,4-Trimethylbenzene	9.728	-2.7	2204467	3.868	3.976	17.402	17.401	6.49				
	86	sec-Butylbenzene	10.149	1.5	3372715	5.918	5.831	17.536	17.545	10.88				
	87	p-Isopropyltoluene	9.915	-0.9	2598835	4.560	4.600	17.640	17.646	9.19				
	88	1,3-Dichlorobenzene	10.043	0.4	1172370	2.057	2.048	17.729	17.733	7.09				
	89	1,2,3-Trimethylbenzene	10.025	0.2	2092392	3.672	3.663	17.788	17.791	6.41				
	90	1,4-Dichlorobenzene	10.184	1.8	1185093	2.080	2.042	17.803	17.806	5.89				
	91	Benzyl Chloride	10.363	3.6	633603	1.112	1.073	17.907	17.914	6.96				
	92	n-Butylbenzene	9.753	-2.5	2607683	4.576	4.692	18.011	18.014	9.29				
	93	1,2-Dichlorobenzene	9.954	-0.5	964147	1.692	1.700	18.160	18.162	5.77				
	94	1,2-Dibromo-3-chloropropane	11.008	10.1	56379	0.099	0.090	18.903	18.902	14.14				
	95	1,2,4-Trichlorobenzene	10.707	7.1	556817	0.977	0.913	19.705	19.712	10.27				
	96	Hexachlorobutadiene	10.053	0.5	365970	0.642	0.639	19.795	19.801	7.62				
	97	Naphthalene	10.560	5.6	854812	1.500	1.420	20.032	20.035	9.75				
	98	1,2,3-Trichlorobenzene	10.783	7.8	420866	0.739	0.685	20.300	20.303	11.43				

Spike Amount = Nominal Amount * M

SU 6/20/19

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D
Acq On : 17 Jun 2019 7:41 pm
Sample : IVOF3F1701
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: DNguye
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	100	0.00
2	T,M	Chlorotrifluoroethylene	10.000	10.402	-4.0	92	0.00
3	T,M	Dichlorodifluoromethane	10.000	10.542	-5.4	99	0.00
4	P,T,M	Chloromethane	10.000	10.397	-4.0	100	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	10.000	11.238	-12.4	105	-0.01
6	C,T,M	Vinyl chloride	10.000	10.753	-7.5	100	0.00
7	T,M	Bromomethane	10.000	10.901	-9.0	101	0.00
8	T,M	Chloroethane	10.000	10.700	-7.0	100	0.00
9	T,M	Dichlorofluoromethane	10.000	9.317	6.8	95	-0.01
10	T,M	Trichlorofluoromethane	10.000	11.097	-11.0	104	0.00
11	T,M	Acrolein	50.000	48.328	3.3	95	0.00
12	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	10.059	-0.6	108	0.00
13	C,T,M	1,1-Dichloroethene	10.000	9.222	7.8	95	0.00
14	T,M	Acetone	50.000	43.134	13.7	82	-0.01
15	T,M	Iodomethane	10.000	10.297	-3.0	107	-0.01
16	T,M	Methyl acetate	10.000	10.742	-7.4	100	-0.01
17	T,M	Carbon disulfide	10.000	10.172	-1.7	98	0.00
18	T,M	Methylene chloride	10.000	9.178	8.2	93	0.00
19	T,M	tert-Butyl alcohol	50.000	47.696	4.6	88	0.00
20	T,M	tert-Butyl methyl ether (MT	10.000	10.380	-3.8	98	0.00
21	T,M	trans-1,2-Dichloroethene	10.000	9.586	4.1	97	0.00
22	T,M	Acrylonitrile	50.000	48.990	2.0	94	-0.01
23	T,M	Isopropyl ether (DIPE)	10.000	9.737	2.6	91	-0.02
24	P,T,M	1,1-Dichloroethane	10.000	9.623	3.8	93	0.00
25	T,M	Vinyl acetate	10.000	10.894	-8.9	107	0.00
26	T,M	tert-Butyl ethyl ether (ETB	10.000	9.616	3.8	95	0.00
27	T,M	2,2-Dichloropropane	10.000	9.329	6.7	98	0.00
28	T,M	cis-1,2-Dichloroethene	10.000	9.930	0.7	101	0.00
29	T,M	2-Butanone	50.000	50.626	-1.3	90	0.01
30	T,M	2-Butanol	50.000	51.118	-2.2	91	0.00
31	T,M	Bromochloromethane	10.000	10.004	-0.0	97	-0.02
32	T,M	Tetrahydrofuran	10.000	10.435	-4.4	99	0.00
33	C,T,M	Chloroform	10.000	9.655	3.5	94	0.00
34	S	Dibromofluoromethane	10.000	10.217	-2.2	96	0.00
35	T,M	1,1,1-Trichloroethane	10.000	9.633	3.7	97	-0.02
36	T,M	Cyclohexane	10.000	11.013	-10.1	104	0.00
37	T,M	1,1-Dichloropropene	10.000	9.869	1.3	99	0.00
38	T,M	Carbon tetrachloride	10.000	10.208	-2.1	101	0.00
39	T,M	tert-Amyl alcohol	50.000	51.469	-2.9	92	0.00
40	S	1,2-Dichloroethane-d4	10.000	9.504	5.0	88	0.00
41	T,M	2,2,4-Trimethylpentane	10.000	9.689	3.1	91	0.00

(#) = Out of Range

SM 6/20/19

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D Vial: 14
Acq On : 17 Jun 2019 7:41 pm Operator: DNguye
Sample : IVOF3F1701 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	Benzene	10.000	9.626	3.7	97	0.00
43	T,M	1,2-Dichloroethane	10.000	9.738	2.6	94	0.00
44	T,M	tert-Amyl methyl ether (TAM	10.000	10.067	-0.7	95	0.00
45	T,M	Trichloroethene	10.000	10.071	-0.7	101	-0.02
46	T,M	Methylcyclohexane	10.000	10.624	-6.2	103	0.00
47	C,T,M	1,2-Dichloropropane	10.000	9.887	1.1	95	0.00
48	T,M	1,4-Dioxane	200.000	206.728	-3.4	99	0.00
49	T,M	Dibromomethane	10.000	10.265	-2.7	98	0.00
50	T,M	Bromodichloromethane	10.000	10.018	-0.2	95	0.00
51	T,M	2-Chloroethyl vinyl ether	10.000	10.592	-5.9	98	0.00
52	T,M	cis-1,3-Dichloropropene	10.000	10.132	-1.3	99	0.00
53	T,M	4-Methyl-2-pentanone	50.000	50.524	-1.0	87	0.00
54	I	CHLOROBENZENE-D5	10.000	10.000	0.0	104	0.00
55	S	Toluene-d8	10.000	9.596	4.0	97	0.00
56	C,T,M	Toluene	10.000	9.751	2.5	100	0.00
57	T,M	Ethyl methacrylate	10.000	9.816	1.8	98	0.00
58	T,M	trans-1,3-Dichloropropene	10.000	9.280	7.2	96	0.00
59	T,M	1,1,2-Trichloroethane	10.000	10.029	-0.3	100	0.00
60	T,M	Tetrachloroethene	10.000	9.676	3.2	103	0.00
61	T,M	2-Hexanone	50.000	48.318	3.4	88	0.00
62	T,M	1,3-Dichloropropane	10.000	9.946	0.5	97	0.00
63	T,M	Dibromochloromethane	10.000	10.143	-1.4	99	0.00
64	T,M	1,2-Dibromoethane	10.000	10.159	-1.6	100	0.00
65	T,M	1-Chlorohexane	10.000	9.455	5.4	101	0.00
66	P,M	Chlorobenzene	10.000	9.922	0.8	104	0.00
67	C,T,M	Ethylbenzene	10.000	9.800	2.0	101	0.00
68	T,M	1,1,1,2-Tetrachloroethane	10.000	9.821	1.8	100	0.00
69	T,M	m-Xylene & p-Xylene	20.000	19.471	2.6	97	0.00
70	T,M	o-Xylene	10.000	9.618	3.8	100	0.00
71	T,M	Styrene	10.000	9.894	1.1	98	0.00
72	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	100	0.00
73	P,T,M	Bromoform	10.000	10.173	-1.7	99	0.00
74	T,M	Isopropylbenzene	10.000	9.929	0.7	100	0.00
75	S	4-Bromofluorobenzene	10.000	9.852	1.5	94	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.405	-4.0	101	0.00
77	T,M	trans-1,4-Dichloro-2-butene	10.000	8.664	13.4	83	0.00
78	T,M	n-Propylbenzene	10.000	9.591	4.1	95	0.00
79	T,M	1,2,3-Trichloropropane	10.000	10.364	-3.6	95	0.00
80	T,M	Bromobenzene	10.000	10.092	-0.9	99	0.00

(#) = Out of Range

6/20/19

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D
Acq On : 17 Jun 2019 7:41 pm
Sample : IVOF3F1701
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: DNguye
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	9.937	0.6	100	0.00
82	T,M	2-Chlorotoluene	10.000	9.905	1.0	101	0.00
83	T,M	4-Chlorotoluene	10.000	9.974	0.3	100	0.00
84	T,M	tert-Butylbenzene	10.000	9.781	2.2	103	0.00
85	T,M	1,2,4-Trimethylbenzene	10.000	9.728	2.7	100	0.01
86	T,M	sec-Butylbenzene	10.000	10.149	-1.5	102	0.00
87	T,M	p-Isopropyltoluene	10.000	9.915	0.9	108	0.00
88	T,M	1,3-Dichlorobenzene	10.000	10.043	-0.4	102	0.00
89	T,M	1,2,3-Trimethylbenzene	10.000	10.025	-0.3	100	0.00
90	T,M	1,4-Dichlorobenzene	10.000	10.184	-1.8	104	0.00
91	T,M	Benzyl Chloride	10.000	10.363	-3.6	102	0.00
92	T,M	n-Butylbenzene	10.000	9.753	2.5	98	0.00
93	T,M	1,2-Dichlorobenzene	10.000	9.954	0.5	99	0.00
94	T,M	1,2-Dibromo-3-chloropropane	10.000	11.008	-10.1	103	0.00
95	T,M	1,2,4-Trichlorobenzene	10.000	10.707	-7.1	105	0.00
96	T,M	Hexachlorobutadiene	10.000	10.053	-0.5	102	0.00
97	T,M	Naphthalene	10.000	10.560	-5.6	98	0.00
98	T,M	1,2,3-Trichlorobenzene	10.000	10.784	-7.8	100	0.00

SA 6/20/19

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D
Acq On : 17 Jun 2019 7:41 pm
Sample : IVOF3F1701
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: DNguye
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	100	0.00
2	T,M	Chlorotrifluoroethylene	0.240	0.249	-3.8	92	0.00
3	T,M	Dichlorodifluoromethane	0.474	0.500	-5.5	99	0.00
4	P,T,M	Chloromethane	0.712	0.740	-3.9	100	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.389	0.437	-12.3	105	-0.01
6	C,T,M	Vinyl chloride	0.594	0.639	-7.6	100	0.00
7	T,M	Bromomethane	0.349	0.381	-9.2	101	0.00
8	T,M	Chloroethane	0.334	0.358	-7.2	100	0.00
9	T,M	Dichlorofluoromethane	0.812	0.757	6.8	95	-0.01
10	T,M	Trichlorofluoromethane	0.394	0.437	-10.9	104	0.00
11	T,M	Acrolein	0.028	0.027	3.6	95	0.00
12	T,M	1,1,2-Trichloro-1,2,2-trifl	0.202	0.203	-0.5	108	0.00
13	C,T,M	1,1-Dichloroethene	0.799	0.737	7.8	95	0.00
14	T,M	Acetone	0.058	0.050	13.8	82	-0.01
15	T,M	Iodomethane	0.569	0.586	-3.0	107	-0.01
16	T,M	Methyl acetate	0.024	0.027	-12.5	100	-0.01
17	T,M	Carbon disulfide	0.943	0.959	-1.7	98	0.00
18	T,M	Methylene chloride	0.620	0.569	8.2	93	0.00
19	T,M	tert-Butyl alcohol	0.015	0.015	0.0	88	0.00
20	T,M	tert-Butyl methyl ether (MT	0.610	0.634	-3.9	98	0.00
21	T,M	trans-1,2-Dichloroethene	0.728	0.697	4.3	97	0.00
22	T,M	Acrylonitrile	0.065	0.064	1.5	94	-0.01
23	T,M	Isopropyl ether (DIPE)	1.650	1.607	2.6	91	-0.02
24	P,T,M	1,1-Dichloroethane	0.899	0.865	3.8	93	0.00
25	T,M	Vinyl acetate	0.032	0.038	-18.7	107	0.00
26	T,M	tert-Butyl ethyl ether (ETB	1.067	1.026	3.8	95	0.00
27	T,M	2,2-Dichloropropane	0.331	0.309	6.6	98	0.00
28	T,M	cis-1,2-Dichloroethene	0.410	0.408	0.5	101	0.00
29	T,M	2-Butanone	0.082	0.083	-1.2	90	0.01
30	T,M	2-Butanol	0.013	0.014	-7.7	91	0.00
31	T,M	Bromochloromethane	0.148	0.148	0.0	97	-0.02
32	T,M	Tetrahydrofuran	0.046	0.048	-4.3	99	0.00
33	C,T,M	Chloroform	0.695	0.671	3.5	94	0.00
34	S	Dibromofluoromethane	0.313	0.320	-2.2	96	0.00
35	T,M	1,1,1-Trichloroethane	0.460	0.443	3.7	97	-0.02
36	T,M	Cyclohexane	0.736	0.811	-10.2	104	0.00
37	T,M	1,1-Dichloropropene	0.191	0.188	1.6	99	0.00
38	T,M	Carbon tetrachloride	0.413	0.421	-1.9	101	0.00
39	T,M	tert-Amyl alcohol	0.012	0.012	0.0	92	0.00
40	S	1,2-Dichloroethane-d4	0.265	0.252	4.9	88	0.00
41	T,M	2,2,4-Trimethylpentane	1.290	1.250	3.1	91	0.00

(#) = Out of Range

SU 6/20/19

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D Vial: 14
Acq On : 17 Jun 2019 7:41 pm Operator: DNguye
Sample : IVOF3F1701 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	Benzene	1.600	1.540	3.8	97	0.00
43	T,M	1,2-Dichloroethane	0.377	0.367	2.7	94	0.00
44	T,M	tert-Amyl methyl ether (TAM	0.123	0.124	-0.8	95	0.00
45	T,M	Trichloroethene	0.405	0.408	-0.7	101	-0.02
46	T,M	Methylcyclohexane	0.623	0.662	-6.3	103	0.00
47	C,T,M	1,2-Dichloropropane	0.428	0.423	1.2	95	0.00
48	T,M	1,4-Dioxane	0.001	0.001	0.0	99	0.00
49	T,M	Dibromomethane	0.151	0.155	-2.6	98	0.00
50	T,M	Bromodichloromethane	0.423	0.424	-0.2	95	0.00
51	T,M	2-Chloroethyl vinyl ether	0.055	0.059	-7.3	98	0.00
52	T,M	cis-1,3-Dichloropropene	0.547	0.554	-1.3	99	0.00
53	T,M	4-Methyl-2-pentanone	0.178	0.180	-1.1	87	0.00
54	I	CHLOROBENZENE-D5	1.000	1.000	0.0	104	0.00
55	S	Toluene-d8	1.318	1.265	4.0	97	0.00
56	C,T,M	Toluene	1.819	1.773	2.5	100	0.00
57	T,M	Ethyl methacrylate	0.319	0.313	1.9	98	0.00
58	T,M	trans-1,3-Dichloropropene	0.530	0.492	7.2	96	0.00
59	T,M	1,1,2-Trichloroethane	0.230	0.230	0.0	100	0.00
60	T,M	Tetrachloroethene	0.366	0.355	3.0	103	0.00
61	T,M	2-Hexanone	0.149	0.154	-3.4	88	0.00
62	T,M	1,3-Dichloropropane	0.466	0.464	0.4	97	0.00
63	T,M	Dibromochloromethane	0.307	0.311	-1.3	99	0.00
64	T,M	1,2-Dibromoethane	0.231	0.235	-1.7	100	0.00
65	T,M	1-Chlorohexane	0.782	0.740	5.4	101	0.00
66	P,M	Chlorobenzene	1.051	1.043	0.8	104	0.00
67	C,T,M	Ethylbenzene	1.989	1.949	2.0	101	0.00
68	T,M	1,1,1,2-Tetrachloroethane	0.356	0.350	1.7	100	0.00
69	T,M	m-Xylene & p-Xylene	1.488	1.448	2.7	97	0.00
70	T,M	o-Xylene	1.461	1.405	3.8	100	0.00
71	T,M	Styrene	1.048	1.037	1.0	98	0.00
72	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	100	0.00
73	P,T,M	Bromoform	0.368	0.374	-1.6	99	0.00
74	T,M	Isopropylbenzene	5.537	5.498	0.7	100	0.00
75	S	4-Bromofluorobenzene	1.183	1.166	1.4	94	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	0.778	0.810	-4.1	101	0.00
77	T,M	trans-1,4-Dichloro-2-butene	0.221	0.192	13.1	83	0.00
78	T,M	n-Propylbenzene	7.064	6.775	4.1	95	0.00
79	T,M	1,2,3-Trichloropropane	0.162	0.168	-3.7	95	0.00
80	T,M	Bromobenzene	1.083	1.093	-0.9	99	0.00

(#) = Out of Range

SM 6/20/19

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D
Acq On : 17 Jun 2019 7:41 pm
Sample : IVOF3F1701
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: DNguye
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.150	4.124	0.6	100	0.00
82	T,M	2-Chlorotoluene	4.214	4.174	0.9	101	0.00
83	T,M	4-Chlorotoluene	3.598	3.589	0.3	100	0.00
84	T,M	tert-Butylbenzene	0.936	0.915	2.2	103	0.00
85	T,M	1,2,4-Trimethylbenzene	3.976	3.868	2.7	100	0.01
86	T,M	sec-Butylbenzene	5.831	5.918	-1.5	102	0.00
87	T,M	p-Isopropyltoluene	4.600	4.560	0.9	108	0.00
88	T,M	1,3-Dichlorobenzene	2.048	2.057	-0.4	102	0.00
89	T,M	1,2,3-Trimethylbenzene	3.663	3.672	-0.2	100	0.00
90	T,M	1,4-Dichlorobenzene	2.042	2.080	-1.9	104	0.00
91	T,M	Benzyl Chloride	1.073	1.112	-3.6	102	0.00
92	T,M	n-Butylbenzene	4.692	4.576	2.5	98	0.00
93	T,M	1,2-Dichlorobenzene	1.700	1.692	0.5	99	0.00
94	T,M	1,2-Dibromo-3-chloropropane	0.090	0.099	-10.0	103	0.00
95	T,M	1,2,4-Trichlorobenzene	0.913	0.977	-7.0	105	0.00
96	T,M	Hexachlorobutadiene	0.639	0.642	-0.5	102	0.00
97	T,M	Naphthalene	1.420	1.500	-5.6	98	0.00
98	T,M	1,2,3-Trichlorobenzene	0.685	0.739	-7.9	100	0.00

Su 6/20/19

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D Vial: 14
Acq On : 17 Jun 2019 7:41 pm Operator: DNguye
Sample : IVOF3F1701 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.95	114	2229543	10.00	ug/l		0.00
54) CHLOROBENZENE-D5	15.65	117	1734447	10.00	ug/l		0.00
72) 1,2-DICHLOROBENZENE-D4	18.15	152	569872	10.00	ug/l		0.00
System Monitoring Compounds							
34) Dibromofluoromethane	10.73	111	713292	10.22	ug/l		0.00
Spiked Amount 10.000			Recovery =	102.20%			
40) 1,2-Dichloroethane-d4	11.34	65	561155	9.50	ug/l		0.00
Spiked Amount 10.000			Recovery =	95.00%			
55) Toluene-d8	13.97	98	2193837	9.60	ug/l		0.00
Spiked Amount 10.000			Recovery =	96.00%			
75) 4-Bromofluorobenzene	16.75	95	664244	9.85	ug/l		0.00
Spiked Amount 10.000			Recovery =	98.50%			
Target Compounds							Qvalue
2) Chlorotrifluoroethylene	3.71	116	555508	10.40	ug/l		99
3) Dichlorodifluoromethane	3.78	85	1114253	10.54	ug/l		100
4) Chloromethane	4.18	50	1650309	10.40	ug/l		100
5) 2-Chloro-1,1,1-trifluoroet	4.56	118	974801	11.24	ug/l		99
6) Vinyl chloride	4.39	62	1425210	10.75	ug/l		100
7) Bromomethane	5.05	94	848717	10.90	ug/l		99
8) Chloroethane	5.22	64	797116	10.70	ug/l		100
9) Dichlorofluoromethane	5.54	67	1687231	9.32	ug/l		99
10) Trichlorofluoromethane	5.63	101	975163	11.10	ug/l		98
11) Acrolein	6.38	56	297326	48.33	ug/l		96
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	452796	10.06	ug/l		100
13) 1,1-Dichloroethene	6.56	61	1643155	9.22	ug/l		98
14) Acetone	6.62	43	553371	43.13	ug/l		99
15) Iodomethane	6.92	142	1306226	10.30	ug/l		96
16) Methyl acetate	7.16	74	61046	10.74	ug/l		91
17) Carbon disulfide	7.04	76	2138032	10.17	ug/l		98
18) Methylene chloride	7.47	49	1269584	9.18	ug/l		95
19) tert-Butyl alcohol	7.53	59	164131	47.70	ug/l	#	100
20) tert-Butyl methyl ether (M	7.79	73	1412868	10.38	ug/l		98
21) trans-1,2-Dichloroethene	7.87	61	1554836	9.59	ug/l		96
22) Acrylonitrile	7.87	53	712506	48.99	ug/l		99
23) Isopropyl ether (DIPE)	8.61	45	3582833	9.74	ug/l		97
24) 1,1-Dichloroethane	8.66	63	1928869	9.62	ug/l		100
25) Vinyl acetate	8.68	86	84912	10.89	ug/l	#	73
26) tert-Butyl ethyl ether (ET	9.32	59	2287470	9.62	ug/l		97
27) 2,2-Dichloropropane	9.78	77	689445	9.33	ug/l		99
28) cis-1,2-Dichloroethene	9.81	96	908854	9.93	ug/l		95

(#) = qualifier out of range (m) = manual integration

6/20/19

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D Vial: 14
Acq On : 17 Jun 2019 7:41 pm Operator: DNguye
Sample : IVOF3F1701 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	2-Butanone	9.81	43	924203	50.63 ug/l	98
30)	2-Butanol	10.11	45	151469	51.12 ug/l	92
31)	Bromochloromethane	10.31	128	329616	10.00 ug/l	91
32)	Tetrahydrofuran	10.37	42	107249	10.44 ug/l	97
33)	Chloroform	10.42	83	1496933	9.66 ug/l	99
35)	1,1,1-Trichloroethane	10.75	97	988756	9.63 ug/l	98
36)	Cyclohexane	10.82	56	1807759	11.01 ug/l	97
37)	1,1-Dichloropropene	11.03	110	420150	9.87 ug/l	99
38)	Carbon tetrachloride	11.03	119	939535	10.21 ug/l	98
39)	tert-Amyl alcohol	11.31	59	135074	51.47 ug/l	96
41)	2,2,4-Trimethylpentane	11.40	57	2786692	9.69 ug/l	99
42)	Benzene	11.40	78	3433695	9.63 ug/l	99
43)	1,2-Dichloroethane	11.46	62	818094	9.74 ug/l	100
44)	tert-Amyl methyl ether (TA	11.46	87	276985	10.07 ug/l	96
45)	Trichloroethene	12.36	130	910029	10.07 ug/l	98
46)	Methylcyclohexane	12.60	83	1475395	10.62 ug/l	97
47)	1,2-Dichloropropane	12.72	63	943111	9.89 ug/l	98
48)	1,4-Dioxane	12.90	88	55859	206.73 ug/l	89
49)	Dibromomethane	12.93	93	344984	10.26 ug/l	96
50)	Bromodichloromethane	13.09	83	944623	10.02 ug/l	99
51)	2-Chloroethyl vinyl ether	13.43	63	130487	10.59 ug/l	98
52)	cis-1,3-Dichloropropene	13.66	75	1235117	10.13 ug/l	98
53)	4-Methyl-2-pentanone	13.79	43	2003383	50.52 ug/l	97
56)	Toluene	14.06	91	3075692	9.75 ug/l	100
57)	Ethyl methacrylate	14.34	69	542688	9.82 ug/l	97
58)	trans-1,3-Dichloropropene	14.33	75	853335	9.28 ug/l	98
59)	1,1,2-Trichloroethane	14.56	97	399621	10.03 ug/l	98
60)	Tetrachloroethene	14.71	164	614952	9.68 ug/l	96
61)	2-Hexanone	14.79	43	1333761	48.32 ug/l	97
62)	1,3-Dichloropropane	14.77	76	804180	9.95 ug/l	100
63)	Dibromochloromethane	15.05	129	540266	10.14 ug/l	98
64)	1,2-Dibromoethane	15.20	107	406926	10.16 ug/l	100
65)	1-Chlorohexane	15.56	91	1282780	9.45 ug/l	97
66)	Chlorobenzene	15.68	112	1808621	9.92 ug/l	97
67)	Ethylbenzene	15.74	91	3380367	9.80 ug/l	100
68)	1,1,1,2-Tetrachloroethane	15.74	131	606272	9.82 ug/l	99
69)	m-Xylene & p-Xylene	15.84	91	5023732	19.47 ug/l	100
70)	o-Xylene	16.24	91	2437463	9.62 ug/l	99
71)	Styrene	16.26	104	1798688	9.89 ug/l	99
73)	Bromoform	16.53	173	213203	10.17 ug/l	98
74)	Isopropylbenzene	16.56	105	3133173	9.93 ug/l	100

(#) = qualifier out of range (m) = manual integration

6/20/19

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D
Acq On : 17 Jun 2019 7:41 pm
Sample : IVOF3F1701
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019

Vial: 14
Operator: DNguye
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
76)	1,1,2,2-Tetrachloroethane	16.87	83	461509	10.41	ug/l	99
77)	trans-1,4-Dichloro-2-buten	16.64	53	109311	8.66	ug/l	96
78)	n-Propylbenzene	16.91	91	3861030	9.59	ug/l	100
79)	1,2,3-Trichloropropane	16.93	110	95742	10.36	ug/l	97
80)	Bromobenzene	16.91	156	622702	10.09	ug/l	96
81)	1,3,5-Trimethylbenzene	17.05	105	2349994	9.94	ug/l	99
82)	2-Chlorotoluene	17.05	91	2378862	9.91	ug/l	100
83)	4-Chlorotoluene	17.13	91	2045109	9.97	ug/l	100
84)	tert-Butylbenzene	17.36	134	521571	9.78	ug/l	97
85)	1,2,4-Trimethylbenzene	17.40	105	2204467	9.73	ug/l	98
86)	sec-Butylbenzene	17.54	105	3372715	10.15	ug/l	99
87)	p-Isopropyltoluene	17.64	119	2598835	9.91	ug/l	99
88)	1,3-Dichlorobenzene	17.73	146	1172370	10.04	ug/l	98
89)	1,2,3-Trimethylbenzene	17.79	105	2092392	10.03	ug/l	99
90)	1,4-Dichlorobenzene	17.80	146	1185093	10.18	ug/l	97
91)	Benzyl Chloride	17.91	91	633603	10.36	ug/l	99
92)	n-Butylbenzene	18.01	91	2607683	9.75	ug/l	99
93)	1,2-Dichlorobenzene	18.16	146	964147	9.95	ug/l	99
94)	1,2-Dibromo-3-chloropropan	18.90	157	56379	11.01	ug/l	93
95)	1,2,4-Trichlorobenzene	19.71	180	556817	10.71	ug/l	99
96)	Hexachlorobutadiene	19.79	225	365970	10.05	ug/l	99
97)	Naphthalene	20.03	128	854812	10.56	ug/l	99
98)	1,2,3-Trichlorobenzene	20.30	180	420866	10.78	ug/l	100

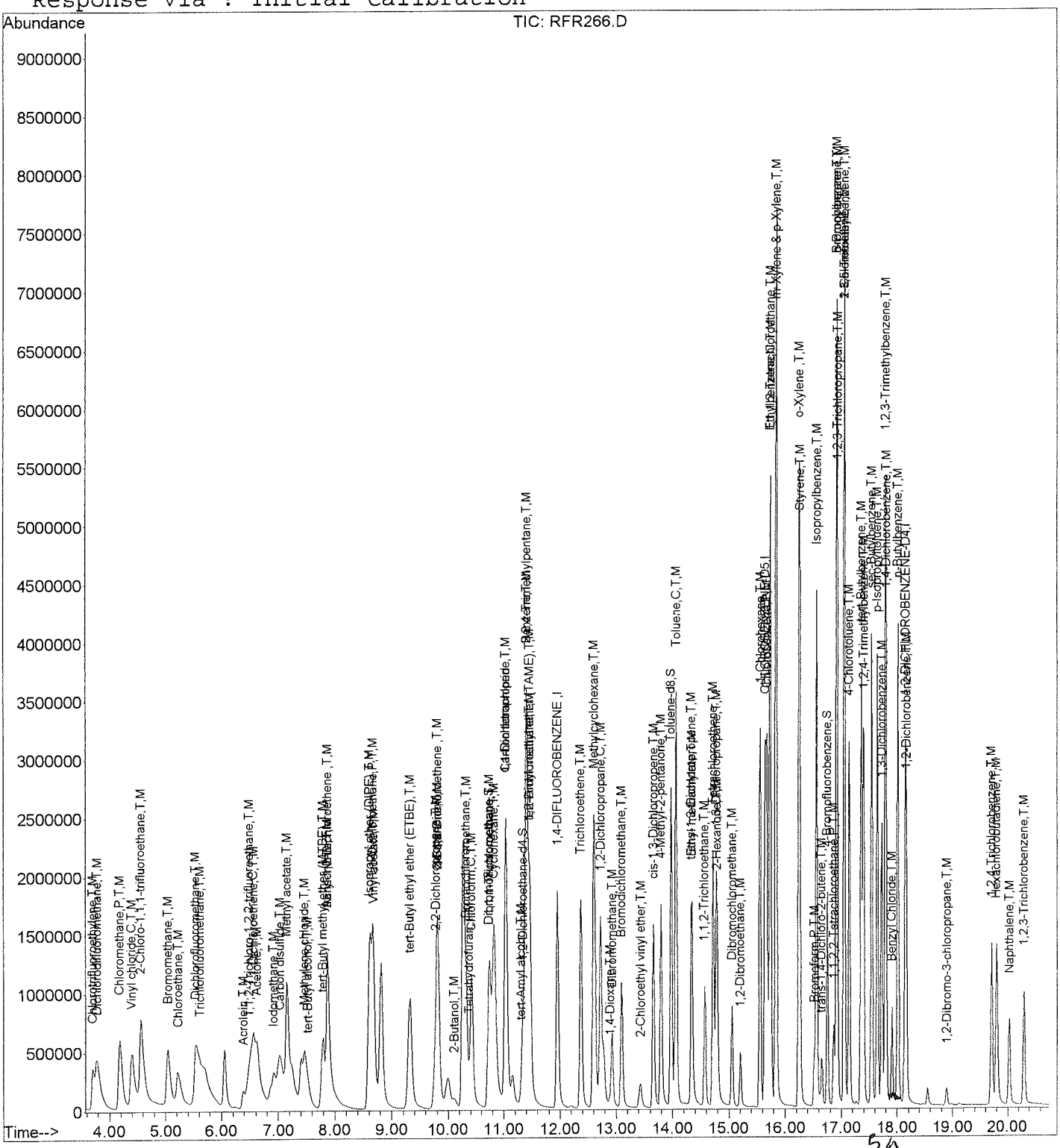
SA 6/20/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19F17\RFR266.D Vial: 14
Acq On : 17 Jun 2019 7:41 pm Operator: DNguye
Sample : IVOF3F1701 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 16:26 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



RFR266.D VOF3F17.M Wed Jun 19 17:43:15 2019 Page 4

6/20/19

DAILY CALIBRATIONS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RGR066
Instrument ID: F3
GC Column: ZB-624 ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G038
BFB Injection Date : 07/05/19
BFB Injection Time : 11:00
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	26.95
75	30.0 - 60.0% of mass 95	51.76
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.68
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	63.03
175	5.0 - 9.0% of mass 174	4.31(6.8)1
176	95.0 - 101.0% of mass 174	60.01(95.2)1
177	5.0 - 9.0% of mass 176	4.09(6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CVOF3F1712	RGR067	07/05/19	11:46
2	MBLK1W	VOF3G03B	RGR070	07/05/19	13:08
3	LCS1W	VOF3G03X	RGR072	07/05/19	14:09
4	LCD1W	VOF3G03Y	RGR073	07/05/19	14:36
5	OU2-SB-EB20	G038-01	RGR081	07/05/19	18:11
6	OU2-SB-EB21	G038-02	RGR082	07/05/19	18:39
7	OU2-SB-TB20	G038-03	RGR083	07/05/19	19:06
8	OU2-SB-EB22	G038-04	RGR084	07/05/19	19:33
9	OU2-SB-EB23	G038-05	RGR085	07/05/19	20:01
10	OU2-SB-EB24	G038-06	RGR086	07/05/19	20:28
11	OU2-SB-EB25	G038-07	RGR087	07/05/19	20:55

FORM 8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX Inc
Lab Code : EMXT
Lab File ID : RFR259
Instrument ID: F3
GC Column : ZB-624 ID:0.25mm (mm)

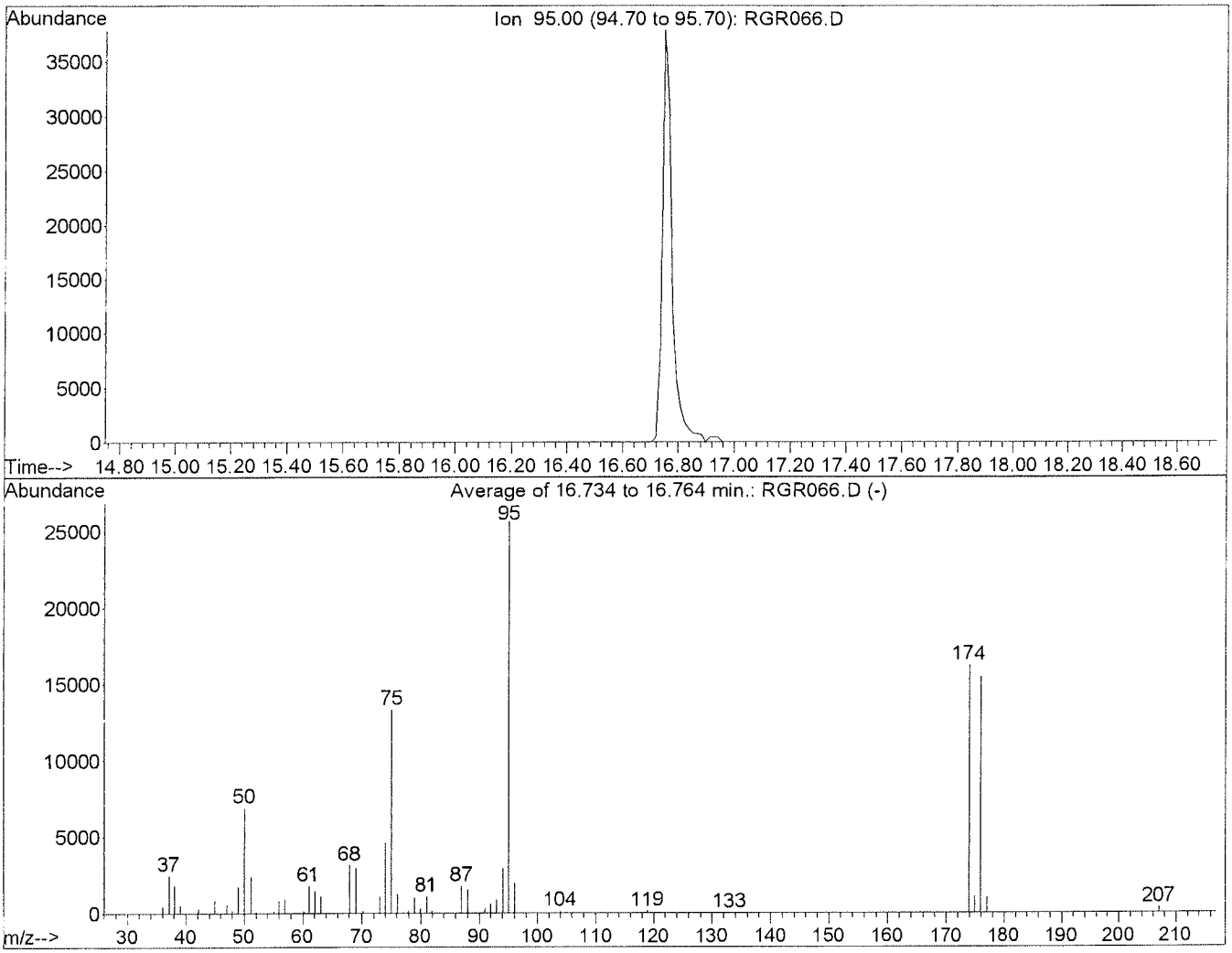
Project: VHA-SLC
SDG No: 19G038
Date Analyzed: 06/17/2019
Time Analyzed: 16:13
Heated Purge (Y/N): N

		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5		1,2-DICHLOROBENZENE-D4	
		AREA #	RT(min)	AREA #	RT(min)	AREA #	RT(min)
	12 HOUR STD	2230407	11.95	1666498	15.65	568601	18.15
	UPPER LIMIT	4460814	12.12	3332996	15.82	1137202	18.32
	LOWER LIMIT	1115204	11.78	833249	15.48	284301	17.98
	SAMPLE ID						
1	VSTD010	1935839	11.94	1417582	15.64	487146	18.13
2	MBLK1W	2010004	11.94	1409482	15.64	443035	18.13
3	LCS1W	1868817	11.93	1410107	15.63	467688	18.13
4	LCD1W	1880638	11.95	1397671	15.65	478960	18.13
5	OU2-SB-EB20	1870209	11.95	1397249	15.65	464664	18.13
6	OU2-SB-EB21	1937903	11.95	1418668	15.65	451972	18.13
7	OU2-SB-TB20	1847396	11.95	1362133	15.65	427362	18.13
8	OU2-SB-EB22	1842497	11.95	1373272	15.64	418486	18.13
9	OU2-SB-EB23	1768939	11.95	1390826	15.65	410675	18.13
10	OU2-SB-EB24	1870526	11.95	1331783	15.65	409706	18.13
11	OU2-SB-EB25	1759882	11.95	1323577	15.64	401646	18.13

Area Upper Limit = + 100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 0.167 min. (10 sec.) of internal standard RT
RT Lower Limit = - 0.167 min. (10 sec.) of internal standard RT

Data File : C:\HPCHEM\1\DATA\19G05\RGR066.D
Acq On : 5 Jul 2019 11:00 am
Sample : BFBF3G03
Misc : T/CHK
MS Integration Params: RTE.P
Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL

Vial: 1
Operator: VLu
Inst : F3
Multiplr: 1.00



AutoFind: Scans 885, 886, 887; Background Corrected with Scan 881

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.9	6923	PASS
75	95	30	60	51.8	13297	PASS
95	95	100	100	100.0	25691	PASS
96	95	5	9	7.7	1973	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	63.0	16194	PASS
175	174	5	9	6.8	1107	PASS
176	174	95	101	95.2	15417	PASS
177	176	5	9	6.8	1051	PASS

RGR066.D VOF3F17.M Mon Jul 08 09:19:33 2019

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	87	-0.01
2	T,M	Chlorotrifluoroethylene	10.000	9.294	7.1	71	0.00
3	T,M	Dichlorodifluoromethane	10.000	9.862	1.4	80	0.00
4	P,T,M	Chloromethane	10.000	9.550	4.5	79	0.02
5	T,M	2-Chloro-1,1,1-trifluoroeth	10.000	11.514	-15.1	93	-0.01
6	C,T,M	Vinyl chloride	10.000	9.943	0.6	80	0.00
7	T,M	Bromomethane	10.000	10.243	-2.4	83	-0.01
8	T,M	Chloroethane	10.000	10.104	-1.0	82	-0.01
9	T,M	Dichlorofluoromethane	10.000	10.511	-5.1	93	-0.03
10	T,M	Trichlorofluoromethane	10.000	11.738	-17.4	95	0.00
11	T,M	Acrolein	50.000	54.279	-8.6	93	-0.01
12	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	11.069	-10.7	103	0.00
13	C,T,M	1,1-Dichloroethene	10.000	10.026	-0.3	89	-0.01
14	T,M	Acetone	50.000	43.962	12.1	73	-0.01
15	T,M	Iodomethane	10.000	10.558	-5.6	96	-0.03
16	T,M	Methyl acetate	10.000	8.994	10.1	72	-0.01
17	T,M	Carbon disulfide	10.000	11.876	-18.8	99	-0.01
18	T,M	Methylene chloride	10.000	10.241	-2.4	90	-0.01
19	T,M	tert-Butyl alcohol	50.000	51.449	-2.9	82	-0.01
20	T,M	tert-Butyl methyl ether (MT	10.000	9.869	1.3	81	-0.01
21	T,M	trans-1,2-Dichloroethene	10.000	10.342	-3.4	91	0.00
22	T,M	Acrylonitrile	50.000	54.450	-8.9	91	-0.01
23	T,M	Isopropyl ether (DIPE)	10.000	10.259	-2.6	84	-0.01
24	P,T,M	1,1-Dichloroethane	10.000	10.127	-1.3	85	0.00
25	T,M	Vinyl acetate	10.000	10.331	-3.3	88	-0.01
26	T,M	tert-Butyl ethyl ether (ETB	10.000	9.357	6.4	80	-0.01
27	T,M	2,2-Dichloropropane	10.000	10.664	-6.6	98	-0.01
28	T,M	cis-1,2-Dichloroethene	10.000	9.991	0.1	89	-0.01
29	T,M	2-Butanone	50.000	52.926	-5.9	82	0.00
30	T,M	2-Butanol	50.000	43.328	13.3	67	0.00
31	T,M	Bromochloromethane	10.000	10.120	-1.2	85	-0.01
32	T,M	Tetrahydrofuran	10.000	10.118	-1.2	84	0.00
33	C,T,M	Chloroform	10.000	9.996	0.0	85	-0.01
34	S	Dibromofluoromethane	10.000	10.145	-1.4	83	-0.01
35	T,M	1,1,1-Trichloroethane	10.000	10.604	-6.0	92	-0.01
36	T,M	Cyclohexane	10.000	11.321	-13.2	93	0.00
37	T,M	1,1-Dichloropropene	10.000	9.614	3.9	84	-0.01
38	T,M	Carbon tetrachloride	10.000	11.011	-10.1	95	0.00
39	T,M	tert-Amyl alcohol	50.000	46.182	7.6	72	-0.01
40	S	1,2-Dichloroethane-d4	10.000	10.178	-1.8	82	-0.01
41	T,M	2,2,4-Trimethylpentane	10.000	12.828	-28.3#	105	0.00

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	Benzene	10.000	9.833	1.7	86	-0.01
43	T,M	1,2-Dichloroethane	10.000	10.165	-1.6	85	0.00
44	T,M	tert-Amyl methyl ether (TAM	10.000	9.905	1.0	82	-0.01
45	T,M	Trichloroethene	10.000	9.543	4.6	83	-0.01
46	T,M	Methylcyclohexane	10.000	10.227	-2.3	86	0.00
47	C,T,M	1,2-Dichloropropane	10.000	10.039	-0.4	84	-0.01
48	T,M	1,4-Dioxane	200.000	175.325	12.3	73	-0.01
49	T,M	Dibromomethane	10.000	10.053	-0.5	83	-0.01
50	T,M	Bromodichloromethane	10.000	10.353	-3.5	86	0.00
51	T,M	2-Chloroethyl vinyl ether	10.000	7.576	24.2#	61	0.00
52	T,M	cis-1,3-Dichloropropene	10.000	10.083	-0.8	85	-0.01
53	T,M	4-Methyl-2-pentanone	50.000	53.735	-7.5	81	-0.01
54	I	CHLOROBENZENE-D5	10.000	10.000	0.0	85	-0.01
55	S	Toluene-d8	10.000	10.318	-3.2	85	0.00
56	C,T,M	Toluene	10.000	10.277	-2.8	86	-0.01
57	T,M	Ethyl methacrylate	10.000	10.073	-0.7	82	-0.01
58	T,M	trans-1,3-Dichloropropene	10.000	10.053	-0.5	85	0.00
59	T,M	1,1,2-Trichloroethane	10.000	10.348	-3.5	84	0.00
60	T,M	Tetrachloroethene	10.000	9.919	0.8	86	0.00
61	T,M	2-Hexanone	50.000	52.872	-5.7	79	-0.01
62	T,M	1,3-Dichloropropane	10.000	10.517	-5.2	84	-0.01
63	T,M	Dibromochloromethane	10.000	11.066	-10.7	88	0.00
64	T,M	1,2-Dibromoethane	10.000	10.514	-5.1	85	0.00
65	T,M	1-Chlorohexane	10.000	10.250	-2.5	90	-0.01
66	P,M	Chlorobenzene	10.000	10.377	-3.8	88	-0.01
67	C,T,M	Ethylbenzene	10.000	10.553	-5.5	89	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	10.000	10.847	-8.5	90	0.00
69	T,M	m-Xylene & p-Xylene	20.000	20.862	-4.3	85	-0.01
70	T,M	o-Xylene	10.000	10.603	-6.0	90	0.00
71	T,M	Styrene	10.000	10.784	-7.8	88	0.00
72	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	86	-0.01
73	P,T,M	Bromoform	10.000	10.691	-6.9	89	-0.01
74	T,M	Isopropylbenzene	10.000	10.015	-0.2	86	0.00
75	S	4-Bromofluorobenzene	10.000	10.214	-2.1	83	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.127	-1.3	84	-0.01
77	T,M	trans-1,4-Dichloro-2-butene	10.000	10.660	-6.6	87	0.00
78	T,M	n-Propylbenzene	10.000	9.874	1.3	84	0.00
79	T,M	1,2,3-Trichloropropane	10.000	10.612	-6.1	83	-0.01
80	T,M	Bromobenzene	10.000	10.032	-0.3	84	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	10.145	-1.4	88	0.00
82	T,M	2-Chlorotoluene	10.000	10.133	-1.3	88	0.00
83	T,M	4-Chlorotoluene	10.000	10.140	-1.4	87	0.00
84	T,M	tert-Butylbenzene	10.000	9.947	0.5	90	0.00
85	T,M	1,2,4-Trimethylbenzene	10.000	10.199	-2.0	90	0.00
86	T,M	sec-Butylbenzene	10.000	10.081	-0.8	87	0.00
87	T,M	p-Isopropyltoluene	10.000	10.090	-0.9	94	0.00
88	T,M	1,3-Dichlorobenzene	10.000	10.339	-3.4	90	-0.01
89	T,M	1,2,3-Trimethylbenzene	10.000	10.235	-2.3	87	0.00
90	T,M	1,4-Dichlorobenzene	10.000	10.198	-2.0	89	-0.01
91	T,M	Benzyl Chloride	10.000	10.351	-3.5	87	0.00
92	T,M	n-Butylbenzene	10.000	10.321	-3.2	88	0.00
93	T,M	1,2-Dichlorobenzene	10.000	10.380	-3.8	89	-0.01
94	T,M	1,2-Dibromo-3-chloropropane	10.000	10.509	-5.1	84	-0.01
95	T,M	1,2,4-Trichlorobenzene	10.000	10.250	-2.5	86	0.00
96	T,M	Hexachlorobutadiene	10.000	10.315	-3.1	90	0.00
97	T,M	Naphthalene	10.000	9.719	2.8	77	-0.01
98	T,M	1,2,3-Trichlorobenzene	10.000	10.244	-2.4	81	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	87	-0.01
2	T,M	Chlorotrifluoroethylene	0.240	0.223	7.1	71	0.00
3	T,M	Dichlorodifluoromethane	0.474	0.468	1.3	80	0.00
4	P,T,M	Chloromethane	0.712	0.680	4.5	79	0.02
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.389	0.448	-15.2	93	-0.01
6	C,T,M	Vinyl chloride	0.594	0.591	0.5	80	0.00
7	T,M	Bromomethane	0.349	0.358	-2.6	83	-0.01
8	T,M	Chloroethane	0.334	0.338	-1.2	82	-0.01
9	T,M	Dichlorofluoromethane	0.812	0.854	-5.2	93	-0.03
10	T,M	Trichlorofluoromethane	0.394	0.463	-17.5	95	0.00
11	T,M	Acrolein	0.028	0.030	-7.1	93	-0.01
12	T,M	1,1,2-Trichloro-1,2,2-trifl	0.202	0.223	-10.4	103	0.00
13	C,T,M	1,1-Dichloroethene	0.799	0.801	-0.3	89	-0.01
14	T,M	Acetone	0.058	0.051	12.1	73	-0.01
15	T,M	Iodomethane	0.569	0.601	-5.6	96	-0.03
16	T,M	Methyl acetate	0.024	0.023	4.2	72	-0.01
17	T,M	Carbon disulfide	0.943	1.120	-18.8	99	-0.01
18	T,M	Methylene chloride	0.620	0.635	-2.4	90	-0.01
19	T,M	tert-Butyl alcohol	0.015	0.016	-6.7	82	-0.01
20	T,M	tert-Butyl methyl ether (MT	0.610	0.602	1.3	81	-0.01
21	T,M	trans-1,2-Dichloroethene	0.728	0.752	-3.3	91	0.00
22	T,M	Acrylonitrile	0.065	0.071	-9.2	91	-0.01
23	T,M	Isopropyl ether (DIPE)	1.650	1.693	-2.6	84	-0.01
24	P,T,M	1,1-Dichloroethane	0.899	0.911	-1.3	85	0.00
25	T,M	Vinyl acetate	0.032	0.036	-12.5	88	-0.01
26	T,M	tert-Butyl ethyl ether (ETB	1.067	0.998	6.5	80	-0.01
27	T,M	2,2-Dichloropropane	0.331	0.354	-6.9	98	-0.01
28	T,M	cis-1,2-Dichloroethene	0.410	0.410	0.0	89	-0.01
29	T,M	2-Butanone	0.082	0.087	-6.1	82	0.00
30	T,M	2-Butanol	0.013	0.012	7.7	67	0.00
31	T,M	Bromochloromethane	0.148	0.150	-1.4	85	-0.01
32	T,M	Tetrahydrofuran	0.046	0.047	-2.2	84	0.00
33	C,T,M	Chloroform	0.695	0.695	0.0	85	-0.01
34	S	Dibromofluoromethane	0.313	0.318	-1.6	83	-0.01
35	T,M	1,1,1-Trichloroethane	0.460	0.488	-6.1	92	-0.01
36	T,M	Cyclohexane	0.736	0.833	-13.2	93	0.00
37	T,M	1,1-Dichloropropene	0.191	0.184	3.7	84	-0.01
38	T,M	Carbon tetrachloride	0.413	0.455	-10.2	95	0.00
39	T,M	tert-Amyl alcohol	0.012	0.011	8.3	72	-0.01
40	S	1,2-Dichloroethane-d4	0.265	0.270	-1.9	82	-0.01
41	T,M	2,2,4-Trimethylpentane	1.290	1.655	-28.3#	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	Benzene	1.600	1.573	1.7	86	-0.01
43	T,M	1,2-Dichloroethane	0.377	0.383	-1.6	85	0.00
44	T,M	tert-Amyl methyl ether (TAM	0.123	0.122	0.8	82	-0.01
45	T,M	Trichloroethene	0.405	0.387	4.4	83	-0.01
46	T,M	Methylcyclohexane	0.623	0.637	-2.2	86	0.00
47	C,T,M	1,2-Dichloropropane	0.428	0.429	-0.2	84	-0.01
48	T,M	1,4-Dioxane	0.001	0.001	0.0	73	-0.01
49	T,M	Dibromomethane	0.151	0.152	-0.7	83	-0.01
50	T,M	Bromodichloromethane	0.423	0.438	-3.5	86	0.00
51	T,M	2-Chloroethyl vinyl ether	0.055	0.042	23.6#	61	0.00
52	T,M	cis-1,3-Dichloropropene	0.547	0.551	-0.7	85	-0.01
53	T,M	4-Methyl-2-pentanone	0.178	0.191	-7.3	81	-0.01
54	I	CHLOROBENZENE-D5	1.000	1.000	0.0	85	-0.01
55	S	Toluene-d8	1.318	1.360	-3.2	85	0.00
56	C,T,M	Toluene	1.819	1.869	-2.7	86	-0.01
57	T,M	Ethyl methacrylate	0.319	0.321	-0.6	82	-0.01
58	T,M	trans-1,3-Dichloropropene	0.530	0.533	-0.6	85	0.00
59	T,M	1,1,2-Trichloroethane	0.230	0.238	-3.5	84	0.00
60	T,M	Tetrachloroethene	0.366	0.363	0.8	86	0.00
61	T,M	2-Hexanone	0.149	0.169	-13.4	79	-0.01
62	T,M	1,3-Dichloropropane	0.466	0.490	-5.2	84	-0.01
63	T,M	Dibromochloromethane	0.307	0.340	-10.7	88	0.00
64	T,M	1,2-Dibromoethane	0.231	0.243	-5.2	85	0.00
65	T,M	1-Chlorohexane	0.782	0.802	-2.6	90	-0.01
66	P,M	Chlorobenzene	1.051	1.091	-3.8	88	-0.01
67	C,T,M	Ethylbenzene	1.989	2.099	-5.5	89	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	0.356	0.386	-8.4	90	0.00
69	T,M	m-Xylene & p-Xylene	1.488	1.552	-4.3	85	-0.01
70	T,M	o-Xylene	1.461	1.549	-6.0	90	0.00
71	T,M	Styrene	1.048	1.130	-7.8	88	0.00
72	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	86	-0.01
73	P,T,M	Bromoform	0.368	0.393	-6.8	89	-0.01
74	T,M	Isopropylbenzene	5.537	5.546	-0.2	86	0.00
75	S	4-Bromofluorobenzene	1.183	1.208	-2.1	83	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	0.778	0.788	-1.3	84	-0.01
77	T,M	trans-1,4-Dichloro-2-butene	0.221	0.236	-6.8	87	0.00
78	T,M	n-Propylbenzene	7.064	6.975	1.3	84	0.00
79	T,M	1,2,3-Trichloropropane	0.162	0.172	-6.2	83	-0.01
80	T,M	Bromobenzene	1.083	1.086	-0.3	84	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.150	4.210	-1.4	88	0.00
82	T,M	2-Chlorotoluene	4.214	4.270	-1.3	88	0.00
83	T,M	4-Chlorotoluene	3.598	3.649	-1.4	87	0.00
84	T,M	tert-Butylbenzene	0.936	0.931	0.5	90	0.00
85	T,M	1,2,4-Trimethylbenzene	3.976	4.056	-2.0	90	0.00
86	T,M	sec-Butylbenzene	5.831	5.879	-0.8	87	0.00
87	T,M	p-Isopropyltoluene	4.600	4.641	-0.9	94	0.00
88	T,M	1,3-Dichlorobenzene	2.048	2.118	-3.4	90	-0.01
89	T,M	1,2,3-Trimethylbenzene	3.663	3.748	-2.3	87	0.00
90	T,M	1,4-Dichlorobenzene	2.042	2.082	-2.0	89	-0.01
91	T,M	Benzyl Chloride	1.073	1.110	-3.4	87	0.00
92	T,M	n-Butylbenzene	4.692	4.842	-3.2	88	0.00
93	T,M	1,2-Dichlorobenzene	1.700	1.764	-3.8	89	-0.01
94	T,M	1,2-Dibromo-3-chloropropane	0.090	0.094	-4.4	84	-0.01
95	T,M	1,2,4-Trichlorobenzene	0.913	0.935	-2.4	86	0.00
96	T,M	Hexachlorobutadiene	0.639	0.659	-3.1	90	0.00
97	T,M	Naphthalene	1.420	1.381	2.7	77	-0.01
98	T,M	1,2,3-Trichlorobenzene	0.685	0.702	-2.5	81	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 5 12:07 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.94	114	1935839	10.00	ug/l	-0.01
54) CHLOROBENZENE-D5	15.64	117	1417582	10.00	ug/l	-0.01
72) 1,2-DICHLOROBENZENE-D4	18.13	152	487146	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	10.72	111	614962	10.14	ug/l	-0.01
Spiked Amount 10.000			Recovery =	101.40%		
40) 1,2-Dichloroethane-d4	11.33	65	521801	10.18	ug/l	-0.01
Spiked Amount 10.000			Recovery =	101.80%		
55) Toluene-d8	13.97	98	1928024	10.32	ug/l	0.00
Spiked Amount 10.000			Recovery =	103.20%		
75) 4-Bromofluorobenzene	16.75	95	588715	10.21	ug/l	0.00
Spiked Amount 10.000			Recovery =	102.10%		
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.71	116	430927	9.29	ug/l	97
3) Dichlorodifluoromethane	3.78	85	905115	9.86	ug/l	96
4) Chloromethane	4.20	50	1316173	9.55	ug/l	99
5) 2-Chloro-1,1,1-trifluoroet	4.55	118	867176	11.51	ug/l	99
6) Vinyl chloride	4.39	62	1144291	9.94	ug/l	91
7) Bromomethane	5.03	94	692468	10.24	ug/l	99
8) Chloroethane	5.21	64	653543	10.10	ug/l	98
9) Dichlorofluoromethane	5.52	67	1652678	10.51	ug/l	99
10) Trichlorofluoromethane	5.62	101	895578	11.74	ug/l	99
11) Acrolein	6.37	56	289943	54.28	ug/l	98
12) 1,1,2-Trichloro-1,2,2-trif	6.49	151	432591	11.07	ug/l	100
13) 1,1-Dichloroethene	6.55	61	1551079	10.03	ug/l	98
14) Acetone	6.62	43	489696	43.96	ug/l	98
15) Iodomethane	6.90	142	1162857	10.56	ug/l	100
16) Methyl acetate	7.16	74	44007	8.99	ug/l #	53
17) Carbon disulfide	7.02	76	2167328	11.88	ug/l	99
18) Methylene chloride	7.45	49	1230118	10.24	ug/l	98
19) tert-Butyl alcohol	7.51	59	153725	51.45	ug/l #	100
20) tert-Butyl methyl ether (M	7.78	73	1166247	9.87	ug/l	99
21) trans-1,2-Dichloroethene	7.87	61	1456490	10.34	ug/l	99
22) Acrylonitrile	7.87	53	687593	54.45	ug/l	98
23) Isopropyl ether (DIPE)	8.61	45	3277696	10.26	ug/l	100
24) 1,1-Dichloroethane	8.67	63	1762586	10.13	ug/l	100
25) Vinyl acetate	8.67	86	69677	10.33	ug/l #	24
26) tert-Butyl ethyl ether (ET	9.31	59	1932513	9.36	ug/l	99
27) 2,2-Dichloropropane	9.77	77	684324	10.66	ug/l	99
28) cis-1,2-Dichloroethene	9.80	96	793978	9.99	ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 5 12:07 2019 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	2-Butanone	9.80	43	838921	52.93	ug/l	100
30)	2-Butanol	10.11	45	111473	43.33	ug/l	94
31)	Bromochloromethane	10.32	128	289502	10.12	ug/l	99
32)	Tetrahydrofuran	10.38	42	90295	10.12	ug/l	98
33)	Chloroform	10.40	83	1345678	10.00	ug/l	100
35)	1,1,1-Trichloroethane	10.75	97	945070	10.60	ug/l	100
36)	Cyclohexane	10.82	56	1613502	11.32	ug/l	99
37)	1,1-Dichloropropene	11.01	110	355381	9.61	ug/l	100
38)	Carbon tetrachloride	11.03	119	879891	11.01	ug/l	97
39)	tert-Amyl alcohol	11.30	59	105234	46.18	ug/l	98
41)	2,2,4-Trimethylpentane	11.40	57	3203429	12.83	ug/l	96
42)	Benzene	11.39	78	3045633	9.83	ug/l	99
43)	1,2-Dichloroethane	11.46	62	741474	10.16	ug/l	100
44)	tert-Amyl methyl ether (TA	11.44	87	236624	9.90	ug/l	92
45)	Trichloroethene	12.37	130	748694	9.54	ug/l	99
46)	Methylcyclohexane	12.60	83	1233235	10.23	ug/l	99
47)	1,2-Dichloropropane	12.71	63	831400	10.04	ug/l	99
48)	1,4-Dioxane	12.89	88	41133	175.33	ug/l	97
49)	Dibromomethane	12.92	93	293364	10.05	ug/l	98
50)	Bromodichloromethane	13.09	83	847671	10.35	ug/l	98
51)	2-Chloroethyl vinyl ether	13.44	63	81030	7.58	ug/l	98
52)	cis-1,3-Dichloropropene	13.64	75	1067193	10.08	ug/l	99
53)	4-Methyl-2-pentanone	13.78	43	1850031	53.74	ug/l	99
56)	Toluene	14.05	91	2649451	10.28	ug/l	99
57)	Ethyl methacrylate	14.33	69	455167	10.07	ug/l	99
58)	trans-1,3-Dichloropropene	14.33	75	755555	10.05	ug/l	99
59)	1,1,2-Trichloroethane	14.57	97	337014	10.35	ug/l	99
60)	Tetrachloroethene	14.71	164	515217	9.92	ug/l	97
61)	2-Hexanone	14.77	43	1194923	52.87	ug/l	99
62)	1,3-Dichloropropane	14.76	76	695009	10.52	ug/l	99
63)	Dibromochloromethane	15.06	129	481769	11.07	ug/l	100
64)	1,2-Dibromoethane	15.20	107	344189	10.51	ug/l	100
65)	1-Chlorohexane	15.55	91	1136614	10.25	ug/l	98
66)	Chlorobenzene	15.67	112	1545970	10.38	ug/l	98
67)	Ethylbenzene	15.72	91	2975055	10.55	ug/l	99
68)	1,1,1,2-Tetrachloroethane	15.74	131	547300	10.85	ug/l	99
69)	m-Xylene & p-Xylene	15.83	91	4399166	20.86	ug/l	99
70)	o-Xylene	16.24	91	2196091	10.60	ug/l	98
71)	Styrene	16.26	104	1602280	10.78	ug/l	99
73)	Bromoform	16.51	173	191535	10.69	ug/l	100
74)	Isopropylbenzene	16.56	105	2701479	10.01	ug/l	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 5 12:07 2019 Quant Results File: VOF3F17.RES

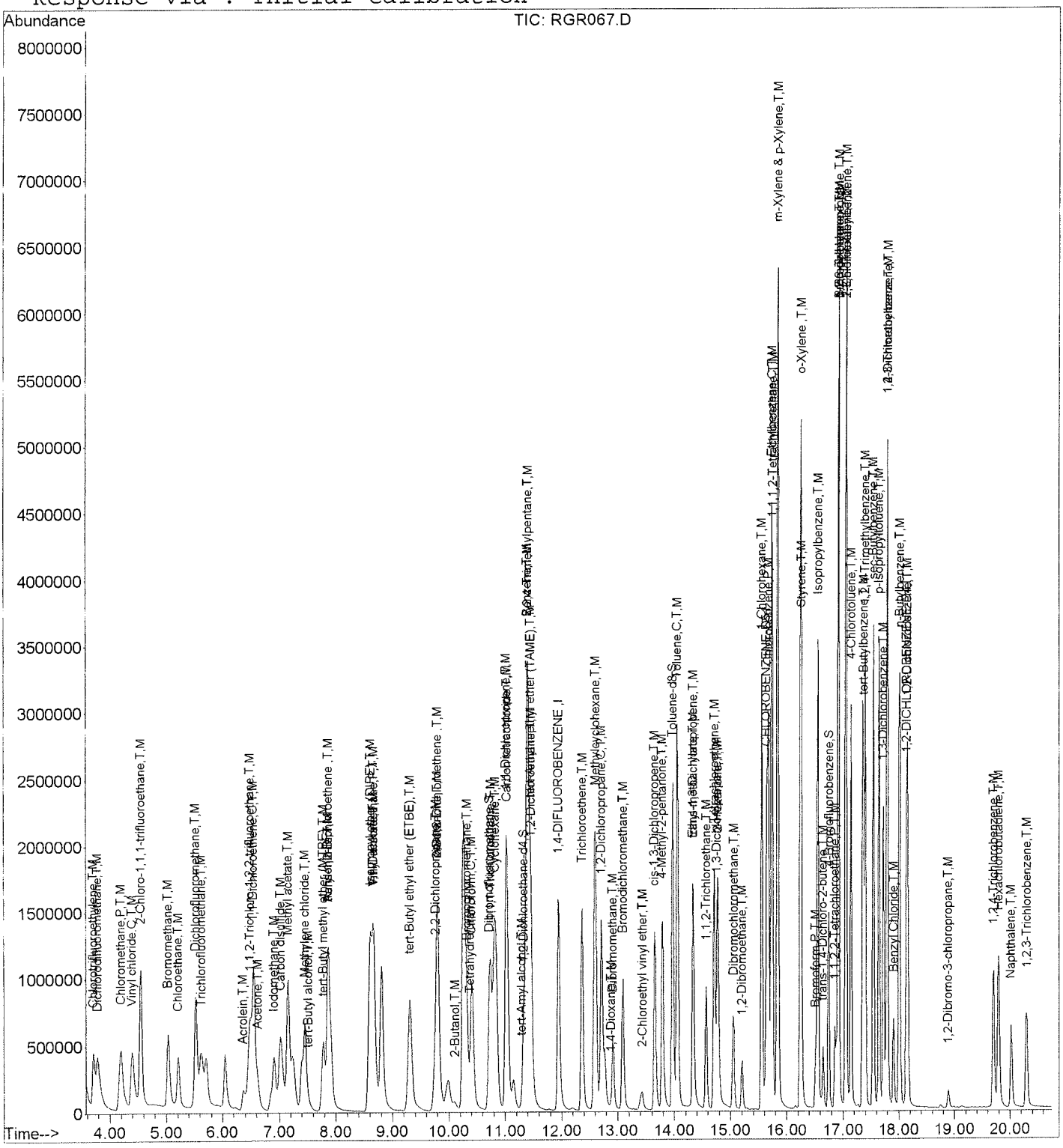
Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration
DataAcq Meth : VOF3F17

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
76)	1,1,2,2-Tetrachloroethane	16.85	83	383972	10.13	ug/l		98
77)	trans-1,4-Dichloro-2-buten	16.65	53	114975	10.66	ug/l		98
78)	n-Propylbenzene	16.91	91	3397854	9.87	ug/l		100
79)	1,2,3-Trichloropropane	16.91	110	83802	10.61	ug/l	#	62
80)	Bromobenzene	16.91	156	529133	10.03	ug/l		98
81)	1,3,5-Trimethylbenzene	17.05	105	2050986	10.15	ug/l		99
82)	2-Chlorotoluene	17.05	91	2080295	10.13	ug/l		99
83)	4-Chlorotoluene	17.14	91	1777375	10.14	ug/l		100
84)	tert-Butylbenzene	17.36	134	453427	9.95	ug/l		98
85)	1,2,4-Trimethylbenzene	17.39	105	1975675	10.20	ug/l		99
86)	sec-Butylbenzene	17.54	105	2863766	10.08	ug/l		100
87)	p-Isopropyltoluene	17.64	119	2260746	10.09	ug/l		100
88)	1,3-Dichlorobenzene	17.72	146	1031714	10.34	ug/l		99
89)	1,2,3-Trimethylbenzene	17.79	105	1826031	10.23	ug/l		99
90)	1,4-Dichlorobenzene	17.79	146	1014411	10.20	ug/l		99
91)	Benzyl Chloride	17.91	91	540973	10.35	ug/l		99
92)	n-Butylbenzene	18.01	91	2358779	10.32	ug/l		100
93)	1,2-Dichlorobenzene	18.15	146	859440	10.38	ug/l		98
94)	1,2-Dibromo-3-chloropropan	18.89	157	46010	10.51	ug/l		98
95)	1,2,4-Trichlorobenzene	19.71	180	455691	10.25	ug/l		98
96)	Hexachlorobutadiene	19.80	225	320985	10.31	ug/l		98
97)	Naphthalene	20.02	128	672512	9.72	ug/l		100
98)	1,2,3-Trichlorobenzene	20.30	180	341767	10.24	ug/l		99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\19G05\RGR067.D Vial: 2
Acq On : 5 Jul 2019 11:46 am Operator: VLu
Sample : CVOF3F1712 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 5 12:07 2019 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 16:24:47 2019
Response via : Initial Calibration



ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☒ EMAX-8260 Rev.No. 10 ☒ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 6/17/19 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book #: AF3-019

BATCH VOF3F1706

	Sample Prep ID	Data File Name	Lab Sample ID	(*) Sample Amount mL	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RFR253	BFBF3F09	A / B	NA	NA	NA		8260 ket-AA 13:24
02		54	VOF3F171	0.03/0.15					0.3 1.5 ppb
03		55	2	0.05/0.25					0.5 2.5
04		56	3	0.1/0.5					~~1.0~~ 1.0 5.0 VL 6/19/19
05		57	4	0.2/1.0					2.0 10
06		58	5	0.5/2.5					5.0 25
07		59	6	1.0/5.0					10 50
08		60	7	2.0/10					20 100
09		61	8	3.0/15					30 150
10		62	9	5.0/25					50 250
11		63	10	10/50					100 500
12		64	RINSE						
13		65	↓						
14		66	IVOF3F1701						(A): CS_2, 4add, GAS, 224-TAA FREON
15		67	RINSE						
16		68	LOD VERF.						(B): 8260, ket-AA 21:03
17		69	LOQ VERF.						
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									VL 6/19/19

Instrument No.	F3
INITIAL CALIBRATION REFERENCE	
DATE	6/17/19
ICAL ID	VOF3F17

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC 8260 ket-AA	SVI-32-41-01	*	
	-29-01		
DCC 4add GAS	-40-02		
	-39-02		
DCC CS_2 FREON	-22-02		
	-21-02		
DCC TAA+224	-29-02		
BFB	SVI-31-79-03	1	
IS/SURR. IS	SVI-32-13-03	5	50/1250/1250
SS	-17-01	*	
ICV/LCS 8260 ket-AA	-36-02	5	
	-34-01	5	
ICV/LCS 3add 2but	SVI-31-94-03	5	
	-31-86-02	5	
ICV/LCS GAS CS_2	-32-39-03	1	
	-32-05-01	1	
ICV/LCS FREON TAA	-32-28-02	5	
	-31-87-01	5	
224 Data File Folder	-31-85-02 19F17	5	

	LOT #	Syringe Lot #
pH strip		MSV-01-04-19
Chlorine strip		-02-08
Methanol		-04-13-01
$NaHSO_4$		-04-24-04
Reagent Water	RW3-18-001	-03-03-02
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TOF3	

Comments: (*) varied amount

☐ Refer to sample weight log

Analyzed By: DN

Date Disposed: 6/18/19 Disposed By: DN

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/5/19 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book #: AF3-019

BATCH CV0F3F1712

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RGR066	BFBF3G03 ✓						11:00
02		67	CV0F3F1712 ✓						
03		68	V0F3G03L						} bias high
04		69	↓ C						
05		70	↓ B ✓	25 mL					
06		71	STD CHK						
07		72	V0F3G03X ✓						
08		73	↓ Y ✓						
09		74	19F234-08I ✓	1.0 mL	25	✓	✓		
10		75	-04I ✓	5.0 mL	5.0	✓	✓		
11		76	-13 ✓	25 mL	1.0	✓	✓		
12		77	-13M ✓	↓	↓	✓	✓		
13		78	-13S ✓			✓	✓		
14		79	-06 ✓			✓	✓		
15		80	↓ -07 ✓			✓	✓		
16		81	19G038-01 ✓			✓	✓		
17		82	-02 ✓			✓	✓		
18		83	-03 ✓			✓	✓		
19		84	-04 ✓			✓	✓		
20		85	-05 ✓			✓	✓		
21		86	-06 ✓			✓	✓		
22		87	↓ -07 ✓			✓	✓		
23		88	19G025-01 ✓			✓	✓		
24		89	↓ -02 ✓			✓	✓		
25		90	↓ -03 ✓	↓	↓	✓	✓		
26		91	EV0F3F1712 ✓						22:44
27		92	↓ A						
28		93	↓ B						
29		↓ 94-98	RINSE						
30									VL 7/18/19

Instrument No.	F3
INITIAL CALIBRATION REFERENCE	
DATE	VL 7/18/19 ~~V0F3F17~~ 6/17/19
ICAL ID	V0F3F17

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC 8260 ket-AA	SVI-32-41-01	5	
	-45-01	5	
DCC 4add GAS	-40-02	1	
	-39-02	1	
DCC CS_2 FREON	-22-02	1	
	-49-01	1	
DCC TAA+224	↓ -29-02	1	
BFB	SVI-31-79-03	1	50/250/1250
IS/SURR.	-32-45-02	5	
ICV/LCS 8260 ket-AA	-32-36-02	5	
	-32-34-01	5	
ICV/LCS 3add 2but	-31-94-03	5	
	-31-86-02	5	
ICV/LCS GAS CS_2	-32-39-03	1	
	-32-05-01	1	
ICV/LCS FREON TAA	-32-48-02	5	
	-31-87-01	5	
Data File Folder 224	↓ -31-85-02	5	19G05

	LOT #	Syringe Lot #
pH strip	HC863463	MSV-01-04-22-3
Chlorine strip	9130B	↓ -16
Methanol		
$NaHSO_4$		
Reagent Water	RW5-19-001	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TOF3	

Comments:

☐ Refer to sample weight log

Analyzed By: VL

Date Disposed: 7/8/19 Disposed By: VL

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889

Date: 08-02-2019
EMAX Batch No.: 19G134

Attn: Mark Cichy

JACOBS/CH2M HILL
2525 Airpark Drive
Redding CA 96001

Subject: Laboratory Report
Project: VHA-SLC

Enclosed is the Laboratory report for samples received on 07/16/19.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
OU2-SB-EB26	G134-01	07/11/19	WATER	VOCS BY 8260C
OU2-SB-TB21	G134-02	07/11/19	WATER	VOCS BY 8260C

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912018-14
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

19G134

CH2MHILL **CHAIN OF CUSTODY RECORD** *7/12/2019 12:47:59 PM* Page 1 OF 1

Project Name VHA-SLC
Location Salt Lake City, UT
Project Number 697496CH.SL.03.0J
Project Manager David Waite
Sample Manager Sandy Schut

Task Order 3015
Project SOIL SAMPLING ROUND 2
Turnaround Time 21 Days
Shipping Date:
COC Number: EXMT71519

	Container:	4 oz jar	40mL glass	40mL glass	5 Gram Encore			
	Preservatives:	4°C (± 2°C)	4°C (± 2°C), HCl to pH < 2	4°C (± 2°C), HCl to pH < 2	4°C (± 2°C)			
	Filtered:	Lab	Lab	NA	Lab			
	Holding Time:	28	14	14	14			
		Percent Moisture	SW8260C (VOCs)	SW8260C (VOCs)	VOC (SW8260C/5035)		Number of Containers	COMMENTS
	DATE / TIME / Matrix							
~~OU2-SB60~~	~~7/11/2019 16:00 Soil~~	x			x	Sample Frozen 7/11/19 @ 16:15 pm	~~4~~	JD 7-15-19
1 OU2-SB-EB26	7/11/2019 16:00 Water		x				3	
2 OU2-SB-TB21	7/11/2019 16:00 Water			x			2	
						TOTAL NUMBER OF CONTAINERS	~~3~~ 5	JD 7-15-19

	Signatures	Date/Time
Approved by		7-15-19 MW
Sampled by		
Relinquished by		
Received by		7/16/19 0930
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: EMAX Labs., Inc.
Lab Phone: (310) 618-8889

ATTN:
Sample Custody
and
Raman Singh

Special Instructions:

Report Copy to
Mark Cichy
(530) 229-3274 Mark.Cichy@jacobs.com

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 19G134
☑ Fedex ☐ UPS ☐ GSO ☐ Others	775716965604	Recipient MH/TAW
☐ EMAX Courier ☐ Client Delivery		Date 7/16/19 Time 09:30

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☐ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 1.2 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	(A) *S/N 170324872*	*B - S/N 150555522*	*C - S/N 170324888*	*D - S/N* _____	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
D1	Analysis is not indicated in _____	D13	Out of Holding Time	R1	Proceed as indicated in ☐ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
D3	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in _____	D16	Preservation not indicated in _____	R4	Use vial with smallest bubble first
D5	Container -[improper] [leaking] [broken]	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in _____	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	_____
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	_____
D10	No initial/date on corrections in COC/label	D22	_____	R10	_____
D11	Container count mismatch COC vs received	D23	_____	R11	_____
D12	Container size mismatch COC vs received	D24	_____	R12	_____

REVIEWS:

Sample Labeling Miller Vang Date 7/16/19 7/16/19

SRF Date 7/16/19

PM Date 7/16/19

EMAX Laboratories, Inc. 1835 W. 205th St., Torrance, Ca 90501

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 2

SAMPLES RECEIVED FOR ECN: 19G134

pH paper Lot #: N/A

LAB SAMPLE ID (*)	LAB SAMPLE CONTAINER ID	COOLER#	CONTAINER TYPE								CHEMICAL PRESERVATIVE											Filtered	
			Jar	Amber	HDPE	Encore	Vial	Tube	Bag	Other	NONE	HCl (pH<2)	HNO_3 (pH<2)	H_2SO_4 (pH<2)	ZnAc +NaOH (pH>9)	ZnAc +NaOH (pH>12)	NaOH (pH>10)	$Na_2S_2O_3$	Methanol	NaHSO4	Other	Yes	No
1	* 1						✓					✓											
	* 2						✓					✓											
	* 3						✓					✓											
2	* 4						✓					✓											
	* 5						✓					✓											
	* 6																						
	* 7																						
	* 8																						
	* 9																						
	* 0																						
	* 1																						
	* 2																						
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	* 6																						
	* 7																						
	* 8																						
	* 9																						
	* 0																						

Milton Vuong
7/16/19

ORIGIN ID:BTFA (385) 474-8502
EMILEE EDGINTON
CH2M HILL, INC
4246 SOUTH RIVERBOAT ROAD
STE 210
TAYLORSVILLE, UT 84123
UNITED STATES US

SHIP DATE: 15JUL19
ACTWGT: 55.00 LB
CAD: 4309842/INET4100
DIMS: 28x15x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
EMAX LABORATORIES INC
1835 W 205TH ST

TORRANCE CA 90501
(310) 618-8889 REF: 697496CH.03.0C
INV:
PO: DEPT:

565J2/A6F9/23AD

FedEx Express

J19101901070tuv

TUE - 16 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7757 1696 5604**

WZ HHRA

90501
CA-US **LAX**

1.2°C (A) 0930

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

SUMMARY PACKAGE
VOLATILE ORGANICS

CASE NARRATIVE

Client : JACOBS/CH2M HILL

Project: VIIA-SLC

SDG : 19G134

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

A total of two (2) water samples were received on 07/16/19 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030B/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There was one (1) CCV associated with this SDG Target analytes in CCV (Data file ID: RGW279) were within calibration acceptance criteria. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. VO06G15B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. VO06G15L/VO06G15C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Results were confirmed by re-analysis. Only results for re-analysis were reported.

SAMPLE RESULTS

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/11/19
Project : VHA-SLC	Date Received: 07/16/19
Batch No. : 19G134	Date Extracted: 07/18/19 13:30
Sample ID: OU2-SB-EB26	Date Analyzed: 07/18/19 13:30
Lab Samp ID: G134-01N	Dilution Factor: 1
Lab File ID: RGW284	Matrix : WATER
Ext Btch ID: VOO6G15	% Moisture : NA
Calib. Ref.: RGW214	Instrument ID : 06

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	7.6J	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	0.40J	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	9.88	10.00	98.8	70-130
DIBROMOFLUOROMETHANE	10.4	10.00	104	70-130

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/11/19
Project : VHA-SLC	Date Received: 07/16/19
Batch No. : 19G134	Date Extracted: 07/18/19 20:13
Sample ID: OU2-SB-TB21	Date Analyzed: 07/18/19 20:13
Lab Samp ID: G134-02N	Dilution Factor: 1
Lab File ID: RGW299	Matrix : WATER
Ext Btch ID: VOO6G15	% Moisture : NA
Calib. Ref.: RGW214	Instrument ID : 06

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	ND	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	0.12J	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	0.11J	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	0.26J	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.0	10.00	110	70-130
BROMOFLUOROBENZENE	10.3	10.00	103	70-130
TOLUENE-D8	9.67	10.00	96.7	70-130
DIBROMOFLUOROMETHANE	10.5	10.00	105	70-130

QC SUMMARIES

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/18/19
Batch No. : 19G134	Date Extracted: 07/18/19 13:03
Sample ID: MBLK1W	Date Analyzed: 07/18/19 13:03
Lab Samp ID: V006G15B	Dilution Factor: 1
Lab File ID: RGW283	Matrix : WATER
Ext Btch ID: V006G15	% Moisture : NA
Calib. Ref.: RGW214	Instrument ID : 06

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	ND	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	9.81	10.00	98.1	70-130
DIBROMOFLUOROMETHANE	10.7	10.00	107	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G134
METHOD: SW5030B/8260C

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	V006G15B	V006G15L	V006G15C		
LAB FILE ID:	RGW283	RGW280	RGW281		
DATE EXTRACTED:	07/18/1913:03	07/18/1911:42	07/18/1912:09	DATE COLLECTED:	NA
DATE ANALYZED:	07/18/1913:03	07/18/1911:42	07/18/1912:09	DATE RECEIVED:	07/18/19
PREP. BATCH:	V006G15	V006G15	V006G15		
CALIB. REF:	RGW214	RGW214	RGW214		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	11.1	111	10.0	10.5	105	6	74-131	20
1,1,2,2-Tetrachloroethane	ND	10.0	9.51	95	10.0	9.05	90	5	71-121	20
1,1,2-Trichloroethane	ND	10.0	9.91	99	10.0	9.77	98	1	80-119	20
1,1-Dichloroethane	ND	10.0	10.3	103	10.0	9.86	99	4	77-125	20
1,1-Dichloroethene	ND	10.0	9.71	97	10.0	9.55	96	2	71-131	20
1,2,3-Trichlorobenzene	ND	10.0	9.80	98	10.0	10.2	102	4	69-129	20
1,2,4-Trichlorobenzene	ND	10.0	9.66	97	10.0	9.66	97	0	69-130	20
1,2,4-Trimethylbenzene	ND	10.0	9.55	96	10.0	9.02	90	6	76-124	20
1,2-Dibromo-3-chloropropane	ND	10.0	9.29	93	10.0	9.30	93	0	62-138	20
1,2-Dichlorobenzene	ND	10.0	9.49	95	10.0	9.16	92	4	80-119	20
1,2-Dichloroethane	ND	10.0	10.5	105	10.0	10.4	104	1	73-128	20
1,2-Dichloropropane	ND	10.0	10.3	103	10.0	9.95	99	4	78-122	20
1,3,5-Trimethylbenzene	ND	10.0	9.62	96	10.0	9.06	91	6	75-124	20
1,3-Dichlorobenzene	ND	10.0	9.57	96	10.0	9.09	91	5	80-119	20
1,4-Dichlorobenzene	ND	10.0	9.48	95	10.0	9.08	91	4	79-118	20
2-Butanone	ND	50.0	50.3	101	50.0	47.6	95	5	56-143	20
2-Hexanone	ND	50.0	50.6	101	50.0	49.2	98	3	57-139	20
Acetone	ND	50.0	47.4	95	50.0	47.6	95	1	39-160	20
Benzene	ND	10.0	10.5	105	10.0	10.0	100	4	79-120	20
Bromochloromethane	ND	10.0	10.6	106	10.0	10.2	102	4	78-120	20
Bromodichloromethane	ND	10.0	10.8	108	10.0	10.4	104	4	79-125	20
Bromoform	ND	10.0	9.23	92	10.0	9.10	91	1	66-130	20
Bromomethane	ND	10.0	10.2	102	10.0	9.16	92	11	53-141	20
Carbon Disulfide	ND	10.0	10.2	102	10.0	8.79	88	15	64-133	20
Carbon Tetrachloride	ND	10.0	11.3	113	10.0	10.7	107	6	72-136	20
Chlorobenzene	ND	10.0	10.0	100	10.0	9.68	97	3	82-118	20
Chloroethane	ND	10.0	9.82	98	10.0	8.48	85	15	60-138	20
Chloroform	ND	10.0	10.5	105	10.0	9.95	99	6	79-124	20
Chloromethane	ND	10.0	10.3	103	10.0	9.46	95	9	50-139	20
cis-1,2-Dichloroethylene	ND	10.0	10.4	104	10.0	10.3	103	1	78-123	20
Dibromochloromethane	ND	10.0	10.0	100	10.0	9.66	97	4	74-126	20

Dichlorodifluoromethane	ND	10.0	11.3	113	10.0	10.1	101	11	32-152	20
Ethylbenzene	ND	10.0	10.3	103	10.0	9.90	99	4	79-121	20
Isopropylbenzene	ND	10.0	10.4	104	10.0	9.97	100	4	72-131	20
m,p-Xylene	ND	20.0	21.1	105	20.0	20.0	100	5	80-121	20
4-Methyl-2-Pentanone	ND	50.0	52.6	105	50.0	50.4	101	4	67-130	20
Methylene Chloride	ND	10.0	10.5	105	10.0	10.1	101	4	74-124	20
tert-Butyl Methyl Ether	ND	10.0	10.1	101	10.0	9.51	95	7	71-124	20
o-Xylene	ND	10.0	10.1	101	10.0	9.61	96	5	78-122	20
Styrene	ND	10.0	10.3	103	10.0	9.89	99	4	78-123	20
Tetrachloroethene	ND	10.0	10.2	102	10.0	9.66	97	5	74-129	20
Toluene	ND	10.0	10.1	101	10.0	9.75	98	4	80-121	20
Trans-1,2-DCE	ND	10.0	10.3	103	10.0	9.84	98	5	75-124	20
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	20.0	20.9	105	20.0	20.1	101	4	77-123	20
cis-1,3-Dichloropropene	ND	10.0	10.6	106	10.0	10.1	101	4	75-124	20
Trans-1,3-Dichloropropene	ND	10.0	10.3	103	10.0	10.0	100	3	73-127	20
TCE	ND	10.0	10.4	104	10.0	9.80	98	6	79-123	20
Trichlorofluoromethane	ND	10.0	10.5	105	10.0	9.53	95	9	65-141	20
Vinyl Chloride	ND	10.0	11.0	110	10.0	10.2	102	8	58-137	20
1,2-Dibromoethane	ND	10.0	10.2	102	10.0	10.0	100	2	77-121	20
Vinyl Acetate	ND	10.0	10.6	106	10.0	9.78	98	8	54-146	20
Trichlorotrifluoroethane	ND	10.0	10.5	105	10.0	10.1	101	4	70-136	20
Methyl Acetate	ND	10.0	10.5	105	10.0	9.35	93	11	50-136	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.4	104	10.0	10.4	104	70-130
Bromofluorobenzene	10.0	10.4	104	10.0	10.2	102	70-130
Toluene-d8	10.0	9.87	99	10.0	9.70	97	70-130
Dibromofluoromethane	10.0	10.6	106	10.0	10.8	108	70-130

INITIAL CALIBRATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc — Contract: VHA-SLC
Lab Code: EMXT — Case No.: — SAS No.: — SDG No.: 19G134
Lab File ID: RGW208 — BFB Injection Date : 07/15/19
Instrument ID: 06 — BFB Injection Time : 15:18
GC Column:RTX502.2ID:0.25mm (mm) — Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.05
75	30.0 - 60.0% of mass 95	47.66
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.08
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	74.88
175	5.0 - 9.0% of mass 174	5.92(7.9)1
176	95.0 - 101.0% of mass 174	74.83(99.9)1
177	5.0 - 9.0% of mass 176	5.14(6.9)2

1-Value is % mass 174 — 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	V006G151	RGW209	07/15/19	16:04
2	VSTD0.5	V006G152	RGW210	07/15/19	16:31
3	VSTD01	V006G153	RGW211	07/15/19	16:58
4	VSTD02	V006G154	RGW212	07/15/19	17:24
5	VSTD05	V006G155	RGW213	07/15/19	17:51
6	VSTD010	V006G156	RGW214	07/15/19	18:18
7	VSTD020	V006G157	RGW215	07/15/19	18:45
8	VSTD030	V006G158	RGW216	07/15/19	19:12
9	VSTD050	V006G159	RGW217	07/15/19	19:39
10	VSTD100	V006G1510	RGW218	07/15/19	20:06
11	VSTD010	IV006G1501	RGW221	07/15/19	21:26

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :TO06
Beginning DateTime :07/15/19 16:04
Spike Units :PPB
IC File :RGW214

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :07/15/19 20:06
HPChem Method :VO06G15

M	IDX	Parameters	.3 16:04 RGW209	.5 16:31 RGW210	1 16:58 RGW211	2 17:24 RGW212	5 17:51 RGW213	10 18:18 RGW214	20 18:45 RGW215	30 19:12 RGW216	50 19:39 RGW217	100 20:06 RGW218	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	8.6056
	2	Dichlorodifluoromethane	------	0.297	0.371	0.398	0.441	0.434	0.445	0.411	0.409	0.396	0.400	11.32	1.7203
	3	Chloromethane	------	0.411	0.457	0.463	0.497	0.501	0.531	0.492	0.510	0.483	0.483	7.30	1.9530
	4	Vinyl chloride	------	0.326	0.419	0.458	0.490	0.452	0.445	0.384	------	------	0.425	12.84	2.0734
	5	Bromomethane	------	0.246	0.317	0.339	0.361	0.356	0.369	0.349	0.329	------	0.333	11.79	2.5373
	6	Chloroethane	------	0.199	0.255	0.279	0.312	0.311	0.335	0.318	0.343	0.318	0.297	15.32	2.6352
	7	Dichlorofluoromethane	0.726	0.782	0.736	0.740	0.803	0.769	0.792	0.833	0.850	0.772	0.780	5.21	2.6706
	8	Trichlorofluoromethane	------	0.335	0.422	0.468	0.519	0.498	0.519	0.504	0.517	0.503	0.476	12.87	2.8965
5	9	Acrolein	------	------	0.018	0.022	0.019	0.019	0.018	0.019	0.021	0.019	0.019	6.90	3.4021
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	0.246	0.255	0.246	0.243	0.273	0.260	0.263	0.277	0.283	0.272	0.262	5.50	3.4562
5	11	Acetone	------	------	------	0.033	0.030	0.027	0.026	0.027	0.028	0.026	0.028	8.45	3.4932
	12	1,1-Dichloroethene	0.644	0.702	0.657	0.681	0.755	0.722	0.705	0.744	0.766	0.736	0.711	5.78	3.6571
5	13	tert-Butyl alcohol	0.010	0.013	0.010	0.010	0.011	0.010	0.010	0.009	0.011	0.010	0.010	10.02	3.7717
	14	Acetonitrile	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	15	Methyl acetate	------	------	------	0.018	0.020	0.020	0.018	0.020	0.022	0.022	0.020	8.35	4.1161
	16	Iodomethane	0.593	0.637	0.585	0.620	0.692	0.656	0.648	0.675	0.705	0.694	0.650	6.48	4.0842
	17	Methylene chloride	0.476	0.533	0.477	0.487	0.537	0.512	0.489	0.511	0.534	0.508	0.506	4.62	4.3074
	18	Carbon disulfide	------	0.951	1.077	1.232	1.330	1.278	1.306	1.329	1.405	------	1.239	12.17	4.3099
5	19	Acrylonitrile	0.037	0.041	0.042	0.045	0.049	0.049	0.048	0.048	0.053	0.051	0.046	10.97	4.5068
	20	tert-Butyl methyl ether (MTBE)	0.433	0.422	0.412	0.423	0.470	0.462	0.436	0.434	0.495	0.452	0.444	5.78	4.5499
	21	trans-1,2-Dichloroethene	0.499	0.593	0.577	0.602	0.678	0.642	0.627	0.641	0.675	0.644	0.618	8.59	4.7374
	22	Isopropyl ether (DIPE)	1.008	1.157	1.124	1.140	1.287	1.216	1.172	1.204	1.276	1.191	1.177	6.79	5.2820
	23	Vinyl acetate	0.272	0.343	0.297	0.323	0.390	0.352	0.363	0.353	0.356	0.357	0.340	10.09	5.4725
	24	1,1-Dichloroethane	0.639	0.678	0.678	0.680	0.758	0.730	0.710	0.734	0.786	0.772	0.717	6.66	5.4278
5	25	2-Butanol	------	0.008	0.009	0.007	0.010	0.009	0.008	0.009	0.009	0.010	0.009	10.88	5.8658
	26	tert-Butyl ethyl ether (ETBE)	0.907	0.884	0.795	0.792	0.834	0.790	0.755	0.770	0.839	0.770	0.814	6.26	5.9843
5	27	2-Butanone	------	0.009	0.009	0.011	0.011	0.012	0.011	0.011	0.013	0.012	0.011	11.11	6.1932
	28	2,2-Dichloropropane	0.337	0.390	0.332	0.357	0.399	0.364	0.351	0.340	0.342	0.295	0.351	8.47	6.3891
	29	cis-1,2-Dichloroethene	0.343	0.367	0.388	0.409	0.438	0.420	0.411	0.420	0.453	0.441	0.409	8.40	6.4694
	30	Chloroform	0.561	0.610	0.570	0.594	0.661	0.622	0.610	0.629	0.674	0.641	0.617	5.89	6.7337
5	31	tert-Amyl alcohol	------	0.007	0.008	0.008	0.009	0.008	0.008	0.008	0.009	0.009	0.008	9.46	7.0614
	32	Bromochloromethane	0.238	0.254	0.249	0.260	0.296	0.279	0.274	0.274	0.292	0.279	0.269	6.92	7.0015
	33	Tetrahydrofuran	0.041	0.033	0.034	0.042	0.041	0.040	0.035	0.035	0.039	0.036	0.038	8.82	7.0759
	34	Dibromofluoromethane	------	------	0.251	0.308	0.328	0.327	0.304	0.302	0.338	0.324	0.310	8.69	7.1027
	35	1,1,1-Trichloroethane	0.416	0.475	0.452	0.464	0.521	0.493	0.481	0.491	0.498	0.470	0.476	6.04	7.4018
	36	Cyclohexane	------	------	0.478	0.547	0.576	0.610	0.548	0.591	0.609	0.614	0.572	8.14	7.4152
	37	2,2,4-Trimethylpentane	1.421	1.602	1.561	1.832	1.956	1.850	1.810	1.843	1.881	1.758	1.752	9.60	7.5312
	38	1,1-Dichloropropene	0.167	0.177	0.171	0.172	0.197	0.193	0.190	0.195	0.210	0.204	0.187	7.95	7.6682
	39	Carbon tetrachloride	0.342	0.379	0.363	0.378	0.439	0.424	0.432	0.436	0.457	0.447	0.410	9.86	7.8155
	40	tert-Amyl methyl ether (TAME)	0.099	0.116	0.108	0.112	0.127	0.120	0.116	0.117	0.130	0.119	0.116	7.63	7.8943
	41	1,2-Dichloroethane-d4	------	0.175	0.177	0.218	0.237	0.229	0.219	0.206	0.230	0.217	0.212	10.38	7.9360
	42	1,2-Dichloroethane	0.256	0.267	0.260	0.284	0.317	0.307	0.293	0.292	0.309	0.290	0.287	7.24	8.0982
	43	Benzene	1.291	1.453	1.394	1.444	1.588	1.520	1.492	1.538	1.646	------	1.485	7.11	8.0996
	44	Trichloroethene	0.342	0.384	0.373	0.382	0.436	0.419	0.414	0.419	0.446	0.432	0.405	8.20	9.1130
	45	Methylcyclohexane	------	------	0.546	0.607	0.651	0.737	0.651	0.694	0.718	0.709	0.664	9.64	9.2008
	46	1,2-Dichloropropane	0.316	0.342	0.331	0.335	0.380	0.364	0.362	0.361	0.391	0.372	0.355	6.68	9.4091
20	47	1,4-Dioxane	------	------	------	------	0.001	0.001	0.001	0.001	0.001	0.001	0.001	11.26	9.8503
	48	Bromodichloromethane	0.302	0.362	0.342	0.341	0.406	0.387	0.388	0.387	0.408	0.388	0.371	9.09	9.7826

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49	Dibromomethane	0.122	0.131	0.128	0.137	0.153	0.146	0.142	0.143	0.151	0.146	0.140	7.32	9.8674
50	2-Chloroethyl vinyl ether	------	0.108	0.106	0.109	0.125	0.123	0.122	0.121	0.133	0.126	0.119	7.89	10.3333
5 51	4-Methyl-2-pentanone	0.139	0.152	0.137	0.146	0.164	0.166	0.155	0.150	0.166	0.150	0.152	6.89	10.3778
52	cis-1,3-Dichloropropene	0.413	0.490	0.459	0.470	0.535	0.509	0.501	0.500	0.535	0.515	0.493	7.59	10.6888
53	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	13.5011
54	Toluene-d8	------	1.010	1.183	1.402	1.418	1.426	1.339	1.345	1.478	------	1.325	11.68	11.0607
55	Toluene	1.586	1.746	1.667	1.691	1.886	1.754	1.729	1.808	1.860	------	1.747	5.40	11.1913
56	Ethyl methacrylate	------	0.243	0.241	0.249	0.284	0.273	0.266	0.274	0.293	0.279	0.267	6.91	11.5237
57	trans-1,3-Dichloropropene	0.340	0.384	0.370	0.377	0.438	0.411	0.415	0.420	0.449	0.431	0.403	8.53	11.5087
58	1,1,2-Trichloroethane	0.179	0.208	0.184	0.184	0.208	0.201	0.199	0.195	0.214	0.204	0.198	5.97	11.7467
5 59	2-Hexanone	0.084	0.113	0.100	0.112	0.120	0.120	0.112	0.108	0.118	0.109	0.110	10.11	11.7944
60	1,3-Dichloropropane	0.352	0.373	0.378	0.393	0.440	0.412	0.393	0.394	0.430	0.411	0.398	6.62	12.1619
61	Tetrachloroethene	0.334	0.374	0.358	0.377	0.412	0.403	0.391	0.394	0.421	0.404	0.387	6.84	12.2363
62	Dibromochloromethane	------	0.255	0.229	0.231	0.275	0.262	0.270	0.268	0.294	0.278	0.262	8.07	12.5637
63	2-Ethyl-1-butanol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
64	1,2-Dibromoethane	0.156	0.192	0.195	0.195	0.215	0.206	0.202	0.208	0.227	0.212	0.201	9.51	12.8865
65	1-Chlorohexane	0.649	0.734	0.722	0.693	0.829	0.773	0.777	0.804	0.824	0.789	0.760	7.72	13.1737
66	Chlorobenzene	0.939	1.011	0.986	1.012	1.129	1.066	1.034	1.062	1.143	------	1.043	6.29	13.5605
67	1,1,1,2-Tetrachloroethane	0.266	0.306	0.301	0.309	0.349	0.332	0.334	0.341	0.376	------	0.324	9.88	13.6349
68	Ethylbenzene	1.748	2.069	1.947	1.974	2.238	2.075	2.045	2.108	2.041	------	2.027	6.58	13.6498
2 69	m-Xylene & p-Xylene	1.388	1.552	1.449	1.482	1.650	1.537	1.538	1.507	1.215	------	1.480	8.32	13.7804
70	o-Xylene	1.412	1.476	1.432	1.431	1.581	1.510	1.473	1.503	1.563	------	1.487	3.95	14.4831
71	Styrene	0.965	1.123	1.039	1.050	1.189	1.135	1.123	1.149	1.218	1.043	1.103	7.02	14.5427
72	Isopropylbenzene	1.636	1.891	1.815	1.874	2.145	2.008	1.961	1.996	1.948	------	1.919	7.40	15.0634
73	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.8534
74	Bromoform	------	0.295	0.282	0.308	0.338	0.334	0.341	0.357	0.402	0.385	0.338	11.73	15.0784
75	1,1,2,2-Tetrachloroethane	0.639	0.597	0.581	0.619	0.637	0.624	0.602	0.610	0.671	0.629	0.621	4.09	15.3506
76	4-Bromofluorobenzene	------	0.891	1.034	1.227	1.228	1.252	1.191	1.162	1.316	1.262	1.174	11.28	15.4652
77	1,2,3-Trichloropropane	0.154	0.123	0.152	0.156	0.166	0.157	0.154	0.158	0.173	0.161	0.155	8.33	15.5887
78	trans-1,4-Dichloro-2-butene	0.145	0.169	0.160	0.161	0.185	0.174	0.176	0.176	0.194	0.173	0.171	8.08	15.7048
79	n-Propylbenzene	5.942	6.696	6.424	6.579	7.328	6.953	6.875	7.166	6.393	------	6.706	6.39	15.7181
80	Bromobenzene	0.867	1.012	0.920	1.009	1.050	1.037	1.020	1.063	1.165	1.116	1.026	8.40	15.7777
81	1,3,5-Trimethylbenzene	3.630	3.865	3.861	3.786	4.330	4.207	4.165	4.287	4.660	------	4.088	7.96	15.9711
82	2-Chlorotoluene	3.710	3.928	3.903	3.965	4.290	4.105	4.068	4.541	4.521	------	4.114	6.90	15.9992
83	4-Chlorotoluene	3.168	3.261	3.255	3.266	3.638	3.539	3.480	3.263	3.945	------	3.424	7.34	16.0752
84	tert-Butylbenzene	0.824	0.916	0.935	0.907	1.034	1.044	1.034	1.056	1.133	1.083	0.997	9.60	16.5515
85	1,2,4-Trimethylbenzene	3.444	3.861	3.752	3.818	4.214	4.085	4.062	4.184	4.513	------	3.993	7.81	16.6109
86	sec-Butylbenzene	5.130	5.589	5.567	5.615	6.449	6.183	6.146	6.352	5.929	------	5.884	7.42	16.8936
87	p-Isopropyltoluene	3.949	4.299	4.567	4.287	5.060	4.989	4.843	4.878	4.923	------	4.644	8.34	17.1069
88	1,3-Dichlorobenzene	1.801	1.961	1.857	1.934	2.161	2.137	2.092	2.054	2.222	2.118	2.034	6.85	17.2389
89	1,2,3-Trimethylbenzene	------	------	2.812	3.523	3.606	3.523	3.337	3.423	3.739	2.882	3.356	10.01	17.3420
90	1,4-Dichlorobenzene	1.636	1.843	1.850	1.897	2.113	2.055	1.979	2.051	2.177	2.025	1.963	8.10	17.3996
91	n-Butylbenzene	4.143	4.698	4.718	4.420	5.424	5.245	4.962	5.028	4.788	------	4.825	8.21	17.6822
92	1,2-Dichlorobenzene	1.449	1.528	1.549	1.592	1.772	1.697	1.635	1.654	1.774	1.670	1.632	6.41	17.8906
93	1,2-Dibromo-3-chloropropane	------	0.077	0.071	0.086	0.090	0.084	0.083	0.082	0.096	0.091	0.084	8.91	18.8281
94	1,2,4-Trichlorobenzene	0.921	0.996	1.024	0.985	1.240	1.148	1.094	1.089	1.176	1.111	1.078	9.02	19.7655
95	Hexachlorobutadiene	0.646	0.669	0.729	0.687	0.916	0.867	0.781	0.768	0.838	0.827	0.773	11.63	19.9143
96	Naphthalene	1.275	1.329	1.247	1.311	1.526	1.460	1.358	1.325	1.445	1.402	1.368	6.47	20.0631
97	1,2,3-Trichlorobenzene	0.657	0.723	0.760	0.730	0.928	0.862	0.787	0.754	0.826	0.797	0.782	9.80	20.3458

Spike Amount = Nominal Amount * M
Ave_%RSD : 8.3 Max_%RSD : 15.3

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
6	Chloroethane	-0.00693	0.32669	0.9994

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SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :T006
IC Beginning DateTime :07/15/19 16:04
Spike Amount :10 PPB
CC/CV File :RGW221
IC File :RGW214

Column Spec :RTX502.2 ID :0.25MM
IC Ending DateTime :07/15/19 20:06
HPChem Method :V006G15
Date_Time :07/15/19 21:26

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AVRRF	CC_Rtm	AVRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	2617912	1	1	8.606	8.606	0				
	2	Dichlorodifluoromethane	9.157	-8.4	959117	0.366	0.400	1.724	1.720	11.32				
	3	Chloromethane	9.389	-6.1	1186396	0.453	0.483	1.966	1.953	7.30				
	4	Vinyl chloride	10.043	0.4	1117021	0.427	0.425	2.080	2.073	12.84				
	5	Bromomethane	10.190	1.9	888517	0.339	0.333	2.541	2.537	11.79				
	6	Chloroethane	9.510	-4.9	795175	0.304	0.297	2.630	2.635	15.32	-0.0069	0.3267		0.9994
	7	Dichlorofluoromethane	9.566	-4.3	1953755	0.746	0.780	2.675	2.671	5.21				
	8	Trichlorofluoromethane	9.395	-6.0	1170899	0.447	0.476	2.898	2.897	12.87				
5	9	Acrolein	49.125	-1.7	249470	0.019	0.019	3.404	3.402	6.90				
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	9.675	-3.2	663094	0.253	0.262	3.449	3.456	5.50				
5	11	Acetone	44.773	-10.5	329028	0.025	0.028	3.493	3.493	8.45				
	12	1,1-Dichloroethene	9.492	-5.1	1767113	0.675	0.711	3.657	3.657	5.78				
5	13	tert-Butyl alcohol	47.967	-4.1	128136	0.010	0.010	3.761	3.772	10.02				
	14	Acetonitrile												
	15	Methyl acetate	9.935	-0.7	51874	0.020	0.020	4.118	4.116	8.35				
	16	Iodomethane	9.639	-3.6	1641339	0.627	0.650	4.088	4.084	6.48				
	17	Methylene chloride	9.274	-7.3	1229027	0.469	0.506	4.297	4.307	4.62				
	18	Carbon disulfide	10.205	2.1	3309278	1.264	1.239	4.312	4.310	12.17				
5	19	Acrylonitrile	51.672	3.3	627853	0.048	0.046	4.505	4.507	10.97				
	20	tert-Butyl methyl ether (MTBE)	9.659	-3.4	1122216	0.429	0.444	4.550	4.550	5.78				
	21	trans-1,2-Dichloroethene	9.659	-3.4	1562247	0.597	0.618	4.743	4.737	8.59				
	22	Isopropyl ether (DIPE)	9.319	-6.8	2872731	1.097	1.177	5.279	5.282	6.79				
	23	Vinyl acetate	9.405	-6.0	838316	0.320	0.340	5.472	5.472	10.09				
	24	1,1-Dichloroethane	9.501	-5.0	1782150	0.681	0.717	5.428	5.428	6.66				
5	25	2-Butanol	41.973	-16.1	94836	0.007	0.009	5.859	5.866	10.88				
	26	tert-Butyl ethyl ether (ETBE)	8.974	-10.3	1911497	0.730	0.814	5.978	5.984	6.26				
5	27	2-Butanone	48.271	-3.5	137813	0.011	0.011	6.186	6.193	11.11				
	28	2,2-Dichloropropane	9.446	-5.5	867360	0.331	0.351	6.395	6.389	8.47				
	29	cis-1,2-Dichloroethene	9.464	-5.4	1013035	0.387	0.409	6.469	6.469	8.40				
	30	Chloroform	9.254	-7.5	1495207	0.571	0.617	6.731	6.734	5.89				
5	31	tert-Amyl alcohol	44.228	-11.5	93535	0.007	0.008	7.058	7.061	9.46				
	32	Bromochloromethane	9.498	-5.0	669887	0.256	0.269	6.999	7.002	6.92				
	33	Tetrahydrofuran	9.527	-4.7	93534	0.036	0.038	7.073	7.076	8.82				
	34	Dibromofluoromethane	9.732	-2.7	790513	0.302	0.310	7.103	7.103	8.69				
	35	1,1,1-Trichloroethane	9.439	-5.6	1176424	0.449	0.476	7.401	7.402	6.04				
	36	Cyclohexane	9.911	-0.9	1483413	0.567	0.572	7.401	7.415	8.14				
	37	2,2,4-Trimethylpentane	9.831	-1.7	4508069	1.722	1.752	7.535	7.531	9.60				
	38	1,1-Dichloropropene	9.366	-6.3	459693	0.176	0.187	7.669	7.668	7.95				
	39	Carbon tetrachloride	9.678	-3.2	1038007	0.397	0.410	7.817	7.815	9.86				
	40	tert-Amyl methyl ether (TAME)	9.366	-6.3	285505	0.109	0.116	7.892	7.894	7.63				
	41	1,2-Dichloroethane-d4	9.498	-5.0	527169	0.201	0.212	7.936	7.936	10.38				
	42	1,2-Dichloroethane	9.162	-8.4	689407	0.263	0.287	8.100	8.098	7.24				
	43	Benzene	9.422	-5.8	3663099	1.399	1.485	8.100	8.100	7.11				
	44	Trichloroethene	9.569	-4.3	1014261	0.387	0.405	9.112	9.113	8.20				
	45	Methylcyclohexane	10.157	1.6	1765866	0.675	0.664	9.201	9.201	9.64				
	46	1,2-Dichloropropane	9.490	-5.1	882897	0.337	0.355	9.410	9.409	6.68				
20	47	1,4-Dioxane	181.499	-9.3	50068	0.001	0.001	9.856	9.850	11.26				
	48	Bromodichloromethane	9.420	-5.8	915493	0.350	0.371	9.781	9.783	9.09				
	49	Dibromomethane	9.546	-4.5	349621	0.134	0.140	9.871	9.867	7.32				
	50	2-Chloroethyl vinyl ether	9.255	-7.5	288792	0.110	0.119	10.332	10.333	7.89				
5	51	4-Methyl-2-pentanone	47.155	-5.7	1879859	0.144	0.152	10.377	10.378	6.89				
	52	cis-1,3-Dichloropropene	9.451	-5.5	1219419	0.466	0.493	10.689	10.689	7.59				
	53	CHLOROBENZENE-D5	10.000	0	2158478	1	1	13.502	13.501	0				
	54	Toluene-d8	10.336	3.4	2956500	1.370	1.325	11.061	11.061	11.68				
	55	Toluene	9.492	-5.1	3580373	1.659	1.747	11.195	11.191	5.40				
	56	Ethyl methacrylate	9.459	-5.4	544844	0.252	0.267	11.523	11.524	6.91				
	57	trans-1,3-Dichloropropene	9.636	-3.6	838987	0.389	0.403	11.508	11.509	8.53				
	58	1,1,2-Trichloroethane	9.278	-7.2	395767	0.183	0.198	11.746	11.747	5.97				
5	59	2-Hexanone	48.208	-3.6	1140795	0.106	0.110	11.790	11.794	10.11				
	60	1,3-Dichloropropane	9.859	-1.4	846114	0.392	0.398	12.162	12.162	6.62				
	61	Tetrachloroethene	9.711	-2.9	810842	0.376	0.387	12.237	12.236	6.84				
	62	Dibromochloromethane	9.341	-6.6	529156	0.245	0.262	12.564	12.564	8.07				
	63	2-Ethyl-1-butanol												
	64	1,2-Dibromoethane	9.679	-3.2	419397	0.194	0.201	12.877	12.887	9.51				
	65	1-Chlorohexane	9.575	-4.3	1569883	0.727	0.760	13.174	13.174	7.72				
	66	Chlorobenzene	9.607	-3.9	2161990	1.002	1.043	13.561	13.561	6.29				
	67	1,1,1,2-Tetrachloroethane	9.797	-2.0	684885	0.317	0.324	13.635	13.635	9.88				
	68	Ethylbenzene	9.653	-3.5	4223563	1.957	2.027	13.650	13.650	6.58				
2	69	m-Xylene & p-Xylene	19.741	-1.3	6305218	1.461	1.480	13.769	13.780	8.32				
	70	o-Xylene	9.327	-6.7	2993139	1.387	1.487	14.484	14.483	3.95				
	71	Styrene	9.400	-6.0	2238530	1.037	1.103	14.543	14.543	7.02				
	72	Isopropylbenzene	9.453	-5.5	3916273	1.814	1.919	15.064	15.063	7.40				
	73	1,2-DICHLOROBENZENE-D4	10.000	0	760563	1	1	17.847	17.853	0				
	74	Bromoform	9.386	-6.1	241349	0.317	0.338	15.079	15.078	11.73				
	75	1,1,2,2-Tetrachloroethane	9.491	-5.1	448153	0.589	0.621	15.347	15.351	4.09				
	76	4-Bromofluorobenzene	10.238	2.4	913966	1.202	1.174	15.466	15.465	11.28				
	77	1,2,3-Trichloropropane	9.708	-2.9	114760	0.151	0.155	15.585	15.589	8.33				
	78	trans-1,4-Dichloro-2-butene	9.393	-6.1	122472	0.161	0.171	15.704	15.705	8.08				
	79	n-Propylbenzene	9.812	-1.9	5004522	6.580	6.706	15.719	15.718	6.39				
	80	Bromobenzene	9.743	-2.6	760166	0.999	1.026	15.778	15.778	8.40				
	81	1,3,5-Trimethylbenzene	9.849	-1.5	3062097	4.026	4.088	15.972	15.971	7.96				
	82	2-Chlorotoluene	9.644	-3.6	3018014	3.968	4.114	15.986	15.999	6.90				
	83	4-Chlorotoluene	9.670	-3.3	2518290	3.311	3.424	16.076	16.075	7.34				
	84	tert-Butylbenzene	9.534	-4.7	722693	0.950	0.997	16.552	16.552	9.60				
	85	1,2,4-Trimethylbenzene	9.764	-2.4	2964887	3.898	3.993	16.611	16.611	7.81				
	86	sec-Butylbenzene	10.021	0.2	4485004	5.897	5.884	16.894	16.894	7.42				
	87	p-Isopropyltoluene	9.763	-2.4	3448329	4.534	4.644	17.103	17.107	8.34				
	88	1,3-Dichlorobenzene	9.643	-3.6	1491412	1.961	2.034	17.236	17.239	6.85				
	89	1,2,3-Trimethylbenzene	10.139	1.4	2587606	3.402	3.356	17.340	17.342	10.01				
	90	1,4-Dichlorobenzene	9.483	-5.2	1415642	1.861	1.963	17.400	17.400	8.10				
	91	n-Butylbenzene	9.507	-4.9	3488995	4.587	4.825	17.683	17.682	8.21				
	92	1,2-Dichlorobenzene	9.448	-5.5	1172712	1.542	1.632	17.891	17.891	6.41				
	93	1,2-Dibromo-3-chloropropane	9.283	-7.2	59653	0.078	0.084	18.829	18.828	8.91				
	94	1,2,4-Trichlorobenzene	9.712	-2.9	796422	1.047	1.078	19.766	19.765	9.02				
	95	Hexachlorobutadiene	10.061	0.6	591355	0.778	0.773	19.915	19.914	11.63				
	96	Naphthalene	9.730	-2.7	1012204	1.331	1.368	20.063	20.063	6.47				
	97	1,2,3-Trichlorobenzene	10.161	1.6	604620	0.795	0.782	20.346	20.346	9.80				

Spike Amount = Nominal Amount * M

DAILY CALIBRATIONS

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RGW278
Instrument ID: 06
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G134
BFB Injection Date : 07/18/19
BFB Injection Time : 10:15
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.51
75	30.0 - 60.0% of mass 95	49.03
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.30
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	73.68
175	5.0 - 9.0% of mass 174	5.92(8.0)1
176	95.0 - 101.0% of mass 174	71.65(97.2)1
177	5.0 - 9.0% of mass 176	3.96(5.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV006G1503	RGW279	07/18/19	10:49
2	MBLK1W	V006G15B	RGW283	07/18/19	13:03
3	LCS1W	V006G15L	RGW280	07/18/19	11:42
4	LCD1W	V006G15C	RGW281	07/18/19	12:09
5	OU2-SB-EB26	G134-01N	RGW284	07/18/19	13:30
6	OU2-SB-TB21	G134-02N	RGW299	07/18/19	20:13

FORM 8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX Inc
Lab Code : EMXT
Lab File ID : RGW214
Instrument ID: 06
GC Column : RTX502.2ID:0.25mm (mm)

Project: VHA-SLC
SDG No: 19G134
Date Analyzed: 07/15/2019
Time Analyzed: 18:18
Heated Purge (Y/N): N

		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5		1,2-DICHLOROBENZENE-D4	
		AREA #	RT(min)	AREA #	RT(min)	AREA #	RT(min)
	12 HOUR STD	2250058	8.60	1917730	13.50	710626	17.86
	UPPER LIMIT	4500116	8.77	3835460	13.67	1421252	18.03
	LOWER LIMIT	1125029	8.43	958865	13.33	355313	17.69
	SAMPLE ID						
1	VSTD010	1964743	8.59	1732063	13.48	713901	17.84
2	MBLK1W	1957842	8.59	1721063	13.49	650026	17.85
3	LCS1W	2016436	8.59	1763194	13.49	695247	17.85
4	LCD1W	2124218	8.59	1842091	13.49	728608	17.85
5	OU2-SB-EB26	1939793	8.59	1705904	13.49	631840	17.85
6	OU2-SB-TB21	1817098	8.61	1600424	13.49	609215	17.85

Area Upper Limit = + 100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 0.167 min. (10 sec.) of internal standard RT
RT Lower Limit = - 0.167 min. (10 sec.) of internal standard RT

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	87	-0.02
2	T,M	Dichlorodifluoromethane	10.000	11.151	-11.5	90	0.00
3	P,T,M	Chloromethane	10.000	9.359	6.4	79	0.01
4	C,T,M	Vinyl chloride	10.000	10.407	-4.1	85	0.00
5	T,M	Bromomethane	10.000	9.719	2.8	79	0.00
6	T,M	Chloroethane	10.000	9.220	7.8	83	-0.01
7	T,M	Dichlorofluoromethane	10.000	9.713	2.9	86	-0.01
8	T,M	Trichlorofluoromethane	10.000	10.455	-4.6	87	0.00
9	T,M	Acrolein	50.000	42.221	15.6	75	-0.01
10	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	9.949	0.5	87	-0.01
11	T,M	Acetone	50.000	44.175	11.7	79	-0.01
12	C,T,M	1,1-Dichloroethene	10.000	9.635	3.7	83	0.00
13	T,M	tert-Butyl alcohol	50.000	44.181	11.6	77	-0.01
14	T,M	Acetonitrile	-1.000	0.000	0.0	0	0.00
15	T,M	Methyl acetate	10.000	9.295	7.1	83	-0.01
16	T,M	Iodomethane	10.000	9.944	0.6	86	0.00
17	T,M	Methylene chloride	10.000	10.217	-2.2	88	-0.01
18	T,M	Carbon disulfide	10.000	10.277	-2.8	87	-0.01
19	T,M	Acrylonitrile	50.000	47.688	4.6	78	-0.01
20	T,M	tert-Butyl methyl ether (MT	10.000	9.512	4.9	80	-0.01
21	T,M	trans-1,2-Dichloroethene	10.000	10.260	-2.6	86	-0.01
22	T,M	Isopropyl ether (DIPE)	10.000	9.869	1.3	83	-0.01
23	T,M	Vinyl acetate	10.000	10.498	-5.0	89	-0.01
24	P,T,M	1,1-Dichloroethane	10.000	10.108	-1.1	87	-0.01
25	T,M	2-Butanol	50.000	36.433	27.1#	62	-0.01
26	T,M	tert-Butyl ethyl ether (ETB	10.000	9.252	7.5	83	-0.01
27	T,M	2-Butanone	50.000	45.805	8.4	75	0.00
28	T,M	2,2-Dichloropropane	10.000	11.366	-13.7	96	-0.01
29	T,M	cis-1,2-Dichloroethene	10.000	10.224	-2.2	87	-0.01
30	C,T,M	Chloroform	10.000	10.178	-1.8	88	-0.02
31	T,M	tert-Amyl alcohol	50.000	0.000	100.0#	0	-7.06#
32	T,M	Bromochloromethane	10.000	10.360	-3.6	87	0.00
33	T,M	Tetrahydrofuran	10.000	9.416	5.8	77	0.00
34	S	Dibromofluoromethane	10.000	10.548	-5.5	87	-0.01
35	T,M	1,1,1-Trichloroethane	10.000	10.904	-9.0	92	-0.02
36	T,M	Cyclohexane	10.000	10.002	-0.0	82	-0.01
37	T,M	2,2,4-Trimethylpentane	10.000	0.000	100.0#	0	-7.53#
38	T,M	1,1-Dichloropropene	10.000	9.913	0.9	84	-0.02
39	T,M	Carbon tetrachloride	10.000	11.227	-12.3	95	-0.02
40	T,M	tert-Amyl methyl ether (TAM	10.000	9.845	1.5	84	-0.02
41	S	1,2-Dichloroethane-d4	10.000	10.572	-5.7	85	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	10.000	10.319	-3.2	84	-0.02
43	T,M	Benzene	10.000	10.258	-2.6	88	-0.02
44	T,M	Trichloroethene	10.000	10.102	-1.0	85	-0.02
45	T,M	Methylcyclohexane	10.000	10.152	-1.5	80	-0.02
46	C,T,M	1,2-Dichloropropane	10.000	10.178	-1.8	87	-0.02
47	T,M	1,4-Dioxane	200.000	166.646	16.7	75	-0.02
48	T,M	Bromodichloromethane	10.000	10.709	-7.1	90	-0.02
49	T,M	Dibromomethane	10.000	10.233	-2.3	86	-0.02
50	T,M	2-Chloroethyl vinyl ether	10.000	9.387	6.1	80	0.00
51	T,M	4-Methyl-2-pentanone	50.000	49.800	0.4	80	-0.02
52	T,M	cis-1,3-Dichloropropene	10.000	10.382	-3.8	88	-0.02
53	I	CHLOROBENZENE-D5	10.000	10.000	0.0	90	-0.02
54	S	Toluene-d8	10.000	9.913	0.9	83	-0.01
55	C,T,M	Toluene	10.000	9.915	0.9	89	-0.02
56	T,M	Ethyl methacrylate	10.000	9.595	4.0	85	-0.01
57	T,M	trans-1,3-Dichloropropene	10.000	10.047	-0.5	89	-0.02
58	T,M	1,1,2-Trichloroethane	10.000	9.428	5.7	84	-0.02
59	T,M	2-Hexanone	50.000	46.856	6.3	77	-0.02
60	T,M	1,3-Dichloropropane	10.000	10.079	-0.8	88	-0.02
61	T,M	Tetrachloroethene	10.000	10.142	-1.4	88	-0.02
62	T,M	Dibromochloromethane	10.000	9.685	3.1	87	-0.01
63	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
64	T,M	1,2-Dibromoethane	10.000	9.787	2.1	86	-0.02
65	T,M	1-Chlorohexane	10.000	10.038	-0.4	89	-0.02
66	P, T,M	Chlorobenzene	10.000	9.854	1.5	87	-0.02
67	T,M	1,1,1,2-Tetrachloroethane	10.000	10.007	-0.1	88	-0.02
68	C,T,M	Ethylbenzene	10.000	10.089	-0.9	89	-0.02
69	T,M	m-Xylene & p-Xylene	20.000	20.717	-3.6	90	-0.01
70	T,M	o-Xylene	10.000	9.792	2.1	87	-0.02
71	T,M	Styrene	10.000	10.083	-0.8	89	-0.02
72	T,M	Isopropylbenzene	10.000	10.235	-2.3	88	-0.01
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	100	-0.02
74	P,T,M	Bromoform	10.000	8.801	12.0	89	-0.02
75	P,T,M	1,1,2,2-Tetrachloroethane	10.000	8.978	10.2	90	-0.02
76	S	4-Bromofluorobenzene	10.000	10.092	-0.9	95	-0.01
77	T,M	1,2,3-Trichloropropane	10.000	8.716	12.8	87	-0.02
78	T,M	trans-1,4-Dichloro-2-butene	10.000	9.025	9.7	89	-0.02
79	T,M	n-Propylbenzene	10.000	9.405	6.0	91	-0.01
80	T,M	Bromobenzene	10.000	8.868	11.3	88	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.		%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	9.187		8.1	90	-0.02
82	T,M	2-Chlorotoluene	10.000	9.053		9.5	91	-0.02
83	T,M	4-Chlorotoluene	10.000	9.095		9.0	88	-0.02
84	T,M	tert-Butylbenzene	10.000	9.187		8.1	88	-0.02
85	T,M	1,2,4-Trimethylbenzene	10.000	9.030		9.7	89	-0.02
86	T,M	sec-Butylbenzene	10.000	9.548		4.5	91	-0.01
87	T,M	p-Isopropyltoluene	10.000	9.038		9.6	85	-0.02
88	T,M	1,3-Dichlorobenzene	10.000	9.154		8.5	88	-0.02
89	T,M	1,2,3-Trimethylbenzene	10.000	0.015	⌐7	99.8#	0	-0.02
90	T,M	1,4-Dichlorobenzene	10.000	9.209		7.9	88	-0.02
91	T,M	n-Butylbenzene	10.000	9.600		4.0	89	-0.01
92	T,M	1,2-Dichlorobenzene	10.000	9.196		8.0	89	-0.02
93	T,M	1,2-Dibromo-3-chloropropane	10.000	8.923		10.8	90	-0.01
94	T,M	1,2,4-Trichlorobenzene	10.000	9.475		5.3	89	-0.02
95	T,M	Hexachlorobutadiene	10.000	9.931		0.7	89	-0.02
96	T,M	Naphthalene	10.000	9.076		9.2	85	-0.02
97	T,M	1,2,3-Trichlorobenzene	10.000	9.789		2.1	89	-0.02

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	87	-0.02
2	T,M	Dichlorodifluoromethane	0.400	0.446	-11.5	90	0.00
3	P,T,M	Chloromethane	0.483	0.452	6.4	79	0.01
4	C,T,M	Vinyl chloride	0.425	0.442	-4.0	85	0.00
5	T,M	Bromomethane	0.333	0.324	2.7	79	0.00
6	T,M	Chloroethane	0.297	0.294	1.0	83	-0.01
7	T,M	Dichlorofluoromethane	0.780	0.758	2.8	86	-0.01
8	T,M	Trichlorofluoromethane	0.476	0.498	-4.6	87	0.00
9	T,M	Acrolein	0.019	0.016	15.8	75	-0.01
10	T,M	1,1,2-Trichloro-1,2,2-trifl	0.262	0.260	0.8	87	-0.01
11	T,M	Acetone	0.028	0.025	10.7	79	-0.01
12	C,T,M	1,1-Dichloroethene	0.711	0.685	3.7	83	0.00
13	T,M	tert-Butyl alcohol	0.010	0.009	10.0	77	-0.01
14	T,M	Acetonitrile	0.000	0.000	0.0	0#	0.00
15	T,M	Methyl acetate	0.020	0.019	5.0	83	-0.01
16	T,M	Iodomethane	0.650	0.647	0.5	86	0.00
17	T,M	Methylene chloride	0.506	0.517	-2.2	88	-0.01
18	T,M	Carbon disulfide	1.239	1.273	-2.7	87	-0.01
19	T,M	Acrylonitrile	0.046	0.044	4.3	78	-0.01
20	T,M	tert-Butyl methyl ether (MT	0.444	0.422	5.0	80	-0.01
21	T,M	trans-1,2-Dichloroethene	0.618	0.634	-2.6	86	-0.01
22	T,M	Isopropyl ether (DIPE)	1.177	1.162	1.3	83	-0.01
23	T,M	Vinyl acetate	0.340	0.357	-5.0	89	-0.01
24	P,T,M	1,1-Dichloroethane	0.717	0.724	-1.0	87	-0.01
25	T,M	2-Butanol	0.009	0.006	33.3#	62	-0.01
26	T,M	tert-Butyl ethyl ether (ETB	0.814	0.753	7.5	83	-0.01
27	T,M	2-Butanone	0.011	0.010	9.1	75	0.00
28	T,M	2,2-Dichloropropane	0.351	0.399	-13.7	96	-0.01
29	T,M	cis-1,2-Dichloroethene	0.409	0.418	-2.2	87	-0.01
30	C,T,M	Chloroform	0.617	0.628	-1.8	88	-0.02
31	T,M	tert-Amyl alcohol	0.008	0.000	100.0#	0#	-7.06#
32	T,M	Bromochloromethane	0.269	0.279	-3.7	87	0.00
33	T,M	Tetrahydrofuran	0.038	0.035	7.9	77	0.00
34	S	Dibromofluoromethane	0.310	0.327	-5.5	87	-0.01
35	T,M	1,1,1-Trichloroethane	0.476	0.519	-9.0	92	-0.02
36	T,M	Cyclohexane	0.572	0.572	0.0	82	-0.01
37	T,M	2,2,4-Trimethylpentane	1.752	0.000	100.0#	0#	-7.53#
38	T,M	1,1-Dichloropropene	0.187	0.186	0.5	84	-0.02
39	T,M	Carbon tetrachloride	0.410	0.460	-12.2	95	-0.02
40	T,M	tert-Amyl methyl ether (TAM	0.116	0.115	0.9	84	-0.02
41	S	1,2-Dichloroethane-d4	0.212	0.224	-5.7	85	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D
Acq On : 18 Jul 2019 10:49 am
Sample : CVO06G1503
Misc : 10PPB 8260/50PPB KET-AA
MS Integration Params: RTE.P

Vial: 2
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	0.287	0.297	-3.5	84	-0.02
43	T,M	Benzene	1.485	1.524	-2.6	88	-0.02
44	T,M	Trichloroethene	0.405	0.409	-1.0	85	-0.02
45	T,M	Methylcyclohexane	0.664	0.674	-1.5	80	-0.02
46	C,T,M	1,2-Dichloropropane	0.355	0.362	-2.0	87	-0.02
47	T,M	1,4-Dioxane	0.001	0.001	0.0	75	-0.02
48	T,M	Bromodichloromethane	0.371	0.398	-7.3	90	-0.02
49	T,M	Dibromomethane	0.140	0.143	-2.1	86	-0.02
50	T,M	2-Chloroethyl vinyl ether	0.119	0.112	5.9	80	0.00
51	T,M	4-Methyl-2-pentanone	0.152	0.152	0.0	80	-0.02
52	T,M	cis-1,3-Dichloropropene	0.493	0.512	-3.9	88	-0.02
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	90	-0.02
54	S	Toluene-d8	1.325	1.314	0.8	83	-0.01
55	C,T,M	Toluene	1.747	1.733	0.8	89	-0.02
56	T,M	Ethyl methacrylate	0.267	0.256	4.1	85	-0.01
57	T,M	trans-1,3-Dichloropropene	0.403	0.405	-0.5	89	-0.02
58	T,M	1,1,2-Trichloroethane	0.198	0.186	6.1	84	-0.02
59	T,M	2-Hexanone	0.110	0.103	6.4	77	-0.02
60	T,M	1,3-Dichloropropane	0.398	0.401	-0.8	88	-0.02
61	T,M	Tetrachloroethene	0.387	0.392	-1.3	88	-0.02
62	T,M	Dibromochloromethane	0.262	0.254	3.1	87	-0.01
63	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
64	T,M	1,2-Dibromoethane	0.201	0.196	2.5	86	-0.02
65	T,M	1-Chlorohexane	0.760	0.762	-0.3	89	-0.02
66	P, T,M	Chlorobenzene	1.043	1.027	1.5	87	-0.02
67	T,M	1,1,1,2-Tetrachloroethane	0.324	0.324	0.0	88	-0.02
68	C,T,M	Ethylbenzene	2.027	2.045	-0.9	89	-0.02
69	T,M	m-Xylene & p-Xylene	1.480	1.533	-3.6	90	-0.01
70	T,M	o-Xylene	1.487	1.456	2.1	87	-0.02
71	T,M	Styrene	1.103	1.112	-0.8	89	-0.02
72	T,M	Isopropylbenzene	1.919	1.964	-2.3	88	-0.01
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	100	-0.02
74	P,T,M	Bromoform	0.338	0.298	11.8	89	-0.02
75	P,T,M	1,1,2,2-Tetrachloroethane	0.621	0.557	10.3	90	-0.02
76	S	4-Bromofluorobenzene	1.174	1.185	-0.9	95	-0.01
77	T,M	1,2,3-Trichloropropane	0.155	0.135	12.9	87	-0.02
78	T,M	trans-1,4-Dichloro-2-butene	0.171	0.155	9.4	89	-0.02
79	T,M	n-Propylbenzene	6.706	6.307	5.9	91	-0.01
80	T,M	Bromobenzene	1.026	0.910	11.3	88	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D
Acq On : 18 Jul 2019 10:49 am
Sample : CVO06G1503
Misc : 10PPB 8260/50PPB KET-AA
MS Integration Params: RTE.P

Vial: 2
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.088	3.756	8.1	90	-0.02
82	T,M	2-Chlorotoluene	4.114	3.725	9.5	91	-0.02
83	T,M	4-Chlorotoluene	3.424	3.114	9.1	88	-0.02
84	T,M	tert-Butylbenzene	0.997	0.916	8.1	88	-0.02
85	T,M	1,2,4-Trimethylbenzene	3.993	3.605	9.7	89	-0.02
86	T,M	sec-Butylbenzene	5.884	5.618	4.5	91	-0.01
87	T,M	p-Isopropyltoluene	4.644	4.197	9.6	85	-0.02
88	T,M	1,3-Dichlorobenzene	2.034	1.862	8.5	88	-0.02
89	T,M	1,2,3-Trimethylbenzene	3.356	0.005	99.9#	0#	-0.02
90	T,M	1,4-Dichlorobenzene	1.963	1.808	7.9	88	-0.02
91	T,M	n-Butylbenzene	4.825	4.632	4.0	89	-0.01
92	T,M	1,2-Dichlorobenzene	1.632	1.501	8.0	89	-0.02
93	T,M	1,2-Dibromo-3-chloropropane	0.084	0.075	10.7	90	-0.01
94	T,M	1,2,4-Trichlorobenzene	1.078	1.022	5.2	89	-0.02
95	T,M	Hexachlorobutadiene	0.773	0.768	0.6	89	-0.02
96	T,M	Naphthalene	1.368	1.241	9.3	85	-0.02
97	T,M	1,2,3-Trichlorobenzene	0.782	0.766	2.0	89	-0.02

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/15/19 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book #: A06-068

BATCH V0606G15

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01	RGW 208	BFB06G12		N/A	N/A	N/A			
02	09	V0606G151	0.03/0.15 mL						0.3 / 1.5 ppb 8260/KetAA
03	10	2	0.05/0.25						0.5 / 2.5
04	11	3	0.1/0.5						1.0 / 5.0
05	12	4	0.2/1.0						2.0 / 10
06	13	5	0.5/2.5						5.0 / 25
07	14	6	1.0/5.0						10 / 50
08	15	7	2.0/10						20 / 100
09	16	8	3.0/15						30 / 150
10	17	9	5.0/25						50 / 250
11	18	10	10/50						100 / 500
12	19	RINSE							
13	20								
14	21	IV0606G1501	1.0/5.0						10/50 ppb
15	22	RINSE							
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Instrument No.	06
INITIAL CALIBRATION REFERENCE	
DATE	7/15/19
ICAL ID	V0606G15

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-32-57-01 26-03	★	
DCC	53-02 45-01		
DCC	40-01 50-03		
DCC	SV1-31-72-02		
BFB	SV1-32-44-03		50/250/1250
IS/SURR.	57-02 57-03	★	
ICV/LCS	39-03 42-01	1	
ICV/LCS	53-03 50-02	5	
ICV/LCS	44-02 33-01	5	
ICV/LCS	32-02 23-01	5	
Data File Folder	19G15		

	LOT #	Syringe Lot #
pH strip		MSV-01-01-02
Chlorine strip		-03-04-(
Methanol		-22
$NaHSO_4$		N01-F5046
Reagent Water	RW4-17-002	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TO06	

Comments:

Analyzed By: TFW

Date Disposed: 7/16/19 Disposed By: TFW

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/18/19 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book #: A06-068

BATCH CV0806G1503

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RGW278	BFB0806G15						10:15
02		79	CV0806G1503						
03		80	V0806G15L						
04		81	↓ C						
05		82	RINSE						
06		83	V0806G15B	25mL	1.0				
07		84	19G134-01N	↓	↓	/	/		
08		85	19G116-01N	↓	↓	/	/		
09		86	↓ 03I	1.0mL	25	/	/		
10		87	19G145-01	25mL	1.0	/	/		
11		88	19G148-01	↓	↓	/	/		
12		89	02	↓	↓	/	/		
13		90	04	↓	↓	/	/		
14		91	06	↓	↓	/	/		
15		92	08	↓	↓	/	/		
16		93	09	↓	↓	/	/		
17		94	10	↓	↓	/	/		
18		95	11	↓	↓	/	/		
19		96	↓ 13	↓	↓	/	/		
20		97	19G164-01	↓	↓	/	/		
21		98	↓ 02	↓	↓	/	/		
22		99	19G134-02N	↓	↓	/	/		TB contamination; confirmed
23		300	19G148-03	↓	↓	/	/		by Reanalysis
24		01	03M	↓	↓	/	/		
25		02	↓ 03S	↓	↓	/	/		
26		03	EV0806G1503						22:01
27		04	RINSE						
28		05	↓						
29		06	↓						
30									

Instrument No.	06
INITIAL CALIBRATION REFERENCE	
DATE	7/15/19
ICAL ID	V0806G15

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-32-57-01	1	
DCC	26-03	1	
DCC	53-03 45-01	5	
DCC	40-01	1	
BFB	44-03	1	50/250
IS/SURR.	20-02	5	
ICV/LCS	39-03	1	
ICV/LCS	42-01	1	
ICV/LCS	53-03 44-02	5	
ICV/LCS	↓ 32-02 23-01	5	
Data File Folder	19G18		

	LOT #	Syringe Lot #
pH strip	HC857466	MSV-01-01-02
Chlorine strip	84032	N01-F5046
Methanol		
$NaHSO_4$		
Reagent Water	RW4-17-002	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TO06	

Comments:

Analyzed By: TFW

Date Disposed: 7/19/19 Disposed By: TFW

RAW DATA
VOLATILE ORGANICS

LABORATORY REPORT FOR

JACOBS/CH2M HILL

VHA-SLC

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

SDG#: 19G134

CASE NARRATIVE

Client : JACOBS/CH2M HILL

Project: VIIA-SLC

SDG : 19G134

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

A total of two (2) water samples were received on 07/16/19 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030B/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There was one (1) CCV associated with this SDG Target analytes in CCV (Data file ID: RGW279) were within calibration acceptance criteria. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. VO06G15B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. VO06G15L/VO06G15C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Results were confirmed by re-analysis. Only results for re-analysis were reported.

SAMPLE RESULTS

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/11/19
Project : VHA-SLC	Date Received: 07/16/19
Batch No. : 19G134	Date Extracted: 07/18/19 13:30
Sample ID: OU2-SB-EB26	Date Analyzed: 07/18/19 13:30
Lab Samp ID: G134-01N	Dilution Factor: 1
Lab File ID: RGW284	Matrix : WATER
Ext Btch ID: VOO6G15	% Moisture : NA
Calib. Ref.: RGW214	Instrument ID : 06

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	7.6J	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	0.40J	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	9.88	10.00	98.8	70-130
DIBROMOFLUOROMETHANE	10.4	10.00	104	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW284.D Vial: 7
Acq On : 18 Jul 2019 1:30 pm Operator: TWilki
Sample : 19G134-01N 25mL Inst : TO06
Misc : DF = 1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:57 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.59	114	1939793	10.00	ug/l	-0.01
53) CHLOROBENZENE-D5	13.49	117	1705904	10.00	ug/l	-0.01
73) 1,2-DICHLOROBENZENE-D4	17.85	152	631840	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.09	111	625005	10.38	ug/l	-0.01
Spiked Amount 10.000			Recovery = 103.80%			
41) 1,2-Dichloroethane-d4	7.92	65	430150	10.46	ug/l	-0.01
Spiked Amount 10.000			Recovery = 104.60%			
54) Toluene-d8	11.05	98	2233829	9.88	ug/l	-0.01
Spiked Amount 10.000			Recovery = 98.80%			
76) 4-Bromofluorobenzene	15.45	95	769356	10.37	ug/l	-0.01
Spiked Amount 10.000			Recovery = 103.70%			
Target Compounds						Qvalue
11) Acetone	3.48	43	41629	7.65	ug/l	91
30) Chloroform	6.73	83	47366	0.40	ug/l	97

(#) = qualifier out of range (m) = manual integration
RGW284.D VO06G15.M Fri Jul 19 12:06:33 2019 Page 1

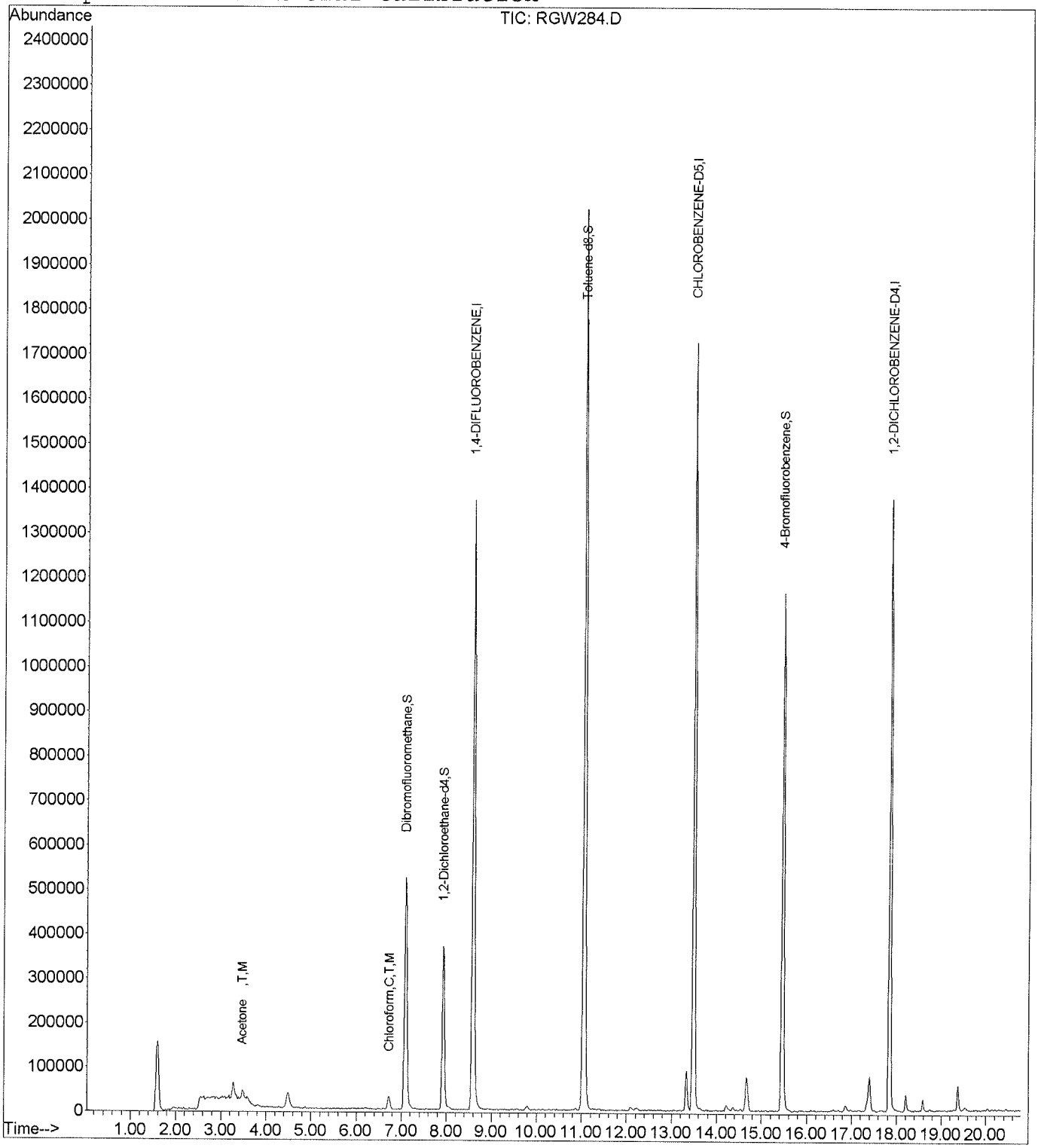
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW284.D
Acq On : 18 Jul 2019 1:30 pm
Sample : 19G134-01N 25mL
Misc : DF = 1.0
MS Integration Params: RTE.P
Quant Time: Jul 19 10:57 2019

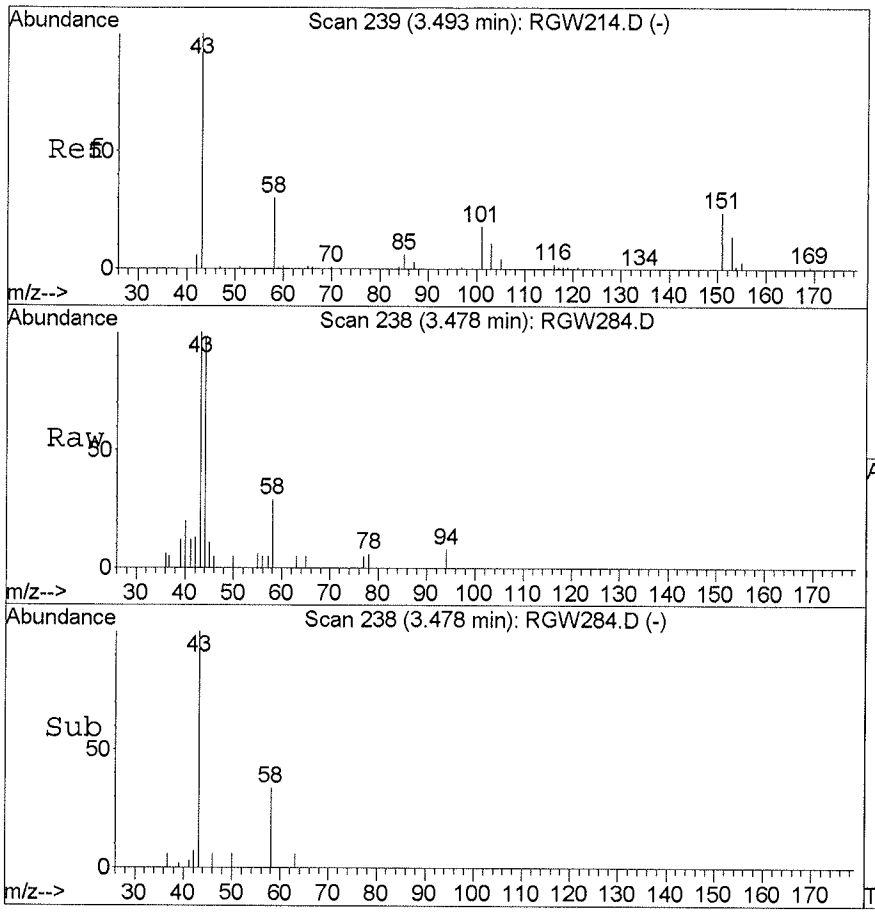
Vial: 7
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



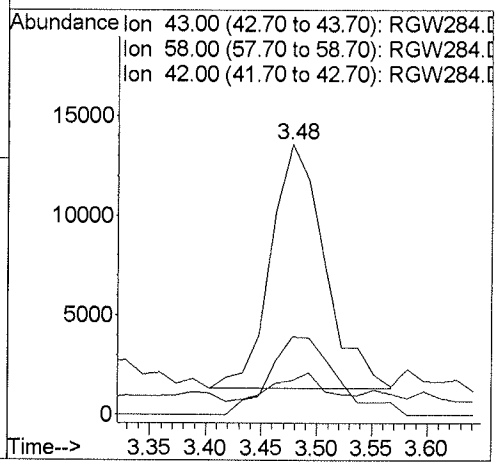
RGW284.D VO06G15.M Fri Jul 19 12:06:34 2019 Page 2

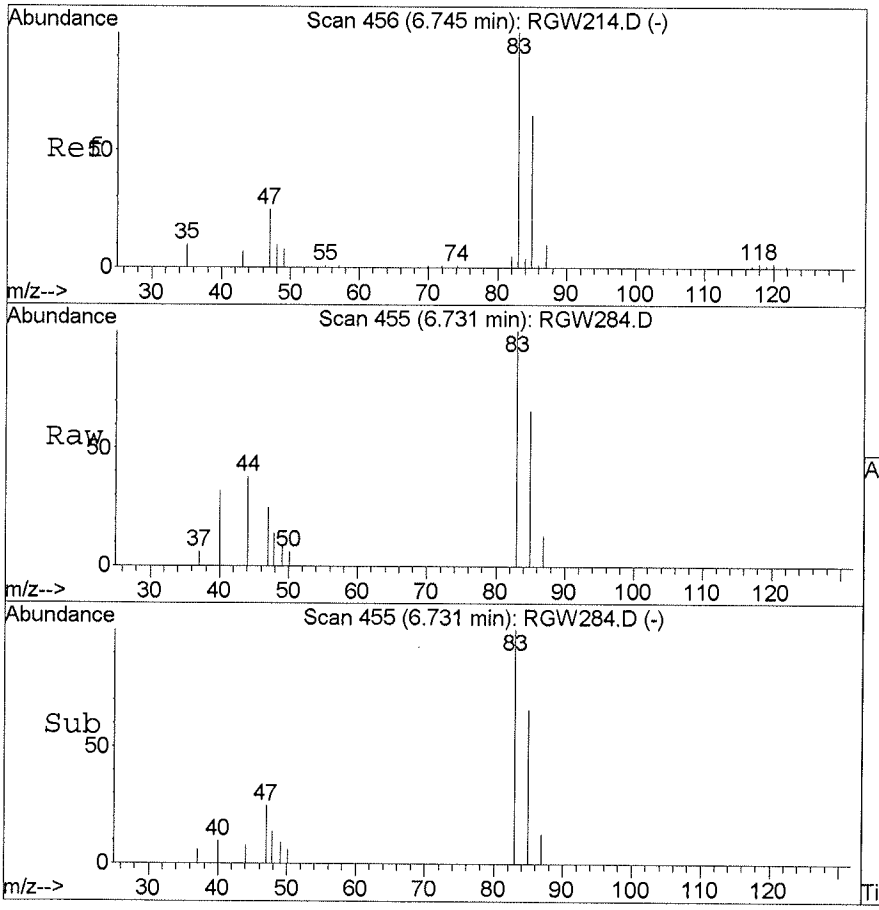


#11
Acetone
Concen: 7.65 ug/l
RT: 3.48 min Scan# 238
Delta R.T. -0.02 min
Lab File: RGW284.D
Acq: 18 Jul 2019 1:30 pm

Tgt Ion: 43 Resp: 41629

Ion	Ratio	Lower	Upper
43	100		
58	39.8	4.7	64.7
42	10.9	0.0	38.4

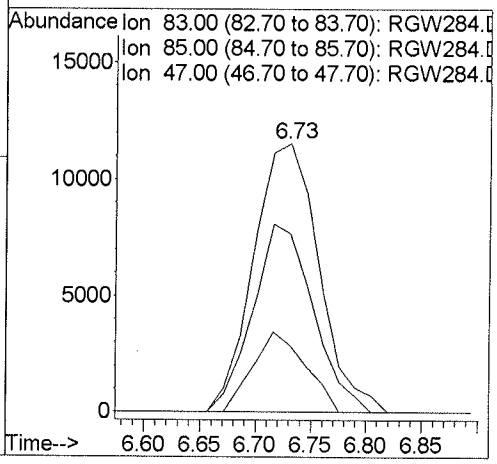




#30
Chloroform
Concen: 0.40 ug/l
RT: 6.73 min Scan# 455
Delta R.T. -0.01 min
Lab File: RGW284.D
Acq: 18 Jul 2019 1:30 pm

Tgt Ion: 83 Resp: 47366

Ion	Ratio	Lower	Upper
83	100		
85	64.8	36.8	96.8
47	24.1	0.0	56.0



METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/11/19
Project : VHA-SLC	Date Received: 07/16/19
Batch No. : 19G134	Date Extracted: 07/18/19 20:13
Sample ID: OU2-SB-TB21	Date Analyzed: 07/18/19 20:13
Lab Samp ID: G134-02N	Dilution Factor: 1
Lab File ID: RGW299	Matrix : WATER
Ext Btch ID: VOO6G15	% Moisture : NA
Calib. Ref.: RGW214	Instrument ID : 06

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	ND	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	0.12J	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	0.11J	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	0.26J	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.0	10.00	110	70-130
BROMOFLUOROBENZENE	10.3	10.00	103	70-130
TOLUENE-D8	9.67	10.00	96.7	70-130
DIBROMOFLUOROMETHANE	10.5	10.00	105	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW299.D
Acq On : 18 Jul 2019 8:13 pm
Sample : 19G134-02N 25mL
Misc : DF = 1.0
MS Integration Params: RTE.P
Quant Time: Jul 19 11:08 2019

Vial: 22
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

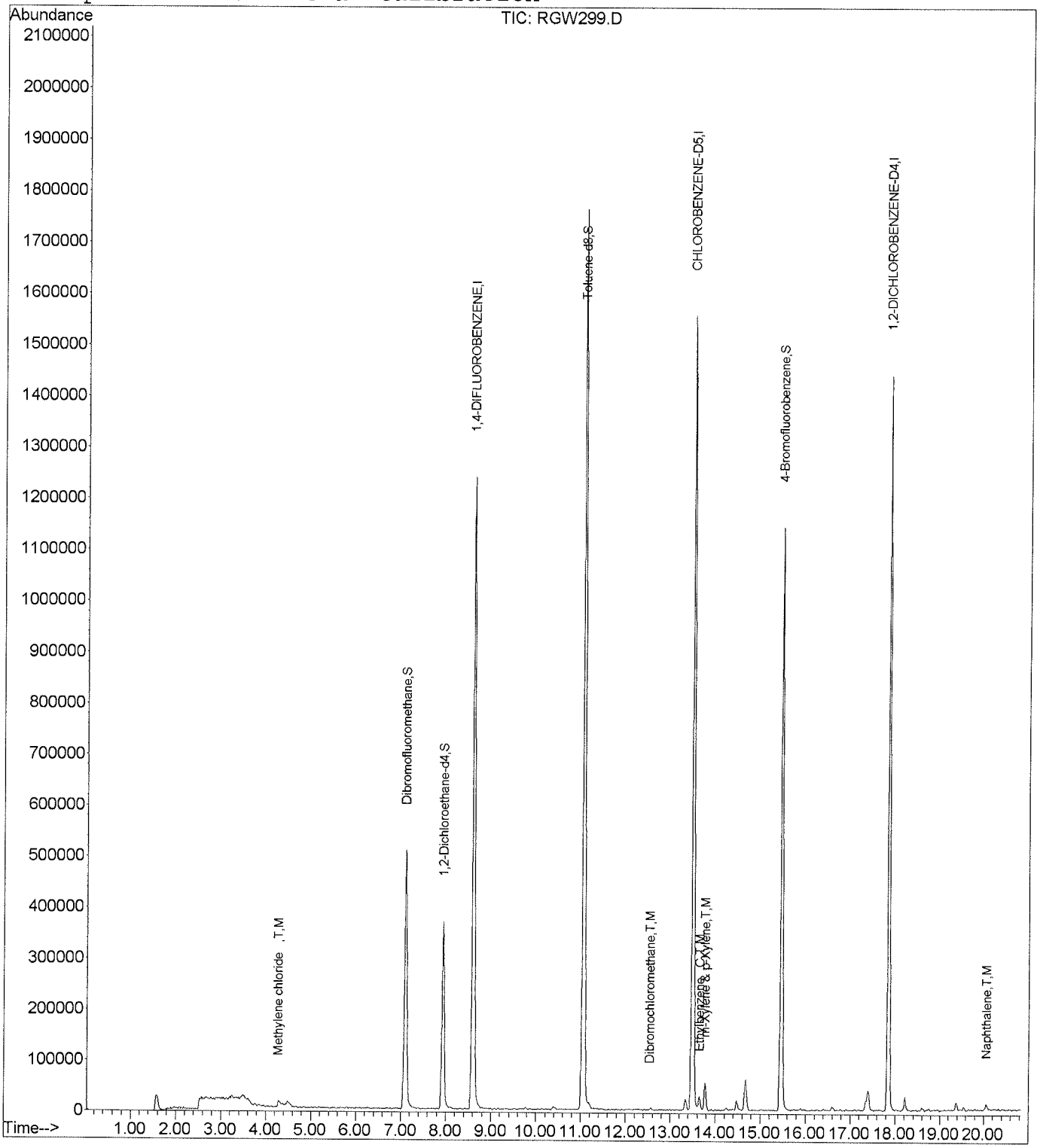
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	1817098	10.00	ug/l	0.00
53) CHLOROBENZENE-D5	13.49	117	1600424	10.00	ug/l	-0.01
73) 1,2-DICHLOROBENZENE-D4	17.85	152	609215	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.10	111	592963	10.52	ug/l	0.00
Spiked Amount 10.000			Recovery = 105.20%			
41) 1,2-Dichloroethane-d4	7.94	65	425142	11.04	ug/l	0.00
Spiked Amount 10.000			Recovery = 110.40%			
54) Toluene-d8	11.06	98	2050745	9.67	ug/l	0.00
Spiked Amount 10.000			Recovery = 96.70%			
76) 4-Bromofluorobenzene	15.46	95	736184	10.30	ug/l	0.00
Spiked Amount 10.000			Recovery = 103.00%			
Target Compounds						Qvalue
17) Methylene chloride	4.28	49	21409	0.23	ug/l	93
62) Dibromochloromethane	12.55	129	4951	0.12	ug/l	88
68) Ethylbenzene	13.65	91	34813	0.11	ug/l	95
69) m-Xylene & p-Xylene	13.77	91	60944	0.26	ug/l	100
96) Naphthalene	20.06	128	16989	0.20	ug/l #	69

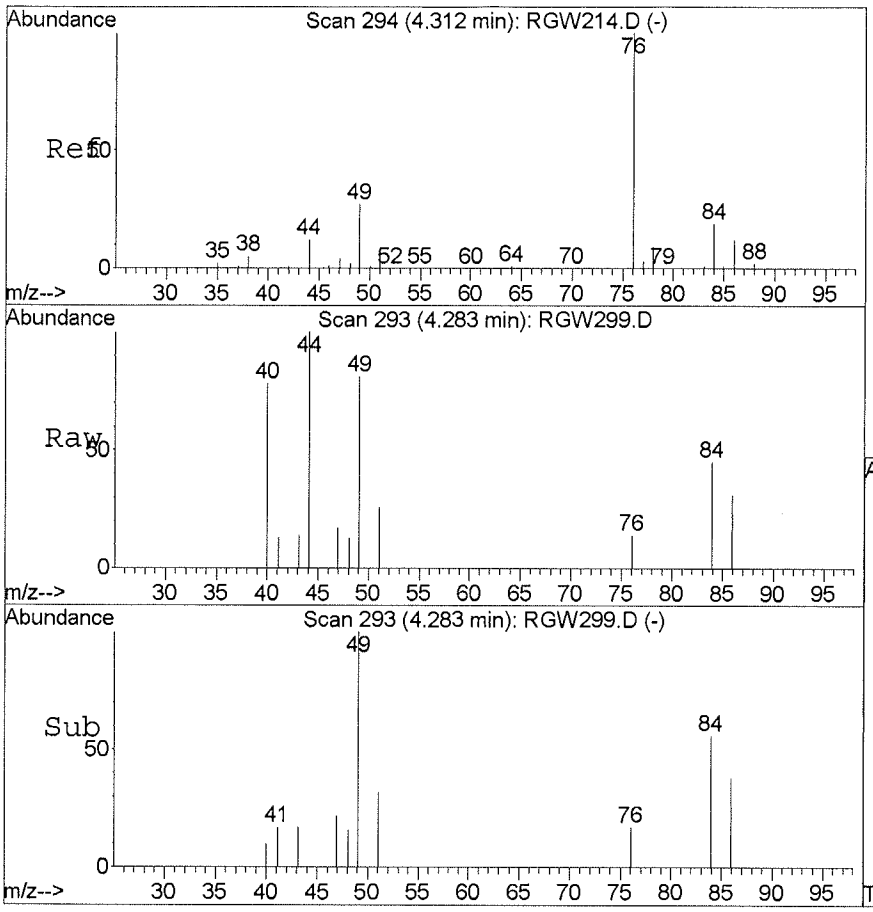
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW299.D Vial: 22
Acq On : 18 Jul 2019 8:13 pm Operator: TWilki
Sample : 19G134-02N 25mL Inst : TO06
Misc : DF = 1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 11:08 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration

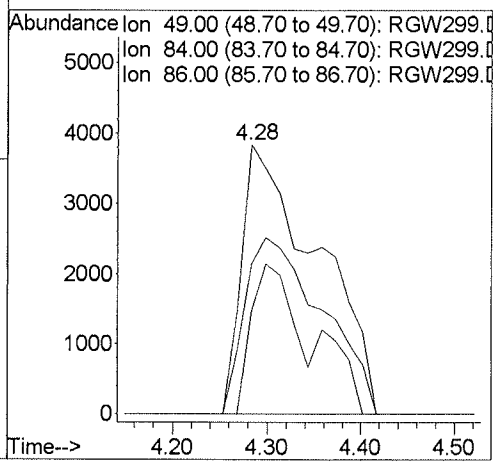


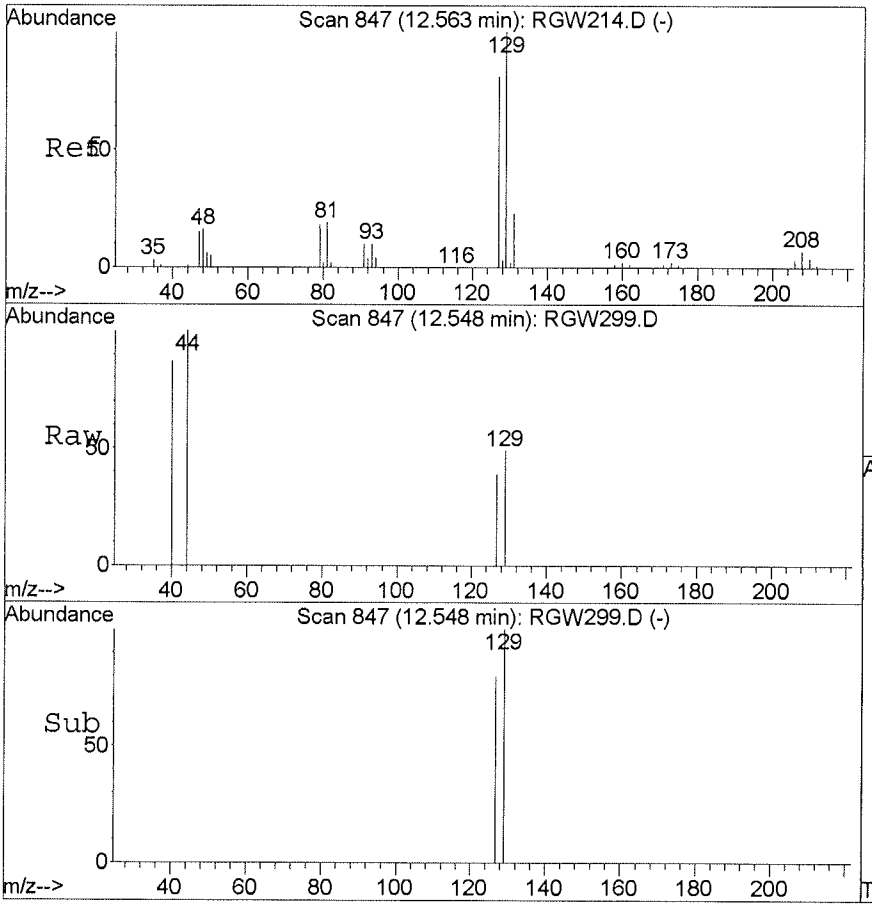


#17
Methylene chloride
Concen: 0.23 ug/l
RT: 4.28 min Scan# 293
Delta R.T. -0.03 min
Lab File: RGW299.D
Acq: 18 Jul 2019 8:13 pm

Tgt Ion: 49 Resp: 21409

Ion	Ratio	Lower	Upper
49	100		
84	67.2	36.6	96.6
86	31.4	12.2	72.2

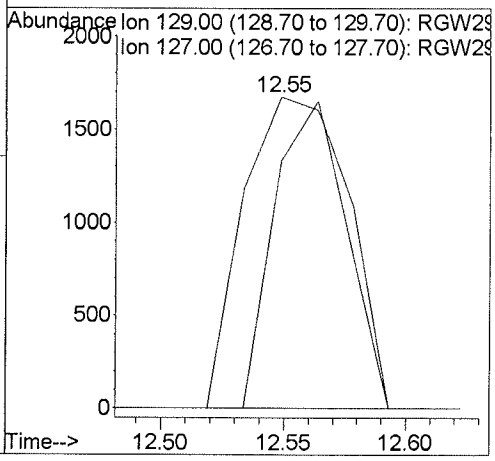


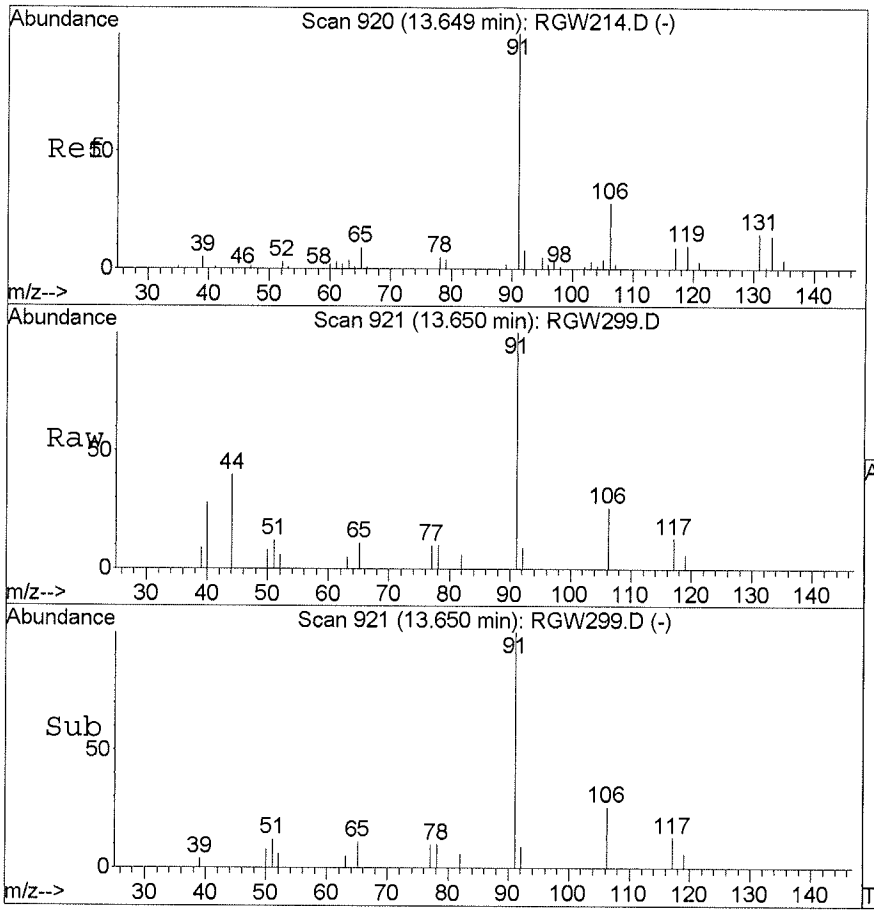


#62
Dibromochloromethane
Concen: 0.12 ug/l
RT: 12.55 min Scan# 847
Delta R.T. -0.01 min
Lab File: RGW299.D
Acq: 18 Jul 2019 8:13 pm

Tgt Ion:129 Resp: 4951

Ion	Ratio	Lower	Upper
129	100		
127	68.6	48.9	108.9

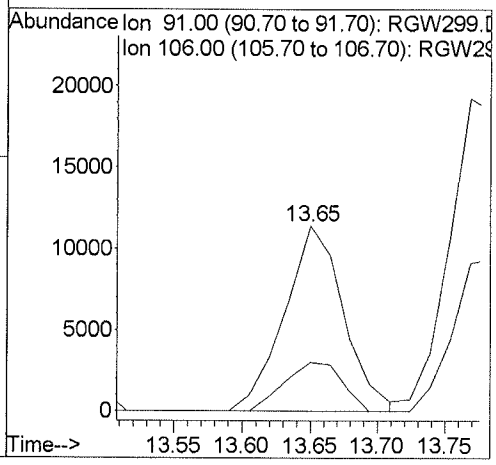


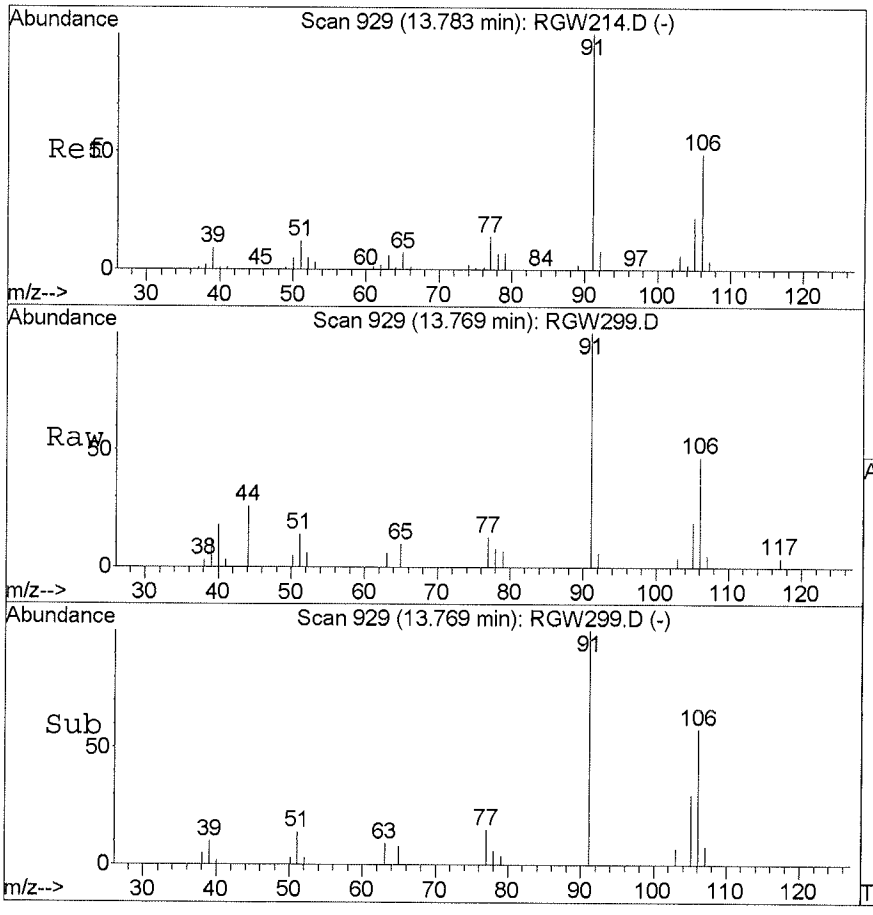


#68
Ethylbenzene
Concen: 0.11 ug/l
RT: 13.65 min Scan# 921
Delta R.T. 0.00 min
Lab File: RGW299.D
Acq: 18 Jul 2019 8:13 pm

Tgt Ion: 91 Resp: 34813

Ion	Ratio	Lower	Upper
91	100		
106	25.9	0.0	58.5

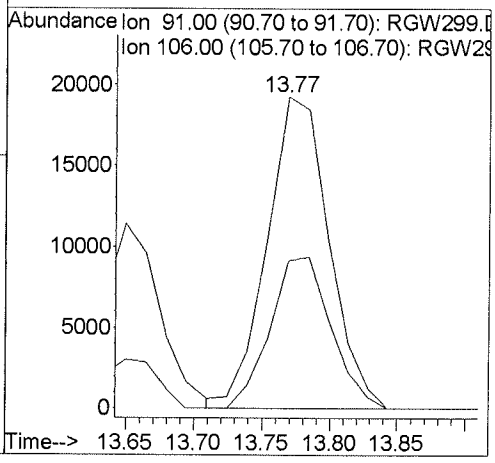


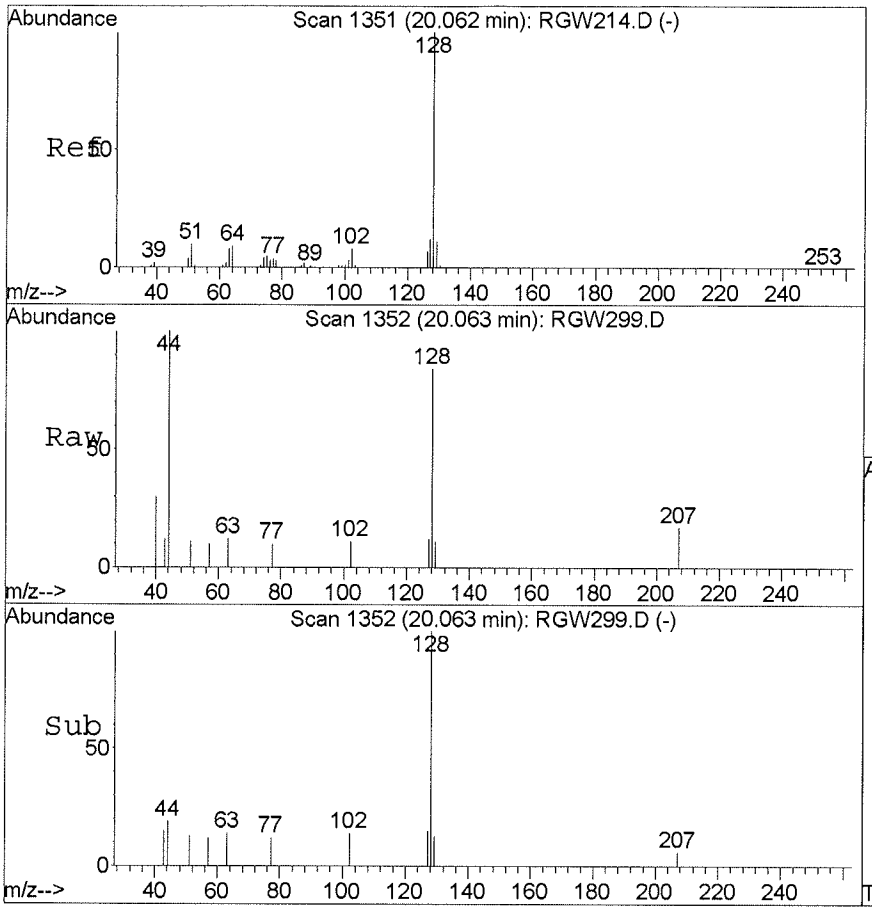


#69
m-Xylene & p-Xylene
Concen: 0.26 ug/l
RT: 13.77 min Scan# 929
Delta R.T. -0.01 min
Lab File: RGW299.D
Acq: 18 Jul 2019 8:13 pm

Tgt Ion: 91 Resp: 60944

Ion	Ratio	Lower	Upper
91	100		
106	48.0	18.2	78.2

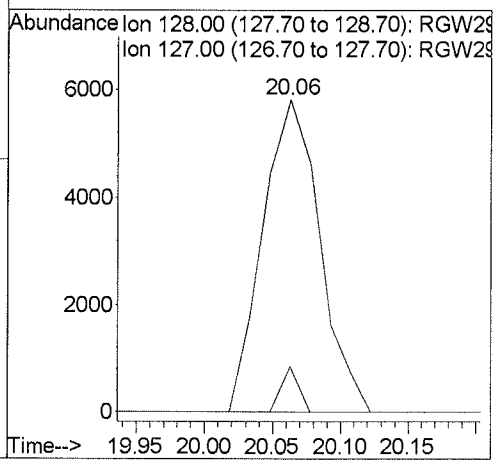




#96
Naphthalene
Concen: 0.20 ug/l
RT: 20.06 min Scan# 1352
Delta R.T. 0.00 min
Lab File: RGW299.D
Acq: 18 Jul 2019 8:13 pm

Tgt Ion:128 Resp: 16989

Ion	Ratio	Lower	Upper
128	100		
127	0.0	0.0	41.9



QC SUMMARIES

METHOD SW5030B/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/18/19
Batch No. : 19G134	Date Extracted: 07/18/19 13:03
Sample ID: MBLK1W	Date Analyzed: 07/18/19 13:03
Lab Samp ID: V006G15B	Dilution Factor: 1
Lab File ID: RGW283	Matrix : WATER
Ext Btch ID: V006G15	% Moisture : NA
Calib. Ref.: RGW214	Instrument ID : 06

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.10
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.11
1,1,2-TRICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHANE	ND	1.0	0.10
1,1-DICHLOROETHENE	ND	1.0	0.10
1,2,3-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRICHLOROBENZENE	ND	1.0	0.15
1,2,4-TRIMETHYLBENZENE	ND	1.0	0.11
1,2-DIBROMO-3-CHLOROPROPANE	ND	2.0	0.25
1,2-DICHLOROBENZENE	ND	1.0	0.10
1,2-DICHLOROETHANE	ND	1.0	0.10
1,2-DICHLOROPROPANE	ND	1.0	0.10
1,3,5-TRIMETHYLBENZENE	ND	1.0	0.12
1,3-DICHLOROBENZENE	ND	1.0	0.11
1,4-DICHLOROBENZENE	ND	1.0	0.10
2-BUTANONE	ND	10	2.0
2-HEXANONE	ND	10	2.3
ACETONE	ND	10	2.6
BENZENE	ND	1.0	0.10
BROMOCHLOROMETHANE	ND	1.0	0.11
BROMODICHLOROMETHANE	ND	1.0	0.10
BROMOFORM	ND	1.0	0.15
BROMOMETHANE	ND	1.0	0.16
CARBON DISULFIDE	ND	1.0	0.25
CARBON TETRACHLORIDE	ND	1.0	0.10
CHLOROBENZENE	ND	1.0	0.10
CHLOROETHANE	ND	1.0	0.27
CHLOROFORM	ND	1.0	0.10
CHLOROMETHANE	ND	1.0	0.15
CIS-1,2-DICHLOROETHYLENE	ND	1.0	0.10
DIBROMOCHLOROMETHANE	ND	1.0	0.10
DICHLORODIFLUOROMETHANE	ND	1.0	0.15
ETHYLBENZENE	ND	1.0	0.10
ISOPROPYLBENZENE	ND	1.0	0.10
M,P-XYLENE	ND	2.0	0.21
4-METHYL-2-PENTANONE	ND	10	2.1
METHYLENE CHLORIDE	ND	2.0	0.50
TERT-BUTYL METHYL ETHER	ND	1.0	0.13
O-XYLENE	ND	1.0	0.10
STYRENE	ND	1.0	0.25
TETRACHLOROETHENE	ND	1.0	0.15
TOLUENE	ND	1.0	0.10
TRANS-1,2-DCE	ND	1.0	0.10
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	1.0	0.10
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TCE	ND	1.0	0.10
TRICHLOROFLUOROMETHANE	ND	1.0	0.15
VINYL CHLORIDE	ND	1.0	0.12
1,2-DIBROMOETHANE	ND	1.0	0.10
VINYL ACETATE	ND	2.0	0.25
TRICHLOROTRIFLUOROETHANE	ND	1.0	0.17
METHYL ACETATE	ND	2.0	0.25

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-130
BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	9.81	10.00	98.1	70-130
DIBROMOFLUOROMETHANE	10.7	10.00	107	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G134
METHOD: SW5030B/8260C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: V006G15B V006G15L V006G15C
LAB FILE ID: RGW283 RGW280 RGW281
DATE EXTRACTED: 07/18/1913:03 07/18/1911:42 07/18/1912:09 DATE COLLECTED: NA
DATE ANALYZED: 07/18/1913:03 07/18/1911:42 07/18/1912:09 DATE RECEIVED: 07/18/19
PREP. BATCH: V006G15 V006G15 V006G15
CALIB. REF: RGW214 RGW214 RGW214

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	11.1	111	10.0	10.5	105	6	74-131	20
1,1,2,2-Tetrachloroethane	ND	10.0	9.51	95	10.0	9.05	90	5	71-121	20
1,1,2-Trichloroethane	ND	10.0	9.91	99	10.0	9.77	98	1	80-119	20
1,1-Dichloroethane	ND	10.0	10.3	103	10.0	9.86	99	4	77-125	20
1,1-Dichloroethene	ND	10.0	9.71	97	10.0	9.55	96	2	71-131	20
1,2,3-Trichlorobenzene	ND	10.0	9.80	98	10.0	10.2	102	4	69-129	20
1,2,4-Trichlorobenzene	ND	10.0	9.66	97	10.0	9.66	97	0	69-130	20
1,2,4-Trimethylbenzene	ND	10.0	9.55	96	10.0	9.02	90	6	76-124	20
1,2-Dibromo-3-chloropropane	ND	10.0	9.29	93	10.0	9.30	93	0	62-138	20
1,2-Dichlorobenzene	ND	10.0	9.49	95	10.0	9.16	92	4	80-119	20
1,2-Dichloroethane	ND	10.0	10.5	105	10.0	10.4	104	1	73-128	20
1,2-Dichloropropane	ND	10.0	10.3	103	10.0	9.95	99	4	78-122	20
1,3,5-Trimethylbenzene	ND	10.0	9.62	96	10.0	9.06	91	6	75-124	20
1,3-Dichlorobenzene	ND	10.0	9.57	96	10.0	9.09	91	5	80-119	20
1,4-Dichlorobenzene	ND	10.0	9.48	95	10.0	9.08	91	4	79-118	20
2-Butanone	ND	50.0	50.3	101	50.0	47.6	95	5	56-143	20
2-Hexanone	ND	50.0	50.6	101	50.0	49.2	98	3	57-139	20
Acetone	ND	50.0	47.4	95	50.0	47.6	95	1	39-160	20
Benzene	ND	10.0	10.5	105	10.0	10.0	100	4	79-120	20
Bromochloromethane	ND	10.0	10.6	106	10.0	10.2	102	4	78-120	20
Bromodichloromethane	ND	10.0	10.8	108	10.0	10.4	104	4	79-125	20
Bromoform	ND	10.0	9.23	92	10.0	9.10	91	1	66-130	20
Bromomethane	ND	10.0	10.2	102	10.0	9.16	92	11	53-141	20
Carbon Disulfide	ND	10.0	10.2	102	10.0	8.79	88	15	64-133	20
Carbon Tetrachloride	ND	10.0	11.3	113	10.0	10.7	107	6	72-136	20
Chlorobenzene	ND	10.0	10.0	100	10.0	9.68	97	3	82-118	20
Chloroethane	ND	10.0	9.82	98	10.0	8.48	85	15	60-138	20
Chloroform	ND	10.0	10.5	105	10.0	9.95	99	6	79-124	20
Chloromethane	ND	10.0	10.3	103	10.0	9.46	95	9	50-139	20
cis-1,2-Dichloroethylene	ND	10.0	10.4	104	10.0	10.3	103	1	78-123	20
Dibromochloromethane	ND	10.0	10.0	100	10.0	9.66	97	4	74-126	20

Dichlorodifluoromethane	ND	10.0	11.3	113	10.0	10.1	101	11	32-152	20
Ethylbenzene	ND	10.0	10.3	103	10.0	9.90	99	4	79-121	20
Isopropylbenzene	ND	10.0	10.4	104	10.0	9.97	100	4	72-131	20
m,p-Xylene	ND	20.0	21.1	105	20.0	20.0	100	5	80-121	20
4-Methyl-2-Pentanone	ND	50.0	52.6	105	50.0	50.4	101	4	67-130	20
Methylene Chloride	ND	10.0	10.5	105	10.0	10.1	101	4	74-124	20
tert-Butyl Methyl Ether	ND	10.0	10.1	101	10.0	9.51	95	7	71-124	20
o-Xylene	ND	10.0	10.1	101	10.0	9.61	96	5	78-122	20
Styrene	ND	10.0	10.3	103	10.0	9.89	99	4	78-123	20
Tetrachloroethene	ND	10.0	10.2	102	10.0	9.66	97	5	74-129	20
Toluene	ND	10.0	10.1	101	10.0	9.75	98	4	80-121	20
Trans-1,2-DCE	ND	10.0	10.3	103	10.0	9.84	98	5	75-124	20
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	20.0	20.9	105	20.0	20.1	101	4	77-123	20
cis-1,3-Dichloropropene	ND	10.0	10.6	106	10.0	10.1	101	4	75-124	20
Trans-1,3-Dichloropropene	ND	10.0	10.3	103	10.0	10.0	100	3	73-127	20
TCE	ND	10.0	10.4	104	10.0	9.80	98	6	79-123	20
Trichlorofluoromethane	ND	10.0	10.5	105	10.0	9.53	95	9	65-141	20
Vinyl Chloride	ND	10.0	11.0	110	10.0	10.2	102	8	58-137	20
1,2-Dibromoethane	ND	10.0	10.2	102	10.0	10.0	100	2	77-121	20
Vinyl Acetate	ND	10.0	10.6	106	10.0	9.78	98	8	54-146	20
Trichlorotrifluoroethane	ND	10.0	10.5	105	10.0	10.1	101	4	70-136	20
Methyl Acetate	ND	10.0	10.5	105	10.0	9.35	93	11	50-136	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.4	104	10.0	10.4	104	70-130
Bromofluorobenzene	10.0	10.4	104	10.0	10.2	102	70-130
Toluene-d8	10.0	9.87	99	10.0	9.70	97	70-130
Dibromofluoromethane	10.0	10.6	106	10.0	10.8	108	70-130

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW283.D Vial: 6
Acq On : 18 Jul 2019 1:03 pm Operator: TWilki
Sample : VO06G15B 25mL Inst : TO06
Misc : BLANK Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:55 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

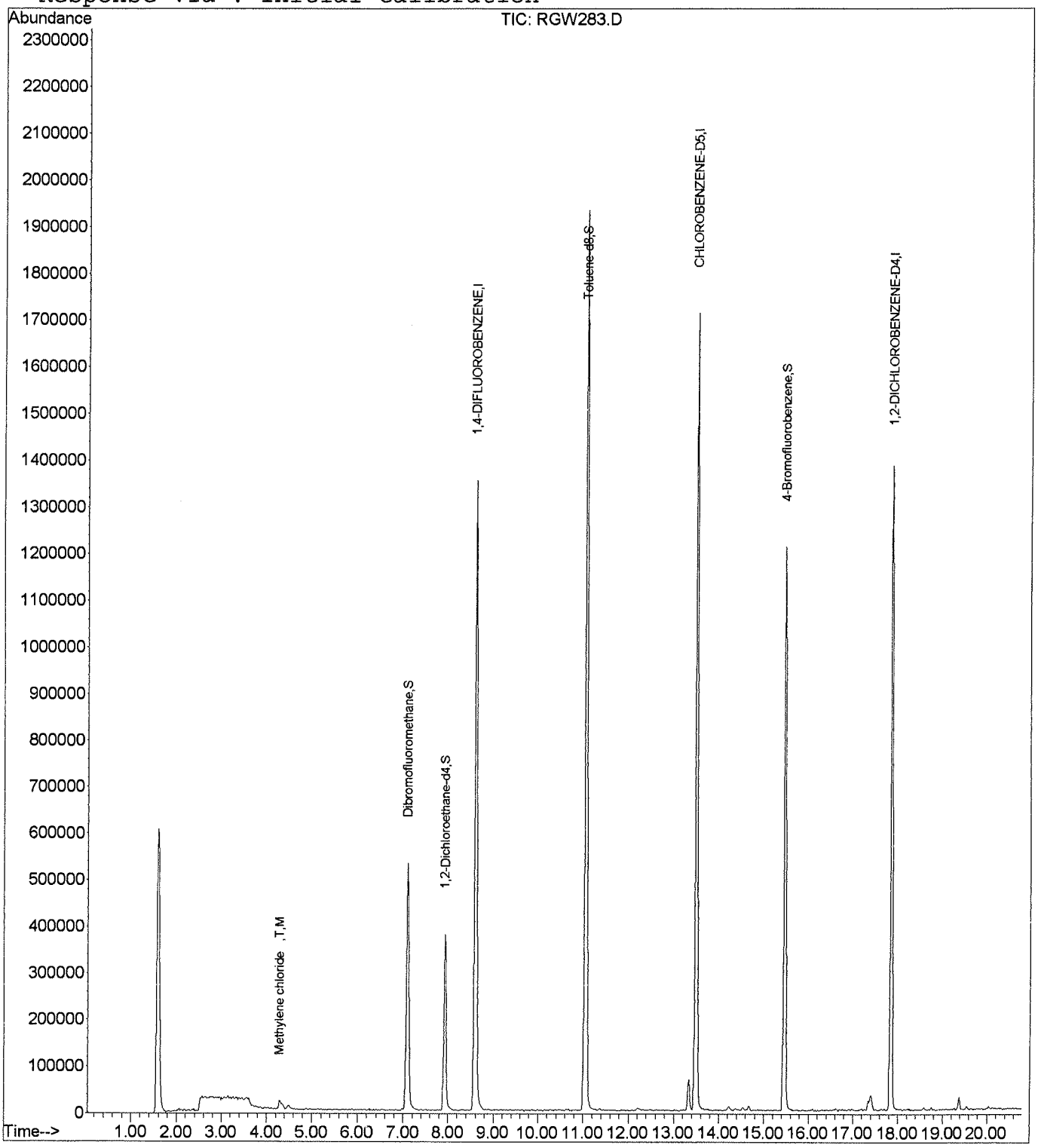
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.59	114	1957842	10.00	ug/l	-0.01
53) CHLOROBENZENE-D5	13.49	117	1721063	10.00	ug/l	-0.01
73) 1,2-DICHLOROBENZENE-D4	17.85	152	650026	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.09	111	647018	10.65	ug/l	-0.01
Spiked Amount 10.000			Recovery = 106.50%			
41) 1,2-Dichloroethane-d4	7.92	65	436887	10.52	ug/l	-0.01
Spiked Amount 10.000			Recovery = 105.20%			
54) Toluene-d8	11.05	98	2236876	9.81	ug/l	-0.01
Spiked Amount 10.000			Recovery = 98.10%			
76) 4-Bromofluorobenzene	15.45	95	791157	10.37	ug/l	-0.01
Spiked Amount 10.000			Recovery = 103.70%			
Target Compounds						Qvalue
17) Methylene chloride	4.28	49	36128	0.36	ug/l	85

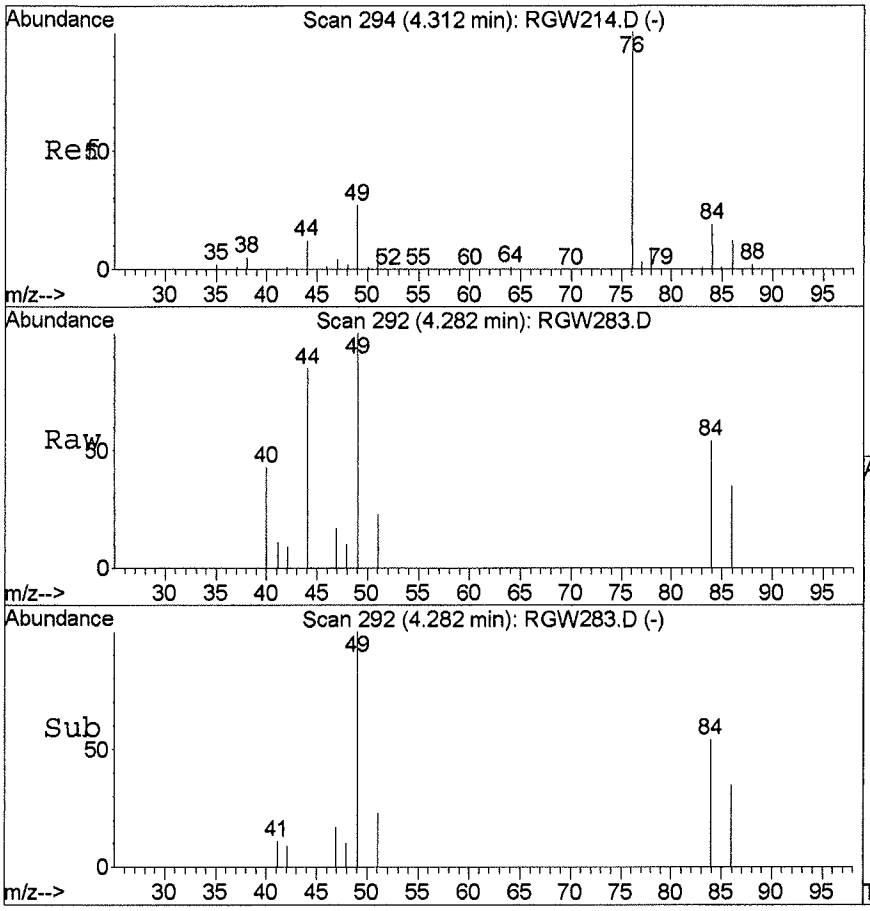
(#) = qualifier out of range (m) = manual integration
RGW283.D VO06G15.M Fri Jul 19 10:55:32 2019 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW283.D Vial: 6
Acq On : 18 Jul 2019 1:03 pm Operator: TWilki
Sample : VO06G15B 25mL Inst : TO06
Misc : BLANK Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:55 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration

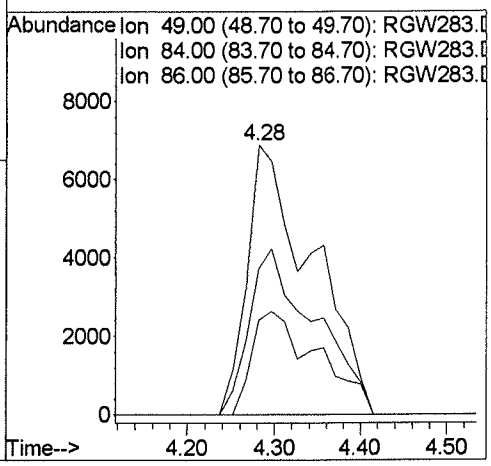




#17
Methylene chloride
Concen: 0.36 ug/l
RT: 4.28 min Scan# 292
Delta R.T. -0.03 min
Lab File: RGW283.D
Acq: 18 Jul 2019 1:03 pm

Tgt Ion: 49 Resp: 36128

Ion	Ratio	Lower	Upper
49	100		
84	61.8	36.6	96.6
86	24.0	12.2	72.2



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW280.D Vial: 3
Acq On : 18 Jul 2019 11:42 am Operator: TWilki
Sample : VO06G15L Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:55 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.59	114	2016436	10.00	ug/l		-0.01
53) CHLOROBENZENE-D5	13.49	117	1763194	10.00	ug/l		-0.01
73) 1,2-DICHLOROBENZENE-D4	17.85	152	695247	10.00	ug/l		-0.01
System Monitoring Compounds							
34) Dibromofluoromethane	7.09	111	660376	10.56	ug/l		-0.01
Spiked Amount 10.000			Recovery = 105.60%				
41) 1,2-Dichloroethane-d4	7.94	65	445001	10.41	ug/l		0.00
Spiked Amount 10.000			Recovery = 104.10%				
54) Toluene-d8	11.05	98	2305024	9.87	ug/l		-0.01
Spiked Amount 10.000			Recovery = 98.70%				
76) 4-Bromofluorobenzene	15.45	95	846017	10.37	ug/l		-0.01
Spiked Amount 10.000			Recovery = 103.70%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.72	85	914353	11.33	ug/l		100
3) Chloromethane	1.95	50	1002436	10.30	ug/l		99
4) Vinyl chloride	2.08	62	943322	11.01	ug/l		99
5) Bromomethane	2.54	94	683448	10.18	ug/l		100
6) Chloroethane	2.63	64	632854	9.82	ug/l		96
7) Dichlorofluoromethane	2.66	67	1645307	10.46	ug/l		99
8) Trichlorofluoromethane	2.90	101	1003495	10.45	ug/l		98
9) Acrolein	3.39	56	199324	50.96	ug/l		87
10) 1,1,2-Trichloro-1,2,2-trif	3.45	151	552202	10.46	ug/l		99
11) Acetone	3.48	43	268111	47.37	ug/l		98
12) 1,1-Dichloroethene	3.66	61	1393056	9.71	ug/l		97
13) tert-Butyl alcohol	3.76	59	95981	46.65	ug/l		98
15) Methyl acetate	4.10	74	42160	10.48	ug/l	#	74
16) Iodomethane	4.09	142	1341736	10.23	ug/l		99
17) Methylene chloride	4.30	49	1075366	10.54	ug/l		92
18) Carbon disulfide	4.30	76	2541334	10.17	ug/l		99
19) Acrylonitrile	4.49	53	472361	50.47	ug/l		97
20) tert-Butyl methyl ether (M	4.54	73	908295	10.15	ug/l		98
21) trans-1,2-Dichloroethene	4.73	61	1286044	10.32	ug/l		97
22) Isopropyl ether (DIPE)	5.26	45	2448972	10.31	ug/l		100
23) Vinyl acetate	5.46	43	730777	10.64	ug/l		100
24) 1,1-Dichloroethane	5.41	63	1482894	10.26	ug/l		99
25) 2-Butanol	5.85	45	86970	49.97	ug/l	#	100
26) tert-Butyl ethyl ether (ET	5.98	59	1576868	9.61	ug/l		97
27) 2-Butanone	6.19	72	110525	50.26	ug/l		98
28) 2,2-Dichloropropane	6.38	77	819470	11.59	ug/l		99
29) cis-1,2-Dichloroethene	6.46	96	856457	10.39	ug/l		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW280.D Vial: 3
Acq On : 18 Jul 2019 11:42 am Operator: TWilki
Sample : VO06G15L Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:55 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
30)	Chloroform	6.73	83	1309093	10.52	ug/l	96
32)	Bromochloromethane	7.00	49	577917	10.64	ug/l	99
33)	Tetrahydrofuran	7.07	42	71513	9.46	ug/l	94
35)	1,1,1-Trichloroethane	7.39	97	1068861	11.13	ug/l	98
36)	Cyclohexane	7.40	84	1272962	11.04	ug/l	91
38)	1,1-Dichloropropene	7.65	110	393019	10.40	ug/l	99
39)	Carbon tetrachloride	7.80	119	937048	11.34	ug/l	100
40)	tert-Amyl methyl ether (TA	7.88	87	237663	10.12	ug/l	97
42)	1,2-Dichloroethane	8.08	62	611104	10.54	ug/l	99
43)	Benzene	8.08	78	3130242	10.45	ug/l	99
44)	Trichloroethene	9.11	130	850538	10.42	ug/l	98
45)	Methylcyclohexane	9.19	83	1494989	11.16	ug/l	99
46)	1,2-Dichloropropane	9.39	63	740353	10.33	ug/l	98
47)	1,4-Dioxane	9.84	88	37960	178.65	ug/l	98
48)	Bromodichloromethane	9.78	83	807726	10.79	ug/l	99
49)	Dibromomethane	9.86	93	306385	10.86	ug/l	97
50)	2-Chloroethyl vinyl ether	10.32	63	240393	10.00	ug/l	99
51)	4-Methyl-2-pentanone	10.36	43	1614308	52.57	ug/l	100
52)	cis-1,3-Dichloropropene	10.67	75	1051656	10.58	ug/l	99
55)	Toluene	11.18	91	3115179	10.11	ug/l	99
56)	Ethyl methacrylate	11.51	69	453199	9.63	ug/l	99
57)	trans-1,3-Dichloropropene	11.49	75	734263	10.32	ug/l	99
58)	1,1,2-Trichloroethane	11.74	97	345414	9.91	ug/l	99
59)	2-Hexanone	11.77	43	977905	50.59	ug/l	99
60)	1,3-Dichloropropane	12.15	76	706834	10.08	ug/l	99
61)	Tetrachloroethene	12.22	164	694889	10.19	ug/l	98
62)	Dibromochloromethane	12.55	129	463052	10.01	ug/l	98
64)	1,2-Dibromoethane	12.88	107	360900	10.20	ug/l	100
65)	1-Chlorohexane	13.16	91	1395795	10.42	ug/l	99
66)	Chlorobenzene	13.55	112	1838522	10.00	ug/l	99
67)	1,1,1,2-Tetrachloroethane	13.62	131	594767	10.41	ug/l	99
68)	Ethylbenzene	13.63	91	3678408	10.29	ug/l	100
69)	m-Xylene & p-Xylene	13.77	91	5503431	21.09	ug/l	100
70)	o-Xylene	14.47	91	2658013	10.14	ug/l	100
71)	Styrene	14.53	104	1997451	10.27	ug/l	93
72)	Isopropylbenzene	15.05	105	3515055	10.39	ug/l	99
74)	Bromoform	15.06	173	216975	9.23	ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.33	83	410589	9.51	ug/l	99
77)	1,2,3-Trichloropropane	15.58	110	97261	9.00	ug/l	96
78)	trans-1,4-Dichloro-2-buten	15.69	53	109861	9.22	ug/l	97
79)	n-Propylbenzene	15.70	91	4522921	9.70	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G18\RGW280.D Vial: 3
Acq On : 18 Jul 2019 11:42 am Operator: TWilki
Sample : VO06G15L Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:55 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

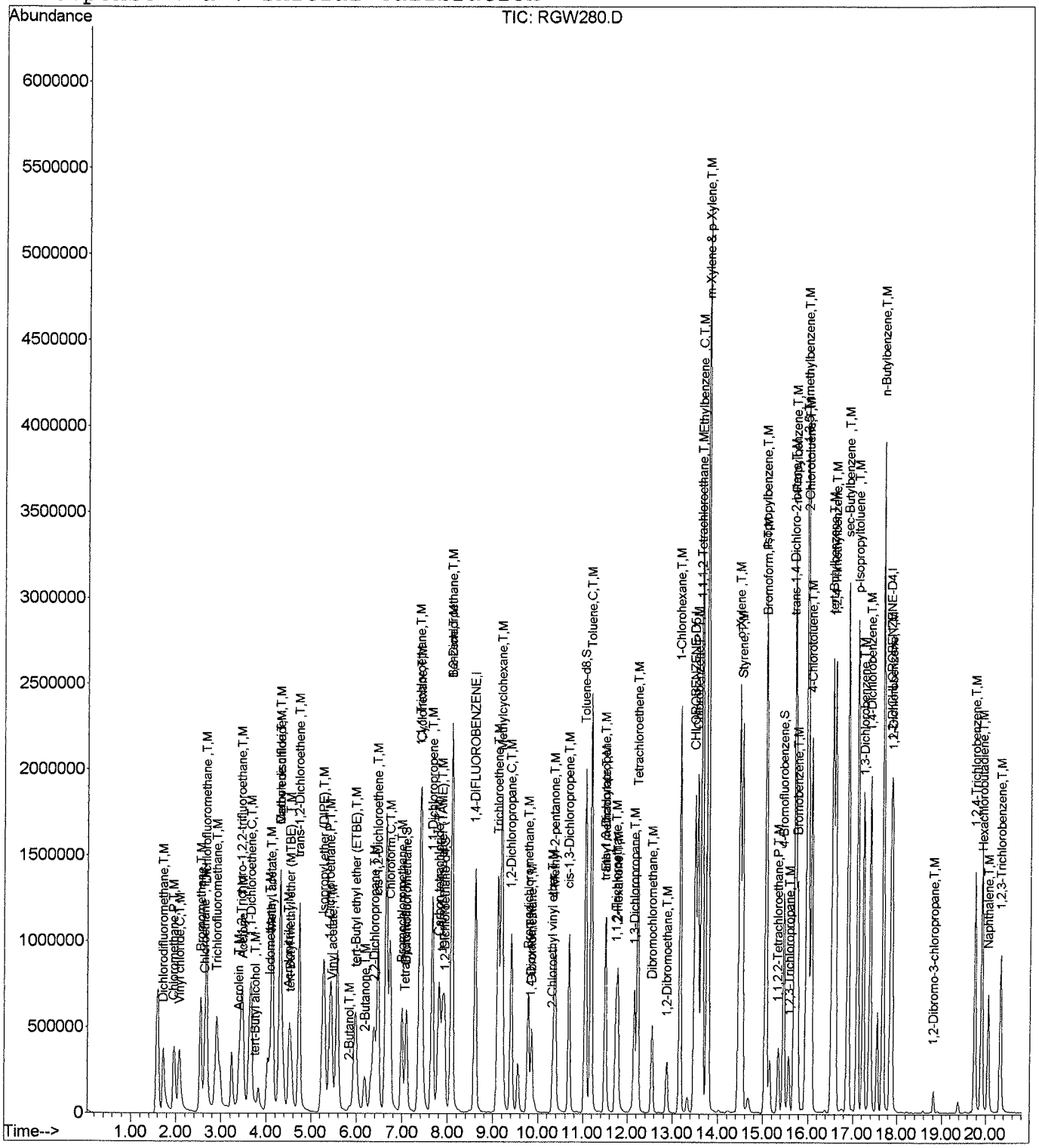
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
80)	Bromobenzene	15.76	156	668116	9.37	ug/l	99
81)	1,3,5-Trimethylbenzene	15.96	105	2734641	9.62	ug/l	100
82)	2-Chlorotoluene	15.99	91	2691811	9.41	ug/l	99
83)	4-Chlorotoluene	16.06	91	2316564	9.73	ug/l	100
84)	tert-Butylbenzene	16.54	134	653576	9.43	ug/l	96
85)	1,2,4-Trimethylbenzene	16.60	105	2651562	9.55	ug/l	99
86)	sec-Butylbenzene	16.88	105	4022961	9.83	ug/l	99
87)	p-Isopropyltoluene	17.10	119	3065121	9.49	ug/l	99
88)	1,3-Dichlorobenzene	17.24	146	1353487	9.57	ug/l	100
90)	1,4-Dichlorobenzene	17.38	146	1294144	9.48	ug/l	100
91)	n-Butylbenzene	17.67	91	3327056	9.92	ug/l	99
92)	1,2-Dichlorobenzene	17.88	146	1077000	9.49	ug/l	99
93)	1,2-Dibromo-3-chloropropan	18.81	157	54588	9.29	ug/l	96
94)	1,2,4-Trichlorobenzene	19.75	180	724452	9.66	ug/l	98
95)	Hexachlorobutadiene	19.91	225	545825	10.16	ug/l	99
96)	Naphthalene	20.05	128	888289	9.34	ug/l	99
97)	1,2,3-Trichlorobenzene	20.33	180	533146	9.80	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW280.D Vial: 3
Acq On : 18 Jul 2019 11:42 am Operator: TWilki
Sample : VO06G15L Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:55 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW281.D Vial: 4
Acq On : 18 Jul 2019 12:09 pm Operator: TWilki
Sample : VO06G15C Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:56 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.59	114	2124218	10.00	ug/l	-0.01
53) CHLOROBENZENE-D5	13.49	117	1842091	10.00	ug/l	-0.01
73) 1,2-DICHLOROBENZENE-D4	17.85	152	728608	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.09	111	710983	10.79	ug/l	-0.01
Spiked Amount 10.000			Recovery = 107.90%			
41) 1,2-Dichloroethane-d4	7.92	65	470347	10.44	ug/l	-0.01
Spiked Amount 10.000			Recovery = 104.40%			
54) Toluene-d8	11.05	98	2366745	9.70	ug/l	-0.01
Spiked Amount 10.000			Recovery = 97.00%			
76) 4-Bromofluorobenzene	15.45	95	871334	10.19	ug/l	-0.01
Spiked Amount 10.000			Recovery = 101.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.72	85	859452	10.11	ug/l	98
3) Chloromethane	1.95	50	969461	9.46	ug/l	100
4) Vinyl chloride	2.08	62	919089	10.18	ug/l	99
5) Bromomethane	2.54	94	648117	9.16	ug/l	99
6) Chloroethane	2.63	64	573920	8.48	ug/l	93
7) Dichlorofluoromethane	2.66	67	1652950	9.97	ug/l	100
8) Trichlorofluoromethane	2.90	101	964076	9.53	ug/l	99
9) Acrolein	3.39	56	186177	45.18	ug/l	90
10) 1,1,2-Trichloro-1,2,2-trif	3.46	151	560513	10.08	ug/l	99
11) Acetone	3.48	43	284007	47.63	ug/l	90
12) 1,1-Dichloroethene	3.66	61	1442989	9.55	ug/l	98
13) tert-Butyl alcohol	3.76	59	102429	47.26	ug/l	94
15) Methyl acetate	4.10	74	39594	9.35	ug/l #	88
16) Iodomethane	4.09	142	1350348	9.77	ug/l	100
17) Methylene chloride	4.30	49	1084626	10.09	ug/l	89
18) Carbon disulfide	4.30	76	2312670	8.79	ug/l	99
19) Acrylonitrile	4.49	53	483357	49.03	ug/l	97
20) tert-Butyl methyl ether (M	4.53	73	896256	9.51	ug/l	98
21) trans-1,2-Dichloroethene	4.73	61	1291851	9.84	ug/l	96
22) Isopropyl ether (DIPE)	5.26	45	2442703	9.77	ug/l	100
23) Vinyl acetate	5.46	43	707676	9.78	ug/l	100
24) 1,1-Dichloroethane	5.41	63	1501036	9.86	ug/l	99
25) 2-Butanol	5.84	45	76634	41.80	ug/l #	100
26) tert-Butyl ethyl ether (ET	5.96	59	1579633	9.14	ug/l	100
27) 2-Butanone	6.17	72	110300	47.61	ug/l	92
28) 2,2-Dichloropropane	6.38	77	759308	10.19	ug/l	96
29) cis-1,2-Dichloroethene	6.45	96	891230	10.26	ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW281.D Vial: 4
Acq On : 18 Jul 2019 12:09 pm Operator: TWilki
Sample : VO06G15C Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:56 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
30)	Chloroform	6.72	83	1304304	9.95	ug/l	95
32)	Bromochloromethane	6.98	49	585430	10.23	ug/l	99
33)	Tetrahydrofuran	7.07	42	71033	8.92	ug/l	96
35)	1,1,1-Trichloroethane	7.39	97	1064312	10.52	ug/l	99
36)	Cyclohexane	7.40	84	1192289	9.82	ug/l	92
38)	1,1-Dichloropropene	7.65	110	386793	9.71	ug/l	97
39)	Carbon tetrachloride	7.80	119	931983	10.71	ug/l	99
40)	tert-Amyl methyl ether (TA	7.88	87	236308	9.55	ug/l	98
42)	1,2-Dichloroethane	8.09	62	635306	10.41	ug/l	99
43)	Benzene	8.09	78	3165304	10.03	ug/l	100
44)	Trichloroethene	9.10	130	842580	9.80	ug/l	98
45)	Methylcyclohexane	9.19	83	1403149	9.95	ug/l	100
46)	1,2-Dichloropropane	9.39	63	750783	9.95	ug/l	99
47)	1,4-Dioxane	9.84	88	41820	186.83	ug/l	95
48)	Bromodichloromethane	9.77	83	821419	10.42	ug/l	100
49)	Dibromomethane	9.86	93	305344	10.27	ug/l	99
50)	2-Chloroethyl vinyl ether	10.32	63	244437	9.65	ug/l	99
51)	4-Methyl-2-pentanone	10.36	43	1629023	50.36	ug/l	99
52)	cis-1,3-Dichloropropene	10.67	75	1060595	10.13	ug/l	99
55)	Toluene	11.18	91	3138955	9.75	ug/l	100
56)	Ethyl methacrylate	11.51	69	467119	9.50	ug/l	99
57)	trans-1,3-Dichloropropene	11.49	75	743112	10.00	ug/l	98
58)	1,1,2-Trichloroethane	11.73	97	355600	9.77	ug/l	98
59)	2-Hexanone	11.78	43	993847	49.21	ug/l	98
60)	1,3-Dichloropropane	12.15	76	725104	9.90	ug/l	99
61)	Tetrachloroethene	12.22	164	688168	9.66	ug/l	99
62)	Dibromochloromethane	12.55	129	466943	9.66	ug/l	100
64)	1,2-Dibromoethane	12.86	107	371001	10.03	ug/l	99
65)	1-Chlorohexane	13.16	91	1399566	10.00	ug/l	100
66)	Chlorobenzene	13.55	112	1859417	9.68	ug/l	99
67)	1,1,1,2-Tetrachloroethane	13.62	131	603843	10.12	ug/l	99
68)	Ethylbenzene	13.64	91	3698746	9.90	ug/l	100
69)	m-Xylene & p-Xylene	13.77	91	5462332	20.04	ug/l	99
70)	o-Xylene	14.47	91	2630960	9.61	ug/l	100
71)	Styrene	14.53	104	2009004	9.88	ug/l	94
72)	Isopropylbenzene	15.05	105	3524198	9.97	ug/l	99
74)	Bromoform	15.06	173	224068	9.10	ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.33	83	409210	9.05	ug/l	100
77)	1,2,3-Trichloropropane	15.57	110	101252	8.94	ug/l	99
78)	trans-1,4-Dichloro-2-buten	15.69	53	113123	9.06	ug/l	100
79)	n-Propylbenzene	15.70	91	4506033	9.22	ug/l	100

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G18\RGW281.D Vial: 4
Acq On : 18 Jul 2019 12:09 pm Operator: TWilki
Sample : VO06G15C Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:56 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

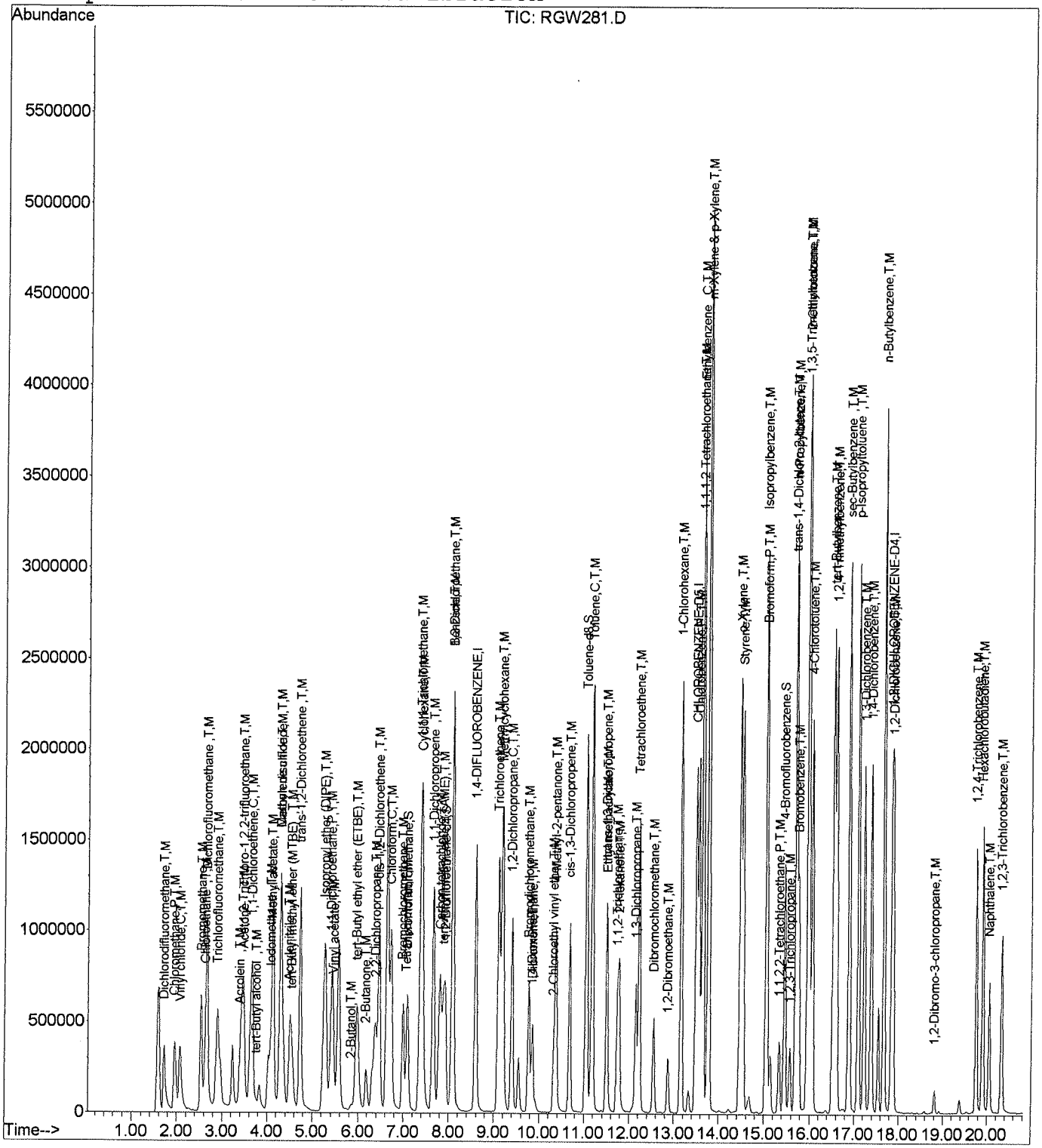
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
80)	Bromobenzene	15.76	156	669313	8.95	ug/l	99
81)	1,3,5-Trimethylbenzene	15.96	105	2698845	9.06	ug/l	99
82)	2-Chlorotoluene	15.97	91	2688775	8.97	ug/l	94
83)	4-Chlorotoluene	16.06	91	2278358	9.13	ug/l	95
84)	tert-Butylbenzene	16.54	134	655767	9.03	ug/l	97
85)	1,2,4-Trimethylbenzene	16.60	105	2625283	9.02	ug/l	99
86)	sec-Butylbenzene	16.88	105	4060654	9.47	ug/l	100
87)	p-Isopropyltoluene	17.09	119	3058925	9.04	ug/l	99
88)	1,3-Dichlorobenzene	17.22	146	1346115	9.09	ug/l	100
90)	1,4-Dichlorobenzene	17.39	146	1298748	9.08	ug/l	98
91)	n-Butylbenzene	17.67	91	3349737	9.53	ug/l	100
92)	1,2-Dichlorobenzene	17.88	146	1089034	9.16	ug/l	99
93)	1,2-Dibromo-3-chloropropan	18.81	157	57276	9.30	ug/l	96
94)	1,2,4-Trichlorobenzene	19.75	180	758927	9.66	ug/l	100
95)	Hexachlorobutadiene	19.90	225	563113	10.00	ug/l	99
96)	Naphthalene	20.05	128	937401	9.41	ug/l	99
97)	1,2,3-Trichlorobenzene	20.33	180	579782	10.17	ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW281.D Vial: 4
Acq On : 18 Jul 2019 12:09 pm Operator: TWilki
Sample : VO06G15C Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:56 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



INITIAL CALIBRATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc Contract: VHA-SLC
Lab Code: EMXT Case No.: SAS No.: SDG No.: 19G134
Lab File ID: RGW208 BFB Injection Date : 07/15/19
Instrument ID: 06 BFB Injection Time : 15:18
GC Column:RTX502.2ID:0.25mm (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.05
75	30.0 - 60.0% of mass 95	47.66
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.08
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	74.88
175	5.0 - 9.0% of mass 174	5.92(7.9)1
176	95.0 - 101.0% of mass 174	74.83(99.9)1
177	5.0 - 9.0% of mass 176	5.14(6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	V006G151	RGW209	07/15/19	16:04
2	VSTD0.5	V006G152	RGW210	07/15/19	16:31
3	VSTD01	V006G153	RGW211	07/15/19	16:58
4	VSTD02	V006G154	RGW212	07/15/19	17:24
5	VSTD05	V006G155	RGW213	07/15/19	17:51
6	VSTD010	V006G156	RGW214	07/15/19	18:18
7	VSTD020	V006G157	RGW215	07/15/19	18:45
8	VSTD030	V006G158	RGW216	07/15/19	19:12
9	VSTD050	V006G159	RGW217	07/15/19	19:39
10	VSTD100	V006G1510	RGW218	07/15/19	20:06
11	VSTD010	IV006G1501	RGW221	07/15/19	21:26

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :TO06
Beginning DateTime :07/15/19 16:04
Spike Units :PPB
IC File :RGW214

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :07/15/19 20:06
HPChem Method :VO06G15

M	IDX	Parameters	.3 16:04 RGW209	.5 16:31 RGW210	1 16:58 RGW211	2 17:24 RGW212	5 17:51 RGW213	10 18:18 RGW214	20 18:45 RGW215	30 19:12 RGW216	50 19:39 RGW217	100 20:06 RGW218	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	8.6056
	2	Dichlorodifluoromethane	------	0.297	0.371	0.398	0.441	0.434	0.445	0.411	0.409	0.396	0.400	11.32	1.7203
	3	Chloromethane	------	0.411	0.457	0.463	0.497	0.501	0.531	0.492	0.510	0.483	0.483	7.30	1.9530
	4	Vinyl chloride	------	0.326	0.419	0.458	0.490	0.452	0.445	0.384	------	------	0.425	12.84	2.0734
	5	Bromomethane	------	0.246	0.317	0.339	0.361	0.356	0.369	0.349	0.329	------	0.333	11.79	2.5373
	6	Chloroethane	------	0.199	0.255	0.279	0.312	0.311	0.335	0.318	0.343	0.318	0.297	15.32	2.6352
	7	Dichlorofluoromethane	0.726	0.782	0.736	0.740	0.803	0.769	0.792	0.833	0.850	0.772	0.780	5.21	2.6706
	8	Trichlorofluoromethane	------	0.335	0.422	0.468	0.519	0.498	0.519	0.504	0.517	0.503	0.476	12.87	2.8965
5	9	Acrolein	------	------	0.018	0.022	0.019	0.019	0.018	0.019	0.021	0.019	0.019	6.90	3.4021
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	0.246	0.255	0.246	0.243	0.273	0.260	0.263	0.277	0.283	0.272	0.262	5.50	3.4562
5	11	Acetone	------	------	------	0.033	0.030	0.027	0.026	0.027	0.028	0.026	0.028	8.45	3.4932
	12	1,1-Dichloroethene	0.644	0.702	0.657	0.681	0.755	0.722	0.705	0.744	0.766	0.736	0.711	5.78	3.6571
5	13	tert-Butyl alcohol	0.010	0.013	0.010	0.010	0.011	0.010	0.010	0.009	0.011	0.010	0.010	10.02	3.7717
	14	Acetonitrile	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	15	Methyl acetate	------	------	------	0.018	0.020	0.020	0.018	0.020	0.022	0.022	0.020	8.35	4.1161
	16	Iodomethane	0.593	0.637	0.585	0.620	0.692	0.656	0.648	0.675	0.705	0.694	0.650	6.48	4.0842
	17	Methylene chloride	0.476	0.533	0.477	0.487	0.537	0.512	0.489	0.511	0.534	0.508	0.506	4.62	4.3074
	18	Carbon disulfide	------	0.951	1.077	1.232	1.330	1.278	1.306	1.329	1.405	------	1.239	12.17	4.3099
5	19	Acrylonitrile	0.037	0.041	0.042	0.045	0.049	0.049	0.048	0.048	0.053	0.051	0.046	10.97	4.5068
	20	tert-Butyl methyl ether (MTBE)	0.433	0.422	0.412	0.423	0.470	0.462	0.436	0.434	0.495	0.452	0.444	5.78	4.5499
	21	trans-1,2-Dichloroethene	0.499	0.593	0.577	0.602	0.678	0.642	0.627	0.641	0.675	0.644	0.618	8.59	4.7374
	22	Isopropyl ether (DIPE)	1.008	1.157	1.124	1.140	1.287	1.216	1.172	1.204	1.276	1.191	1.177	6.79	5.2820
	23	Vinyl acetate	0.272	0.343	0.297	0.323	0.390	0.352	0.363	0.353	0.356	0.357	0.340	10.09	5.4725
	24	1,1-Dichloroethane	0.639	0.678	0.678	0.680	0.758	0.730	0.710	0.734	0.786	0.772	0.717	6.66	5.4278
5	25	2-Butanol	------	0.008	0.009	0.007	0.010	0.009	0.008	0.009	0.009	0.010	0.009	10.88	5.8658
	26	tert-Butyl ethyl ether (ETBE)	0.907	0.884	0.795	0.792	0.834	0.790	0.755	0.770	0.839	0.770	0.814	6.26	5.9843
5	27	2-Butanone	------	0.009	0.009	0.011	0.011	0.012	0.011	0.011	0.013	0.012	0.011	11.11	6.1932
	28	2,2-Dichloropropane	0.337	0.390	0.332	0.357	0.399	0.364	0.351	0.340	0.342	0.295	0.351	8.47	6.3891
	29	cis-1,2-Dichloroethene	0.343	0.367	0.388	0.409	0.438	0.420	0.411	0.420	0.453	0.441	0.409	8.40	6.4694
	30	Chloroform	0.561	0.610	0.570	0.594	0.661	0.622	0.610	0.629	0.674	0.641	0.617	5.89	6.7337
5	31	tert-Amyl alcohol	------	0.007	0.008	0.008	0.009	0.008	0.008	0.008	0.009	0.009	0.008	9.46	7.0614
	32	Bromochloromethane	0.238	0.254	0.249	0.260	0.296	0.279	0.274	0.274	0.292	0.279	0.269	6.92	7.0015
	33	Tetrahydrofuran	0.041	0.033	0.034	0.042	0.041	0.040	0.035	0.035	0.039	0.036	0.038	8.82	7.0759
	34	Dibromofluoromethane	------	------	0.251	0.308	0.328	0.327	0.304	0.302	0.338	0.324	0.310	8.69	7.1027
	35	1,1,1-Trichloroethane	0.416	0.475	0.452	0.464	0.521	0.493	0.481	0.491	0.498	0.470	0.476	6.04	7.4018
	36	Cyclohexane	------	------	0.478	0.547	0.576	0.610	0.548	0.591	0.609	0.614	0.572	8.14	7.4152
	37	2,2,4-Trimethylpentane	1.421	1.602	1.561	1.832	1.956	1.850	1.810	1.843	1.881	1.758	1.752	9.60	7.5312
	38	1,1-Dichloropropene	0.167	0.177	0.171	0.172	0.197	0.193	0.190	0.195	0.210	0.204	0.187	7.95	7.6682
	39	Carbon tetrachloride	0.342	0.379	0.363	0.378	0.439	0.424	0.432	0.436	0.457	0.447	0.410	9.86	7.8155
	40	tert-Amyl methyl ether (TAME)	0.099	0.116	0.108	0.112	0.127	0.120	0.116	0.117	0.130	0.119	0.116	7.63	7.8943
	41	1,2-Dichloroethane-d4	------	0.175	0.177	0.218	0.237	0.229	0.219	0.206	0.230	0.217	0.212	10.38	7.9360
	42	1,2-Dichloroethane	0.256	0.267	0.260	0.284	0.317	0.307	0.293	0.292	0.309	0.290	0.287	7.24	8.0982
	43	Benzene	1.291	1.453	1.394	1.444	1.588	1.520	1.492	1.538	1.646	------	1.485	7.11	8.0996
	44	Trichloroethene	0.342	0.384	0.373	0.382	0.436	0.419	0.414	0.419	0.446	0.432	0.405	8.20	9.1130
	45	Methylcyclohexane	------	------	0.546	0.607	0.651	0.737	0.651	0.694	0.718	0.709	0.664	9.64	9.2008
	46	1,2-Dichloropropane	0.316	0.342	0.331	0.335	0.380	0.364	0.362	0.361	0.391	0.372	0.355	6.68	9.4091
20	47	1,4-Dioxane	------	------	------	------	0.001	0.001	0.001	0.001	0.001	0.001	0.001	11.26	9.8503
	48	Bromodichloromethane	0.302	0.362	0.342	0.341	0.406	0.387	0.388	0.387	0.408	0.388	0.371	9.09	9.7826

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49	Dibromomethane	0.122	0.131	0.128	0.137	0.153	0.146	0.142	0.143	0.151	0.146	0.140	7.32	9.8674
50	2-Chloroethyl vinyl ether	------	0.108	0.106	0.109	0.125	0.123	0.122	0.121	0.133	0.126	0.119	7.89	10.3333
5 51	4-Methyl-2-pentanone	0.139	0.152	0.137	0.146	0.164	0.166	0.155	0.150	0.166	0.150	0.152	6.89	10.3778
52	cis-1,3-Dichloropropene	0.413	0.490	0.459	0.470	0.535	0.509	0.501	0.500	0.535	0.515	0.493	7.59	10.6888
53	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	13.5011
54	Toluene-d8	------	1.010	1.183	1.402	1.418	1.426	1.339	1.345	1.478	------	1.325	11.68	11.0607
55	Toluene	1.586	1.746	1.667	1.691	1.886	1.754	1.729	1.808	1.860	------	1.747	5.40	11.1913
56	Ethyl methacrylate	------	0.243	0.241	0.249	0.284	0.273	0.266	0.274	0.293	0.279	0.267	6.91	11.5237
57	trans-1,3-Dichloropropene	0.340	0.384	0.370	0.377	0.438	0.411	0.415	0.420	0.449	0.431	0.403	8.53	11.5087
58	1,1,2-Trichloroethane	0.179	0.208	0.184	0.184	0.208	0.201	0.199	0.195	0.214	0.204	0.198	5.97	11.7467
5 59	2-Hexanone	0.084	0.113	0.100	0.112	0.120	0.120	0.112	0.108	0.118	0.109	0.110	10.11	11.7944
60	1,3-Dichloropropane	0.352	0.373	0.378	0.393	0.440	0.412	0.393	0.394	0.430	0.411	0.398	6.62	12.1619
61	Tetrachloroethene	0.334	0.374	0.358	0.377	0.412	0.403	0.391	0.394	0.421	0.404	0.387	6.84	12.2363
62	Dibromochloromethane	------	0.255	0.229	0.231	0.275	0.262	0.270	0.268	0.294	0.278	0.262	8.07	12.5637
63	2-Ethyl-1-butanol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
64	1,2-Dibromoethane	0.156	0.192	0.195	0.195	0.215	0.206	0.202	0.208	0.227	0.212	0.201	9.51	12.8865
65	1-Chlorohexane	0.649	0.734	0.722	0.693	0.829	0.773	0.777	0.804	0.824	0.789	0.760	7.72	13.1737
66	Chlorobenzene	0.939	1.011	0.986	1.012	1.129	1.066	1.034	1.062	1.143	------	1.043	6.29	13.5605
67	1,1,1,2-Tetrachloroethane	0.266	0.306	0.301	0.309	0.349	0.332	0.334	0.341	0.376	------	0.324	9.88	13.6349
68	Ethylbenzene	1.748	2.069	1.947	1.974	2.238	2.075	2.045	2.108	2.041	------	2.027	6.58	13.6498
2 69	m-Xylene & p-Xylene	1.388	1.552	1.449	1.482	1.650	1.537	1.538	1.507	1.215	------	1.480	8.32	13.7804
70	o-Xylene	1.412	1.476	1.432	1.431	1.581	1.510	1.473	1.503	1.563	------	1.487	3.95	14.4831
71	Styrene	0.965	1.123	1.039	1.050	1.189	1.135	1.123	1.149	1.218	1.043	1.103	7.02	14.5427
72	Isopropylbenzene	1.636	1.891	1.815	1.874	2.145	2.008	1.961	1.996	1.948	------	1.919	7.40	15.0634
73	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.8534
74	Bromoform	------	0.295	0.282	0.308	0.338	0.334	0.341	0.357	0.402	0.385	0.338	11.73	15.0784
75	1,1,2,2-Tetrachloroethane	0.639	0.597	0.581	0.619	0.637	0.624	0.602	0.610	0.671	0.629	0.621	4.09	15.3506
76	4-Bromofluorobenzene	------	0.891	1.034	1.227	1.228	1.252	1.191	1.162	1.316	1.262	1.174	11.28	15.4652
77	1,2,3-Trichloropropane	0.154	0.123	0.152	0.156	0.166	0.157	0.154	0.158	0.173	0.161	0.155	8.33	15.5887
78	trans-1,4-Dichloro-2-butene	0.145	0.169	0.160	0.161	0.185	0.174	0.176	0.176	0.194	0.173	0.171	8.08	15.7048
79	n-Propylbenzene	5.942	6.696	6.424	6.579	7.328	6.953	6.875	7.166	6.393	------	6.706	6.39	15.7181
80	Bromobenzene	0.867	1.012	0.920	1.009	1.050	1.037	1.020	1.063	1.165	1.116	1.026	8.40	15.7777
81	1,3,5-Trimethylbenzene	3.630	3.865	3.861	3.786	4.330	4.207	4.165	4.287	4.660	------	4.088	7.96	15.9711
82	2-Chlorotoluene	3.710	3.928	3.903	3.965	4.290	4.105	4.068	4.541	4.521	------	4.114	6.90	15.9992
83	4-Chlorotoluene	3.168	3.261	3.255	3.266	3.638	3.539	3.480	3.263	3.945	------	3.424	7.34	16.0752
84	tert-Butylbenzene	0.824	0.916	0.935	0.907	1.034	1.044	1.034	1.056	1.133	1.083	0.997	9.60	16.5515
85	1,2,4-Trimethylbenzene	3.444	3.861	3.752	3.818	4.214	4.085	4.062	4.184	4.513	------	3.993	7.81	16.6109
86	sec-Butylbenzene	5.130	5.589	5.567	5.615	6.449	6.183	6.146	6.352	5.929	------	5.884	7.42	16.8936
87	p-Isopropyltoluene	3.949	4.299	4.567	4.287	5.060	4.989	4.843	4.878	4.923	------	4.644	8.34	17.1069
88	1,3-Dichlorobenzene	1.801	1.961	1.857	1.934	2.161	2.137	2.092	2.054	2.222	2.118	2.034	6.85	17.2389
89	1,2,3-Trimethylbenzene	------	------	2.812	3.523	3.606	3.523	3.337	3.423	3.739	2.882	3.356	10.01	17.3420
90	1,4-Dichlorobenzene	1.636	1.843	1.850	1.897	2.113	2.055	1.979	2.051	2.177	2.025	1.963	8.10	17.3996
91	n-Butylbenzene	4.143	4.698	4.718	4.420	5.424	5.245	4.962	5.028	4.788	------	4.825	8.21	17.6822
92	1,2-Dichlorobenzene	1.449	1.528	1.549	1.592	1.772	1.697	1.635	1.654	1.774	1.670	1.632	6.41	17.8906
93	1,2-Dibromo-3-chloropropane	------	0.077	0.071	0.086	0.090	0.084	0.083	0.082	0.096	0.091	0.084	8.91	18.8281
94	1,2,4-Trichlorobenzene	0.921	0.996	1.024	0.985	1.240	1.148	1.094	1.089	1.176	1.111	1.078	9.02	19.7655
95	Hexachlorobutadiene	0.646	0.669	0.729	0.687	0.916	0.867	0.781	0.768	0.838	0.827	0.773	11.63	19.9143
96	Naphthalene	1.275	1.329	1.247	1.311	1.526	1.460	1.358	1.325	1.445	1.402	1.368	6.47	20.0631
97	1,2,3-Trichlorobenzene	0.657	0.723	0.760	0.730	0.928	0.862	0.787	0.754	0.826	0.797	0.782	9.80	20.3458

Spike Amount = Nominal Amount * M
Ave_%RSD : 8.3 Max_%RSD : 15.3

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
6	Chloroethane	-0.00693	0.32669	0.9994

sa
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Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
Total Cpnds : 97

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	8.60	1.000	A	1	A	B
2	T	Dichlorodifluoromethane	85	1.72	0.200	A	1	A	B
3	T	Chloromethane	50	1.95	0.227	A	1	A	B
4	T	Vinyl chloride	62	2.08	0.242	A	1	A	B
5	T	Bromomethane	94	2.54	0.295	A	1	A	B
6	T	Chloroethane	64	2.65	0.307	L	2	A	B
7	T	Dichlorofluoromethane	67	2.67	0.311	A	1	A	B
8	T	Trichlorofluoromethane	101	2.90	0.337	A	1	A	B
9	T	Acrolein	56	3.40	0.395	A	1	A	B
10	T	1,1,2-Trichloro-1,2,2-trifluor	151	3.46	0.403	A	1	A	B
11	T	Acetone	43	3.49	0.406	A	2	A	B
12	T	1,1-Dichloroethene	61	3.66	0.425	A	2	A	B
13	T	tert-Butyl alcohol	59	3.78	0.439	A	1	A	B
14	T	Acetonitrile	41	0.00	0.000	A	2	A	B
15	T	Methyl acetate	74	4.12	0.479	A	1	A	B
16	T	Iodomethane	142	4.09	0.475	A	1	A	B
17	T	Methylene chloride	49	4.31	0.501	A	2	A	B
18	T	Carbon disulfide	76	4.31	0.501	A	1	A	B
19	T	Acrylonitrile	53	4.51	0.524	A	2	A	B
20	T	tert-Butyl methyl ether (MTBE)	73	4.55	0.529	A	1	A	B
21	T	trans-1,2-Dichloroethene	61	4.74	0.551	A	2	A	B
22	T	Isopropyl ether (DIPE)	45	5.28	0.613	A	1	A	B
23	T	Vinyl acetate	43	5.47	0.636	A	1	A	B
24	T	1,1-Dichloroethane	63	5.43	0.631	A	2	A	B
25	T	2-Butanol	45	5.86	0.681	A	1	A	B
26	T	tert-Butyl ethyl ether (ETBE)	59	5.99	0.696	A	1	A	B
27	T	2-Butanone	72	6.19	0.719	A	1	A	B
28	T	2,2-Dichloropropane	77	6.39	0.743	A	2	A	B
29	T	cis-1,2-Dichloroethene	96	6.47	0.752	A	2	A	B
30	T	Chloroform	83	6.74	0.784	A	2	A	B
31	T	tert-Amyl alcohol	59	7.06	0.820	A	2	A	B
32	T	Bromochloromethane	49	7.00	0.813	A	2	A	B
33	T	Tetrahydrofuran	42	7.07	0.822	A	2	A	B
34	S	Dibromofluoromethane	111	7.10	0.825	A	2	A	B
35	T	1,1,1-Trichloroethane	97	7.40	0.860	A	2	A	B
36	T	Cyclohexane	84	7.41	0.862	A	2	A	B
37	T	2,2,4-Trimethylpentane	57	7.53	0.875	A	3	A	B
38	T	1,1-Dichloropropene	110	7.67	0.891	A	1	A	B
39	T	Carbon tetrachloride	119	7.82	0.908	A	1	A	B
40	T	tert-Amyl methyl ether (TAME)	87	7.89	0.917	A	2	A	B
41	S	1,2-Dichloroethane-d4	65	7.93	0.922	A	1	A	B
42	T	1,2-Dichloroethane	62	8.10	0.941	A	1	A	B
43	T	Benzene	78	8.10	0.941	A	2	A	B
44	T	Trichloroethene	130	9.11	1.059	A	3	A	B
45	T	Methylcyclohexane	83	9.20	1.069	A	2	A	B
46	T	1,2-Dichloropropane	63	9.41	1.093	A	2	A	B
47	T	1,4-Dioxane	88	9.85	1.145	A	1	A	B
48	T	Bromodichloromethane	83	9.80	1.138	A	1	A	B
49	T	Dibromomethane	93	9.87	1.147	A	2	A	B
50	T	2-Chloroethyl vinyl ether	63	10.33	1.201	A	2	A	B
51	T	4-Methyl-2-pentanone	43	10.38	1.206	A	3	A	B
52	T	cis-1,3-Dichloropropene	75	10.69	1.242	A	3	A	B

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53	I		CHLOROBENZENE-D5	117	13.50	1.000	A	2	A B
54		S	Toluene-d8	98	11.06	0.819	A	1	A B
55		T	Toluene	91	11.19	0.829	A	1	A B
56		T	Ethyl methacrylate	69	11.52	0.853	A	2	A B
57		T	trans-1,3-Dichloropropene	75	11.51	0.852	A	2	A B
58		T	1,1,2-Trichloroethane	97	11.76	0.871	A	3	A B
59		T	2-Hexanone	43	11.79	0.873	A	2	A B
60		T	1,3-Dichloropropane	76	12.16	0.901	A	1	A B
61		T	Tetrachloroethene	164	12.24	0.906	A	3	A B
62		T	Dibromochloromethane	129	12.56	0.931	A	1	A B
63		T	2-Ethyl-1-butanol	43	0.00	0.000	A	3	A B
64		T	1,2-Dibromoethane	107	12.89	0.955	A	1	A B
65		T	1-Chlorohexane	91	13.17	0.976	A	3	A B
66		T	Chlorobenzene	112	13.56	1.004	A	3	A B
67		T	1,1,1,2-Tetrachloroethane	131	13.63	1.010	A	3	A B
68		T	Ethylbenzene	91	13.65	1.011	A	1	A B
69		T	m-Xylene & p-Xylene	91	13.78	1.021	A	1	A B
70		T	o-Xylene	91	14.48	1.073	A	1	A B
71		T	Styrene	104	14.54	1.077	A	2	A B
72		T	Isopropylbenzene	105	15.06	1.116	A	3	A B
73	I		1,2-DICHLOROBENZENE-D4	152	17.86	1.000	A	1	A B
74		T	Bromoform	173	15.08	0.844	A	2	A B
75		T	1,1,2,2-Tetrachloroethane	83	15.35	0.859	A	1	A B
76		S	4-Bromofluorobenzene	95	15.46	0.866	A	2	A B
77		T	1,2,3-Trichloropropane	110	15.58	0.873	A	1	A B
78		T	trans-1,4-Dichloro-2-butene	53	15.70	0.879	A	1	A B
79		T	n-Propylbenzene	91	15.72	0.880	A	2	A B
80		T	Bromobenzene	156	15.78	0.883	A	2	A B
81		T	1,3,5-Trimethylbenzene	105	15.97	0.894	A	2	A B
82		T	2-Chlorotoluene	91	16.00	0.896	A	1	A B
83		T	4-Chlorotoluene	91	16.07	0.900	A	1	A B
84		T	tert-Butylbenzene	134	16.55	0.927	A	2	A B
85		T	1,2,4-Trimethylbenzene	105	16.61	0.930	A	1	A B
86		T	sec-Butylbenzene	105	16.89	0.946	A	1	A B
87		T	p-Isopropyltoluene	119	17.12	0.958	A	2	A B
88		T	1,3-Dichlorobenzene	146	17.25	0.966	A	2	A B
89		T	1,2,3-Trimethylbenzene	105	17.34	0.971	A	2	A B
90		T	1,4-Dichlorobenzene	146	17.40	0.974	A	2	A B
91		T	n-Butylbenzene	91	17.68	0.990	A	2	A B
92		T	1,2-Dichlorobenzene	146	17.89	1.002	A	2	A B
93		T	1,2-Dibromo-3-chloropropane	157	18.83	1.054	A	2	A B
94		T	1,2,4-Trichlorobenzene	180	19.76	1.107	A	2	A B
95		T	Hexachlorobutadiene	225	19.91	1.115	A	2	A B
96		T	Naphthalene	128	20.06	1.123	A	1	A B
97		T	1,2,3-Trichlorobenzene	180	20.34	1.139	A	2	A B

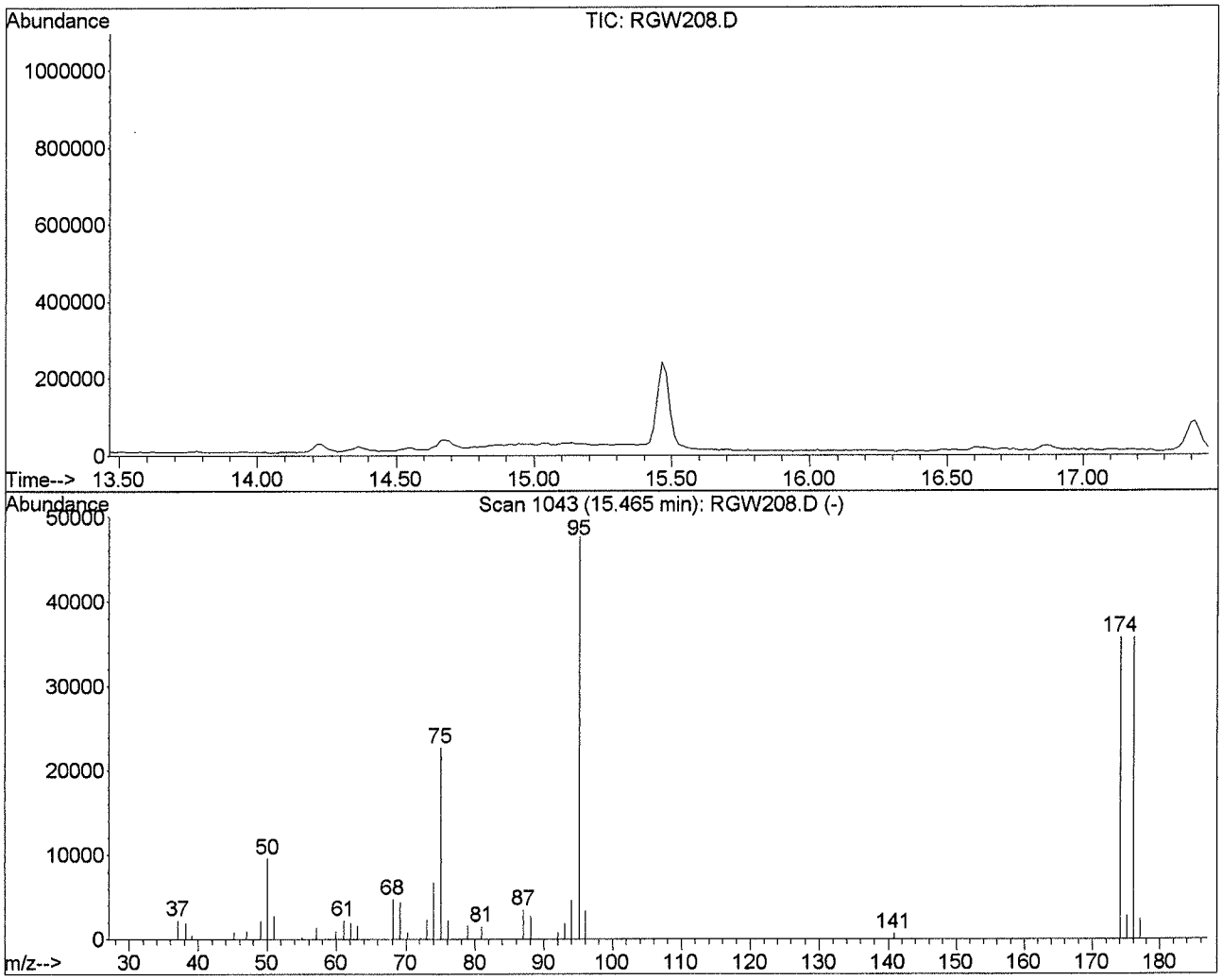
Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VO06G15.M Tue Jul 16 13:03:57 2019

SW 7/17/19

Data File : D:\HPCHEM\1\DATA\19G15\RGW208.D
Acq On : 15 Jul 2019 3:18 pm
Sample : BFB06G12
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260

Vial: 1
Operator: TWilki
Inst : TO06
Multiplr: 1.00



Spectrum Information: Scan 1043 - Scan 1038

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.1	9566	PASS
75	95	30	60	47.7	22736	PASS
95	95	100	100	100.0	47704	PASS
96	95	5	9	7.1	3377	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	74.9	35720	PASS
175	174	5	9	7.9	2822	PASS
176	174	95	101	99.9	35696	PASS
177	176	5	9	6.9	2451	PASS

RGW208.D VO06G15.M Wed Jul 17 10:47:04 2019

SA 7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW209.D Vial: 2
Acq On : 15 Jul 2019 4:04 pm Operator: TWilki
Sample : VO06G151 Inst : TO06
Misc : 0.3PPB 8260/1.5PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2327390	10.00	ug/l	0.00
53) CHLOROBENZENE-D5	13.50	117	1941242	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.85	152	682996	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.12	111	8957	0.12	ug/l	0.02
Spiked Amount 10.000			Recovery = 1.20%			
41) 1,2-Dichloroethane-d4	7.94	65	7032	0.14	ug/l	0.00
Spiked Amount 10.000			Recovery = 1.40%			
54) Toluene-d8	11.06	98	38488	0.15	ug/l	0.00
Spiked Amount 10.000			Recovery = 1.50%			
76) 4-Bromofluorobenzene	15.47	95	12868	0.16	ug/l	0.00
Spiked Amount 10.000			Recovery = 1.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.72	85	15295	0.16	ug/l	91
3) Chloromethane	1.96	50	23379	0.21	ug/l	100
4) Vinyl chloride	2.07	62	16175	0.16	ug/l	74
5) Bromomethane	2.54	94	16211	0.21	ug/l	86
6) Chloroethane	2.63	64	11718	0.37	ug/l #	22
7) Dichlorofluoromethane	2.68	67	50722	0.28	ug/l	88
8) Trichlorofluoromethane	2.91	101	18479	0.17	ug/l	96
9) Acrolein	3.41	56	10941	2.42	ug/l	69
10) 1,1,2-Trichloro-1,2,2-trif	3.45	151	17146	0.28	ug/l	100
11) Acetone	3.49	43	21829	3.34	ug/l #	75
12) 1,1-Dichloroethene	3.66	61	44974	0.27	ug/l	91
13) tert-Butyl alcohol	3.76	59	3449	1.45	ug/l #	1
16) Iodomethane	4.09	142	41397	0.27	ug/l	99
17) Methylene chloride	4.31	49	33205	0.28	ug/l	93
18) Carbon disulfide	4.31	76	44874	0.16	ug/l	96
19) Acrylonitrile	4.52	53	12809	1.19	ug/l	97
20) tert-Butyl methyl ether (M	4.55	73	30248	0.29	ug/l	70
21) trans-1,2-Dichloroethene	4.74	61	34869	0.24	ug/l	88
22) Isopropyl ether (DIPE)	5.30	45	70380	0.26	ug/l	97
23) Vinyl acetate	5.49	43	18965	0.24	ug/l #	76
24) 1,1-Dichloroethane	5.43	63	44616	0.27	ug/l	99
26) tert-Butyl ethyl ether (ET	5.99	59	63349	0.33	ug/l	95
27) 2-Butanone	6.20	72	3106	1.22	ug/l #	33
28) 2,2-Dichloropropane	6.40	77	23512	0.29	ug/l	91
29) cis-1,2-Dichloroethene	6.47	96	23920	0.25	ug/l	93
30) Chloroform	6.75	83	39162	0.27	ug/l	98
32) Bromochloromethane	7.00	49	16625	0.27	ug/l	96

(#) = qualifier out of range (m) = manual integration
RGW209.D VO06G15.M Tue Jul 16 13:10:26 2019 Page 1

SV 7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW209.D
Acq On : 15 Jul 2019 4:04 pm
Sample : VO06G151
Misc : 0.3PPB 8260/1.5PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019

Vial: 2
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	Tetrahydrofuran	7.09	42	2866	0.33 ug/l	#	38
35)	1,1,1-Trichloroethane	7.42	97	29021	0.26 ug/l		90
36)	Cyclohexane	7.42	84	14644	0.11 ug/l	#	77
37)	2,2,4-Trimethylpentane	7.52	57	99244	0.24 ug/l		91
38)	1,1-Dichloropropene	7.67	110	11637	0.27 ug/l		98
39)	Carbon tetrachloride	7.82	119	23846	0.25 ug/l		98
40)	tert-Amyl methyl ether (TA	7.91	87	6919	0.26 ug/l	#	57
42)	1,2-Dichloroethane	8.10	62	17887	0.27 ug/l		99
43)	Benzene	8.10	78	90159	0.26 ug/l		98
44)	Trichloroethene	9.13	130	23847	0.25 ug/l		96
46)	1,2-Dichloropropane	9.41	63	22088	0.27 ug/l		89
48)	Bromodichloromethane	9.78	83	21109	0.24 ug/l		93
49)	Dibromomethane	9.87	93	8495	0.26 ug/l		92
50)	2-Chloroethyl vinyl ether	10.35	63	5970	0.22 ug/l	#	71
51)	4-Methyl-2-pentanone	10.39	43	48412	1.37 ug/l		97
52)	cis-1,3-Dichloropropene	10.69	75	28826	0.25 ug/l		91
55)	Toluene	11.19	91	92392	0.27 ug/l		97
56)	Ethyl methacrylate	11.54	69	10608	0.20 ug/l	#	48
57)	trans-1,3-Dichloropropene	11.52	75	19791	0.25 ug/l		92
58)	1,1,2-Trichloroethane	11.75	97	10414	0.27 ug/l		86
59)	2-Hexanone	11.80	43	24386	1.15 ug/l		95
60)	1,3-Dichloropropane	12.16	76	20525	0.27 ug/l		89
61)	Tetrachloroethene	12.24	164	19438	0.26 ug/l		99
62)	Dibromochloromethane	12.56	129	11068	0.22 ug/l		87
64)	1,2-Dibromoethane	12.89	107	9067	0.23 ug/l		95
65)	1-Chlorohexane	13.17	91	37820	0.26 ug/l		97
66)	Chlorobenzene	13.56	112	54685	0.27 ug/l	#	85
67)	1,1,1,2-Tetrachloroethane	13.63	131	15520	0.25 ug/l	#	66
68)	Ethylbenzene	13.65	91	101822	0.26 ug/l		96
69)	m-Xylene & p-Xylene	13.78	91	161655	0.56 ug/l		98
70)	o-Xylene	14.48	91	82217	0.28 ug/l		97
71)	Styrene	14.54	104	56217	0.26 ug/l		86
72)	Isopropylbenzene	15.06	105	95262	0.26 ug/l		98
74)	Bromoform	15.08	173	5258	0.23 ug/l		79
75)	1,1,2,2-Tetrachloroethane	15.36	83	13092	0.31 ug/l		84
77)	1,2,3-Trichloropropane	15.60	110	3162	0.30 ug/l	#	58
78)	trans-1,4-Dichloro-2-buten	15.70	53	2971	0.25 ug/l	#	34
79)	n-Propylbenzene	15.72	91	121749	0.27 ug/l		98
80)	Bromobenzene	15.78	156	17756	0.25 ug/l		93
81)	1,3,5-Trimethylbenzene	15.97	105	74378	0.27 ug/l		98
82)	2-Chlorotoluene	16.00	91	76018	0.27 ug/l		95

(#) = qualifier out of range (m) = manual integration
RGW209.D VO06G15.M Tue Jul 16 13:10:26 2019 Page 2

SA 7/17/19

Data File : D:\HPCHEM\1\DATA\19G15\RGW209.D
Acq On : 15 Jul 2019 4:04 pm
Sample : VO06G151
Misc : 0.3PPB 8260/1.5PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019

Vial: 2
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
83)	4-Chlorotoluene	16.08	91	64904	0.28	ug/l		96
84)	tert-Butylbenzene	16.55	134	16885	0.25	ug/l		96
85)	1,2,4-Trimethylbenzene	16.61	105	70566	0.26	ug/l		98
86)	sec-Butylbenzene	16.89	105	105114	0.26	ug/l		100
87)	p-Isopropyltoluene	17.10	119	80912	0.26	ug/l		98
88)	1,3-Dichlorobenzene	17.24	146	36894	0.27	ug/l		98
89)	1,2,3-Trimethylbenzene	17.34	105	34444	0.15	ug/l		99
90)	1,4-Dichlorobenzene	17.40	146	33521	0.25	ug/l		97
91)	n-Butylbenzene	17.68	91	84881	0.26	ug/l		96
92)	1,2-Dichlorobenzene	17.89	146	29693	0.27	ug/l		84
93)	1,2-Dibromo-3-chloropropan	18.83	157	620	0.11	ug/l	#	1
94)	1,2,4-Trichlorobenzene	19.77	180	18862	0.26	ug/l		97
95)	Hexachlorobutadiene	19.91	225	13239	0.25	ug/l		99
96)	Naphthalene	20.06	128	26132	0.28	ug/l		99
97)	1,2,3-Trichlorobenzene	20.35	180	13467	0.25	ug/l		97

SU 1/17/19

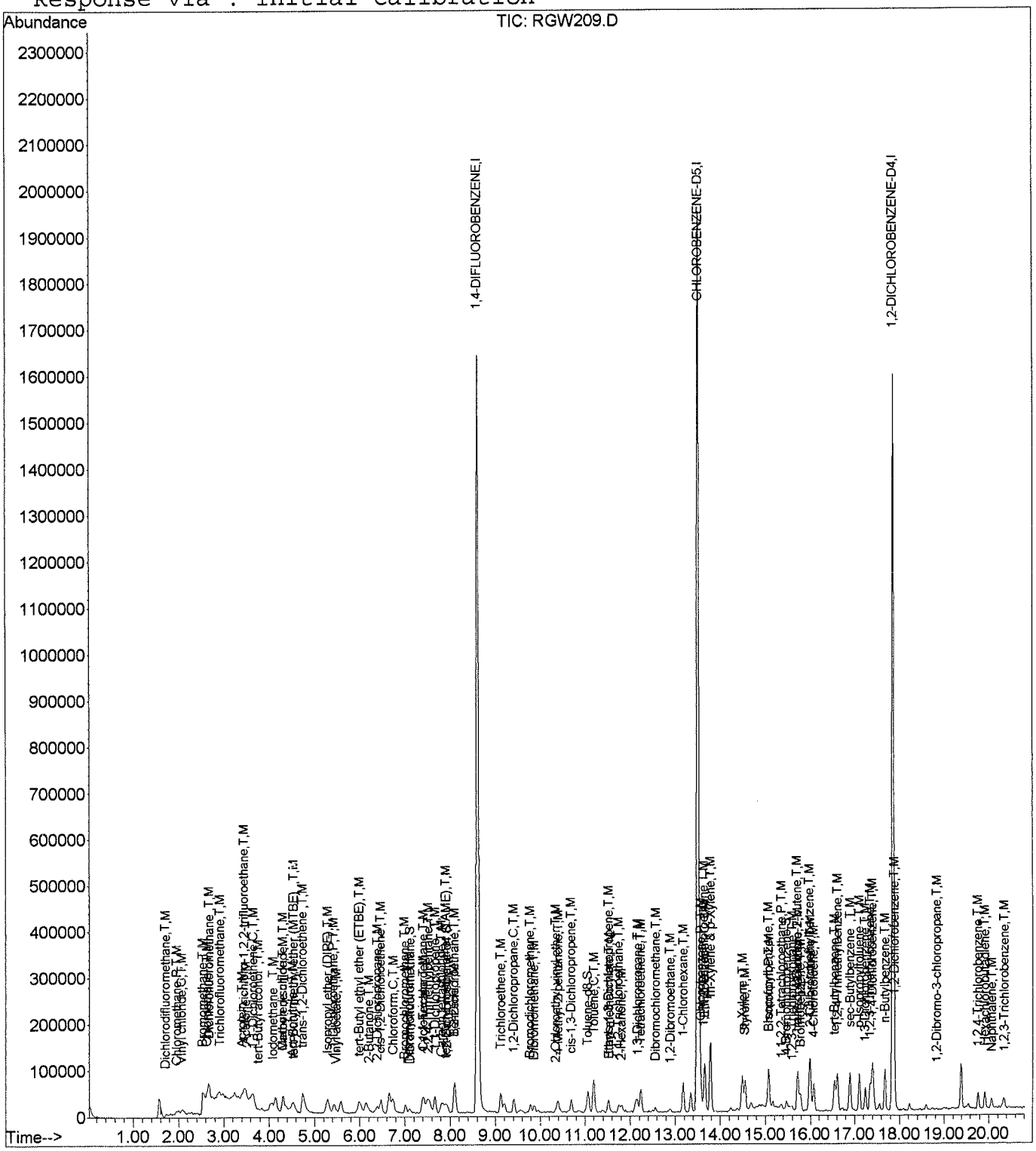
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW209.D
Acq On : 15 Jul 2019 4:04 pm
Sample : VO06G151
Misc : 0.3PPB 8260/1.5PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019

Vial: 2
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



RGW209.D VO06G15.M Tue Jul 16 13:10:29 2019 Page 4

SA 7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW210.D Vial: 3
Acq On : 15 Jul 2019 4:31 pm Operator: TWilki
Sample : VO06G152 Inst : TO06
Misc : 0.5PPB 8260/2.5PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2214630	10.00	ug/l		0.00
53) CHLOROBENZENE-D5	13.50	117	1849732	10.00	ug/l		0.00
73) 1,2-DICHLOROBENZENE-D4	17.85	152	668963	10.00	ug/l		-0.01
System Monitoring Compounds							
34) Dibromofluoromethane	7.10	111	25134	0.37	ug/l		0.00
Spiked Amount 10.000			Recovery =	3.70%			
41) 1,2-Dichloroethane-d4	7.94	65	19433	0.41	ug/l		0.00
Spiked Amount 10.000			Recovery =	4.10%			
54) Toluene-d8	11.06	98	93443	0.38	ug/l		0.00
Spiked Amount 10.000			Recovery =	3.80%			
76) 4-Bromofluorobenzene	15.47	95	29787	0.38	ug/l		0.00
Spiked Amount 10.000			Recovery =	3.80%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.72	85	32934	0.37	ug/l		92
3) Chloromethane	1.97	50	45467	0.43	ug/l		98
4) Vinyl chloride	2.08	62	36149	0.38	ug/l		87
5) Bromomethane	2.54	94	27213	0.37	ug/l		93
6) Chloroethane	2.65	64	22027	0.52	ug/l		67
7) Dichlorofluoromethane	2.68	67	86622	0.50	ug/l		95
8) Trichlorofluoromethane	2.90	101	37107	0.35	ug/l		99
9) Acrolein	3.40	56	20027	4.66	ug/l	#	57
10) 1,1,2-Trichloro-1,2,2-trif	3.46	151	28246	0.49	ug/l		99
11) Acetone	3.49	43	30354	4.88	ug/l	#	84
12) 1,1-Dichloroethene	3.66	61	77765	0.49	ug/l		98
13) tert-Butyl alcohol	3.76	59	7065	3.13	ug/l	#	41
16) Iodomethane	4.09	142	70530	0.49	ug/l		98
17) Methylene chloride	4.30	49	58969	0.53	ug/l		91
18) Carbon disulfide	4.31	76	105328	0.38	ug/l		99
19) Acrylonitrile	4.51	53	22766	2.21	ug/l		92
20) tert-Butyl methyl ether (M	4.55	73	46768	0.48	ug/l		93
21) trans-1,2-Dichloroethene	4.73	61	65666	0.48	ug/l		98
22) Isopropyl ether (DIPE)	5.28	45	128140	0.49	ug/l		100
23) Vinyl acetate	5.47	43	37978	0.50	ug/l		86
24) 1,1-Dichloroethane	5.43	63	75107	0.47	ug/l		99
25) 2-Butanol	5.89	45	4686	2.45	ug/l	#	100
26) tert-Butyl ethyl ether (ET	5.98	59	97864	0.54	ug/l		100
27) 2-Butanone	6.20	72	5133	2.13	ug/l		96
28) 2,2-Dichloropropane	6.38	77	43226	0.56	ug/l		99
29) cis-1,2-Dichloroethene	6.47	96	40691	0.45	ug/l		97
30) Chloroform	6.73	83	67575	0.49	ug/l		96

(#) = qualifier out of range (m) = manual integration
RGW210.D VO06G15.M Tue Jul 16 13:10:39 2019 Page 1

SM 7/17/19

Data File : D:\HPCHEM\1\DATA\19G15\RGW210.D
Acq On : 15 Jul 2019 4:31 pm
Sample : VO06G152
Misc : 0.5PPB 8260/2.5PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019

Vial: 3
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31)	tert-Amyl alcohol	7.07	59	3624	2.03 ug/l	#	54
32)	Bromochloromethane	7.01	49	28176	0.47 ug/l		96
33)	Tetrahydrofuran	7.09	42	3665	0.44 ug/l	#	38
35)	1,1,1-Trichloroethane	7.40	97	52589	0.50 ug/l		98
36)	Cyclohexane	7.40	84	43026	0.34 ug/l		98
37)	2,2,4-Trimethylpentane	7.53	57	177342	0.46 ug/l		93
38)	1,1-Dichloropropene	7.67	110	19601	0.47 ug/l		93
39)	Carbon tetrachloride	7.80	119	41993	0.46 ug/l		100
40)	tert-Amyl methyl ether (TA	7.91	87	12849	0.50 ug/l	#	84
42)	1,2-Dichloroethane	8.10	62	29576	0.46 ug/l		92
43)	Benzene	8.10	78	160916	0.49 ug/l		99
44)	Trichloroethene	9.11	130	42496	0.47 ug/l		97
45)	Methylcyclohexane	9.20	83	47964	0.33 ug/l		99
46)	1,2-Dichloropropane	9.41	63	37856	0.48 ug/l		86
47)	1,4-Dioxane	9.86	88	1230	5.27 ug/l	#	13
48)	Bromodichloromethane	9.78	83	40130	0.49 ug/l		99
49)	Dibromomethane	9.87	93	14550	0.47 ug/l		99
50)	2-Chloroethyl vinyl ether	10.35	63	11937	0.45 ug/l		91
51)	4-Methyl-2-pentanone	10.38	43	84078	2.49 ug/l		98
52)	cis-1,3-Dichloropropene	10.69	75	54235	0.50 ug/l		94
55)	Toluene	11.18	91	161519	0.50 ug/l		99
56)	Ethyl methacrylate	11.54	69	22505	0.46 ug/l		92
57)	trans-1,3-Dichloropropene	11.51	75	35511	0.48 ug/l		98
58)	1,1,2-Trichloroethane	11.75	97	19220	0.53 ug/l		93
59)	2-Hexanone	11.80	43	52305	2.58 ug/l		91
60)	1,3-Dichloropropane	12.16	76	34516	0.47 ug/l		97
61)	Tetrachloroethene	12.24	164	34628	0.48 ug/l		96
62)	Dibromochloromethane	12.56	129	23624	0.49 ug/l		93
64)	1,2-Dibromoethane	12.89	107	17739	0.48 ug/l		100
65)	1-Chlorohexane	13.17	91	67911	0.48 ug/l		96
66)	Chlorobenzene	13.56	112	93480	0.48 ug/l		91
67)	1,1,1,2-Tetrachloroethane	13.64	131	28312	0.47 ug/l	#	80
68)	Ethylbenzene	13.65	91	191383	0.51 ug/l		100
69)	m-Xylene & p-Xylene	13.77	91	287084	1.05 ug/l		98
70)	o-Xylene	14.48	91	136549	0.50 ug/l		99
71)	Styrene	14.54	104	103821	0.51 ug/l		88
72)	Isopropylbenzene	15.06	105	174925	0.49 ug/l		98
74)	Bromoform	15.08	173	9859	0.44 ug/l		93
75)	1,1,2,2-Tetrachloroethane	15.35	83	19967	0.48 ug/l		95
77)	1,2,3-Trichloropropane	15.58	110	4121	0.40 ug/l		85
78)	trans-1,4-Dichloro-2-buten	15.70	53	5653	0.49 ug/l		87

(#) = qualifier out of range (m) = manual integration

7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW210.D Vial: 3
Acq On : 15 Jul 2019 4:31 pm Operator: TWilki
Sample : VO06G152 Inst : TO06
Misc : 0.5PPB 8260/2.5PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
79)	n-Propylbenzene	15.72	91	223971	0.50	ug/l	99
80)	Bromobenzene	15.78	156	33833	0.49	ug/l	98
81)	1,3,5-Trimethylbenzene	15.97	105	129283	0.47	ug/l	99
82)	2-Chlorotoluene	15.99	91	131394	0.48	ug/l	91
83)	4-Chlorotoluene	16.08	91	109075	0.48	ug/l	91
84)	tert-Butylbenzene	16.55	134	30649	0.46	ug/l	98
85)	1,2,4-Trimethylbenzene	16.61	105	129137	0.48	ug/l	86
86)	sec-Butylbenzene	16.89	105	186958	0.47	ug/l	98
87)	p-Isopropyltoluene	17.10	119	143799	0.46	ug/l	99
88)	1,3-Dichlorobenzene	17.24	146	65585	0.48	ug/l	98
89)	1,2,3-Trimethylbenzene	17.34	105	78672	0.35	ug/l	98
90)	1,4-Dichlorobenzene	17.40	146	61650	0.47	ug/l	99
91)	n-Butylbenzene	17.68	91	157123	0.49	ug/l	97
92)	1,2-Dichlorobenzene	17.89	146	51109	0.47	ug/l	86
93)	1,2-Dibromo-3-chloropropan	18.83	157	2564	0.45	ug/l	85
94)	1,2,4-Trichlorobenzene	19.77	180	33304	0.46	ug/l	98
95)	Hexachlorobutadiene	19.91	225	22365	0.43	ug/l	98
96)	Naphthalene	20.06	128	44447	0.49	ug/l	97
97)	1,2,3-Trichlorobenzene	20.35	180	24169	0.46	ug/l	99

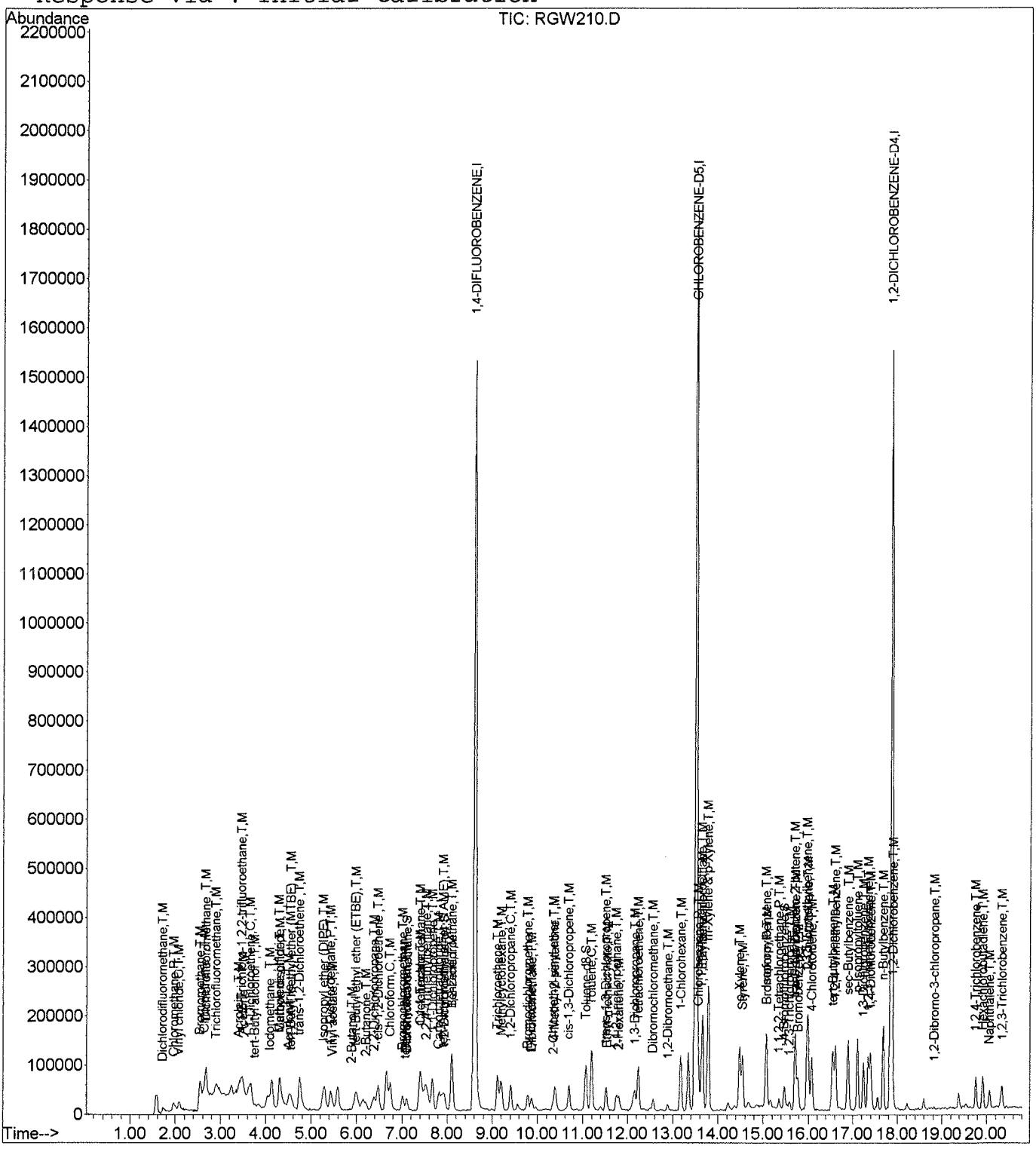
SC 7/17/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW210.D Vial: 3
Acq On : 15 Jul 2019 4:31 pm Operator: TWilki
Sample : VO06G152 Inst : TO06
Misc : 0.5PPB 8260/2.5PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



RGW210.D VO06G15.M Tue Jul 16 13:10:42 2019 Page 4

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW211.D Vial: 4
Acq On : 15 Jul 2019 4:58 pm Operator: TWilki
Sample : VO06G153 Inst : TO06
Misc : 1.0PPB 8260/5.0PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2249623	10.00	ug/l		0.00
53) CHLOROBENZENE-D5	13.50	117	1891269	10.00	ug/l		0.00
73) 1,2-DICHLOROBENZENE-D4	17.85	152	677727	10.00	ug/l		-0.01
System Monitoring Compounds							
34) Dibromofluoromethane	7.10	111	56564	0.81	ug/l		0.00
Spiked Amount 10.000			Recovery =	8.10%			
41) 1,2-Dichloroethane-d4	7.94	65	39922	0.84	ug/l		0.00
Spiked Amount 10.000			Recovery =	8.40%			
54) Toluene-d8	11.06	98	223756	0.89	ug/l		0.00
Spiked Amount 10.000			Recovery =	8.90%			
76) 4-Bromofluorobenzene	15.47	95	70066	0.88	ug/l		0.00
Spiked Amount 10.000			Recovery =	8.80%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.72	85	83399	0.93	ug/l		98
3) Chloromethane	1.95	50	102731	0.95	ug/l		99
4) Vinyl chloride	2.08	62	94291	0.99	ug/l		98
5) Bromomethane	2.54	94	71209	0.95	ug/l		97
6) Chloroethane	2.65	64	57400	0.99	ug/l		96
7) Dichlorofluoromethane	2.67	67	165604	0.94	ug/l		99
8) Trichlorofluoromethane	2.90	101	95039	0.89	ug/l		98
9) Acrolein	3.40	56	20807	4.77	ug/l		97
10) 1,1,2-Trichloro-1,2,2-trif	3.46	151	55365	0.94	ug/l		97
11) Acetone	3.49	43	41442	6.56	ug/l	#	86
12) 1,1-Dichloroethene	3.66	61	147689	0.92	ug/l		99
13) tert-Butyl alcohol	3.78	59	11062	4.82	ug/l	#	65
15) Methyl acetate	4.13	74	2964	0.66	ug/l	#	89
16) Iodomethane	4.09	142	131701	0.90	ug/l		98
17) Methylene chloride	4.31	49	107352	0.94	ug/l		86
18) Carbon disulfide	4.31	76	242351	0.87	ug/l		100
19) Acrylonitrile	4.51	53	47512	4.55	ug/l		97
20) tert-Butyl methyl ether (M	4.55	73	92579	0.93	ug/l		97
21) trans-1,2-Dichloroethene	4.74	61	129827	0.93	ug/l		100
22) Isopropyl ether (DIPE)	5.28	45	252799	0.95	ug/l		100
23) Vinyl acetate	5.47	43	66854	0.87	ug/l		98
24) 1,1-Dichloroethane	5.43	63	152427	0.95	ug/l		98
25) 2-Butanol	5.87	45	9613	4.95	ug/l	#	100
26) tert-Butyl ethyl ether (ET	5.98	59	178908	0.98	ug/l		97
27) 2-Butanone	6.20	72	9903	4.04	ug/l	#	88
28) 2,2-Dichloropropane	6.39	77	74790	0.95	ug/l		92
29) cis-1,2-Dichloroethene	6.47	96	87268	0.95	ug/l		96

(#) = qualifier out of range (m) = manual integration

RGW211.D VO06G15.M Tue Jul 16 13:10:49 2019 Page 1

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW211.D Vial: 4
Acq On : 15 Jul 2019 4:58 pm Operator: TWilki
Sample : VO06G153 Inst : TO06
Misc : 1.0PPB 8260/5.0PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
30)	Chloroform	6.73	83	128308	0.92 ug/l		99
31)	tert-Amyl alcohol	7.06	59	8540	4.70 ug/l		87
32)	Bromochloromethane	7.01	49	56033	0.92 ug/l		99
33)	Tetrahydrofuran	7.07	42	7668	0.91 ug/l	#	38
35)	1,1,1-Trichloroethane	7.40	97	101770	0.95 ug/l		87
36)	Cyclohexane	7.42	84	107428	0.84 ug/l		97
37)	2,2,4-Trimethylpentane	7.52	57	351205	0.89 ug/l		97
38)	1,1-Dichloropropene	7.67	110	38560	0.91 ug/l		99
39)	Carbon tetrachloride	7.82	119	81629	0.89 ug/l		97
40)	tert-Amyl methyl ether (TA	7.89	87	24236	0.93 ug/l	#	85
42)	1,2-Dichloroethane	8.09	62	58467	0.90 ug/l		94
43)	Benzene	8.10	78	313661	0.94 ug/l		99
44)	Trichloroethene	9.11	130	83998	0.92 ug/l		98
45)	Methylcyclohexane	9.20	83	122855	0.82 ug/l		98
46)	1,2-Dichloropropane	9.41	63	74360	0.93 ug/l		95
47)	1,4-Dioxane	9.86	88	2599	10.96 ug/l		82
48)	Bromodichloromethane	9.78	83	76913	0.92 ug/l		99
49)	Dibromomethane	9.86	93	28847	0.92 ug/l		99
50)	2-Chloroethyl vinyl ether	10.33	63	23925	0.89 ug/l		94
51)	4-Methyl-2-pentanone	10.38	43	153785	4.49 ug/l		98
52)	cis-1,3-Dichloropropene	10.69	75	103269	0.93 ug/l		97
55)	Toluene	11.18	91	315285	0.95 ug/l		100
56)	Ethyl methacrylate	11.52	69	45517	0.90 ug/l		91
57)	trans-1,3-Dichloropropene	11.51	75	70055	0.92 ug/l		95
58)	1,1,2-Trichloroethane	11.75	97	34780	0.93 ug/l		98
59)	2-Hexanone	11.81	43	94230	4.54 ug/l		99
60)	1,3-Dichloropropane	12.16	76	71513	0.95 ug/l		99
61)	Tetrachloroethene	12.24	164	67710	0.93 ug/l		99
62)	Dibromochloromethane	12.56	129	43337	0.87 ug/l		97
64)	1,2-Dibromoethane	12.88	107	36823	0.97 ug/l		93
65)	1-Chlorohexane	13.17	91	136591	0.95 ug/l		99
66)	Chlorobenzene	13.56	112	186524	0.95 ug/l		92
67)	1,1,1,2-Tetrachloroethane	13.64	131	56914	0.93 ug/l		95
68)	Ethylbenzene	13.65	91	368170	0.96 ug/l		99
69)	m-Xylene & p-Xylene	13.77	91	548104	1.96 ug/l		100
70)	o-Xylene	14.48	91	270817	0.96 ug/l		97
71)	Styrene	14.54	104	196422	0.94 ug/l		93
72)	Isopropylbenzene	15.06	105	343320	0.95 ug/l		99
74)	Bromoform	15.08	173	19126	0.83 ug/l		93
75)	1,1,2,2-Tetrachloroethane	15.35	83	39405	0.94 ug/l		99
77)	1,2,3-Trichloropropane	15.59	110	10320	0.98 ug/l		95

(#) = qualifier out of range (m) = manual integration

7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW211.D Vial: 4
Acq On : 15 Jul 2019 4:58 pm Operator: TWilki
Sample : VO06G153 Inst : TO06
Misc : 1.0PPB 8260/5.0PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
78)	trans-1,4-Dichloro-2-buten	15.72	53	10847	0.93	ug/l	95
79)	n-Propylbenzene	15.72	91	435383	0.96	ug/l	99
80)	Bromobenzene	15.78	156	62368	0.90	ug/l	93
81)	1,3,5-Trimethylbenzene	15.97	105	261699	0.94	ug/l	100
82)	2-Chlorotoluene	16.00	91	264516	0.95	ug/l	93
83)	4-Chlorotoluene	16.08	91	220632	0.95	ug/l	96
84)	tert-Butylbenzene	16.55	134	63364	0.94	ug/l	96
85)	1,2,4-Trimethylbenzene	16.61	105	254283	0.94	ug/l	90
86)	sec-Butylbenzene	16.89	105	377317	0.95	ug/l	99
87)	p-Isopropyltoluene	17.10	119	309544	0.98	ug/l	99
88)	1,3-Dichlorobenzene	17.24	146	125823	0.91	ug/l	100
89)	1,2,3-Trimethylbenzene	17.34	105	190606	0.84	ug/l	99
90)	1,4-Dichlorobenzene	17.40	146	125376	0.94	ug/l	99
91)	n-Butylbenzene	17.68	91	319767	0.98	ug/l	97
92)	1,2-Dichlorobenzene	17.89	146	104973	0.95	ug/l	94
93)	1,2-Dibromo-3-chloropropan	18.83	157	4811	0.84	ug/l	90
94)	1,2,4-Trichlorobenzene	19.77	180	69425	0.95	ug/l	99
95)	Hexachlorobutadiene	19.92	225	49434	0.94	ug/l	98
96)	Naphthalene	20.06	128	84529	0.91	ug/l	99
97)	1,2,3-Trichlorobenzene	20.35	180	51494	0.97	ug/l	94

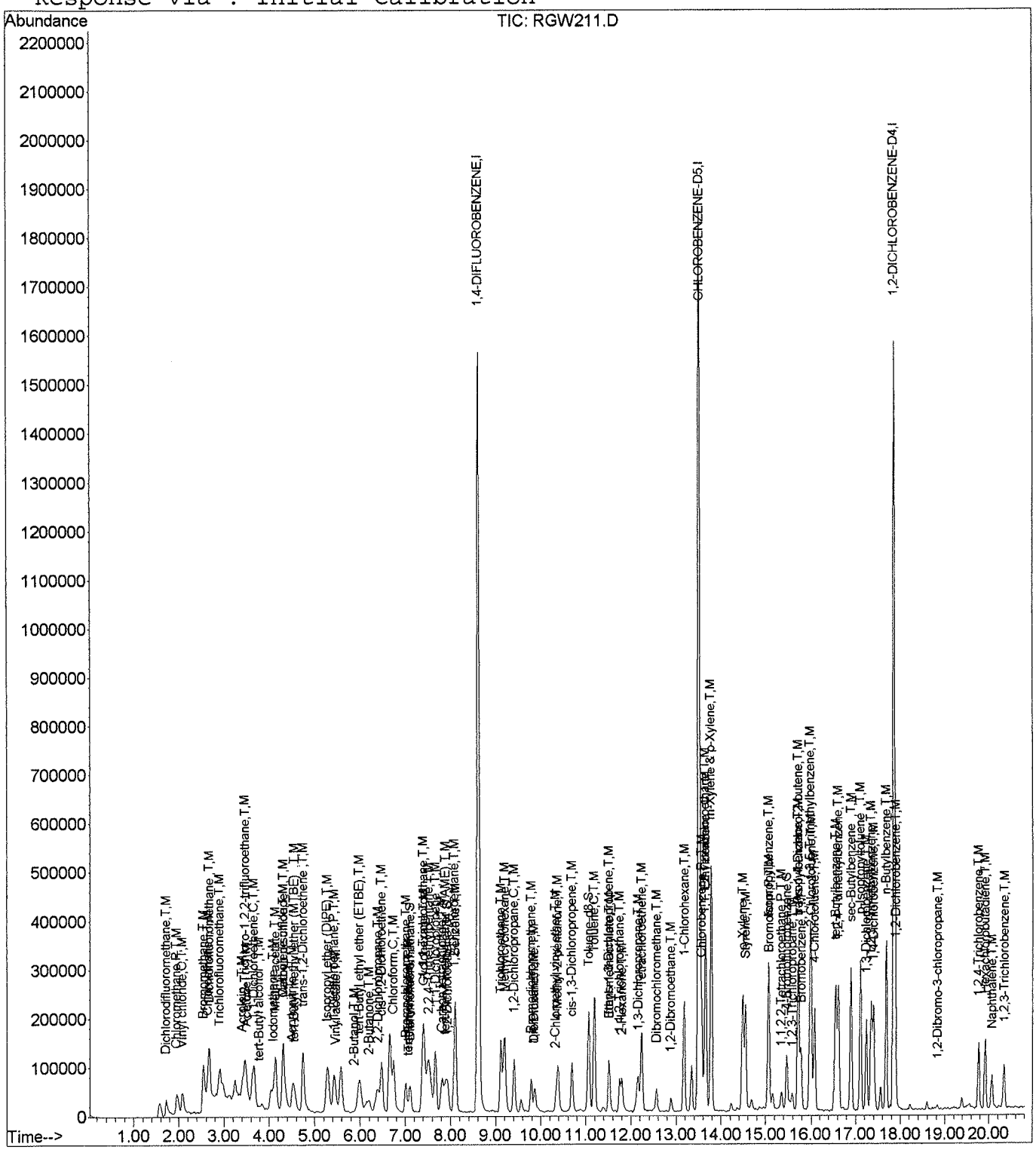
GU 1/17/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW211.D Vial: 4
Acq On : 15 Jul 2019 4:58 pm Operator: TWilki
Sample : VO06G153 Inst : TO06
Misc : 1.0PPB 8260/5.0PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:05 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



RGW211.D VO06G15.M Tue Jul 16 13:10:53 2019 Page 4

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW212.D Vial: 5
Acq On : 15 Jul 2019 5:24 pm Operator: TWilki
Sample : VO06G154 Inst : TO06
Misc : 2.0PPB 8260/10PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2110670	10.00	ug/l		0.00
53) CHLOROBENZENE-D5	13.50	117	1760139	10.00	ug/l		0.00
73) 1,2-DICHLOROBENZENE-D4	17.85	152	630324	10.00	ug/l		-0.01
System Monitoring Compounds							
34) Dibromofluoromethane	7.10	111	130001	1.99	ug/l		0.00
Spiked Amount 10.000			Recovery =	19.90%			
41) 1,2-Dichloroethane-d4	7.94	65	92018	2.06	ug/l		0.00
Spiked Amount 10.000			Recovery =	20.60%			
54) Toluene-d8	11.06	98	493380	2.12	ug/l		0.00
Spiked Amount 10.000			Recovery =	21.20%			
76) 4-Bromofluorobenzene	15.47	95	154730	2.09	ug/l		0.00
Spiked Amount 10.000			Recovery =	20.90%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.72	85	168016	1.99	ug/l		98
3) Chloromethane	1.96	50	195572	1.92	ug/l		97
4) Vinyl chloride	2.07	62	193244	2.16	ug/l		97
5) Bromomethane	2.54	94	143083	2.04	ug/l		99
6) Chloroethane	2.63	64	117683	1.92	ug/l		92
7) Dichlorofluoromethane	2.67	67	312281	1.90	ug/l		99
8) Trichlorofluoromethane	2.90	101	197717	1.97	ug/l		99
9) Acrolein	3.40	56	46028	11.24	ug/l		80
10) 1,1,2-Trichloro-1,2,2-trif	3.45	151	102472	1.85	ug/l		99
11) Acetone	3.49	43	68657	11.59	ug/l	#	90
12) 1,1-Dichloroethene	3.66	61	287390	1.91	ug/l		100
13) tert-Butyl alcohol	3.76	59	20069	9.32	ug/l		87
15) Methyl acetate	4.12	74	7471	1.77	ug/l	#	77
16) Iodomethane	4.07	142	261544	1.91	ug/l		99
17) Methylene chloride	4.30	49	205386	1.92	ug/l		98
18) Carbon disulfide	4.31	76	520200	1.99	ug/l		99
19) Acrylonitrile	4.50	53	95574	9.76	ug/l		98
20) tert-Butyl methyl ether (M	4.55	73	178376	1.90	ug/l		97
21) trans-1,2-Dichloroethene	4.74	61	254098	1.95	ug/l		99
22) Isopropyl ether (DIPE)	5.29	45	481397	1.94	ug/l		100
23) Vinyl acetate	5.47	43	136497	1.90	ug/l		98
24) 1,1-Dichloroethane	5.43	63	287099	1.90	ug/l		99
25) 2-Butanol	5.87	45	13894	7.63	ug/l	#	100
26) tert-Butyl ethyl ether (ET	5.99	59	334527	1.95	ug/l		100
27) 2-Butanone	6.20	72	22247	9.66	ug/l		93
28) 2,2-Dichloropropane	6.38	77	150706	2.04	ug/l		98
29) cis-1,2-Dichloroethene	6.47	96	172496	2.00	ug/l		92

(#) = qualifier out of range (m) = manual integration

Su 11/7/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW212.D
Acq On : 15 Jul 2019 5:24 pm
Sample : VO06G154
Misc : 2.0PPB 8260/10PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 5
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
30)	Chloroform	6.73	83	250644	1.92	ug/l		99
31)	tert-Amyl alcohol	7.07	59	17105	10.03	ug/l	#	74
32)	Bromochloromethane	7.00	49	109668	1.93	ug/l		98
33)	Tetrahydrofuran	7.07	42	17656	2.23	ug/l		83
35)	1,1,1-Trichloroethane	7.40	97	195891	1.95	ug/l		99
36)	Cyclohexane	7.42	84	230722	1.91	ug/l		94
37)	2,2,4-Trimethylpentane	7.52	57	773244	2.09	ug/l		95
38)	1,1-Dichloropropene	7.67	110	72548	1.83	ug/l		98
39)	Carbon tetrachloride	7.82	119	159521	1.84	ug/l		99
40)	tert-Amyl methyl ether (TA	7.89	87	47464	1.93	ug/l		93
42)	1,2-Dichloroethane	8.10	62	119791	1.97	ug/l		99
43)	Benzene	8.10	78	609372	1.94	ug/l		99
44)	Trichloroethene	9.11	130	161465	1.89	ug/l		98
45)	Methylcyclohexane	9.20	83	256166	1.83	ug/l		98
46)	1,2-Dichloropropane	9.41	63	141208	1.88	ug/l		99
47)	1,4-Dioxane	9.84	88	6414	28.84	ug/l		98
48)	Bromodichloromethane	9.78	83	143994	1.84	ug/l		99
49)	Dibromomethane	9.87	93	57723	1.95	ug/l		98
50)	2-Chloroethyl vinyl ether	10.33	63	45897	1.82	ug/l		99
51)	4-Methyl-2-pentanone	10.38	43	308013	9.58	ug/l		99
52)	cis-1,3-Dichloropropene	10.69	75	198387	1.91	ug/l		97
55)	Toluene	11.19	91	595414	1.94	ug/l		100
56)	Ethyl methacrylate	11.52	69	87822	1.87	ug/l		99
57)	trans-1,3-Dichloropropene	11.51	75	132569	1.87	ug/l		97
58)	1,1,2-Trichloroethane	11.75	97	64906	1.87	ug/l		97
59)	2-Hexanone	11.79	43	197082	10.21	ug/l		98
60)	1,3-Dichloropropane	12.16	76	138466	1.98	ug/l		100
61)	Tetrachloroethene	12.24	164	132670	1.95	ug/l		99
62)	Dibromochloromethane	12.56	129	81297	1.76	ug/l		97
64)	1,2-Dibromoethane	12.89	107	68715	1.94	ug/l		100
65)	1-Chlorohexane	13.17	91	244098	1.83	ug/l		99
66)	Chlorobenzene	13.56	112	356400	1.94	ug/l		96
67)	1,1,1,2-Tetrachloroethane	13.64	131	108915	1.91	ug/l		93
68)	Ethylbenzene	13.65	91	694933	1.95	ug/l		99
69)	m-Xylene & p-Xylene	13.78	91	1043715	4.01	ug/l		100
70)	o-Xylene	14.48	91	503715	1.92	ug/l		99
71)	Styrene	14.54	104	369686	1.90	ug/l		89
72)	Isopropylbenzene	15.06	105	659545	1.95	ug/l		99
74)	Bromoform	15.08	173	38808	1.82	ug/l		99
75)	1,1,2,2-Tetrachloroethane	15.35	83	78013	1.99	ug/l		96
77)	1,2,3-Trichloropropane	15.60	110	19697	2.01	ug/l		97

(#) = qualifier out of range (m) = manual integration
RGW212.D VO06G15.M Tue Jul 16 13:10:59 2019 Page 2

Data File : D:\HPCHEM\1\DATA\19G15\RGW212.D Vial: 5
Acq On : 15 Jul 2019 5:24 pm Operator: TWilki
Sample : VO06G154 Inst : TO06
Misc : 2.0PPB 8260/10PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
78)	trans-1,4-Dichloro-2-buten	15.70	53	20248	1.87 ug/l	99
79)	n-Propylbenzene	15.72	91	829333	1.96 ug/l	99
80)	Bromobenzene	15.78	156	127162	1.97 ug/l	98
81)	1,3,5-Trimethylbenzene	15.97	105	477328	1.85 ug/l	99
82)	2-Chlorotoluene	16.00	91	499837	1.93 ug/l	93
83)	4-Chlorotoluene	16.08	91	411730	1.91 ug/l	93
84)	tert-Butylbenzene	16.55	134	114401	1.82 ug/l	93
85)	1,2,4-Trimethylbenzene	16.61	105	481309	1.91 ug/l	89
86)	sec-Butylbenzene	16.89	105	707867	1.91 ug/l	98
87)	p-Isopropyltoluene	17.10	119	540400	1.85 ug/l	99
88)	1,3-Dichlorobenzene	17.24	146	243755	1.90 ug/l	100
89)	1,2,3-Trimethylbenzene	17.34	105	444167	2.10 ug/l	97
90)	1,4-Dichlorobenzene	17.40	146	239162	1.93 ug/l	99
91)	n-Butylbenzene	17.68	91	557210	1.83 ug/l	99
92)	1,2-Dichlorobenzene	17.89	146	200684	1.95 ug/l	98
93)	1,2-Dibromo-3-chloropropan	18.83	157	10851	2.04 ug/l	95
94)	1,2,4-Trichlorobenzene	19.77	180	124125	1.83 ug/l	98
95)	Hexachlorobutadiene	19.91	225	86666	1.78 ug/l	99
96)	Naphthalene	20.06	128	165255	1.92 ug/l	98
97)	1,2,3-Trichlorobenzene	20.35	180	92013	1.87 ug/l	97

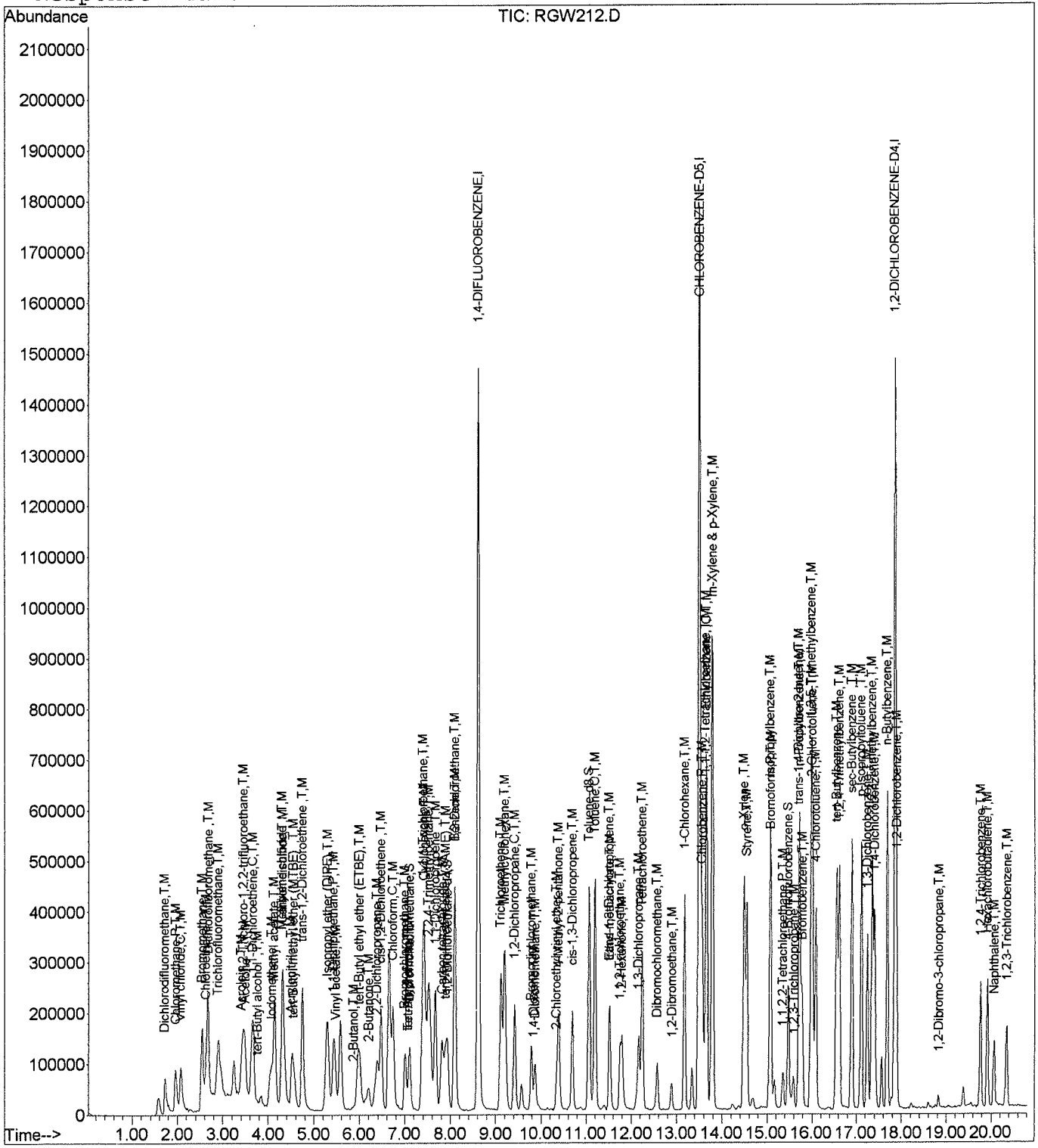
SV 7/17/19

(#) = qualifier out of range (m) = manual integration
RGW212.D VO06G15.M Tue Jul 16 13:10:59 2019 Page 3

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW212.D Vial: 5
Acq On : 15 Jul 2019 5:24 pm Operator: TWilki
Sample : VO06G154 Inst : TO06
Misc : 2.0PPB 8260/10PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



SU 7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW213.D
Acq On : 15 Jul 2019 5:51 pm
Sample : VO06G155
Misc : 5.0PPB 8260/25PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 6
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2078213	10.00	ug/l	0.00
53) CHLOROBENZENE-D5	13.50	117	1759831	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.85	152	658731	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.10	111	340573	5.28	ug/l	0.00
Spiked Amount 10.000			Recovery =	52.80%		
41) 1,2-Dichloroethane-d4	7.94	65	246077	5.58	ug/l	0.00
Spiked Amount 10.000			Recovery =	55.80%		
54) Toluene-d8	11.06	98	1247655	5.35	ug/l	0.00
Spiked Amount 10.000			Recovery =	53.50%		
76) 4-Bromofluorobenzene	15.47	95	404607	5.23	ug/l	0.00
Spiked Amount 10.000			Recovery =	52.30%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.72	85	457983	5.51	ug/l	100
3) Chloromethane	1.96	50	516322	5.15	ug/l	100
4) Vinyl chloride	2.07	62	508696	5.76	ug/l	100
5) Bromomethane	2.54	94	375541	5.43	ug/l	98
6) Chloroethane	2.65	64	323731	4.98	ug/l	99
7) Dichlorofluoromethane	2.68	67	834051	5.14	ug/l	99
8) Trichlorofluoromethane	2.90	101	538841	5.45	ug/l	100
9) Acrolein	3.41	56	97681	24.23	ug/l	86
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	283727	5.22	ug/l	97
11) Acetone	3.49	43	153716	26.35	ug/l	98
12) 1,1-Dichloroethene	3.66	61	784353	5.31	ug/l	98
13) tert-Butyl alcohol	3.78	59	56475	26.63	ug/l	90
15) Methyl acetate	4.12	74	20952	5.05	ug/l	91
16) Iodomethane	4.09	142	719056	5.32	ug/l	99
17) Methylene chloride	4.30	49	557516	5.30	ug/l	100
18) Carbon disulfide	4.31	76	1381664	5.37	ug/l	99
19) Acrylonitrile	4.51	53	254959	26.43	ug/l	97
20) tert-Butyl methyl ether (M	4.55	73	488711	5.30	ug/l	94
21) trans-1,2-Dichloroethene	4.74	61	704529	5.49	ug/l	99
22) Isopropyl ether (DIPE)	5.28	45	1337504	5.47	ug/l	99
23) Vinyl acetate	5.47	43	404945	5.72	ug/l	99
24) 1,1-Dichloroethane	5.43	63	787143	5.29	ug/l	100
25) 2-Butanol	5.86	45	49459	27.57	ug/l #	100
26) tert-Butyl ethyl ether (ET	5.98	59	866237	5.12	ug/l	99
27) 2-Butanone	6.20	72	58689	25.89	ug/l	98
28) 2,2-Dichloropropane	6.40	77	414392	5.68	ug/l	99
29) cis-1,2-Dichloroethene	6.47	96	455163	5.36	ug/l	97

(#) = qualifier out of range (m) = manual integration
RGW213.D VO06G15.M Tue Jul 16 13:11:14 2019 Page 1

SW 7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW213.D
Acq On : 15 Jul 2019 5:51 pm
Sample : VO06G155
Misc : 5.0PPB 8260/25PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 6
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
30)	Chloroform	6.73	83	686839	5.35	ug/l	100
31)	tert-Amyl alcohol	7.06	59	46271	27.56	ug/l	91
32)	Bromochloromethane	7.00	49	307718	5.50	ug/l	99
33)	Tetrahydrofuran	7.07	42	42611	5.47	ug/l	95
35)	1,1,1-Trichloroethane	7.40	97	541435	5.47	ug/l	99
36)	Cyclohexane	7.42	84	599043	5.04	ug/l	94
37)	2,2,4-Trimethylpentane	7.52	57	2032592	5.58	ug/l	97
38)	1,1-Dichloropropene	7.67	110	204375	5.25	ug/l	98
39)	Carbon tetrachloride	7.82	119	455966	5.36	ug/l	98
40)	tert-Amyl methyl ether (TA	7.89	87	131821	5.45	ug/l	99
42)	1,2-Dichloroethane	8.10	62	328926	5.51	ug/l	96
43)	Benzene	8.10	78	1650002	5.35	ug/l	100
44)	Trichloroethene	9.11	130	453360	5.39	ug/l	98
45)	Methylcyclohexane	9.20	83	676158	4.90	ug/l	99
46)	1,2-Dichloropropane	9.41	63	394605	5.34	ug/l	98
47)	1,4-Dioxane	9.84	88	18068	82.51	ug/l	81
48)	Bromodichloromethane	9.78	83	421933	5.47	ug/l	99
49)	Dibromomethane	9.87	93	159053	5.47	ug/l	99
50)	2-Chloroethyl vinyl ether	10.33	63	129770	5.24	ug/l	98
51)	4-Methyl-2-pentanone	10.38	43	851198	26.90	ug/l	100
52)	cis-1,3-Dichloropropene	10.69	75	556181	5.43	ug/l	99
55)	Toluene	11.19	91	1659523	5.40	ug/l	100
56)	Ethyl methacrylate	11.52	69	249856	5.32	ug/l	96
57)	trans-1,3-Dichloropropene	11.51	75	385002	5.42	ug/l	98
58)	1,1,2-Trichloroethane	11.75	97	182738	5.25	ug/l	100
59)	2-Hexanone	11.79	43	529952	27.47	ug/l	99
60)	1,3-Dichloropropane	12.16	76	386764	5.53	ug/l	100
61)	Tetrachloroethene	12.24	164	362504	5.33	ug/l	98
62)	Dibromochloromethane	12.56	129	241583	5.23	ug/l	98
64)	1,2-Dibromoethane	12.89	107	189487	5.36	ug/l	99
65)	1-Chlorohexane	13.17	91	729627	5.46	ug/l	99
66)	Chlorobenzene	13.56	112	993732	5.42	ug/l	99
67)	1,1,1,2-Tetrachloroethane	13.63	131	307236	5.39	ug/l	99
68)	Ethylbenzene	13.65	91	1969010	5.52	ug/l	100
69)	m-Xylene & p-Xylene	13.78	91	2903435	11.15	ug/l	100
70)	o-Xylene	14.48	91	1391551	5.32	ug/l	100
71)	Styrene	14.54	104	1046580	5.39	ug/l	86
72)	Isopropylbenzene	15.06	105	1887081	5.59	ug/l	99
74)	Bromoform	15.08	173	111483	5.01	ug/l	98
75)	1,1,2,2-Tetrachloroethane	15.35	83	209951	5.13	ug/l	99
77)	1,2,3-Trichloropropane	15.58	110	54578	5.33	ug/l	99

(#) = qualifier out of range (m) = manual integration

SA 7/17/19

Data File : D:\HPCHEM\1\DATA\19G15\RGW213.D Vial: 6
Acq On : 15 Jul 2019 5:51 pm Operator: TWilki
Sample : VO06G155 Inst : TO06
Misc : 5.0PPB 8260/25PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
78)	trans-1,4-Dichloro-2-buten	15.70	53	61093	5.41	ug/l	97
79)	n-Propylbenzene	15.72	91	2413753	5.46	ug/l	100
80)	Bromobenzene	15.78	156	345813	5.12	ug/l	97
81)	1,3,5-Trimethylbenzene	15.97	105	1426063	5.30	ug/l	99
82)	2-Chlorotoluene	16.00	91	1412887	5.21	ug/l	95
83)	4-Chlorotoluene	16.08	91	1198167	5.31	ug/l	95
84)	tert-Butylbenzene	16.55	134	340449	5.19	ug/l	93
85)	1,2,4-Trimethylbenzene	16.61	105	1387942	5.28	ug/l	87
86)	sec-Butylbenzene	16.89	105	2124021	5.48	ug/l	100
87)	p-Isopropyltoluene	17.10	119	1666752	5.45	ug/l	99
88)	1,3-Dichlorobenzene	17.24	146	711898	5.31	ug/l	100
89)	1,2,3-Trimethylbenzene	17.34	105	1187615	5.37	ug/l	99
90)	1,4-Dichlorobenzene	17.40	146	696024	5.38	ug/l	100
91)	n-Butylbenzene	17.68	91	1786433	5.62	ug/l	99
92)	1,2-Dichlorobenzene	17.89	146	583567	5.43	ug/l	100
93)	1,2-Dibromo-3-chloropropan	18.83	157	29663	5.33	ug/l	97
94)	1,2,4-Trichlorobenzene	19.77	180	408340	5.75	ug/l	97
95)	Hexachlorobutadiene	19.91	225	301759	5.93	ug/l	99
96)	Naphthalene	20.06	128	502750	5.58	ug/l	99
97)	1,2,3-Trichlorobenzene	20.35	180	305557	5.93	ug/l	98

SY 7/17/19

(#) = qualifier out of range (m) = manual integration

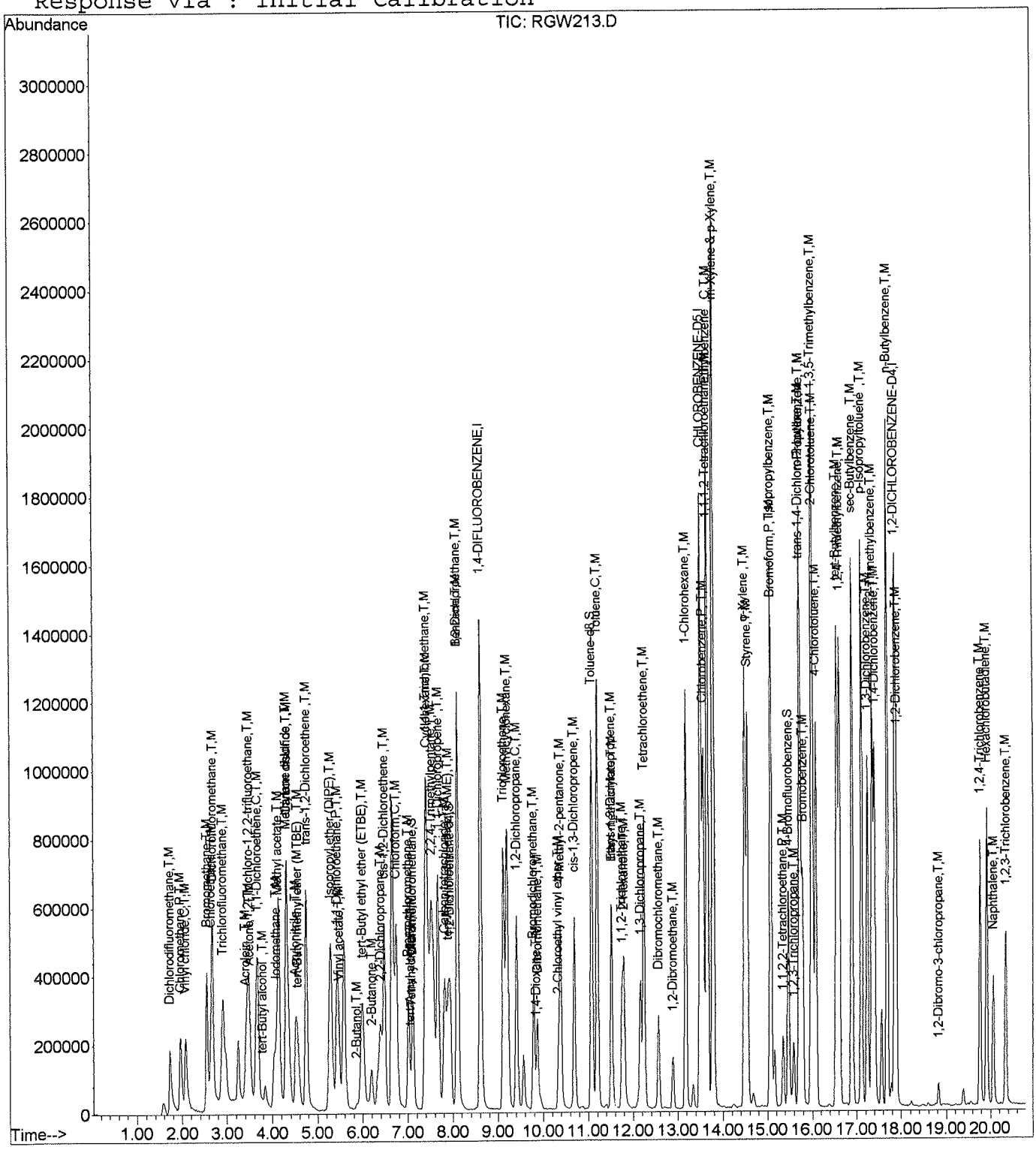
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW213.D
Acq On : 15 Jul 2019 5:51 pm
Sample : VO06G155
Misc : 5.0PPB 8260/25PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 6
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW214.D Vial: 7
Acq On : 15 Jul 2019 6:18 pm Operator: TWilki
Sample : VO06G156 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.60	114	2250058	10.00	ug/l		0.00
53) CHLOROBENZENE-D5	13.50	117	1917730	10.00	ug/l		0.00
73) 1,2-DICHLOROBENZENE-D4	17.86	152	710626	10.00	ug/l		0.00
System Monitoring Compounds							
34) Dibromofluoromethane	7.10	111	735128	10.53	ug/l		0.00
Spiked Amount 10.000			Recovery = 105.30%				
41) 1,2-Dichloroethane-d4	7.94	65	515372	10.80	ug/l		0.00
Spiked Amount 10.000			Recovery = 108.00%				
54) Toluene-d8	11.06	98	2734930	10.76	ug/l		0.00
Spiked Amount 10.000			Recovery = 107.60%				
76) 4-Bromofluorobenzene	15.46	95	889982	10.67	ug/l		0.00
Spiked Amount 10.000			Recovery = 106.70%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.72	85	975831	10.84	ug/l		100
3) Chloromethane	1.95	50	1127941	10.39	ug/l		100
4) Vinyl chloride	2.08	62	1017083	10.64	ug/l		100
5) Bromomethane	2.54	94	800415	10.68	ug/l		100
6) Chloroethane	2.65	64	700445	9.74	ug/l		100
7) Dichlorofluoromethane	2.67	67	1730228	9.86	ug/l		100
8) Trichlorofluoromethane	2.90	101	1119809	10.45	ug/l		100
9) Acrolein	3.40	56	215687	49.42	ug/l		100
10) 1,1,2-Trichloro-1,2,2-trif	3.46	151	584827	9.93	ug/l		100
11) Acetone	3.49	43	307676	48.71	ug/l		100
12) 1,1-Dichloroethene	3.66	61	1625192	10.16	ug/l		100
13) tert-Butyl alcohol	3.78	59	115414	50.27	ug/l		100
15) Methyl acetate	4.12	74	44016	9.81	ug/l		100
16) Iodomethane	4.09	142	1475677	10.08	ug/l		100
17) Methylene chloride	4.31	49	1152053	10.11	ug/l		100
18) Carbon disulfide	4.31	76	2874610	10.31	ug/l		100
19) Acrylonitrile	4.51	53	554320	53.08	ug/l		100
20) tert-Butyl methyl ether (M	4.55	73	1039909	10.41	ug/l		100
21) trans-1,2-Dichloroethene	4.74	61	1444223	10.39	ug/l		100
22) Isopropyl ether (DIPE)	5.28	45	2735656	10.33	ug/l		100
23) Vinyl acetate	5.47	43	792043	10.34	ug/l		100
24) 1,1-Dichloroethane	5.43	63	1643330	10.19	ug/l		100
25) 2-Butanol	5.86	45	98876	50.92	ug/l	#	100
26) tert-Butyl ethyl ether (ET	5.99	59	1778118	9.71	ug/l		100
27) 2-Butanone	6.19	72	130226	53.07	ug/l		100
28) 2,2-Dichloropropane	6.39	77	819778	10.39	ug/l		100
29) cis-1,2-Dichloroethene	6.47	96	943926	10.26	ug/l		100

(#) = qualifier out of range (m) = manual integration
RGW214.D VO06G15.M Tue Jul 16 13:11:26 2019 Page 1

7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW214.D
Acq On : 15 Jul 2019 6:18 pm
Sample : VO06G156
Misc : 10PPB 8260/50PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 7
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30) Chloroform	6.74	83	1399649	10.08 ug/l	100
31) tert-Amyl alcohol	7.06	59	93728	51.56 ug/l	100
32) Bromochloromethane	7.00	49	627837	10.36 ug/l	100
33) Tetrahydrofuran	7.07	42	89725	10.63 ug/l	100
35) 1,1,1-Trichloroethane	7.40	97	1109635	10.36 ug/l	100
36) Cyclohexane	7.41	84	1373598	10.68 ug/l	100
37) 2,2,4-Trimethylpentane	7.53	57	4163500	10.56 ug/l	100
38) 1,1-Dichloropropene	7.67	110	433830	10.28 ug/l	100
39) Carbon tetrachloride	7.82	119	955111	10.36 ug/l	100
40) tert-Amyl methyl ether (TA	7.89	87	269238	10.28 ug/l	100
42) 1,2-Dichloroethane	8.10	62	690107	10.67 ug/l	100
43) Benzene	8.10	78	3420673	10.24 ug/l	100
44) Trichloroethene	9.11	130	942907	10.35 ug/l	100
45) Methylcyclohexane	9.20	83	1657725	11.09 ug/l	100
46) 1,2-Dichloropropane	9.41	63	819841	10.25 ug/l	100
47) 1,4-Dioxane	9.85	88	45758	192.99 ug/l	100
48) Bromodichloromethane	9.80	83	870896	10.43 ug/l	100
49) Dibromomethane	9.87	93	328113	10.42 ug/l	100
50) 2-Chloroethyl vinyl ether	10.33	63	275646	10.28 ug/l	100
51) 4-Methyl-2-pentanone	10.38	43	1863074	54.37 ug/l	100
52) cis-1,3-Dichloropropene	10.69	75	1146273	10.34 ug/l	100
55) Toluene	11.19	91	3363428	10.04 ug/l	100
56) Ethyl methacrylate	11.52	69	523163	10.22 ug/l	100
57) trans-1,3-Dichloropropene	11.51	75	788520	10.19 ug/l	100
58) 1,1,2-Trichloroethane	11.76	97	385722	10.18 ug/l	100
59) 2-Hexanone	11.79	43	1154040	54.89 ug/l	100
60) 1,3-Dichloropropane	12.16	76	789671	10.36 ug/l	100
61) Tetrachloroethene	12.24	164	772156	10.41 ug/l	100
62) Dibromochloromethane	12.56	129	503188	10.00 ug/l	100
64) 1,2-Dibromoethane	12.89	107	394814	10.26 ug/l	100
65) 1-Chlorohexane	13.17	91	1482717	10.18 ug/l	100
66) Chlorobenzene	13.56	112	2044279	10.22 ug/l	100
67) 1,1,1,2-Tetrachloroethane	13.63	131	636607	10.25 ug/l	100
68) Ethylbenzene	13.65	91	3978593	10.23 ug/l	100
69) m-Xylene & p-Xylene	13.78	91	5895659	20.78 ug/l	100
70) o-Xylene	14.48	91	2896564	10.16 ug/l	100
71) Styrene	14.54	104	2175668	10.28 ug/l	100
72) Isopropylbenzene	15.06	105	3850372	10.46 ug/l	100
74) Bromoform	15.08	173	237693	9.89 ug/l	100
75) 1,1,2,2-Tetrachloroethane	15.35	83	443173	10.04 ug/l	100
77) 1,2,3-Trichloropropane	15.58	110	111376	10.08 ug/l	100

(#) = qualifier out of range (m) = manual integration
RGW214.D VO06G15.M Tue Jul 16 13:11:27 2019 Page 2

SV 7/17/19

Data File : D:\HPCHEM\1\DATA\19G15\RGW214.D Vial: 7
Acq On : 15 Jul 2019 6:18 pm Operator: TWilki
Sample : VO06G156 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
78)	trans-1,4-Dichloro-2-buten	15.70	53	123946	10.17 ug/l	100
79)	n-Propylbenzene	15.72	91	4941323	10.37 ug/l	100
80)	Bromobenzene	15.78	156	737193	10.11 ug/l	100
81)	1,3,5-Trimethylbenzene	15.97	105	2989441	10.29 ug/l	100
82)	2-Chlorotoluene	16.00	91	2917110	9.98 ug/l	100
83)	4-Chlorotoluene	16.07	91	2514989	10.34 ug/l	100
84)	tert-Butylbenzene	16.55	134	742173	10.48 ug/l	100
85)	1,2,4-Trimethylbenzene	16.61	105	2903242	10.23 ug/l	100
86)	sec-Butylbenzene	16.89	105	4393512	10.51 ug/l	100
87)	p-Isopropyltoluene	17.12	119	3545660	10.74 ug/l	100
88)	1,3-Dichlorobenzene	17.25	146	1518787	10.51 ug/l	100
89)	1,2,3-Trimethylbenzene	17.34	105	2503334	10.50 ug/l	100
90)	1,4-Dichlorobenzene	17.40	146	1460566	10.47 ug/l	100
91)	n-Butylbenzene	17.68	91	3727526	10.87 ug/l	100
92)	1,2-Dichlorobenzene	17.89	146	1205995	10.40 ug/l	100
93)	1,2-Dibromo-3-chloropropan	18.83	157	59648	9.93 ug/l	100
94)	1,2,4-Trichlorobenzene	19.76	180	815470	10.64 ug/l	100
95)	Hexachlorobutadiene	19.91	225	616049	11.22 ug/l	100
96)	Naphthalene	20.06	128	1037224	10.67 ug/l	100
97)	1,2,3-Trichlorobenzene	20.34	180	612214	11.01 ug/l	100

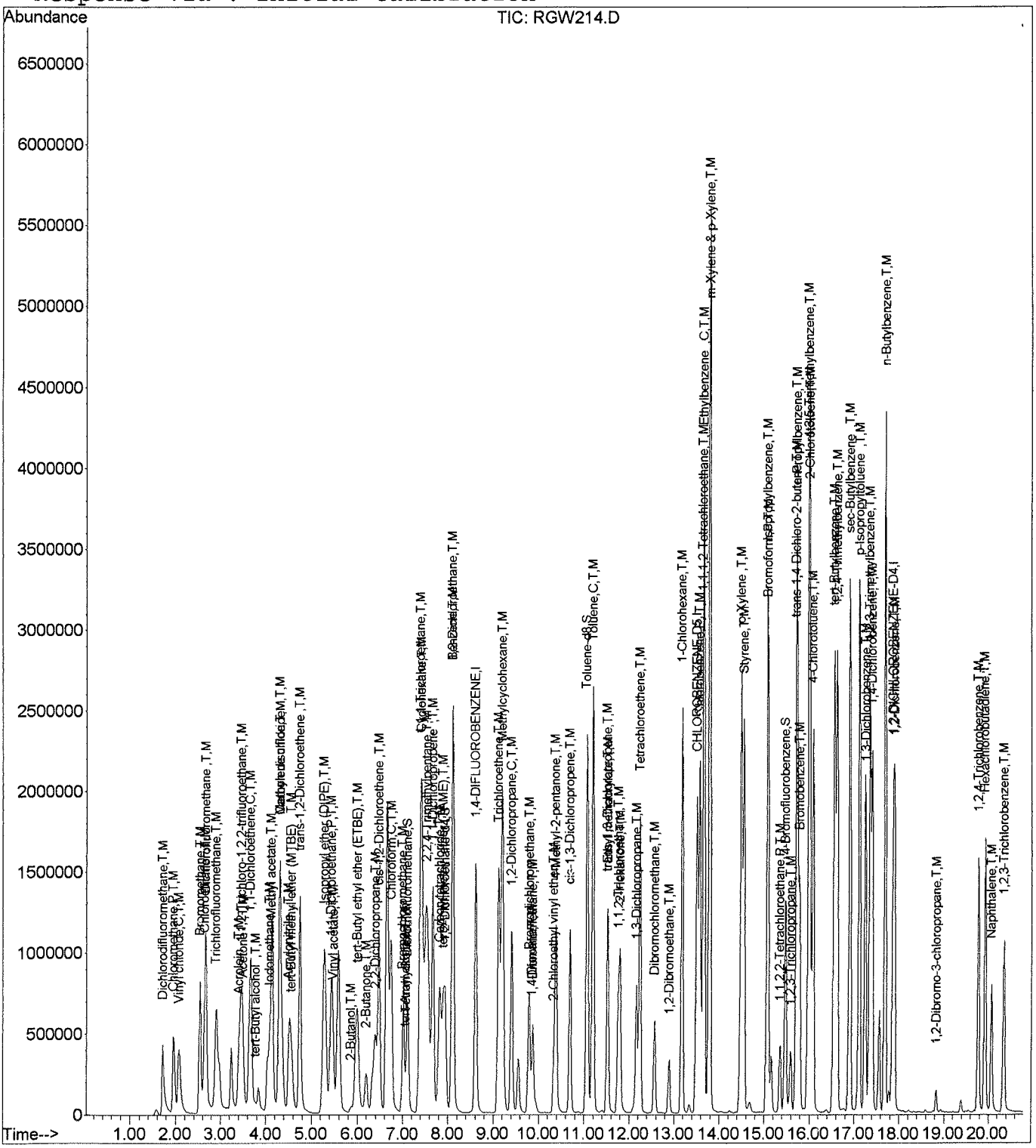
SW 7/17/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW214.D Vial: 7
Acq On : 15 Jul 2019 6:18 pm Operator: TWilki
Sample : VO06G156 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW215.D Vial: 8
Acq On : 15 Jul 2019 6:45 pm Operator: TWilki
Sample : VO06G157 Inst : TO06
Misc : 20PPB 8260/100PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2381023	10.00	ug/l		0.00
53) CHLOROBENZENE-D5	13.50	117	2021109	10.00	ug/l		0.00
73) 1,2-DICHLOROBENZENE-D4	17.86	152	740779	10.00	ug/l		0.00
System Monitoring Compounds							
34) Dibromofluoromethane	7.10	111	1448389	19.61	ug/l		0.00
Spiked Amount 10.000			Recovery =	196.10%			
41) 1,2-Dichloroethane-d4	7.94	65	1041847	20.64	ug/l		0.00
Spiked Amount 10.000			Recovery =	206.40%			
54) Toluene-d8	11.06	98	5414208	20.21	ug/l		0.00
Spiked Amount 10.000			Recovery =	202.10%			
76) 4-Bromofluorobenzene	15.47	95	1764033	20.29	ug/l		0.00
Spiked Amount 10.000			Recovery =	202.90%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.72	85	2119325	22.25	ug/l		99
3) Chloromethane	1.95	50	2528132	22.00	ug/l		99
4) Vinyl chloride	2.06	62	2121080	20.97	ug/l		99
5) Bromomethane	2.54	94	1756362	22.15	ug/l		100
6) Chloroethane	2.63	64	1593636	20.70	ug/l		98
7) Dichlorofluoromethane	2.67	67	3770227	20.30	ug/l		99
8) Trichlorofluoromethane	2.90	101	2471392	21.80	ug/l		100
9) Acrolein	3.40	56	427488	92.56	ug/l		96
10) 1,1,2-Trichloro-1,2,2-trif	3.45	151	1250343	20.06	ug/l		99
11) Acetone	3.49	43	625022	93.51	ug/l		95
12) 1,1-Dichloroethene	3.66	61	3356190	19.82	ug/l		99
13) tert-Butyl alcohol	3.78	59	226201	93.10	ug/l		91
15) Methyl acetate	4.12	74	87277	18.38	ug/l	#	85
16) Iodomethane	4.09	142	3083444	19.91	ug/l		100
17) Methylene chloride	4.30	49	2326334	19.30	ug/l		98
18) Carbon disulfide	4.31	76	6221162	21.09	ug/l		100
19) Acrylonitrile	4.50	53	1133914	102.61	ug/l		99
20) tert-Butyl methyl ether (M	4.55	73	2074259	19.63	ug/l		99
21) trans-1,2-Dichloroethene	4.74	61	2983604	20.28	ug/l		100
22) Isopropyl ether (DIPE)	5.28	45	5579633	19.90	ug/l		100
23) Vinyl acetate	5.47	43	1726894	21.30	ug/l		99
24) 1,1-Dichloroethane	5.43	63	3381517	19.82	ug/l		99
25) 2-Butanol	5.86	45	191984	93.42	ug/l	#	100
26) tert-Butyl ethyl ether (ET	5.99	59	3594524	18.55	ug/l		99
27) 2-Butanone	6.19	72	262150	100.96	ug/l		99
28) 2,2-Dichloropropane	6.39	77	1669907	20.00	ug/l		97
29) cis-1,2-Dichloroethene	6.47	96	1955031	20.08	ug/l		99

(#) = qualifier out of range (m) = manual integration
RGW215.D VO06G15.M Tue Jul 16 13:11:40 2019 Page 1

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW215.D
Acq On : 15 Jul 2019 6:45 pm
Sample : VO06G157
Misc : 20PPB 8260/100PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 8
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30) Chloroform	6.73	83	2902729	19.75 ug/l	96
31) tert-Amyl alcohol	7.06	59	180369	93.77 ug/l	89
32) Bromochloromethane	7.00	49	1303748	20.32 ug/l	99
33) Tetrahydrofuran	7.07	42	167190	18.72 ug/l	94
35) 1,1,1-Trichloroethane	7.40	97	2289693	20.20 ug/l	99
36) Cyclohexane	7.42	84	2611571	19.18 ug/l	99
37) 2,2,4-Trimethylpentane	7.53	57	8621222	20.67 ug/l	98
38) 1,1-Dichloropropene	7.67	110	902616	20.22 ug/l	98
39) Carbon tetrachloride	7.82	119	2055016	21.07 ug/l	99
40) tert-Amyl methyl ether (TA	7.89	87	553110	19.95 ug/l	98
42) 1,2-Dichloroethane	8.10	62	1394248	20.37 ug/l	99
43) Benzene	8.10	78	7103390	20.09 ug/l	99
44) Trichloroethene	9.11	130	1971725	20.45 ug/l	99
45) Methylcyclohexane	9.20	83	3099848	19.60 ug/l	99
46) 1,2-Dichloropropane	9.41	63	1722528	20.36 ug/l	99
47) 1,4-Dioxane	9.86	88	95673	381.33 ug/l	92
48) Bromodichloromethane	9.78	83	1846883	20.89 ug/l	99
49) Dibromomethane	9.87	93	674812	20.26 ug/l	99
50) 2-Chloroethyl vinyl ether	10.33	63	582855	20.54 ug/l	99
51) 4-Methyl-2-pentanone	10.38	43	3679932	101.49 ug/l	99
52) cis-1,3-Dichloropropene	10.69	75	2386374	20.34 ug/l	100
55) Toluene	11.19	91	6987302	19.78 ug/l	100
56) Ethyl methacrylate	11.52	69	1077213	19.97 ug/l	97
57) trans-1,3-Dichloropropene	11.51	75	1677387	20.58 ug/l	98
58) 1,1,2-Trichloroethane	11.75	97	803625	20.12 ug/l	99
59) 2-Hexanone	11.79	43	2263772	102.16 ug/l	98
60) 1,3-Dichloropropane	12.16	76	1588811	19.77 ug/l	100
61) Tetrachloroethene	12.24	164	1582183	20.24 ug/l	100
62) Dibromochloromethane	12.56	129	1091322	20.57 ug/l	99
64) 1,2-Dibromoethane	12.89	107	814514	20.08 ug/l	100
65) 1-Chlorohexane	13.17	91	3142529	20.47 ug/l	99
66) Chlorobenzene	13.56	112	4181373	19.84 ug/l	99
67) 1,1,1,2-Tetrachloroethane	13.64	131	1349318	20.61 ug/l	99
68) Ethylbenzene	13.65	91	8266903	20.18 ug/l	100
69) m-Xylene & p-Xylene	13.78	91	12433035	41.57 ug/l	100
70) o-Xylene	14.48	91	5952502	19.81 ug/l	99
71) Styrene	14.54	104	4540049	20.36 ug/l	93
72) Isopropylbenzene	15.06	105	7926233	20.43 ug/l	99
74) Bromoform	15.08	173	505743	20.19 ug/l	100
75) 1,1,2,2-Tetrachloroethane	15.35	83	891459	19.38 ug/l	100
77) 1,2,3-Trichloropropane	15.58	110	228406	19.84 ug/l	97

(#) = qualifier out of range (m) = manual integration
RGW215.D VO06G15.M Tue Jul 16 13:11:41 2019

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW215.D
Acq On : 15 Jul 2019 6:45 pm
Sample : VO06G157
Misc : 20PPB 8260/100PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 8
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
78)	trans-1,4-Dichloro-2-buten	15.70	53	260863	20.54	ug/l	100
79)	n-Propylbenzene	15.72	91	10186419	20.50	ug/l	100
80)	Bromobenzene	15.78	156	1510914	19.88	ug/l	99
81)	1,3,5-Trimethylbenzene	15.97	105	6170606	20.38	ug/l	100
82)	2-Chlorotoluene	16.00	91	6027016	19.77	ug/l	100
83)	4-Chlorotoluene	16.08	91	5156323	20.33	ug/l	100
84)	tert-Butylbenzene	16.55	134	1531570	20.75	ug/l	98
85)	1,2,4-Trimethylbenzene	16.61	105	6017674	20.35	ug/l	100
86)	sec-Butylbenzene	16.89	105	9105287	20.89	ug/l	100
87)	p-Isopropyltoluene	17.10	119	7175039	20.86	ug/l	100
88)	1,3-Dichlorobenzene	17.24	146	3098958	20.57	ug/l	100
89)	1,2,3-Trimethylbenzene	17.34	105	4944528	19.89	ug/l	99
90)	1,4-Dichlorobenzene	17.40	146	2932674	20.17	ug/l	100
91)	n-Butylbenzene	17.68	91	7351138	20.57	ug/l	99
92)	1,2-Dichlorobenzene	17.89	146	2421971	20.03	ug/l	99
93)	1,2-Dibromo-3-chloropropan	18.83	157	123648	19.76	ug/l	98
94)	1,2,4-Trichlorobenzene	19.77	180	1620113	20.28	ug/l	100
95)	Hexachlorobutadiene	19.91	225	1157039	20.21	ug/l	100
96)	Naphthalene	20.06	128	2012051	19.86	ug/l	99
97)	1,2,3-Trichlorobenzene	20.35	180	1166626	20.13	ug/l	97

(#) = qualifier out of range (m) = manual integration
RGW215.D VO06G15.M Tue Jul 16 13:11:41 2019

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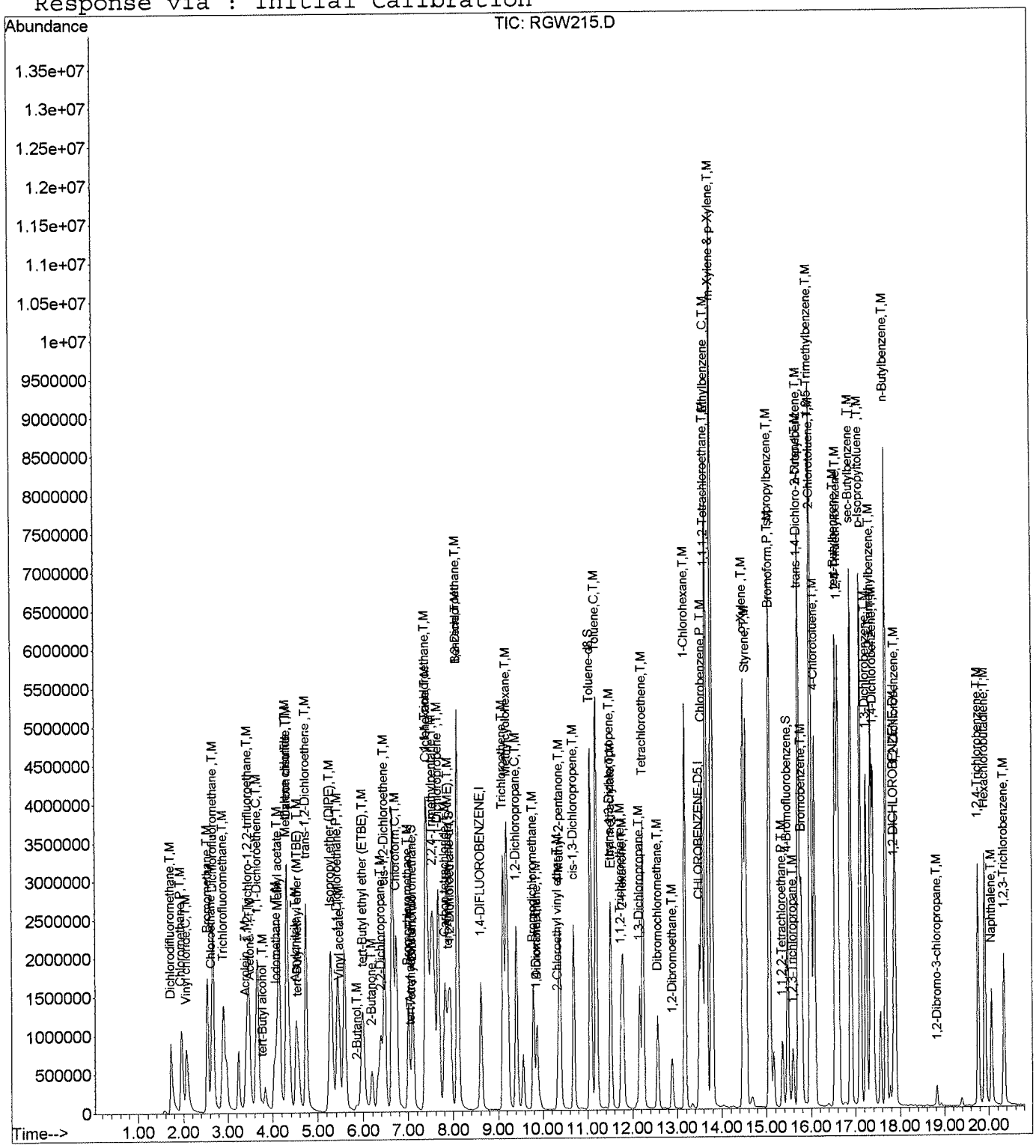
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW215.D
Acq On : 15 Jul 2019 6:45 pm
Sample : VO06G157
Misc : 20PPB 8260/100PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 8
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW216.D Vial: 9
Acq On : 15 Jul 2019 7:12 pm Operator: TWilki
Sample : VO06G158 Inst : TO06
Misc : 30PPB 8260/150PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.60	114	2624076	10.00	ug/l		0.00
53) CHLOROBENZENE-D5	13.50	117	2182004	10.00	ug/l		0.00
73) 1,2-DICHLOROBENZENE-D4	17.86	152	771801	10.00	ug/l		0.00
System Monitoring Compounds							
34) Dibromofluoromethane	7.10	111	2379920	29.23	ug/l		0.00
Spiked Amount 10.000			Recovery =	292.30%			
41) 1,2-Dichloroethane-d4	7.93	65	1623463	29.18	ug/l		0.00
Spiked Amount 10.000			Recovery =	291.80%			
54) Toluene-d8	11.06	98	8806142	30.45	ug/l		0.00
Spiked Amount 10.000			Recovery =	304.50%			
76) 4-Bromofluorobenzene	15.46	95	2690414	29.70	ug/l		0.00
Spiked Amount 10.000			Recovery =	297.00%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.72	85	3232024	30.78	ug/l		99
3) Chloromethane	1.95	50	3870937	30.56	ug/l		99
4) Vinyl chloride	2.06	62	3019390	27.08	ug/l		98
5) Bromomethane	2.53	94	2744937	31.41	ug/l		99
6) Chloroethane	2.63	64	2503749	29.42	ug/l		95
7) Dichlorofluoromethane	2.66	67	6554114	32.01	ug/l		97
8) Trichlorofluoromethane	2.90	101	3965902	31.75	ug/l		99
9) Acrolein	3.40	56	737897	144.96	ug/l		93
10) 1,1,2-Trichloro-1,2,2-trif	3.46	151	2183482	31.79	ug/l		99
11) Acetone	3.49	43	1044773	141.84	ug/l		98
12) 1,1-Dichloroethene	3.66	61	5856046	31.38	ug/l		99
13) tert-Butyl alcohol	3.78	59	370269	138.28	ug/l		88
15) Methyl acetate	4.12	74	155810	29.77	ug/l	#	89
16) Iodomethane	4.09	142	5312056	31.12	ug/l		99
17) Methylene chloride	4.30	49	4023339	30.29	ug/l		89
18) Carbon disulfide	4.31	76	10465419	32.20	ug/l		100
19) Acrylonitrile	4.51	53	1897001	155.76	ug/l		100
20) tert-Butyl methyl ether (M	4.55	73	3415586	29.33	ug/l		98
21) trans-1,2-Dichloroethene	4.73	61	5047475	31.13	ug/l		98
22) Isopropyl ether (DIPE)	5.28	45	9480947	30.68	ug/l		99
23) Vinyl acetate	5.47	43	2778658	31.10	ug/l		98
24) 1,1-Dichloroethane	5.43	63	5777581	30.73	ug/l		98
25) 2-Butanol	5.86	45	341307	150.70	ug/l	#	100
26) tert-Butyl ethyl ether (ET	5.98	59	6060190	28.38	ug/l		98
27) 2-Butanone	6.19	72	438513	153.23	ug/l		98
28) 2,2-Dichloropropane	6.39	77	2676602	29.08	ug/l		95
29) cis-1,2-Dichloroethene	6.47	96	3307562	30.83	ug/l		98

(#) = qualifier out of range (m) = manual integration
RGW216.D VO06G15.M Tue Jul 16 13:11:51 2019 Page 1

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW216.D Vial: 9
Acq On : 15 Jul 2019 7:12 pm Operator: TWilki
Sample : VO06G158 Inst : TO06
Misc : 30PPB 8260/150PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30) Chloroform	6.73	83	4952248	30.58 ug/l	96
31) tert-Amyl alcohol	7.06	59	316358	149.24 ug/l	98
32) Bromochloromethane	7.00	49	2153890	30.47 ug/l	98
33) Tetrahydrofuran	7.07	42	273443	27.79 ug/l	93
35) 1,1,1-Trichloroethane	7.40	97	3862737	30.92 ug/l	99
36) Cyclohexane	7.41	84	4651791	31.01 ug/l	96
37) 2,2,4-Trimethylpentane	7.55	57	14510831	31.57 ug/l	97
38) 1,1-Dichloropropene	7.67	110	1535909	31.22 ug/l	96
39) Carbon tetrachloride	7.82	119	3434237	31.95 ug/l	99
40) tert-Amyl methyl ether (TA	7.89	87	918802	30.07 ug/l	97
42) 1,2-Dichloroethane	8.10	62	2299930	30.49 ug/l	99
43) Benzene	8.10	78	12108791	31.07 ug/l	100
44) Trichloroethene	9.11	130	3300602	31.07 ug/l	99
45) Methylcyclohexane	9.20	83	5464245	31.36 ug/l	99
46) 1,2-Dichloropropane	9.41	63	2843400	30.49 ug/l	97
47) 1,4-Dioxane	9.84	88	169225	612.01 ug/l	97
48) Bromodichloromethane	9.78	83	3049187	31.30 ug/l	100
49) Dibromomethane	9.87	93	1123271	30.60 ug/l	99
50) 2-Chloroethyl vinyl ether	10.33	63	952317	30.45 ug/l	99
51) 4-Methyl-2-pentanone	10.38	43	5889865	147.40 ug/l	99
52) cis-1,3-Dichloropropene	10.69	75	3937835	30.45 ug/l	98
55) Toluene	11.19	91	11834240	31.04 ug/l	100
56) Ethyl methacrylate	11.52	69	1792129	30.78 ug/l	95
57) trans-1,3-Dichloropropene	11.51	75	2749293	31.24 ug/l	97
58) 1,1,2-Trichloroethane	11.74	97	1279184	29.67 ug/l	100
59) 2-Hexanone	11.79	43	3535152	147.78 ug/l	97
60) 1,3-Dichloropropane	12.16	76	2579162	29.73 ug/l	100
61) Tetrachloroethene	12.24	164	2580802	30.58 ug/l	99
62) Dibromochloromethane	12.56	129	1757246	30.69 ug/l	99
64) 1,2-Dibromoethane	12.89	107	1364826	31.16 ug/l	99
65) 1-Chlorohexane	13.17	91	5263150	31.75 ug/l	98
66) Chlorobenzene	13.56	112	6949834	30.55 ug/l	99
67) 1,1,1,2-Tetrachloroethane	13.63	131	2230118	31.56 ug/l	99
68) Ethylbenzene	13.65	91	13799597	31.20 ug/l	99
69) m-Xylene & p-Xylene	13.78	91	19727401	61.10 ug/l	96
70) o-Xylene	14.48	91	9836002	30.32 ug/l	100
71) Styrene	14.54	104	7523107	31.25 ug/l	93
72) Isopropylbenzene	15.06	105	13067900	31.20 ug/l	100
74) Bromoform	15.08	173	825507	31.64 ug/l	100
75) 1,1,2,2-Tetrachloroethane	15.36	83	1412465	29.48 ug/l	98
77) 1,2,3-Trichloropropane	15.58	110	364937	30.42 ug/l	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW216.D
Acq On : 15 Jul 2019 7:12 pm
Sample : VO06G158
Misc : 30PPB 8260/150PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 9
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
78)	trans-1,4-Dichloro-2-buten	15.70	53	408262	30.85	ug/l	98
79)	n-Propylbenzene	15.72	91	16592500	32.06	ug/l	100
80)	Bromobenzene	15.78	156	2461007	31.08	ug/l	99
81)	1,3,5-Trimethylbenzene	15.97	105	9925415	31.46	ug/l	99
82)	2-Chlorotoluene	16.00	91	10513231	33.11	ug/l	96
83)	4-Chlorotoluene	16.07	91	7554321	28.59	ug/l	93
84)	tert-Butylbenzene	16.55	134	2445687	31.80	ug/l	99
85)	1,2,4-Trimethylbenzene	16.61	105	9687072	31.44	ug/l	100
86)	sec-Butylbenzene	16.89	105	14706769	32.38	ug/l	100
87)	p-Isopropyltoluene	17.12	119	11294211	31.51	ug/l	100
88)	1,3-Dichlorobenzene	17.23	146	4754927	30.30	ug/l	99
89)	1,2,3-Trimethylbenzene	17.34	105	7924611	30.60	ug/l	100
90)	1,4-Dichlorobenzene	17.40	146	4748898	31.35	ug/l	99
91)	n-Butylbenzene	17.68	91	11642775	31.26	ug/l	100
92)	1,2-Dichlorobenzene	17.89	146	3830458	30.41	ug/l	98
93)	1,2-Dibromo-3-chloropropan	18.83	157	190730	29.25	ug/l	97
94)	1,2,4-Trichlorobenzene	19.76	180	2521559	30.30	ug/l	100
95)	Hexachlorobutadiene	19.91	225	1777760	29.80	ug/l	99
96)	Naphthalene	20.06	128	3067741	29.06	ug/l	99
97)	1,2,3-Trichlorobenzene	20.34	180	1745332	28.90	ug/l	99

(#) = qualifier out of range (m) = manual integration
RGW216.D VO06G15.M Tue Jul 16 13:11:52 2019 Page 3

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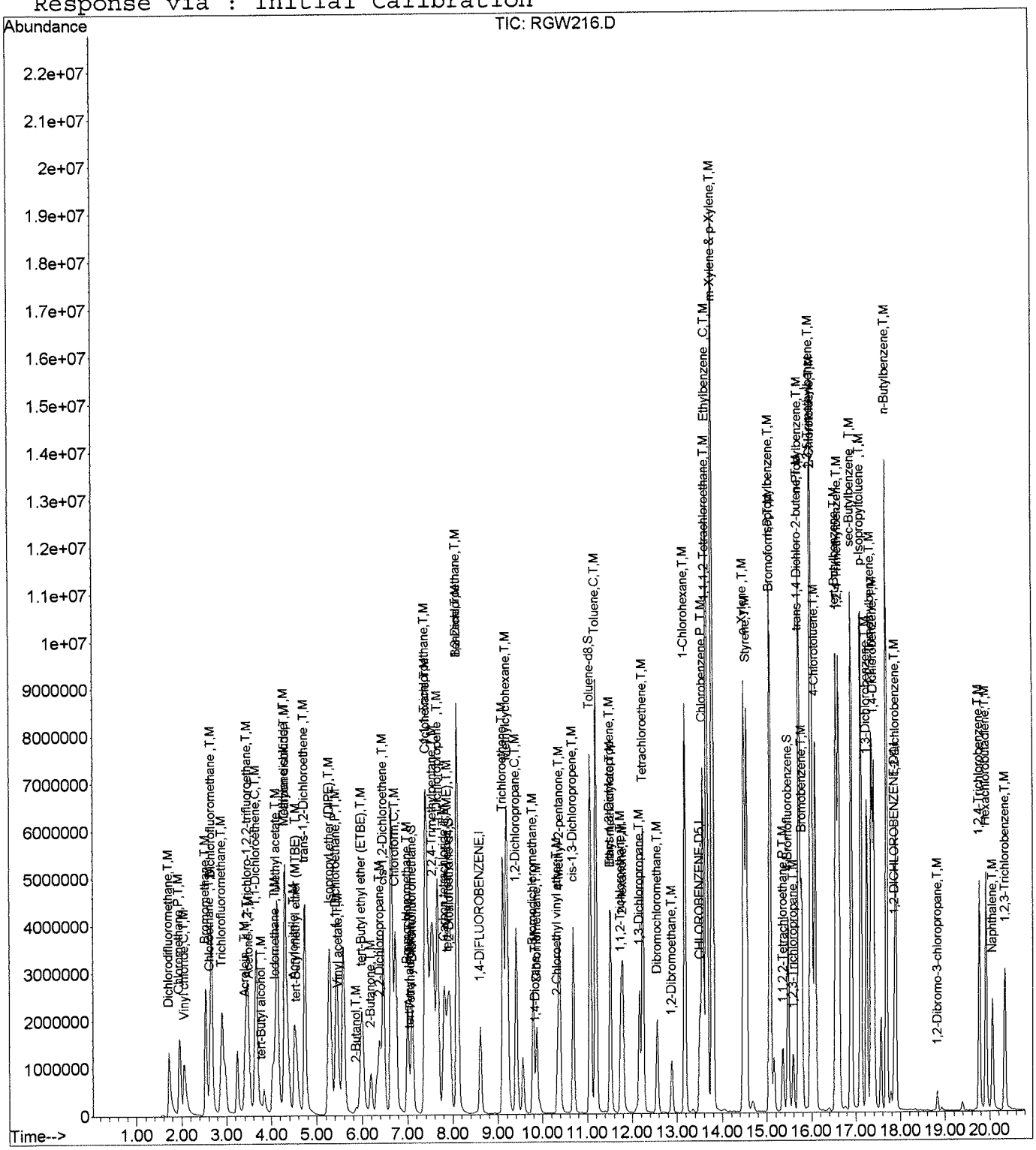
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW216.D
Acq On : 15 Jul 2019 7:12 pm
Sample : VO06G158
Misc : 30PPB 8260/150PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 9
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



Su 7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW217.D
Acq On : 15 Jul 2019 7:39 pm
Sample : VO06G159
Misc : 50PPB 8260/250PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 10
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2553106	10.00	ug/l	0.00
53) CHLOROBENZENE-D5	13.50	117	2142558	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.86	152	736825	10.00	ug/l	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	7.10	111	4309880	54.41	ug/l	0.00
Spiked Amount 10.000			Recovery =	544.10%		
41) 1,2-Dichloroethane-d4	7.94	65	2929911	54.13	ug/l	0.00
Spiked Amount 10.000			Recovery =	541.30%		
54) Toluene-d8	11.06	98	15830591	55.76	ug/l	0.00
Spiked Amount 10.000			Recovery =	557.60%		
76) 4-Bromofluorobenzene	15.47	95	4847998	56.06	ug/l	0.00
Spiked Amount 10.000			Recovery =	560.60%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.72	85	5217613	51.08	ug/l	99
3) Chloromethane	1.95	50	6505199	52.79	ug/l	99
4) Vinyl chloride	2.05	62	4344038	40.05	ug/l	98
5) Bromomethane	2.53	94	4195441	49.34	ug/l	100
6) Chloroethane	2.63	64	4373903	52.65	ug/l	96
7) Dichlorofluoromethane	2.66	67	10845269	54.45	ug/l	97
8) Trichlorofluoromethane	2.90	101	6593454	54.25	ug/l	99
9) Acrolein	3.40	56	1347384	272.06	ug/l	94
10) 1,1,2-Trichloro-1,2,2-trif	3.45	151	3618405	54.14	ug/l	97
11) Acetone	3.49	43	1816861	253.51	ug/l	98
12) 1,1-Dichloroethene	3.66	61	9772052	53.82	ug/l	98
13) tert-Butyl alcohol	3.78	59	670648	257.43	ug/l	86
15) Methyl acetate	4.12	74	279560	54.90	ug/l #	81
16) Iodomethane	4.07	142	9001865	54.21	ug/l	99
17) Methylene chloride	4.30	49	6818088	52.75	ug/l	87
18) Carbon disulfide	4.30	76	17939691	56.73	ug/l	100
19) Acrylonitrile	4.50	53	3408915	287.67	ug/l	100
20) tert-Butyl methyl ether (M	4.55	73	6313297	55.72	ug/l	98
21) trans-1,2-Dichloroethene	4.73	61	8619317	54.65	ug/l	97
22) Isopropyl ether (DIPE)	5.28	45	16287591	54.18	ug/l	98
23) Vinyl acetate	5.47	43	4539642	52.22	ug/l	98
24) 1,1-Dichloroethane	5.43	63	10035388	54.86	ug/l	98
25) 2-Butanol	5.86	45	592969	269.10	ug/l #	100
26) tert-Butyl ethyl ether (ET	5.98	59	10707221	51.54	ug/l	98
27) 2-Butanone	6.19	72	802292	288.14	ug/l	95
28) 2,2-Dichloropropane	6.38	77	4370171	48.80	ug/l	94
29) cis-1,2-Dichloroethene	6.47	96	5779754	55.37	ug/l	96

(#) = qualifier out of range (m) = manual integration
RGW217.D VO06G15.M Tue Jul 16 13:12:05 2019

SU 7/17/19

Data File : D:\HPCHEM\1\DATA\19G15\RGW217.D
Acq On : 15 Jul 2019 7:39 pm
Sample : VO06G159
Misc : 50PPB 8260/250PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 10
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.73	83	8607192	54.62 ug/l	95
31)	tert-Amyl alcohol	7.06	59	569089	275.92 ug/l	98
32)	Bromochloromethane	7.00	49	3722780	54.12 ug/l	97
33)	Tetrahydrofuran	7.07	42	493204	51.51 ug/l	94
35)	1,1,1-Trichloroethane	7.40	97	6361526	52.34 ug/l	99
36)	Cyclohexane	7.42	84	7774953	53.26 ug/l	97
37)	2,2,4-Trimethylpentane	7.53	57	24013915	53.70 ug/l	97
38)	1,1-Dichloropropene	7.67	110	2683293	56.06 ug/l	97
39)	Carbon tetrachloride	7.82	119	5835632	55.79 ug/l	99
40)	tert-Amyl methyl ether (TA	7.89	87	1661744	55.90 ug/l	94
42)	1,2-Dichloroethane	8.10	62	3941185	53.71 ug/l	98
43)	Benzene	8.10	78	21014297	55.42 ug/l	99
44)	Trichloroethene	9.11	130	5697442	55.12 ug/l	99
45)	Methylcyclohexane	9.20	83	9168145	54.07 ug/l	98
46)	1,2-Dichloropropane	9.41	63	4996026	55.07 ug/l	96
47)	1,4-Dioxane	9.86	88	294863	1096.03 ug/l	99
48)	Bromodichloromethane	9.78	83	5212787	55.00 ug/l	99
49)	Dibromomethane	9.87	93	1933103	54.12 ug/l	98
50)	2-Chloroethyl vinyl ether	10.33	63	1703933	55.99 ug/l	98
51)	4-Methyl-2-pentanone	10.38	43	10607288	272.83 ug/l	98
52)	cis-1,3-Dichloropropene	10.69	75	6835105	54.32 ug/l	97
55)	Toluene	11.19	91	19921309	53.21 ug/l	97
56)	Ethyl methacrylate	11.52	69	3135424	54.84 ug/l	94
57)	trans-1,3-Dichloropropene	11.51	75	4805968	55.61 ug/l	95
58)	1,1,2-Trichloroethane	11.75	97	2292936	54.16 ug/l	100
59)	2-Hexanone	11.79	43	6343860	270.07 ug/l	95
60)	1,3-Dichloropropane	12.16	76	4602402	54.03 ug/l	99
61)	Tetrachloroethene	12.24	164	4506800	54.38 ug/l	99
62)	Dibromochloromethane	12.56	129	3145084	55.93 ug/l	99
64)	1,2-Dibromoethane	12.88	107	2427183	56.43 ug/l	99
65)	1-Chlorohexane	13.17	91	8829976	54.25 ug/l	97
66)	Chlorobenzene	13.56	112	12246673	54.83 ug/l	98
67)	1,1,1,2-Tetrachloroethane	13.64	131	4032708	58.11 ug/l	99
68)	Ethylbenzene	13.65	91	21859784	50.33 ug/l	93
69)	m-Xylene & p-Xylene	13.78	91	26023890	82.08 ug/l	72
70)	o-Xylene	14.48	91	16744215	52.56 ug/l	99
71)	Styrene	14.54	104	13043244	55.18 ug/l	94
72)	Isopropylbenzene	15.06	105	20873558	50.76 ug/l	97
74)	Bromoform	15.08	173	1480435	59.43 ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.35	83	2472403	54.05 ug/l	98
77)	1,2,3-Trichloropropane	15.58	110	638112	55.72 ug/l	97

(#) = qualifier out of range (m) = manual integration

7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW217.D Vial: 10
Acq On : 15 Jul 2019 7:39 pm Operator: TWilki
Sample : VO06G159 Inst : TO06
Misc : 50PPB 8260/250PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
78)	trans-1,4-Dichloro-2-buten	15.70	53	715620	56.65	ug/l	97
79)	n-Propylbenzene	15.72	91	23552001	47.66	ug/l	92
80)	Bromobenzene	15.78	156	4293081	56.79	ug/l	98
81)	1,3,5-Trimethylbenzene	15.97	105	17169020	57.00	ug/l	99
82)	2-Chlorotoluene	16.00	91	16655224	54.94	ug/l	99
83)	4-Chlorotoluene	16.08	91	14535506	57.62	ug/l	99
84)	tert-Butylbenzene	16.55	134	4172336	56.82	ug/l	99
85)	1,2,4-Trimethylbenzene	16.61	105	16627536	56.52	ug/l	100
86)	sec-Butylbenzene	16.89	105	21842308	50.38	ug/l	95
87)	p-Isopropyltoluene	17.12	119	18135131	53.00	ug/l	96
88)	1,3-Dichlorobenzene	17.24	146	8186657	54.64	ug/l	100
89)	1,2,3-Trimethylbenzene	17.34	105	13773331	55.71	ug/l	100
90)	1,4-Dichlorobenzene	17.40	146	8021274	55.47	ug/l	99
91)	n-Butylbenzene	17.68	91	17640168	49.62	ug/l	92
92)	1,2-Dichlorobenzene	17.89	146	6534702	54.34	ug/l	98
93)	1,2-Dibromo-3-chloropropan	18.83	157	352955	56.70	ug/l	95
94)	1,2,4-Trichlorobenzene	19.77	180	4331905	54.53	ug/l	100
95)	Hexachlorobutadiene	19.91	225	3086210	54.20	ug/l	99
96)	Naphthalene	20.06	128	5324363	52.83	ug/l	99
97)	1,2,3-Trichlorobenzene	20.35	180	3044701	52.82	ug/l	98

(#) = qualifier out of range (m) = manual integration
RGW217.D VO06G15.M Tue Jul 16 13:12:06 2019 Page 3

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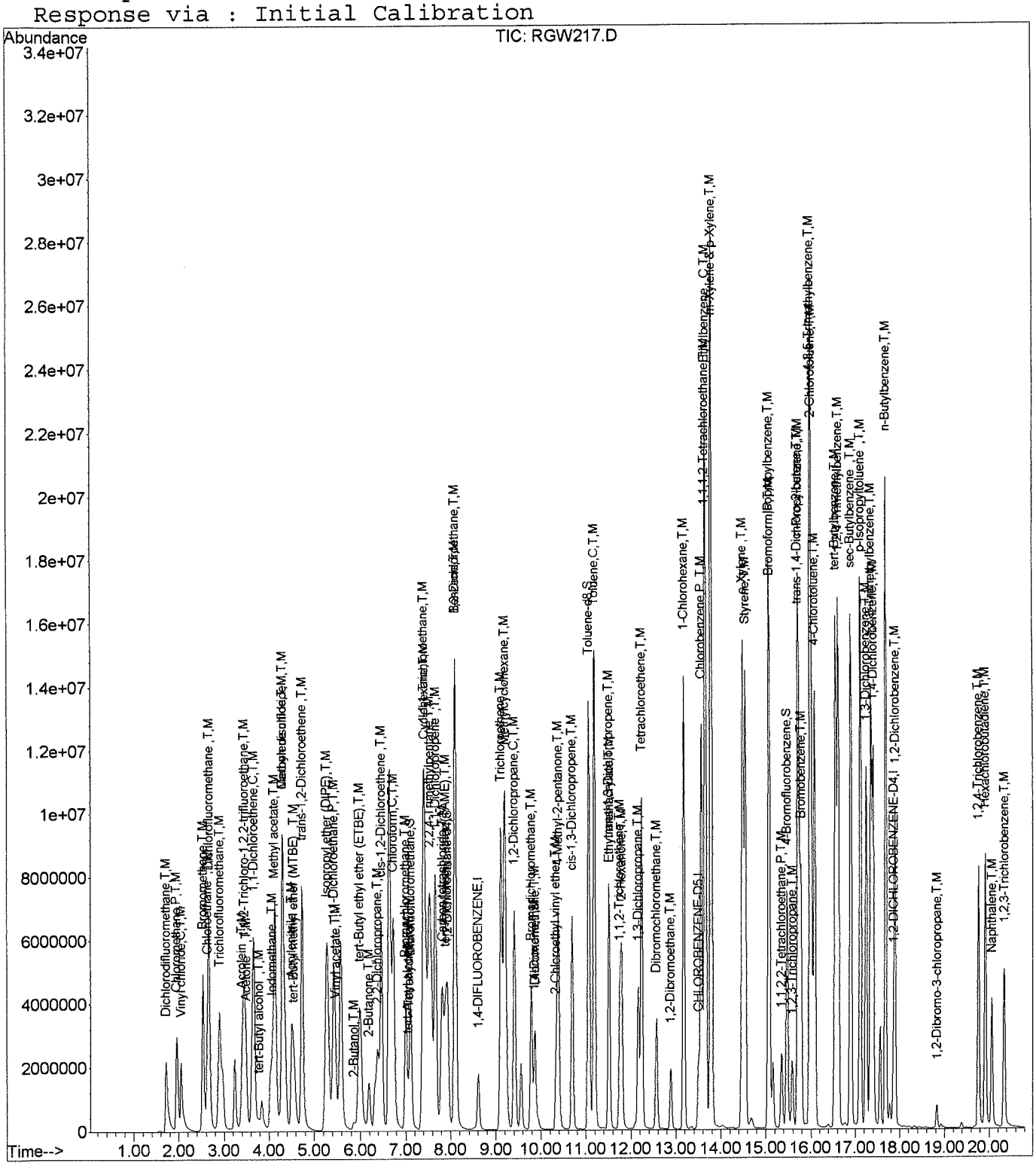
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW217.D
Acq On : 15 Jul 2019 7:39 pm
Sample : VO06G159
Misc : 50PPB 8260/250PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 10
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW218.D
Acq On : 15 Jul 2019 8:06 pm
Sample : VO06G1510
Misc : 100PPB 8260/500PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 11
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2689867	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.50	117	2226214	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.86	152	764161	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.10	111	8720035	104.48 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1044.80%	
41) 1,2-Dichloroethane-d4	7.94	65	5833491	102.29 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1022.90%	
54) Toluene-d8	11.06	98	26183144	88.75 ug/l	0.00
Spiked Amount 10.000			Recovery	= 887.50%	
76) 4-Bromofluorobenzene	15.47	95	9646080	107.55 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1075.50%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.71	85	10650917	98.97 ug/l	98
3) Chloromethane	1.94	50	12993591	100.08 ug/l	99
4) Vinyl chloride	2.04	62	8343839	73.01 ug/l	97
5) Bromomethane	2.53	94	7515581	83.89 ug/l	99
6) Chloroethane	2.62	64	8556339	97.58 ug/l	97
7) Dichlorofluoromethane	2.66	67	20758962	98.92 ug/l	98
8) Trichlorofluoromethane	2.88	101	13532580	105.68 ug/l	99
9) Acrolein	3.39	56	2568278	492.21 ug/l	97
10) 1,1,2-Trichloro-1,2,2-trif	3.45	151	7316375	103.90 ug/l	98
11) Acetone	3.49	43	3466841	459.14 ug/l	98
12) 1,1-Dichloroethene	3.66	61	19807514	103.55 ug/l	97
13) tert-Butyl alcohol	3.78	59	1279596	466.20 ug/l	87
15) Methyl acetate	4.10	74	596354	111.16 ug/l #	71
16) Iodomethane	4.07	142	18681085	106.77 ug/l	98
17) Methylene chloride	4.36	49	13664636	100.35 ug/l	85
18) Carbon disulfide	4.30	76	33065814	99.24 ug/l	94
19) Acrylonitrile	4.50	53	6890911	551.95 ug/l	100
20) tert-Butyl methyl ether (M	4.55	73	12154858	101.82 ug/l	98
21) trans-1,2-Dichloroethene	4.73	61	17317847	104.21 ug/l	96
22) Isopropyl ether (DIPE)	5.28	45	32026718	101.12 ug/l	97
23) Vinyl acetate	5.46	43	9598288	104.80 ug/l	97
24) 1,1-Dichloroethane	5.43	63	20770284	107.77 ug/l	99
25) 2-Butanol	5.86	45	1311346	564.86 ug/l #	100
26) tert-Butyl ethyl ether (ET	5.98	59	20720149	94.67 ug/l	98
27) 2-Butanone	6.19	72	1606385	547.60 ug/l	94
28) 2,2-Dichloropropane	6.38	77	7930963	84.06 ug/l	93
29) cis-1,2-Dichloroethene	6.47	96	11867642	107.90 ug/l	94

(#) = qualifier out of range (m) = manual integration
RGW218.D VO06G15.M Tue Jul 16 13:12:16 2019 Page 1

7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW218.D
Acq On : 15 Jul 2019 8:06 pm
Sample : VO06G1510
Misc : 100PPB 8260/500PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 11
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.73	83	17233968	103.81 ug/l	94
31)	tert-Amyl alcohol	7.06	59	1169761	538.32 ug/l	97
32)	Bromochloromethane	7.00	49	7493323	103.40 ug/l	95
33)	Tetrahydrofuran	7.07	42	958095	94.97 ug/l	88
35)	1,1,1-Trichloroethane	7.40	97	12635768	98.67 ug/l	98
36)	Cyclohexane	7.42	84	16525119	107.45 ug/l	94
37)	2,2,4-Trimethylpentane	7.55	57	47298151	100.39 ug/l	96
38)	1,1-Dichloropropene	7.67	110	5477331	108.61 ug/l	97
39)	Carbon tetrachloride	7.82	119	12026405	109.13 ug/l	99
40)	tert-Amyl methyl ether (TA	7.89	87	3214011	102.62 ug/l	95
42)	1,2-Dichloroethane	8.10	62	7810806	101.03 ug/l	98
43)	Benzene	8.10	78	33195575	83.09 ug/l	87
44)	Trichloroethene	9.11	130	11633571	106.82 ug/l	99
45)	Methylcyclohexane	9.20	83	19076150	106.79 ug/l	97
46)	1,2-Dichloropropane	9.41	63	10006818	104.69 ug/l	95
47)	1,4-Dioxane	9.86	88	646590	2281.22 ug/l	96
48)	Bromodichloromethane	9.78	83	10438633	104.53 ug/l	99
49)	Dibromomethane	9.86	93	3934846	104.56 ug/l	98
50)	2-Chloroethyl vinyl ether	10.33	63	3379718	105.41 ug/l	97
51)	4-Methyl-2-pentanone	10.38	43	20148552	491.89 ug/l	97
52)	cis-1,3-Dichloropropene	10.69	75	13862141	104.57 ug/l	96
55)	Toluene	11.20	91	29007584	74.57 ug/l	76
56)	Ethyl methacrylate	11.52	69	6203138	104.41 ug/l	92
57)	trans-1,3-Dichloropropene	11.51	75	9585784	106.75 ug/l	93
58)	1,1,2-Trichloroethane	11.75	97	4545190	103.32 ug/l	99
59)	2-Hexanone	11.79	43	12088738	495.30 ug/l	94
60)	1,3-Dichloropropane	12.16	76	9149466	103.36 ug/l	99
61)	Tetrachloroethene	12.24	164	8998488	104.49 ug/l	99
62)	Dibromochloromethane	12.56	129	6179107	105.76 ug/l	99
64)	1,2-Dibromoethane	12.88	107	4725460	105.74 ug/l	100
65)	1-Chlorohexane	13.17	91	17562521	103.85 ug/l	97
66)	Chlorobenzene	13.56	112	22222720	95.75 ug/l	95
67)	1,1,1,2-Tetrachloroethane	13.64	131	8160762	113.18 ug/l	99
68)	Ethylbenzene	13.65	91	29096602	64.47 ug/l	59
70)	o-Xylene	14.48	91	25805746	77.97 ug/l	76
71)	Styrene	14.54	104	23208752	94.49 ug/l	91
72)	Isopropylbenzene	15.06	105	28344065	66.34 ug/l	77
74)	Bromoform	15.08	173	2944879	113.98 ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.36	83	4803031	101.24 ug/l	98
77)	1,2,3-Trichloropropane	15.60	110	1228352	103.43 ug/l	97
78)	trans-1,4-Dichloro-2-buten	15.70	53	1323449	101.02 ug/l	93

(#) = qualifier out of range (m) = manual integration

SU 7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW218.D Vial: 11
Acq On : 15 Jul 2019 8:06 pm Operator: TWilki
Sample : VO06G1510 Inst : TO06
Misc : 100PPB 8260/500PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

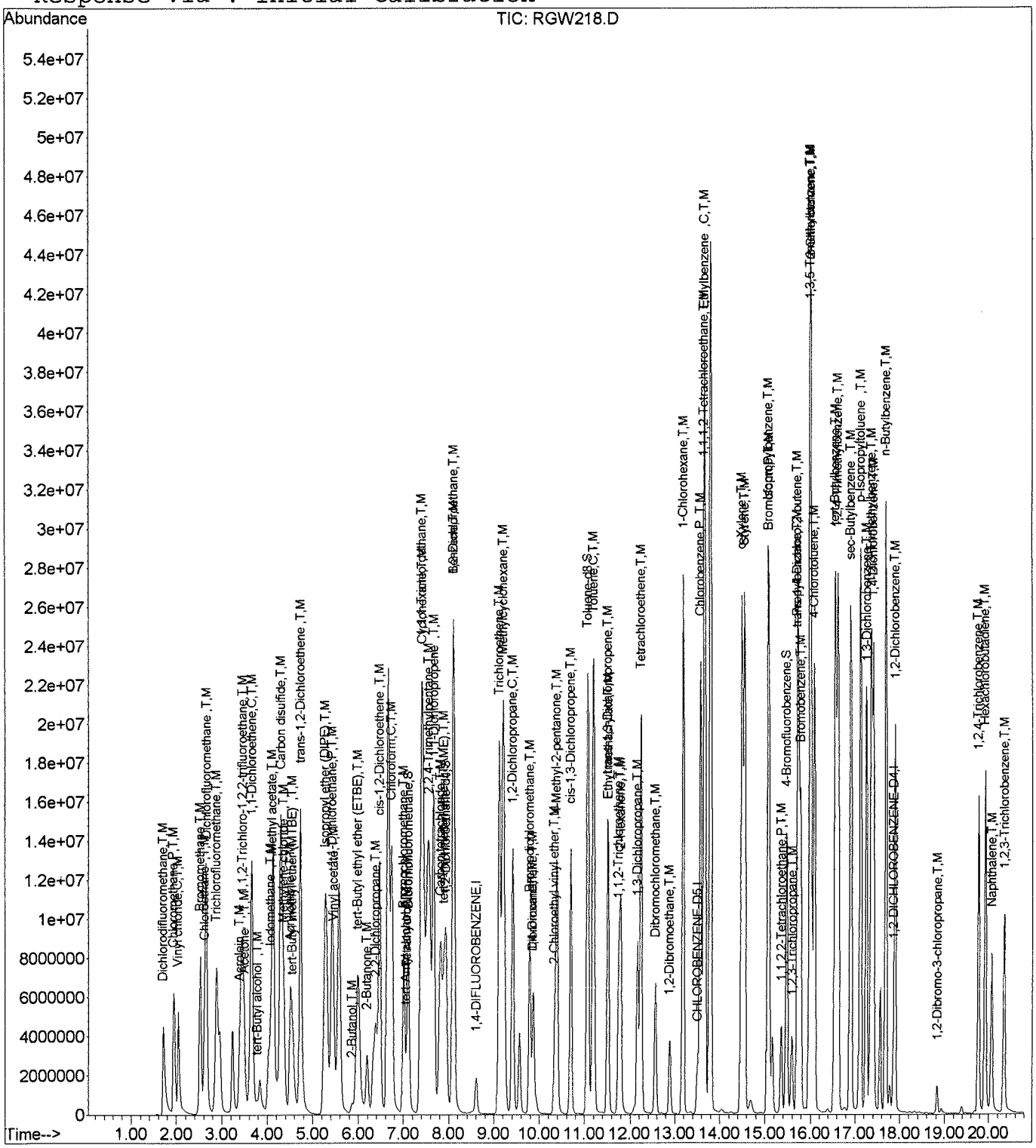
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
79)	n-Propylbenzene	15.70	91	30151431	58.84	ug/l		67
80)	Bromobenzene	15.78	156	8531362	108.83	ug/l		96
81)	1,3,5-Trimethylbenzene	15.99	105	25869837	82.81	ug/l		77
82)	2-Chlorotoluene	16.00	91	28488191	90.61	ug/l		89
83)	4-Chlorotoluene	16.08	91	21419658	81.87	ug/l		76
84)	tert-Butylbenzene	16.55	134	8274353	108.65	ug/l	#	86
85)	1,2,4-Trimethylbenzene	16.61	105	25530311	83.68	ug/l		76
86)	sec-Butylbenzene	16.89	105	29037541	64.58	ug/l		70
87)	p-Isopropyltoluene	17.12	119	25370666	71.49	ug/l		75
88)	1,3-Dichlorobenzene	17.25	146	16183404	104.14	ug/l		99
89)	1,2,3-Trimethylbenzene	17.36	105	22019612	85.87	ug/l		84
90)	1,4-Dichlorobenzene	17.40	146	15471286	103.15	ug/l		97
91)	n-Butylbenzene	17.68	91	22664858	61.47	ug/l		65
92)	1,2-Dichlorobenzene	17.89	146	12764598	102.35	ug/l		99
93)	1,2-Dibromo-3-chloropropan	18.83	157	695593	107.74	ug/l		96
94)	1,2,4-Trichlorobenzene	19.77	180	8493137	103.08	ug/l		100
95)	Hexachlorobutadiene	19.91	225	6321018	107.03	ug/l		99
96)	Naphthalene	20.06	128	10710910	102.47	ug/l		98
97)	1,2,3-Trichlorobenzene	20.35	180	6091216	101.89	ug/l		99

Su 7/17/19

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G15\RGW218.D Vial: 11
Acq On : 15 Jul 2019 8:06 pm Operator: TWilki
Sample : VO06G1510 Inst : TO06
Misc : 100PPB 8260/500PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



7/17/19

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :T006
IC Beginning DateTime :07/15/19 16:04
Spike Amount :10 PPB
CC/CV File :RGW221
IC File :RGW214

Column Spec :RTX502.2 ID :0.25MM
IC Ending DateTime :07/15/19 20:06
HPChem Method :V006G15
Date_Time :07/15/19 21:26

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AVRRF	CC_Rtm	AVRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	2617912	1	1	8.606	8.606	0				
	2	Dichlorodifluoromethane	9.157	-8.4	959117	0.366	0.400	1.724	1.720	11.32				
	3	Chloromethane	9.389	-6.1	1186396	0.453	0.483	1.966	1.953	7.30				
	4	Vinyl chloride	10.043	0.4	1117021	0.427	0.425	2.080	2.073	12.84				
	5	Bromomethane	10.190	1.9	888517	0.339	0.333	2.541	2.537	11.79				
	6	Chloroethane	9.510	-4.9	795175	0.304	0.297	2.630	2.635	15.32	-0.0069	0.3267		0.9994
	7	Dichlorofluoromethane	9.566	-4.3	1953755	0.746	0.780	2.675	2.671	5.21				
	8	Trichlorofluoromethane	9.395	-6.0	1170899	0.447	0.476	2.898	2.897	12.87				
5	9	Acrolein	49.125	-1.7	249470	0.019	0.019	3.404	3.402	6.90				
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	9.675	-3.2	663094	0.253	0.262	3.449	3.456	5.50				
5	11	Acetone	44.773	-10.5	329028	0.025	0.028	3.493	3.493	8.45				
	12	1,1-Dichloroethene	9.492	-5.1	1767113	0.675	0.711	3.657	3.657	5.78				
5	13	tert-Butyl alcohol	47.967	-4.1	128136	0.010	0.010	3.761	3.772	10.02				
	14	Acetonitrile												
	15	Methyl acetate	9.935	-0.7	51874	0.020	0.020	4.118	4.116	8.35				
	16	Iodomethane	9.639	-3.6	1641339	0.627	0.650	4.088	4.084	6.48				
	17	Methylene chloride	9.274	-7.3	1229027	0.469	0.506	4.297	4.307	4.62				
	18	Carbon disulfide	10.205	2.1	3309278	1.264	1.239	4.312	4.310	12.17				
5	19	Acrylonitrile	51.672	3.3	627853	0.048	0.046	4.505	4.507	10.97				
	20	tert-Butyl methyl ether (MTBE)	9.659	-3.4	1122216	0.429	0.444	4.550	4.550	5.78				
	21	trans-1,2-Dichloroethene	9.659	-3.4	1562247	0.597	0.618	4.743	4.737	8.59				
	22	Isopropyl ether (DIPE)	9.319	-6.8	2872731	1.097	1.177	5.279	5.282	6.79				
	23	Vinyl acetate	9.405	-6.0	838316	0.320	0.340	5.472	5.472	10.09				
	24	1,1-Dichloroethane	9.501	-5.0	1782150	0.681	0.717	5.428	5.428	6.66				
5	25	2-Butanol	41.973	-16.1	94836	0.007	0.009	5.859	5.866	10.88				
	26	tert-Butyl ethyl ether (ETBE)	8.974	-10.3	1911497	0.730	0.814	5.978	5.984	6.26				
5	27	2-Butanone	48.271	-3.5	137813	0.011	0.011	6.186	6.193	11.11				
	28	2,2-Dichloropropane	9.446	-5.5	867360	0.331	0.351	6.395	6.389	8.47				
	29	cis-1,2-Dichloroethene	9.464	-5.4	1013035	0.387	0.409	6.469	6.469	8.40				
	30	Chloroform	9.254	-7.5	1495207	0.571	0.617	6.731	6.734	5.89				
5	31	tert-Amyl alcohol	44.228	-11.5	93535	0.007	0.008	7.058	7.061	9.46				
	32	Bromochloromethane	9.498	-5.0	669887	0.256	0.269	6.999	7.002	6.92				
	33	Tetrahydrofuran	9.527	-4.7	93534	0.036	0.038	7.073	7.076	8.82				
	34	Dibromofluoromethane	9.732	-2.7	790513	0.302	0.310	7.103	7.103	8.69				
	35	1,1,1-Trichloroethane	9.439	-5.6	1176424	0.449	0.476	7.401	7.402	6.04				
	36	Cyclohexane	9.911	-0.9	1483413	0.567	0.572	7.401	7.415	8.14				
	37	2,2,4-Trimethylpentane	9.831	-1.7	4508069	1.722	1.752	7.535	7.531	9.60				
	38	1,1-Dichloropropene	9.366	-6.3	459693	0.176	0.187	7.669	7.668	7.95				
	39	Carbon tetrachloride	9.678	-3.2	1038007	0.397	0.410	7.817	7.815	9.86				
	40	tert-Amyl methyl ether (TAME)	9.366	-6.3	285505	0.109	0.116	7.892	7.894	7.63				
	41	1,2-Dichloroethane-d4	9.498	-5.0	527169	0.201	0.212	7.936	7.936	10.38				
	42	1,2-Dichloroethane	9.162	-8.4	689407	0.263	0.287	8.100	8.098	7.24				
	43	Benzene	9.422	-5.8	3663099	1.399	1.485	8.100	8.100	7.11				
	44	Trichloroethene	9.569	-4.3	1014261	0.387	0.405	9.112	9.113	8.20				
	45	Methylcyclohexane	10.157	1.6	1765866	0.675	0.664	9.201	9.201	9.64				
	46	1,2-Dichloropropane	9.490	-5.1	882897	0.337	0.355	9.410	9.409	6.68				
20	47	1,4-Dioxane	181.499	-9.3	50068	0.001	0.001	9.856	9.850	11.26				
	48	Bromodichloromethane	9.420	-5.8	915493	0.350	0.371	9.781	9.783	9.09				
	49	Dibromomethane	9.546	-4.5	349621	0.134	0.140	9.871	9.867	7.32				
	50	2-Chloroethyl vinyl ether	9.255	-7.5	288792	0.110	0.119	10.332	10.333	7.89				
5	51	4-Methyl-2-pentanone	47.155	-5.7	1879859	0.144	0.152	10.377	10.378	6.89				
	52	cis-1,3-Dichloropropene	9.451	-5.5	1219419	0.466	0.493	10.689	10.689	7.59				
	53	CHLOROBENZENE-D5	10.000	0	2158478	1	1	13.502	13.501	0				
	54	Toluene-d8	10.336	3.4	2956500	1.370	1.325	11.061	11.061	11.68				
	55	Toluene	9.492	-5.1	3580373	1.659	1.747	11.195	11.191	5.40				
	56	Ethyl methacrylate	9.459	-5.4	544844	0.252	0.267	11.523	11.524	6.91				
	57	trans-1,3-Dichloropropene	9.636	-3.6	838987	0.389	0.403	11.508	11.509	8.53				
	58	1,1,2-Trichloroethane	9.278	-7.2	395767	0.183	0.198	11.746	11.747	5.97				
5	59	2-Hexanone	48.208	-3.6	1140795	0.106	0.110	11.790	11.794	10.11				
	60	1,3-Dichloropropane	9.859	-1.4	846114	0.392	0.398	12.162	12.162	6.62				
	61	Tetrachloroethene	9.711	-2.9	810842	0.376	0.387	12.237	12.236	6.84				
	62	Dibromochloromethane	9.341	-6.6	529156	0.245	0.262	12.564	12.564	8.07				
	63	2-Ethyl-1-butanol												
	64	1,2-Dibromoethane	9.679	-3.2	419397	0.194	0.201	12.877	12.887	9.51				
	65	1-Chlorohexane	9.575	-4.3	1569883	0.727	0.760	13.174	13.174	7.72				
	66	Chlorobenzene	9.607	-3.9	2161990	1.002	1.043	13.561	13.561	6.29				
	67	1,1,1,2-Tetrachloroethane	9.797	-2.0	684885	0.317	0.324	13.635	13.635	9.88				
	68	Ethylbenzene	9.653	-3.5	4223563	1.957	2.027	13.650	13.650	6.58				
2	69	m-Xylene & p-Xylene	19.741	-1.3	6305218	1.461	1.480	13.769	13.780	8.32				
	70	o-Xylene	9.327	-6.7	2993139	1.387	1.487	14.484	14.483	3.95				
	71	Styrene	9.400	-6.0	2238530	1.037	1.103	14.543	14.543	7.02				
	72	Isopropylbenzene	9.453	-5.5	3916273	1.814	1.919	15.064	15.063	7.40				
	73	1,2-DICHLOROBENZENE-D4	10.000	0	760563	1	1	17.847	17.853	0				
	74	Bromoform	9.386	-6.1	241349	0.317	0.338	15.079	15.078	11.73				
	75	1,1,2,2-Tetrachloroethane	9.491	-5.1	448153	0.589	0.621	15.347	15.351	4.09				
	76	4-Bromofluorobenzene	10.238	2.4	913966	1.202	1.174	15.466	15.465	11.28				
	77	1,2,3-Trichloropropane	9.708	-2.9	114760	0.151	0.155	15.585	15.589	8.33				
	78	trans-1,4-Dichloro-2-butene	9.393	-6.1	122472	0.161	0.171	15.704	15.705	8.08				
	79	n-Propylbenzene	9.812	-1.9	5004522	6.580	6.706	15.719	15.718	6.39				
	80	Bromobenzene	9.743	-2.6	760166	0.999	1.026	15.778	15.778	8.40				
	81	1,3,5-Trimethylbenzene	9.849	-1.5	3062097	4.026	4.088	15.972	15.971	7.96				
	82	2-Chlorotoluene	9.644	-3.6	3018014	3.968	4.114	15.986	15.999	6.90				
	83	4-Chlorotoluene	9.670	-3.3	2518290	3.311	3.424	16.076	16.075	7.34				
	84	tert-Butylbenzene	9.534	-4.7	722693	0.950	0.997	16.552	16.552	9.60				
	85	1,2,4-Trimethylbenzene	9.764	-2.4	2964887	3.898	3.993	16.611	16.611	7.81				
	86	sec-Butylbenzene	10.021	0.2	4485004	5.897	5.884	16.894	16.894	7.42				
	87	p-Isopropyltoluene	9.763	-2.4	3448329	4.534	4.644	17.103	17.107	8.34				
	88	1,3-Dichlorobenzene	9.643	-3.6	1491412	1.961	2.034	17.236	17.239	6.85				
	89	1,2,3-Trimethylbenzene	10.139	1.4	2587606	3.402	3.356	17.340	17.342	10.01				
	90	1,4-Dichlorobenzene	9.483	-5.2	1415642	1.861	1.963	17.400	17.400	8.10				
	91	n-Butylbenzene	9.507	-4.9	3488995	4.587	4.825	17.683	17.682	8.21				
	92	1,2-Dichlorobenzene	9.448	-5.5	1172712	1.542	1.632	17.891	17.891	6.41				
	93	1,2-Dibromo-3-chloropropane	9.283	-7.2	59653	0.078	0.084	18.829	18.828	8.91				
	94	1,2,4-Trichlorobenzene	9.712	-2.9	796422	1.047	1.078	19.766	19.765	9.02				
	95	Hexachlorobutadiene	10.061	0.6	591355	0.778	0.773	19.915	19.914	11.63				
	96	Naphthalene	9.730	-2.7	1012204	1.331	1.368	20.063	20.063	6.47				
	97	1,2,3-Trichlorobenzene	10.161	1.6	604620	0.795	0.782	20.346	20.346	9.80				

Spike Amount = Nominal Amount * M

SG 7/17/19

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D
Acq On : 15 Jul 2019 9:26 pm
Sample : IVO06G1501
Misc : 10PPB 8260/50PPB KET-AA
MS Integration Params: RTE.P

Vial: 14
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	116	0.00
2	T,M	Dichlorodifluoromethane	10.000	9.157	8.4	98	0.00
3	P,T,M	Chloromethane	10.000	9.389	6.1	105	0.02
4	C,T,M	Vinyl chloride	10.000	10.043	-0.4	110	0.00
5	T,M	Bromomethane	10.000	10.190	-1.9	111	0.00
6	T,M	Chloroethane	10.000	9.510	4.9	114	-0.01
7	T,M	Dichlorofluoromethane	10.000	9.566	4.3	113	0.00
8	T,M	Trichlorofluoromethane	10.000	9.395	6.1	105	0.00
9	T,M	Acrolein	50.000	49.125	1.8	116	0.00
10	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	9.676	3.2	113	-0.01
11	T,M	Acetone	50.000	44.773	10.5	107	0.00
12	C,T,M	1,1-Dichloroethene	10.000	9.492	5.1	109	0.00
13	T,M	tert-Butyl alcohol	50.000	47.967	4.1	111	-0.01
14	T,M	Acetonitrile	-1.000	0.000	0.0	0	0.00
15	T,M	Methyl acetate	10.000	9.935	0.6	118	0.00
16	T,M	Iodomethane	10.000	9.639	3.6	111	0.00
17	T,M	Methylene chloride	10.000	9.274	7.3	107	-0.01
18	T,M	Carbon disulfide	10.000	10.205	-2.1	115	0.00
19	T,M	Acrylonitrile	50.000	51.672	-3.3	113	0.00
20	T,M	tert-Butyl methyl ether (MT	10.000	9.659	3.4	108	0.00
21	T,M	trans-1,2-Dichloroethene	10.000	9.659	3.4	108	0.00
22	T,M	Isopropyl ether (DIPE)	10.000	9.319	6.8	105	0.00
23	T,M	Vinyl acetate	10.000	9.405	6.0	106	0.00
24	P,T,M	1,1-Dichloroethane	10.000	9.501	5.0	108	0.00
25	T,M	2-Butanol	50.000	41.974	16.1	96	0.00
26	T,M	tert-Butyl ethyl ether (ETB	10.000	8.974	10.3	108	-0.01
27	T,M	2-Butanone	50.000	48.271	3.5	106	0.00
28	T,M	2,2-Dichloropropane	10.000	9.446	5.5	106	0.00
29	T,M	cis-1,2-Dichloroethene	10.000	9.464	5.4	107	0.00
30	C,T,M	Chloroform	10.000	9.254	7.5	107	-0.01
31	T,M	tert-Amyl alcohol	50.000	44.228	11.5	100	0.00
32	T,M	Bromochloromethane	10.000	9.498	5.0	107	0.00
33	T,M	Tetrahydrofuran	10.000	9.527	4.7	104	0.00
34	S	Dibromofluoromethane	10.000	9.732	2.7	108	0.00
35	T,M	1,1,1-Trichloroethane	10.000	9.439	5.6	106	0.00
36	T,M	Cyclohexane	10.000	9.911	0.9	108	-0.01
37	T,M	2,2,4-Trimethylpentane	10.000	9.831	1.7	108	0.00
38	T,M	1,1-Dichloropropene	10.000	9.366	6.3	106	0.00
39	T,M	Carbon tetrachloride	10.000	9.678	3.2	109	0.00
40	T,M	tert-Amyl methyl ether (TAM	10.000	9.366	6.3	106	0.00
41	S	1,2-Dichloroethane-d4	10.000	9.498	5.0	102	0.00

(#) = Out of Range

7/17/19

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D
Acq On : 15 Jul 2019 9:26 pm
Sample : IVO06G1501
Misc : 10PPB 8260/50PPB KET-AA
MS Integration Params: RTE.P

Vial: 14
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	10.000	9.162	8.4	100	0.00
43	T,M	Benzene	10.000	9.421	5.8	107	0.00
44	T,M	Trichloroethene	10.000	9.569	4.3	108	0.00
45	T,M	Methylcyclohexane	10.000	10.157	-1.6	107	0.00
46	C,T,M	1,2-Dichloropropane	10.000	9.490	5.1	108	0.00
47	T,M	1,4-Dioxane	200.000	181.499	9.3	109	0.00
48	T,M	Bromodichloromethane	10.000	9.420	5.8	105	-0.01
49	T,M	Dibromomethane	10.000	9.546	4.5	107	0.00
50	T,M	2-Chloroethyl vinyl ether	10.000	9.255	7.4	105	0.00
51	T,M	4-Methyl-2-pentanone	50.000	47.155	5.7	101	0.00
52	T,M	cis-1,3-Dichloropropene	10.000	9.451	5.5	106	0.00
53	I	CHLOROBENZENE-D5	10.000	10.000	0.0	113	0.00
54	S	Toluene-d8	10.000	10.336	-3.4	108	0.00
55	C,T,M	Toluene	10.000	9.492	5.1	106	0.00
56	T,M	Ethyl methacrylate	10.000	9.459	5.4	104	0.00
57	T,M	trans-1,3-Dichloropropene	10.000	9.636	3.6	106	0.00
58	T,M	1,1,2-Trichloroethane	10.000	9.278	7.2	103	-0.01
59	T,M	2-Hexanone	50.000	48.208	3.6	99	0.00
60	T,M	1,3-Dichloropropane	10.000	9.859	1.4	107	0.00
61	T,M	Tetrachloroethene	10.000	9.711	2.9	105	0.00
62	T,M	Dibromochloromethane	10.000	9.341	6.6	105	0.00
63	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
64	T,M	1,2-Dibromoethane	10.000	9.679	3.2	106	-0.01
65	T,M	1-Chlorohexane	10.000	9.575	4.3	106	0.00
66	P, T,M	Chlorobenzene	10.000	9.607	3.9	106	0.00
67	T,M	1,1,1,2-Tetrachloroethane	10.000	9.797	2.0	108	0.00
68	C,T,M	Ethylbenzene	10.000	9.652	3.5	106	0.00
69	T,M	m-Xylene & p-Xylene	20.000	19.741	1.3	107	-0.01
70	T,M	o-Xylene	10.000	9.327	6.7	103	0.00
71	T,M	Styrene	10.000	9.400	6.0	103	0.00
72	T,M	Isopropylbenzene	10.000	9.453	5.5	102	0.00
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	107	-0.01
74	P,T,M	Bromoform	10.000	9.386	6.1	102	0.00
75	P,T,M	1,1,2,2-Tetrachloroethane	10.000	9.491	5.1	101	0.00
76	S	4-Bromofluorobenzene	10.000	10.238	-2.4	103	0.00
77	T,M	1,2,3-Trichloropropane	10.000	9.708	2.9	103	0.00
78	T,M	trans-1,4-Dichloro-2-butene	10.000	9.393	6.1	99	0.00
79	T,M	n-Propylbenzene	10.000	9.812	1.9	101	0.00
80	T,M	Bromobenzene	10.000	9.743	2.6	103	0.00

(#) = Out of Range

7/17/19

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D
Acq On : 15 Jul 2019 9:26 pm
Sample : IVO06G1501
Misc : 10PPB 8260/50PPB KET-AA
MS Integration Params: RTE.P

Vial: 14
Operator: TWilki
Inst : TO06
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	9.849	1.5	102	0.00
82	T,M	2-Chlorotoluene	10.000	9.644	3.6	103	-0.01
83	T,M	4-Chlorotoluene	10.000	9.670	3.3	100	0.00
84	T,M	tert-Butylbenzene	10.000	9.534	4.7	97	0.00
85	T,M	1,2,4-Trimethylbenzene	10.000	9.764	2.4	102	0.00
86	T,M	sec-Butylbenzene	10.000	10.021	-0.2	102	0.00
87	T,M	p-Isopropyltoluene	10.000	9.763	2.4	97	-0.01
88	T,M	1,3-Dichlorobenzene	10.000	9.643	3.6	98	-0.01
89	T,M	1,2,3-Trimethylbenzene	10.000	10.139	-1.4	103	0.00
90	T,M	1,4-Dichlorobenzene	10.000	9.483	5.2	97	0.00
91	T,M	n-Butylbenzene	10.000	9.507	4.9	94	0.00
92	T,M	1,2-Dichlorobenzene	10.000	9.448	5.5	97	0.00
93	T,M	1,2-Dibromo-3-chloropropane	10.000	9.283	7.2	100	0.00
94	T,M	1,2,4-Trichlorobenzene	10.000	9.712	2.9	98	0.00
95	T,M	Hexachlorobutadiene	10.000	10.061	-0.6	96	0.00
96	T,M	Naphthalene	10.000	9.730	2.7	98	0.00
97	T,M	1,2,3-Trichlorobenzene	10.000	10.161	-1.6	99	0.00

SG 7/17/19

(#) = Out of Range SPCC's out = 0 CCC's out = 0
RGW221.D VO06G15.M Tue Jul 16 13:12:28 2019 Page 3

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D Vial: 14
Acq On : 15 Jul 2019 9:26 pm Operator: TWilki
Sample : IVO06G1501 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	116	0.00
2	T,M	Dichlorodifluoromethane	0.400	0.366	8.5	98	0.00
3	P,T,M	Chloromethane	0.483	0.453	6.2	105	0.02
4	C,T,M	Vinyl chloride	0.425	0.427	-0.5	110	0.00
5	T,M	Bromomethane	0.333	0.339	-1.8	111	0.00
6	T,M	Chloroethane	0.297	0.304	-2.4	114	-0.01
7	T,M	Dichlorofluoromethane	0.780	0.746	4.4	113	0.00
8	T,M	Trichlorofluoromethane	0.476	0.447	6.1	105	0.00
9	T,M	Acrolein	0.019	0.019	0.0	116	0.00
10	T,M	1,1,2-Trichloro-1,2,2-trifl	0.262	0.253	3.4	113	-0.01
11	T,M	Acetone	0.028	0.025	10.7	107	0.00
12	C,T,M	1,1-Dichloroethene	0.711	0.675	5.1	109	0.00
13	T,M	tert-Butyl alcohol	0.010	0.010	0.0	111	-0.01
14	T,M	Acetonitrile	0.000	0.000	0.0	0#	0.00
15	T,M	Methyl acetate	0.020	0.020	0.0	118	0.00
16	T,M	Iodomethane	0.650	0.627	3.5	111	0.00
17	T,M	Methylene chloride	0.506	0.469	7.3	107	-0.01
18	T,M	Carbon disulfide	1.239	1.264	-2.0	115	0.00
19	T,M	Acrylonitrile	0.046	0.048	-4.3	113	0.00
20	T,M	tert-Butyl methyl ether (MT	0.444	0.429	3.4	108	0.00
21	T,M	trans-1,2-Dichloroethene	0.618	0.597	3.4	108	0.00
22	T,M	Isopropyl ether (DIPE)	1.177	1.097	6.8	105	0.00
23	T,M	Vinyl acetate	0.340	0.320	5.9	106	0.00
24	P,T,M	1,1-Dichloroethane	0.717	0.681	5.0	108	0.00
25	T,M	2-Butanol	0.009	0.007	22.2#	96	0.00
26	T,M	tert-Butyl ethyl ether (ETB	0.814	0.730	10.3	108	-0.01
27	T,M	2-Butanone	0.011	0.011	0.0	106	0.00
28	T,M	2,2-Dichloropropane	0.351	0.331	5.7	106	0.00
29	T,M	cis-1,2-Dichloroethene	0.409	0.387	5.4	107	0.00
30	C,T,M	Chloroform	0.617	0.571	7.5	107	-0.01
31	T,M	tert-Amyl alcohol	0.008	0.007	12.5	100	0.00
32	T,M	Bromochloromethane	0.269	0.256	4.8	107	0.00
33	T,M	Tetrahydrofuran	0.038	0.036	5.3	104	0.00
34	S	Dibromofluoromethane	0.310	0.302	2.6	108	0.00
35	T,M	1,1,1-Trichloroethane	0.476	0.449	5.7	106	0.00
36	T,M	Cyclohexane	0.572	0.567	0.9	108	-0.01
37	T,M	2,2,4-Trimethylpentane	1.752	1.722	1.7	108	0.00
38	T,M	1,1-Dichloropropene	0.187	0.176	5.9	106	0.00
39	T,M	Carbon tetrachloride	0.410	0.397	3.2	109	0.00
40	T,M	tert-Amyl methyl ether (TAM	0.116	0.109	6.0	106	0.00
41	S	1,2-Dichloroethane-d4	0.212	0.201	5.2	102	0.00

(#) = Out of Range

7/17/19

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D Vial: 14
Acq On : 15 Jul 2019 9:26 pm Operator: TWilki
Sample : IVO06G1501 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	0.287	0.263	8.4	100	0.00
43	T,M	Benzene	1.485	1.399	5.8	107	0.00
44	T,M	Trichloroethene	0.405	0.387	4.4	108	0.00
45	T,M	Methylcyclohexane	0.664	0.675	-1.7	107	0.00
46	C,T,M	1,2-Dichloropropane	0.355	0.337	5.1	108	0.00
47	T,M	1,4-Dioxane	0.001	0.001	0.0	109	0.00
48	T,M	Bromodichloromethane	0.371	0.350	5.7	105	-0.01
49	T,M	Dibromomethane	0.140	0.134	4.3	107	0.00
50	T,M	2-Chloroethyl vinyl ether	0.119	0.110	7.6	105	0.00
51	T,M	4-Methyl-2-pentanone	0.152	0.144	5.3	101	0.00
52	T,M	cis-1,3-Dichloropropene	0.493	0.466	5.5	106	0.00
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	113	0.00
54	S	Toluene-d8	1.325	1.370	-3.4	108	0.00
55	C,T,M	Toluene	1.747	1.659	5.0	106	0.00
56	T,M	Ethyl methacrylate	0.267	0.252	5.6	104	0.00
57	T,M	trans-1,3-Dichloropropene	0.403	0.389	3.5	106	0.00
58	T,M	1,1,2-Trichloroethane	0.198	0.183	7.6	103	-0.01
59	T,M	2-Hexanone	0.110	0.106	3.6	99	0.00
60	T,M	1,3-Dichloropropane	0.398	0.392	1.5	107	0.00
61	T,M	Tetrachloroethene	0.387	0.376	2.8	105	0.00
62	T,M	Dibromochloromethane	0.262	0.245	6.5	105	0.00
63	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
64	T,M	1,2-Dibromoethane	0.201	0.194	3.5	106	-0.01
65	T,M	1-Chlorohexane	0.760	0.727	4.3	106	0.00
66	P, T,M	Chlorobenzene	1.043	1.002	3.9	106	0.00
67	T,M	1,1,1,2-Tetrachloroethane	0.324	0.317	2.2	108	0.00
68	C,T,M	Ethylbenzene	2.027	1.957	3.5	106	0.00
69	T,M	m-Xylene & p-Xylene	1.480	1.461	1.3	107	-0.01
70	T,M	o-Xylene	1.487	1.387	6.7	103	0.00
71	T,M	Styrene	1.103	1.037	6.0	103	0.00
72	T,M	Isopropylbenzene	1.919	1.814	5.5	102	0.00
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	107	-0.01
74	P,T,M	Bromoform	0.338	0.317	6.2	102	0.00
75	P,T,M	1,1,2,2-Tetrachloroethane	0.621	0.589	5.2	101	0.00
76	S	4-Bromofluorobenzene	1.174	1.202	-2.4	103	0.00
77	T,M	1,2,3-Trichloropropane	0.155	0.151	2.6	103	0.00
78	T,M	trans-1,4-Dichloro-2-butene	0.171	0.161	5.8	99	0.00
79	T,M	n-Propylbenzene	6.706	6.580	1.9	101	0.00
80	T,M	Bromobenzene	1.026	0.999	2.6	103	0.00

(#) = Out of Range

7/17/19

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D Vial: 14
Acq On : 15 Jul 2019 9:26 pm Operator: TWilki
Sample : IVO06G1501 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.088	4.026	1.5	102	0.00
82	T,M	2-Chlorotoluene	4.114	3.968	3.5	103	-0.01
83	T,M	4-Chlorotoluene	3.424	3.311	3.3	100	0.00
84	T,M	tert-Butylbenzene	0.997	0.950	4.7	97	0.00
85	T,M	1,2,4-Trimethylbenzene	3.993	3.898	2.4	102	0.00
86	T,M	sec-Butylbenzene	5.884	5.897	-0.2	102	0.00
87	T,M	p-Isopropyltoluene	4.644	4.534	2.4	97	-0.01
88	T,M	1,3-Dichlorobenzene	2.034	1.961	3.6	98	-0.01
89	T,M	1,2,3-Trimethylbenzene	3.356	3.402	-1.4	103	0.00
90	T,M	1,4-Dichlorobenzene	1.963	1.861	5.2	97	0.00
91	T,M	n-Butylbenzene	4.825	4.587	4.9	94	0.00
92	T,M	1,2-Dichlorobenzene	1.632	1.542	5.5	97	0.00
93	T,M	1,2-Dibromo-3-chloropropane	0.084	0.078	7.1	100	0.00
94	T,M	1,2,4-Trichlorobenzene	1.078	1.047	2.9	98	0.00
95	T,M	Hexachlorobutadiene	0.773	0.778	-0.6	96	0.00
96	T,M	Naphthalene	1.368	1.331	2.7	98	0.00
97	T,M	1,2,3-Trichlorobenzene	0.782	0.795	-1.7	99	0.00

SY 7/17/19

(#) = Out of Range SPCC's out = 0 CCC's out = 0
RGW221.D VO06G15.M Tue Jul 16 13:12:35 2019 Page 3

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D
Acq On : 15 Jul 2019 9:26 pm
Sample : IVO06G1501
Misc : 10PPB 8260/50PPB KET-AA
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019

Vial: 14
Operator: TWilki
Inst : TO06
Multiplr: 1.00
Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.61	114	2617912	10.00	ug/l	0.00
53) CHLOROBENZENE-D5	13.50	117	2158478	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.85	152	760563	10.00	ug/l	-0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.10	111	790513	9.73	ug/l	0.00
Spiked Amount 10.000			Recovery =	97.30%		
41) 1,2-Dichloroethane-d4	7.94	65	527169	9.50	ug/l	0.00
Spiked Amount 10.000			Recovery =	95.00%		
54) Toluene-d8	11.06	98	2956500	10.34	ug/l	0.00
Spiked Amount 10.000			Recovery =	103.40%		
76) 4-Bromofluorobenzene	15.47	95	913966	10.24	ug/l	0.00
Spiked Amount 10.000			Recovery =	102.40%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.72	85	959117	9.16	ug/l	99
3) Chloromethane	1.97	50	1186396	9.39	ug/l	99
4) Vinyl chloride	2.08	62	1117021	10.04	ug/l	98
5) Bromomethane	2.54	94	888517	10.19	ug/l	99
6) Chloroethane	2.63	64	795175	9.51	ug/l	98
7) Dichlorofluoromethane	2.67	67	1953755	9.57	ug/l	99
8) Trichlorofluoromethane	2.90	101	1170899	9.40	ug/l	99
9) Acrolein	3.40	56	249470	49.13	ug/l	96
10) 1,1,2-Trichloro-1,2,2-trif	3.45	151	663094	9.68	ug/l	99
11) Acetone	3.49	43	329028	44.77	ug/l	93
12) 1,1-Dichloroethene	3.66	61	1767113	9.49	ug/l	98
13) tert-Butyl alcohol	3.76	59	128136	47.97	ug/l	98
15) Methyl acetate	4.12	74	51874	9.93	ug/l #	81
16) Iodomethane	4.09	142	1641339	9.64	ug/l	99
17) Methylene chloride	4.30	49	1229027	9.27	ug/l	96
18) Carbon disulfide	4.31	76	3309278	10.21	ug/l	100
19) Acrylonitrile	4.51	53	627853	51.67	ug/l	99
20) tert-Butyl methyl ether (M	4.55	73	1122216	9.66	ug/l	99
21) trans-1,2-Dichloroethene	4.74	61	1562247	9.66	ug/l	98
22) Isopropyl ether (DIPE)	5.28	45	2872731	9.32	ug/l	99
23) Vinyl acetate	5.47	43	838316	9.40	ug/l	99
24) 1,1-Dichloroethane	5.43	63	1782150	9.50	ug/l	99
25) 2-Butanol	5.86	45	94836	41.97	ug/l #	100
26) tert-Butyl ethyl ether (ET	5.98	59	1911497	8.97	ug/l	98
27) 2-Butanone	6.19	72	137813	48.27	ug/l	98
28) 2,2-Dichloropropane	6.39	77	867360	9.45	ug/l	99
29) cis-1,2-Dichloroethene	6.47	96	1013035	9.46	ug/l	99

(#) = qualifier out of range (m) = manual integration
RGW221.D VO06G15.M Tue Jul 16 13:12:40 2019 Page 1

7/17/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D Vial: 14
Acq On : 15 Jul 2019 9:26 pm Operator: TWilki
Sample : IVO06G1501 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
30)	Chloroform	6.73	83	1495207	9.25	ug/l	98
31)	tert-Amyl alcohol	7.06	59	93535	44.23	ug/l	92
32)	Bromochloromethane	7.00	49	669887	9.50	ug/l	98
33)	Tetrahydrofuran	7.07	42	93534	9.53	ug/l	98
35)	1,1,1-Trichloroethane	7.40	97	1176424	9.44	ug/l	98
36)	Cyclohexane	7.40	84	1483413	9.91	ug/l	99
37)	2,2,4-Trimethylpentane	7.53	57	4508069	9.83	ug/l	96
38)	1,1-Dichloropropene	7.67	110	459693	9.37	ug/l	98
39)	Carbon tetrachloride	7.82	119	1038007	9.68	ug/l	98
40)	tert-Amyl methyl ether (TA	7.89	87	285505	9.37	ug/l	97
42)	1,2-Dichloroethane	8.10	62	689407	9.16	ug/l	98
43)	Benzene	8.10	78	3663099	9.42	ug/l	100
44)	Trichloroethene	9.11	130	1014261	9.57	ug/l	99
45)	Methylcyclohexane	9.20	83	1765866	10.16	ug/l	98
46)	1,2-Dichloropropane	9.41	63	882897	9.49	ug/l	97
47)	1,4-Dioxane	9.86	88	50068	181.50	ug/l	97
48)	Bromodichloromethane	9.78	83	915493	9.42	ug/l	99
49)	Dibromomethane	9.87	93	349621	9.55	ug/l	99
50)	2-Chloroethyl vinyl ether	10.33	63	288792	9.25	ug/l	98
51)	4-Methyl-2-pentanone	10.38	43	1879859	47.15	ug/l	99
52)	cis-1,3-Dichloropropene	10.69	75	1219419	9.45	ug/l	98
55)	Toluene	11.20	91	3580373	9.49	ug/l	100
56)	Ethyl methacrylate	11.52	69	544844	9.46	ug/l	94
57)	trans-1,3-Dichloropropene	11.51	75	838987	9.64	ug/l	97
58)	1,1,2-Trichloroethane	11.75	97	395767	9.28	ug/l	99
59)	2-Hexanone	11.79	43	1140795	48.21	ug/l	96
60)	1,3-Dichloropropane	12.16	76	846114	9.86	ug/l	100
61)	Tetrachloroethene	12.24	164	810842	9.71	ug/l	99
62)	Dibromochloromethane	12.56	129	529156	9.34	ug/l	99
64)	1,2-Dibromoethane	12.88	107	419397	9.68	ug/l	98
65)	1-Chlorohexane	13.17	91	1569883	9.57	ug/l	99
66)	Chlorobenzene	13.56	112	2161990	9.61	ug/l	99
67)	1,1,1,2-Tetrachloroethane	13.64	131	684885	9.80	ug/l	99
68)	Ethylbenzene	13.65	91	4223563	9.65	ug/l	99
69)	m-Xylene & p-Xylene	13.77	91	6305218	19.74	ug/l	100
70)	o-Xylene	14.48	91	2993139	9.33	ug/l	100
71)	Styrene	14.54	104	2238530	9.40	ug/l	94
72)	Isopropylbenzene	15.06	105	3916273	9.45	ug/l	100
74)	Bromoform	15.08	173	241349	9.39	ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.35	83	448153	9.49	ug/l	99
77)	1,2,3-Trichloropropane	15.58	110	114760	9.71	ug/l	99

(#) = qualifier out of range (m) = manual integration

7/17/19

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D Vial: 14
Acq On : 15 Jul 2019 9:26 pm Operator: TWilki
Sample : IVO06G1501 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
78)	trans-1,4-Dichloro-2-buten	15.70	53	122472	9.39	ug/l	100
79)	n-Propylbenzene	15.72	91	5004522	9.81	ug/l	100
80)	Bromobenzene	15.78	156	760166	9.74	ug/l	98
81)	1,3,5-Trimethylbenzene	15.97	105	3062097	9.85	ug/l	100
82)	2-Chlorotoluene	15.99	91	3018014	9.64	ug/l	95
83)	4-Chlorotoluene	16.08	91	2518290	9.67	ug/l	94
84)	tert-Butylbenzene	16.55	134	722693	9.53	ug/l	96
85)	1,2,4-Trimethylbenzene	16.61	105	2964887	9.76	ug/l	100
86)	sec-Butylbenzene	16.89	105	4485004	10.02	ug/l	100
87)	p-Isopropyltoluene	17.10	119	3448329	9.76	ug/l	100
88)	1,3-Dichlorobenzene	17.24	146	1491412	9.64	ug/l	100
89)	1,2,3-Trimethylbenzene	17.34	105	2587606	10.14	ug/l	99
90)	1,4-Dichlorobenzene	17.40	146	1415642	9.48	ug/l	97
91)	n-Butylbenzene	17.68	91	3488995	9.51	ug/l	99
92)	1,2-Dichlorobenzene	17.89	146	1172712	9.45	ug/l	100
93)	1,2-Dibromo-3-chloropropan	18.83	157	59653	9.28	ug/l	95
94)	1,2,4-Trichlorobenzene	19.77	180	796422	9.71	ug/l	100
95)	Hexachlorobutadiene	19.91	225	591355	10.06	ug/l	99
96)	Naphthalene	20.06	128	1012204	9.73	ug/l	99
97)	1,2,3-Trichlorobenzene	20.35	180	604620	10.16	ug/l	99

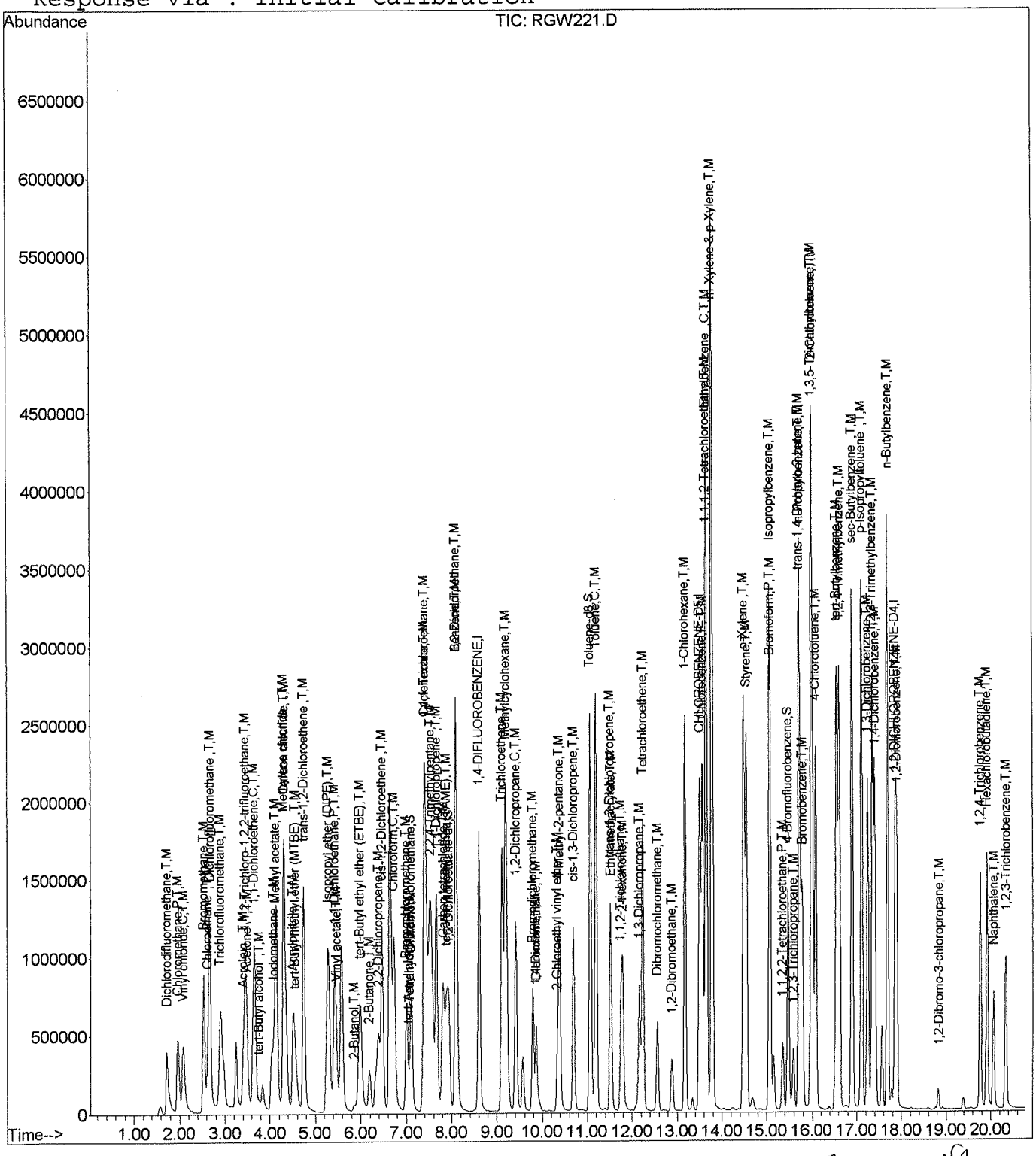
SA 7/17/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G15\RGW221.D Vial: 14
Acq On : 15 Jul 2019 9:26 pm Operator: TWilki
Sample : IVO06G1501 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 16 13:06 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



RGW221.D VO06G15.M Tue Jul 16 13:12:44 2019 Page 4

DAILY CALIBRATIONS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc Contract: VHA-SLC

Lab Code: EMXT Case No.: SAS No.: SDG No.: 19G134

Lab File ID: RGW278 BFB Injection Date : 07/18/19

Instrument ID: 06 BFB Injection Time : 10:15

GC Column:RTX502.2ID:0.25mm (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.51
75	30.0 - 60.0% of mass 95	49.03
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.30
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	73.68
175	5.0 - 9.0% of mass 174	5.92(8.0)1
176	95.0 - 101.0% of mass 174	71.65(97.2)1
177	5.0 - 9.0% of mass 176	3.96(5.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV006G1503	RGW279	07/18/19	10:49
2	MBLK1W	V006G15B	RGW283	07/18/19	13:03
3	LCS1W	V006G15L	RGW280	07/18/19	11:42
4	LCD1W	V006G15C	RGW281	07/18/19	12:09
5	OU2-SB-EB26	G134-01N	RGW284	07/18/19	13:30
6	OU2-SB-TB21	G134-02N	RGW299	07/18/19	20:13

FORM 8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

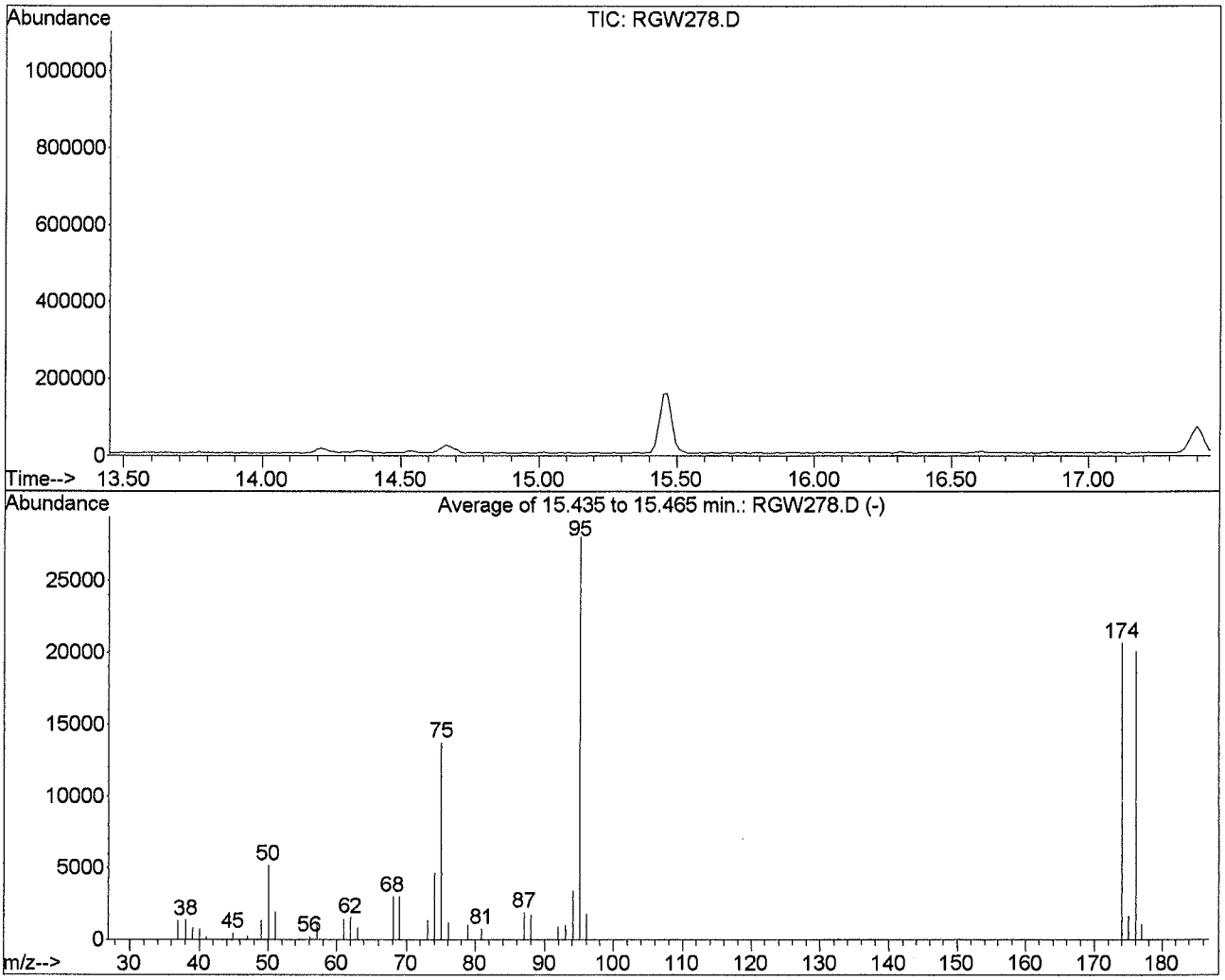
Lab Name : EMAX Inc
Lab Code : EMXT
Lab File ID : RGW214
Instrument ID: 06
GC Column : RTX502.2ID:0.25mm (mm)

Project: VHA-SLC
SDG No: 19G134
Date Analyzed: 07/15/2019
Time Analyzed: 18:18
Heated Purge (Y/N): N

		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5		1,2-DICHLOROBENZENE-D4	
		AREA #	RT(min)	AREA #	RT(min)	AREA #	RT(min)
	12 HOUR STD	2250058	8.60	1917730	13.50	710626	17.86
	UPPER LIMIT	4500116	8.77	3835460	13.67	1421252	18.03
	LOWER LIMIT	1125029	8.43	958865	13.33	355313	17.69
	SAMPLE ID						
1	VSTD010	1964743	8.59	1732063	13.48	713901	17.84
2	MBLK1W	1957842	8.59	1721063	13.49	650026	17.85
3	LCS1W	2016436	8.59	1763194	13.49	695247	17.85
4	LCD1W	2124218	8.59	1842091	13.49	728608	17.85
5	OU2-SB-EB26	1939793	8.59	1705904	13.49	631840	17.85
6	OU2-SB-TB21	1817098	8.61	1600424	13.49	609215	17.85

Area Upper Limit = + 100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 0.167 min. (10 sec.) of internal standard RT
RT Lower Limit = - 0.167 min. (10 sec.) of internal standard RT

Data File : D:\HPCHEM\1\DATA\19G18\RGW278.D Vial: 1
Acq On : 18 Jul 2019 10:15 am Operator: TWilki
Sample : BFB06G15 Inst : TO06
Misc : T/CHK Multiplr: 1.00
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260



AutoFind: Scans 1041, 1042, 1043; Background Corrected with Scan 1037

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.5	5197	PASS
75	95	30	60	49.0	13766	PASS
95	95	100	100	100.0	28077	PASS
96	95	5	9	6.3	1768	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	73.7	20686	PASS
175	174	5	9	8.0	1663	PASS
176	174	95	101	97.2	20117	PASS
177	176	5	9	5.5	1113	PASS

RGW278.D VO06G15.M Fri Jul 19 10:53:15 2019

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	87	-0.02
2	T,M	Dichlorodifluoromethane	10.000	11.151	-11.5	90	0.00
3	P,T,M	Chloromethane	10.000	9.359	6.4	79	0.01
4	C,T,M	Vinyl chloride	10.000	10.407	-4.1	85	0.00
5	T,M	Bromomethane	10.000	9.719	2.8	79	0.00
6	T,M	Chloroethane	10.000	9.220	7.8	83	-0.01
7	T,M	Dichlorofluoromethane	10.000	9.713	2.9	86	-0.01
8	T,M	Trichlorofluoromethane	10.000	10.455	-4.6	87	0.00
9	T,M	Acrolein	50.000	42.221	15.6	75	-0.01
10	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	9.949	0.5	87	-0.01
11	T,M	Acetone	50.000	44.175	11.7	79	-0.01
12	C,T,M	1,1-Dichloroethene	10.000	9.635	3.7	83	0.00
13	T,M	tert-Butyl alcohol	50.000	44.181	11.6	77	-0.01
14	T,M	Acetonitrile	-1.000	0.000	0.0	0	0.00
15	T,M	Methyl acetate	10.000	9.295	7.1	83	-0.01
16	T,M	Iodomethane	10.000	9.944	0.6	86	0.00
17	T,M	Methylene chloride	10.000	10.217	-2.2	88	-0.01
18	T,M	Carbon disulfide	10.000	10.277	-2.8	87	-0.01
19	T,M	Acrylonitrile	50.000	47.688	4.6	78	-0.01
20	T,M	tert-Butyl methyl ether (MT	10.000	9.512	4.9	80	-0.01
21	T,M	trans-1,2-Dichloroethene	10.000	10.260	-2.6	86	-0.01
22	T,M	Isopropyl ether (DIPE)	10.000	9.869	1.3	83	-0.01
23	T,M	Vinyl acetate	10.000	10.498	-5.0	89	-0.01
24	P,T,M	1,1-Dichloroethane	10.000	10.108	-1.1	87	-0.01
25	T,M	2-Butanol	50.000	36.433	27.1#	62	-0.01
26	T,M	tert-Butyl ethyl ether (ETB	10.000	9.252	7.5	83	-0.01
27	T,M	2-Butanone	50.000	45.805	8.4	75	0.00
28	T,M	2,2-Dichloropropane	10.000	11.366	-13.7	96	-0.01
29	T,M	cis-1,2-Dichloroethene	10.000	10.224	-2.2	87	-0.01
30	C,T,M	Chloroform	10.000	10.178	-1.8	88	-0.02
31	T,M	tert-Amyl alcohol	50.000	0.000	100.0#	0	-7.06#
32	T,M	Bromochloromethane	10.000	10.360	-3.6	87	0.00
33	T,M	Tetrahydrofuran	10.000	9.416	5.8	77	0.00
34	S	Dibromofluoromethane	10.000	10.548	-5.5	87	-0.01
35	T,M	1,1,1-Trichloroethane	10.000	10.904	-9.0	92	-0.02
36	T,M	Cyclohexane	10.000	10.002	-0.0	82	-0.01
37	T,M	2,2,4-Trimethylpentane	10.000	0.000	100.0#	0	-7.53#
38	T,M	1,1-Dichloropropene	10.000	9.913	0.9	84	-0.02
39	T,M	Carbon tetrachloride	10.000	11.227	-12.3	95	-0.02
40	T,M	tert-Amyl methyl ether (TAM	10.000	9.845	1.5	84	-0.02
41	S	1,2-Dichloroethane-d4	10.000	10.572	-5.7	85	-0.02

(#) = Out of Range
RGW279.D VO06G15.M Fri Jul 19 10:54:30 2019 Page 1

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	10.000	10.319	-3.2	84	-0.02
43	T,M	Benzene	10.000	10.258	-2.6	88	-0.02
44	T,M	Trichloroethene	10.000	10.102	-1.0	85	-0.02
45	T,M	Methylcyclohexane	10.000	10.152	-1.5	80	-0.02
46	C,T,M	1,2-Dichloropropane	10.000	10.178	-1.8	87	-0.02
47	T,M	1,4-Dioxane	200.000	166.646	16.7	75	-0.02
48	T,M	Bromodichloromethane	10.000	10.709	-7.1	90	-0.02
49	T,M	Dibromomethane	10.000	10.233	-2.3	86	-0.02
50	T,M	2-Chloroethyl vinyl ether	10.000	9.387	6.1	80	0.00
51	T,M	4-Methyl-2-pentanone	50.000	49.800	0.4	80	-0.02
52	T,M	cis-1,3-Dichloropropene	10.000	10.382	-3.8	88	-0.02
53	I	CHLOROBENZENE-D5	10.000	10.000	0.0	90	-0.02
54	S	Toluene-d8	10.000	9.913	0.9	83	-0.01
55	C,T,M	Toluene	10.000	9.915	0.9	89	-0.02
56	T,M	Ethyl methacrylate	10.000	9.595	4.0	85	-0.01
57	T,M	trans-1,3-Dichloropropene	10.000	10.047	-0.5	89	-0.02
58	T,M	1,1,2-Trichloroethane	10.000	9.428	5.7	84	-0.02
59	T,M	2-Hexanone	50.000	46.856	6.3	77	-0.02
60	T,M	1,3-Dichloropropane	10.000	10.079	-0.8	88	-0.02
61	T,M	Tetrachloroethene	10.000	10.142	-1.4	88	-0.02
62	T,M	Dibromochloromethane	10.000	9.685	3.1	87	-0.01
63	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
64	T,M	1,2-Dibromoethane	10.000	9.787	2.1	86	-0.02
65	T,M	1-Chlorohexane	10.000	10.038	-0.4	89	-0.02
66	P, T,M	Chlorobenzene	10.000	9.854	1.5	87	-0.02
67	T,M	1,1,1,2-Tetrachloroethane	10.000	10.007	-0.1	88	-0.02
68	C,T,M	Ethylbenzene	10.000	10.089	-0.9	89	-0.02
69	T,M	m-Xylene & p-Xylene	20.000	20.717	-3.6	90	-0.01
70	T,M	o-Xylene	10.000	9.792	2.1	87	-0.02
71	T,M	Styrene	10.000	10.083	-0.8	89	-0.02
72	T,M	Isopropylbenzene	10.000	10.235	-2.3	88	-0.01
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	100	-0.02
74	P,T,M	Bromoform	10.000	8.801	12.0	89	-0.02
75	P,T,M	1,1,2,2-Tetrachloroethane	10.000	8.978	10.2	90	-0.02
76	S	4-Bromofluorobenzene	10.000	10.092	-0.9	95	-0.01
77	T,M	1,2,3-Trichloropropane	10.000	8.716	12.8	87	-0.02
78	T,M	trans-1,4-Dichloro-2-butene	10.000	9.025	9.7	89	-0.02
79	T,M	n-Propylbenzene	10.000	9.405	6.0	91	-0.01
80	T,M	Bromobenzene	10.000	8.868	11.3	88	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.		%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	9.187		8.1	90	-0.02
82	T,M	2-Chlorotoluene	10.000	9.053		9.5	91	-0.02
83	T,M	4-Chlorotoluene	10.000	9.095		9.0	88	-0.02
84	T,M	tert-Butylbenzene	10.000	9.187		8.1	88	-0.02
85	T,M	1,2,4-Trimethylbenzene	10.000	9.030		9.7	89	-0.02
86	T,M	sec-Butylbenzene	10.000	9.548		4.5	91	-0.01
87	T,M	p-Isopropyltoluene	10.000	9.038		9.6	85	-0.02
88	T,M	1,3-Dichlorobenzene	10.000	9.154		8.5	88	-0.02
89	T,M	1,2,3-Trimethylbenzene	10.000	0.015	⌐7	99.8#	0	-0.02
90	T,M	1,4-Dichlorobenzene	10.000	9.209		7.9	88	-0.02
91	T,M	n-Butylbenzene	10.000	9.600		4.0	89	-0.01
92	T,M	1,2-Dichlorobenzene	10.000	9.196		8.0	89	-0.02
93	T,M	1,2-Dibromo-3-chloropropane	10.000	8.923		10.8	90	-0.01
94	T,M	1,2,4-Trichlorobenzene	10.000	9.475		5.3	89	-0.02
95	T,M	Hexachlorobutadiene	10.000	9.931		0.7	89	-0.02
96	T,M	Naphthalene	10.000	9.076		9.2	85	-0.02
97	T,M	1,2,3-Trichlorobenzene	10.000	9.789		2.1	89	-0.02

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	87	-0.02
2	T,M	Dichlorodifluoromethane	0.400	0.446	-11.5	90	0.00
3	P,T,M	Chloromethane	0.483	0.452	6.4	79	0.01
4	C,T,M	Vinyl chloride	0.425	0.442	-4.0	85	0.00
5	T,M	Bromomethane	0.333	0.324	2.7	79	0.00
6	T,M	Chloroethane	0.297	0.294	1.0	83	-0.01
7	T,M	Dichlorofluoromethane	0.780	0.758	2.8	86	-0.01
8	T,M	Trichlorofluoromethane	0.476	0.498	-4.6	87	0.00
9	T,M	Acrolein	0.019	0.016	15.8	75	-0.01
10	T,M	1,1,2-Trichloro-1,2,2-trifl	0.262	0.260	0.8	87	-0.01
11	T,M	Acetone	0.028	0.025	10.7	79	-0.01
12	C,T,M	1,1-Dichloroethene	0.711	0.685	3.7	83	0.00
13	T,M	tert-Butyl alcohol	0.010	0.009	10.0	77	-0.01
14	T,M	Acetonitrile	0.000	0.000	0.0	0#	0.00
15	T,M	Methyl acetate	0.020	0.019	5.0	83	-0.01
16	T,M	Iodomethane	0.650	0.647	0.5	86	0.00
17	T,M	Methylene chloride	0.506	0.517	-2.2	88	-0.01
18	T,M	Carbon disulfide	1.239	1.273	-2.7	87	-0.01
19	T,M	Acrylonitrile	0.046	0.044	4.3	78	-0.01
20	T,M	tert-Butyl methyl ether (MT	0.444	0.422	5.0	80	-0.01
21	T,M	trans-1,2-Dichloroethene	0.618	0.634	-2.6	86	-0.01
22	T,M	Isopropyl ether (DIPE)	1.177	1.162	1.3	83	-0.01
23	T,M	Vinyl acetate	0.340	0.357	-5.0	89	-0.01
24	P,T,M	1,1-Dichloroethane	0.717	0.724	-1.0	87	-0.01
25	T,M	2-Butanol	0.009	0.006	33.3#	62	-0.01
26	T,M	tert-Butyl ethyl ether (ETB	0.814	0.753	7.5	83	-0.01
27	T,M	2-Butanone	0.011	0.010	9.1	75	0.00
28	T,M	2,2-Dichloropropane	0.351	0.399	-13.7	96	-0.01
29	T,M	cis-1,2-Dichloroethene	0.409	0.418	-2.2	87	-0.01
30	C,T,M	Chloroform	0.617	0.628	-1.8	88	-0.02
31	T,M	tert-Amyl alcohol	0.008	0.000	100.0#	0#	-7.06#
32	T,M	Bromochloromethane	0.269	0.279	-3.7	87	0.00
33	T,M	Tetrahydrofuran	0.038	0.035	7.9	77	0.00
34	S	Dibromofluoromethane	0.310	0.327	-5.5	87	-0.01
35	T,M	1,1,1-Trichloroethane	0.476	0.519	-9.0	92	-0.02
36	T,M	Cyclohexane	0.572	0.572	0.0	82	-0.01
37	T,M	2,2,4-Trimethylpentane	1.752	0.000	100.0#	0#	-7.53#
38	T,M	1,1-Dichloropropene	0.187	0.186	0.5	84	-0.02
39	T,M	Carbon tetrachloride	0.410	0.460	-12.2	95	-0.02
40	T,M	tert-Amyl methyl ether (TAM	0.116	0.115	0.9	84	-0.02
41	S	1,2-Dichloroethane-d4	0.212	0.224	-5.7	85	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	0.287	0.297	-3.5	84	-0.02
43	T,M	Benzene	1.485	1.524	-2.6	88	-0.02
44	T,M	Trichloroethene	0.405	0.409	-1.0	85	-0.02
45	T,M	Methylcyclohexane	0.664	0.674	-1.5	80	-0.02
46	C,T,M	1,2-Dichloropropane	0.355	0.362	-2.0	87	-0.02
47	T,M	1,4-Dioxane	0.001	0.001	0.0	75	-0.02
48	T,M	Bromodichloromethane	0.371	0.398	-7.3	90	-0.02
49	T,M	Dibromomethane	0.140	0.143	-2.1	86	-0.02
50	T,M	2-Chloroethyl vinyl ether	0.119	0.112	5.9	80	0.00
51	T,M	4-Methyl-2-pentanone	0.152	0.152	0.0	80	-0.02
52	T,M	cis-1,3-Dichloropropene	0.493	0.512	-3.9	88	-0.02
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	90	-0.02
54	S	Toluene-d8	1.325	1.314	0.8	83	-0.01
55	C,T,M	Toluene	1.747	1.733	0.8	89	-0.02
56	T,M	Ethyl methacrylate	0.267	0.256	4.1	85	-0.01
57	T,M	trans-1,3-Dichloropropene	0.403	0.405	-0.5	89	-0.02
58	T,M	1,1,2-Trichloroethane	0.198	0.186	6.1	84	-0.02
59	T,M	2-Hexanone	0.110	0.103	6.4	77	-0.02
60	T,M	1,3-Dichloropropane	0.398	0.401	-0.8	88	-0.02
61	T,M	Tetrachloroethene	0.387	0.392	-1.3	88	-0.02
62	T,M	Dibromochloromethane	0.262	0.254	3.1	87	-0.01
63	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
64	T,M	1,2-Dibromoethane	0.201	0.196	2.5	86	-0.02
65	T,M	1-Chlorohexane	0.760	0.762	-0.3	89	-0.02
66	P, T,M	Chlorobenzene	1.043	1.027	1.5	87	-0.02
67	T,M	1,1,1,2-Tetrachloroethane	0.324	0.324	0.0	88	-0.02
68	C,T,M	Ethylbenzene	2.027	2.045	-0.9	89	-0.02
69	T,M	m-Xylene & p-Xylene	1.480	1.533	-3.6	90	-0.01
70	T,M	o-Xylene	1.487	1.456	2.1	87	-0.02
71	T,M	Styrene	1.103	1.112	-0.8	89	-0.02
72	T,M	Isopropylbenzene	1.919	1.964	-2.3	88	-0.01
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	100	-0.02
74	P,T,M	Bromoform	0.338	0.298	11.8	89	-0.02
75	P,T,M	1,1,2,2-Tetrachloroethane	0.621	0.557	10.3	90	-0.02
76	S	4-Bromofluorobenzene	1.174	1.185	-0.9	95	-0.01
77	T,M	1,2,3-Trichloropropane	0.155	0.135	12.9	87	-0.02
78	T,M	trans-1,4-Dichloro-2-butene	0.171	0.155	9.4	89	-0.02
79	T,M	n-Propylbenzene	6.706	6.307	5.9	91	-0.01
80	T,M	Bromobenzene	1.026	0.910	11.3	88	-0.02

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.088	3.756	8.1	90	-0.02
82	T,M	2-Chlorotoluene	4.114	3.725	9.5	91	-0.02
83	T,M	4-Chlorotoluene	3.424	3.114	9.1	88	-0.02
84	T,M	tert-Butylbenzene	0.997	0.916	8.1	88	-0.02
85	T,M	1,2,4-Trimethylbenzene	3.993	3.605	9.7	89	-0.02
86	T,M	sec-Butylbenzene	5.884	5.618	4.5	91	-0.01
87	T,M	p-Isopropyltoluene	4.644	4.197	9.6	85	-0.02
88	T,M	1,3-Dichlorobenzene	2.034	1.862	8.5	88	-0.02
89	T,M	1,2,3-Trimethylbenzene	3.356	0.005	99.9#	0#	-0.02
90	T,M	1,4-Dichlorobenzene	1.963	1.808	7.9	88	-0.02
91	T,M	n-Butylbenzene	4.825	4.632	4.0	89	-0.01
92	T,M	1,2-Dichlorobenzene	1.632	1.501	8.0	89	-0.02
93	T,M	1,2-Dibromo-3-chloropropane	0.084	0.075	10.7	90	-0.01
94	T,M	1,2,4-Trichlorobenzene	1.078	1.022	5.2	89	-0.02
95	T,M	Hexachlorobutadiene	0.773	0.768	0.6	89	-0.02
96	T,M	Naphthalene	1.368	1.241	9.3	85	-0.02
97	T,M	1,2,3-Trichlorobenzene	0.782	0.766	2.0	89	-0.02

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:53 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.59	114	1964743	10.00	ug/l	-0.02
53) CHLOROBENZENE-D5	13.49	117	1732063	10.00	ug/l	-0.02
73) 1,2-DICHLOROBENZENE-D4	17.84	152	713901	10.00	ug/l	-0.02
System Monitoring Compounds						
34) Dibromofluoromethane	7.09	111	642973	10.55	ug/l	-0.01
Spiked Amount 10.000			Recovery = 105.50%			
41) 1,2-Dichloroethane-d4	7.92	65	440413	10.57	ug/l	-0.02
Spiked Amount 10.000			Recovery = 105.70%			
54) Toluene-d8	11.04	98	2275429	9.91	ug/l	-0.01
Spiked Amount 10.000			Recovery = 99.10%			
76) 4-Bromofluorobenzene	15.45	95	845647	10.09	ug/l	-0.01
Spiked Amount 10.000			Recovery = 100.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.72	85	876591	11.15	ug/l	99
3) Chloromethane	1.96	50	887525	9.36	ug/l	99
4) Vinyl chloride	2.08	62	868660	10.41	ug/l	100
5) Bromomethane	2.54	94	636020	9.72	ug/l	99
6) Chloroethane	2.63	64	578201	9.22	ug/l	100
7) Dichlorofluoromethane	2.66	67	1488886	9.71	ug/l	97
8) Trichlorofluoromethane	2.90	101	977861	10.45	ug/l	99
9) Acrolein	3.39	56	160912	42.22	ug/l	95
10) 1,1,2-Trichloro-1,2,2-trif	3.45	151	511700	9.95	ug/l	99
11) Acetone	3.48	43	243639	44.18	ug/l	95
12) 1,1-Dichloroethene	3.66	61	1346158	9.63	ug/l	98
13) tert-Butyl alcohol	3.76	59	88576	44.18	ug/l	97
15) Methyl acetate	4.10	74	36424	9.30	ug/l #	79
16) Iodomethane	4.09	142	1270836	9.94	ug/l	99
17) Methylene chloride	4.30	49	1016114	10.22	ug/l	91
18) Carbon disulfide	4.30	76	2500993	10.28	ug/l	100
19) Acrylonitrile	4.49	53	434871	47.69	ug/l	99
20) tert-Butyl methyl ether (M	4.53	73	829380	9.51	ug/l	96
21) trans-1,2-Dichloroethene	4.73	61	1245433	10.26	ug/l	99
22) Isopropyl ether (DIPE)	5.26	45	2283262	9.87	ug/l	100
23) Vinyl acetate	5.46	43	702269	10.50	ug/l	100
24) 1,1-Dichloroethane	5.41	63	1422925	10.11	ug/l	99
25) 2-Butanol	5.84	45	61780	36.43	ug/l #	100
26) tert-Butyl ethyl ether (ET	5.98	59	1479013	9.25	ug/l	98
27) 2-Butanone	6.19	72	98145	45.80	ug/l #	87
28) 2,2-Dichloropropane	6.38	77	783273	11.37	ug/l	99
29) cis-1,2-Dichloroethene	6.45	96	821338	10.22	ug/l	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:53 2019 Quant Results File: VO06G15.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
30)	Chloroform	6.73	83	1234217	10.18	ug/l	96
32)	Bromochloromethane	7.00	49	548405	10.36	ug/l	99
33)	Tetrahydrofuran	7.07	42	69380	9.42	ug/l	94
35)	1,1,1-Trichloroethane	7.38	97	1019962	10.90	ug/l	99
36)	Cyclohexane	7.40	84	1123489	10.00	ug/l	91
38)	1,1-Dichloropropene	7.65	110	365158	9.91	ug/l	96
39)	Carbon tetrachloride	7.80	119	903712	11.23	ug/l	98
40)	tert-Amyl methyl ether (TA	7.88	87	225219	9.85	ug/l	97
42)	1,2-Dichloroethane	8.08	62	582707	10.32	ug/l	99
43)	Benzene	8.08	78	2993326	10.26	ug/l	99
44)	Trichloroethene	9.10	130	803597	10.10	ug/l	97
45)	Methylcyclohexane	9.18	83	1324666	10.15	ug/l	99
46)	1,2-Dichloropropane	9.39	63	710632	10.18	ug/l	98
47)	1,4-Dioxane	9.84	88	34501	166.65	ug/l	97
48)	Bromodichloromethane	9.78	83	781135	10.71	ug/l	100
49)	Dibromomethane	9.85	93	281279	10.23	ug/l	99
50)	2-Chloroethyl vinyl ether	10.33	63	219840	9.39	ug/l	99
51)	4-Methyl-2-pentanone	10.36	43	1489988	49.80	ug/l	98
52)	cis-1,3-Dichloropropene	10.67	75	1005348	10.38	ug/l	98
55)	Toluene	11.18	91	3001059	9.92	ug/l	100
56)	Ethyl methacrylate	11.51	69	443502	9.59	ug/l	97
57)	trans-1,3-Dichloropropene	11.49	75	701960	10.05	ug/l	100
58)	1,1,2-Trichloroethane	11.74	97	322712	9.43	ug/l	99
59)	2-Hexanone	11.77	43	889767	46.86	ug/l	99
60)	1,3-Dichloropropane	12.15	76	694143	10.08	ug/l	99
61)	Tetrachloroethene	12.22	164	679545	10.14	ug/l	98
62)	Dibromochloromethane	12.55	129	440244	9.68	ug/l	100
64)	1,2-Dibromoethane	12.87	107	340298	9.79	ug/l	99
65)	1-Chlorohexane	13.16	91	1320657	10.04	ug/l	99
66)	Chlorobenzene	13.54	112	1779456	9.85	ug/l	99
67)	1,1,1,2-Tetrachloroethane	13.62	131	561406	10.01	ug/l	98
68)	Ethylbenzene	13.63	91	3542587	10.09	ug/l	99
69)	m-Xylene & p-Xylene	13.77	91	5309685	20.72	ug/l	100
70)	o-Xylene	14.47	91	2521595	9.79	ug/l	100
71)	Styrene	14.53	104	1926864	10.08	ug/l	93
72)	Isopropylbenzene	15.05	105	3402372	10.23	ug/l	99
74)	Bromoform	15.06	173	212436	8.80	ug/l	98
75)	1,1,2,2-Tetrachloroethane	15.33	83	397920	8.98	ug/l	100
77)	1,2,3-Trichloropropane	15.57	110	96706	8.72	ug/l	99
78)	trans-1,4-Dichloro-2-buten	15.69	53	110459	9.03	ug/l	98
79)	n-Propylbenzene	15.70	91	4502812	9.41	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:53 2019 Quant Results File: VO06G15.RES

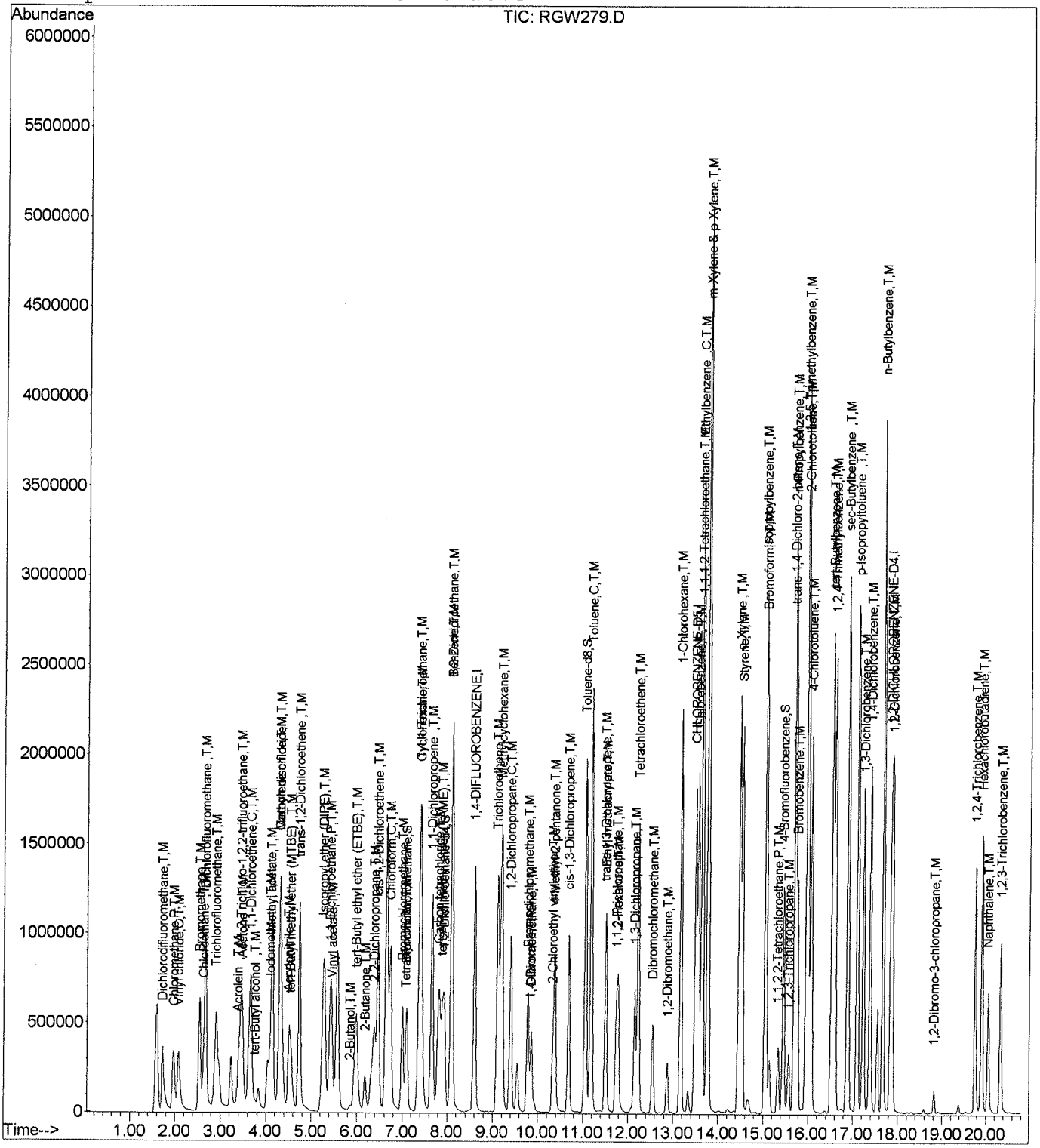
Quant Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration
DataAcq Meth : VO06G15

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80)	Bromobenzene	15.76	156	649457	8.87 ug/l	98
81)	1,3,5-Trimethylbenzene	15.96	105	2681176	9.19 ug/l	99
82)	2-Chlorotoluene	15.98	91	2659301	9.05 ug/l	99
83)	4-Chlorotoluene	16.06	91	2223258	9.10 ug/l	99
84)	tert-Butylbenzene	16.54	134	653669	9.19 ug/l	96
85)	1,2,4-Trimethylbenzene	16.59	105	2573739	9.03 ug/l	99
86)	sec-Butylbenzene	16.88	105	4011032	9.55 ug/l	99
87)	p-Isopropyltoluene	17.10	119	2996374	9.04 ug/l	99
88)	1,3-Dichlorobenzene	17.23	146	1328988	9.15 ug/l	99
90)	1,4-Dichlorobenzene	17.38	146	1290396	9.21 ug/l	99
91)	n-Butylbenzene	17.67	91	3306710	9.60 ug/l	100
92)	1,2-Dichlorobenzene	17.87	146	1071471	9.20 ug/l	98
93)	1,2-Dibromo-3-chloropropan	18.81	157	53821	8.92 ug/l	96
94)	1,2,4-Trichlorobenzene	19.75	180	729316	9.47 ug/l	99
95)	Hexachlorobutadiene	19.90	225	547950	9.93 ug/l	98
96)	Naphthalene	20.05	128	886276	9.08 ug/l	99
97)	1,2,3-Trichlorobenzene	20.33	180	546710	9.79 ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G18\RGW279.D Vial: 2
Acq On : 18 Jul 2019 10:49 am Operator: TWilki
Sample : CVO06G1503 Inst : TO06
Misc : 10PPB 8260/50PPB KET-AA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:53 2019 Quant Results File: VO06G15.RE

Method : D:\HPCHEM\1\METHODS\VO06G15.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Jul 16 12:47:13 2019
Response via : Initial Calibration



ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/15/19 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge Book #: A06-068

BATCH V0Ø6G15G

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RGW 208	BFBØ6G12		N/A	N/A	N/A		
02	09		V0Ø6G151	0.03/0.5mL					0.3 / 1.5 ppb 8260/KET-AA
03	10		2	0.05/0.25					0.5/2.5
04	11		3	0.1/0.5					1.0 / 5.0
05	12		4	0.2/1.0					2.0 / 10
06	13		5	0.5/2.5					5.0 / 25
07	14		6	1.0/5.0					10 / 50
08	15		7	2.0/10					20 / 100
09	16		8	3.0/15					30 / 150
10	17		9	5.0/25					50 / 250
11	18		10	10/50					100 / 500
12	19		RINSE						
13	20								
14	21		IV0Ø6G1501	1.0/5.0					10/50 ppb
15	22		RINSE						
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Instrument No.	06
INITIAL CALIBRATION REFERENCE	
DATE	7/15/19
ICAL ID	V0Ø6G15

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-32-57-01 26-03	✱	
DCC	53-02 45-01		
DCC	40-01 50-03		
DCC	SV1-31-22-02		
BFB	SV1-32-44-03	1	50/250/1250
IS/SURR.	57-02 57-03	1 ✱	
ICV/LCS	39-03 42-01	1 1	
ICV/LCS	53-03 50-02	5 5	
ICV/LCS	44-03 33-01	5 5	
ICV/LCS	32-02 23-01	5 5	
Data File Folder	19G15		

	LOT #	Syringe Lot #
pH strip		MSV-01-01-02
Chlorine strip		-03-04-(
Methanol		-22
$NaHSO_4$		N01-F5046
Reagent Water	RW4-17-002	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TO06	

Comments:

Analyzed By: TFW

Date Disposed: 7/16/19 Disposed By: TFW

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/18/19 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge Book #: A06-068

BATCH V0806G1503

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01		RGW278	BFB06G15						10:15
02		79	CV0806G1503						
03		80	V0806G15L						
04		81	↓ C						
05		82	RINSE						
06		83	V0806G15B	25mL	1.0				
07		84	19G134-01N	↓	↓	/	/		
08		85	19G116-01N	↓	↓	/	/		
09		86	↓ 03I	1.0mL	25	/	/		
10		87	19G145-01	25mL	1.0	/	/		
11		88	19G148-01	↓	↓	/	/		
12		89	02	↓	↓	/	/		
13		90	04	↓	↓	/	/		
14		91	06	↓	↓	/	/		
15		92	08	↓	↓	/	/		
16		93	09	↓	↓	/	/		
17		94	10	↓	↓	/	/		
18		95	11	↓	↓	/	/		
19		96	13	↓	↓	/	/		
20		97	19G164-01	↓	↓	/	/		
21		98	↓ 02	↓	↓	/	/		
22		99	19G134-02N	↓	↓	/	/		TB contamination; confirmed
23		300	19G148-03	↓	↓	/	/		by Reanalysis
24		01	03M	↓	↓	/	/		
25		02	↓ 03S	↓	↓	/	/		
26		03	EV0806G1503						22:01
27		04	RINSE						
28		05	↓						
29		06	↓						
30									

Instrument No.	06
INITIAL CALIBRATION REFERENCE	
DATE	7/15/19
ICAL ID	V0806G15

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-32-57-01	1	
DCC	26-03	1	
DCC	53-03, 45-01	5	
DCC	40-01	1	
BFB	44-03	1	50/250
IS/SURR.	20-02	5	
ICV/LCS	39-03	1	
ICV/LCS	42-01	1	
ICV/LCS	53-03, 44-02	5	
ICV/LCS	↓ 32-02, 23-01	5	
Data File Folder	19G18		

	LOT #	Syringe Lot #
pH strip	HC857466	MSV-01-01-02
Chlorine strip	84032	N01-F5046
Methanol		
$NaHSO_4$		
Reagent Water	RWG-17-002	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TO06	

Comments:

Analyzed By: TFW

Date Disposed: 7/19/19 Disposed By: TFW

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889

Date: 08-06-2019
EMAX Batch No.: 19G151

Attn: Mark Cichy

JACOBS/CH2M HILL
2525 Airpark Drive
Redding CA 96001

Subject: Laboratory Report
Project: VHA-SLC

Enclosed is the Laboratory report for samples received on 07/18/19.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
OU2-SB60	G151-01	07/11/19	SOIL	VOCS BY 8260C

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912018-14
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

19G151

CH2MHILL **CHAIN OF CUSTODY RECORD** 7/12/2019 12:47:59 PM Page 1 OF 1

Project Name VHA-SLC
Location Salt Lake City, UT
Project Number 697496CH.SL.03.0J
Project Manager David Waite
Sample Manager Sandy Schut

Task Order 3015
Project SOIL SAMPLING ROUND 2
Turnaround Time 21 Days
Shipping Date:
COC Number: EXMT71519

	Container:	4 oz jar	40mL glass	40mL glass	5 Gram Encore			
	Preservatives:	4°C (± 2°C)	4°C (± 2°C), HCl to pH < 2	4°C (± 2°C), HCl to pH < 2	4°C (± 2°C)			
	Filtered:	Lab	Lab	NA	Lab			
	Holding Time:	28	14	14	14			
		Percent Moisture	SW8260C (VOCs)	SW8260C (VOCs)	VOC (SW8260C/5035)		Number of Containers	COMMENTS
DATE	TIME	Matrix						
OU2-SB60	7/11/2019	16:00	Soil	X			X	Sample Frozen 7/11/19 @ 16:15 pm	4	
~~OU2-SB-EB26~~	~~7/11/2019~~	~~16:00~~	~~Water~~		X				3	
~~OU2-SB-TB21~~	~~7/11/2019~~	~~16:00~~	~~Water~~			X			2	
							TOTAL NUMBER OF CONTAINERS		8	4

Signatures		Date/Time
Approved by		
Sampled by		
Relinquished by		
Received by		7/18/19 920
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: EMAX Labs., Inc.
Lab Phone: (310) 618-8889

ATTN:
Sample Custody
and
Raman Singh

Special Instructions:

Report Copy to
Mark Cichy
(530) 229-3274
Mark.Cichy@jacobs.com

Temp 5.8°C

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 19G151
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7757 3966 5526	Recipient ERIC
☐ EMAX Courier ☐ Client Delivery		Date 7/18/19 Time 920

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☐ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: COC is not relinquished.

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 5.8 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	(A) *S/N 170324872*	(B) *S/N 150555522* ET 7/18/19	*C - S/N 170324888*	*D - S/N* _____	

Comments: ☑ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: No temp blank - samples on the side of the cooler

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action

a 7/18/19

RS 7/18/19

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

☐ Continue to next page.

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling _____ SRF _____ PM _____

Date 7/18/19 7/18/19 Date 7/18/19 Date 7/18/19

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 2

SAMPLES RECEIVED FOR ECN: 19G151

pH paper Lot #: N/A

LAB SAMPLE ID (*)	LAB SAMPLE CONTAINER ID	COOLER#	CONTAINER TYPE								CHEMICAL PRESERVATIVE										Filtered	
			Jar	Amber	HDPE	Encore	Vial	Tube	Bag	Other	NONE	HCl (pH<2)	HNO_3 (pH<2)	H_2SO_4 (pH<2)	ZnAc +NaOH (pH>9)	ZnAc +NaOH (pH>12)	NaOH (pH>10)	$Na_2S_2O_3$	Methanol	NaHSO4	Other	Yes	No
1	* 1	1	✓						1		✓											
	* 2					1			1													
	* 3					1			1													
	* 4					1			1													
	* 5																					
	* 6																					
	* 7																					
	* 8																					
	* 9																					
	* 0																					
	* 1																					
	* 2																					
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	* 5																					
	* 6																					
	* 7																					
	* 8																					
	* 9																					
	* 0																					

ET 7/10/19

Raman Singh

From: Cichy, Mark/RDD <Mark.Cichy@jacobs.com>
Sent: Thursday, July 18, 2019 3:41 PM
To: Raman Singh
Cc: Cox, Jeremy/SLC; Schut, Sandra/SLC
Subject: RE: VHA-SLC; 19G151 sample receipt

Thanks Raman,
Yes please proceed with the analyses. Please document that the samples were immediately placed in frozen storage upon receipt with the case narrative.

Thanks again,
Mark

From: Raman Singh [mailto:RSingh@emaxlabs.com]
Sent: Thursday, July 18, 2019 11:40 AM
To: Cichy, Mark/RDD <Mark.Cichy@jacobs.com>
Cc: Cox, Jeremy/SLC <Jeremy.Cox@jacobs.com>; Schut, Sandra/SLC <Sandra.Schut@jacobs.com>
Subject: [EXTERNAL] VHA-SLC; 19G151 sample receipt

Hi Mark,

Attached is the COC and SRFs for 19G151. No temperature blank was received and the cooler was not received frozen (at a temperature of 5.8 degrees C). We immediately froze the samples in-house. We will proceed with the analysis unless otherwise instructed.

Thanks,

Raman Singh
Project Manager
EMAX Laboratories, Inc.
1835 W 205th St
Torrance, CA 90501
Tel: 310-618-8889 ext. 119
RSingh@emaxlabs.com

EMAX is interested in your feedback; please provide your comments to: customerservice@emaxlabs.com.

ORIGIN ID:BTFA (385) 474-8502
EMILEE EDGINTON
CH2M HILL, INC
4246 SOUTH RIVERBOAT ROAD
STE 210
TAYLORSVILLE, UT 84123
UNITED STATES US

SHIP DATE: 17JUL19
ACTWGT: 55.00 LB
CAD: 4309842/INET4160
DIMS: 28x15x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
EMAX LABORATORIES INC
1835 W 205TH ST

TORRANCE CA 90501
(310) 618-8889 REF: 697496CH.03.0C
INV:
PO: DEPT:

567J2/AGF9/05A2

FedEx Express

J192019062401uv

THU - 18 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7757 3966 5526**

90501
WZ HHRA CA-US **LAX**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

SUMMARY PACKAGE
VOLATILE ORGANICS

CASE NARRATIVE

Client : JACOBS/CH2M HILL

Project: VHA-SLC

SDG : 19G151

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

One (1) soil sample was received on 07/18/19 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5035A/8260C and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. All calibration requirements were satisfied. Average response factors for all analytes were within method recommended response factors with the exception 2-Butanone. However, percent recoveries for all target analytes were within 70-130% on all calibration points. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. VPG017SB and VS02G17B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed.
VS02G17L/VS02G17C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.
Sample 19G151-01 was received without an associated temperature blank. Sample was received in cooler at temperature of 5.8 degree C. Sample was frozen upon receipt. Proceed with analysis per client directive.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL
Project : VHA-SLC

SDG NO. : 19G151
Instrument ID : 02

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	VS02G17B	1	NA	07/19/1910:51	07/19/1910:51	RGP336	RFP447	VS02G17	Method Blank
LCS1S	VS02G17L	1	NA	07/19/1909:35	07/19/1909:35	RGP333	RFP447	VS02G17	Lab Control Sample (LCS)
LCD1S	VS02G17C	1	NA	07/19/1910:00	07/19/1910:00	RGP334	RFP447	VS02G17	LCS Duplicate
MBLK2S	VPG017SB	1	NA	07/19/1911:16	07/19/1911:16	RGP337	RFP447	VS02G17	Method Blank
OU2-SB60	G151-01	0.83	17.1	07/19/1911:41	07/19/1911:41	RGP338	RFP447	VS02G17	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/11/19
Project : VHA-SLC	Date Received: 07/18/19
Batch No. : 19G151	Date Extracted: 07/19/19 11:41
Sample ID: OU2-SB60	Date Analyzed: 07/19/19 11:41
Lab Samp ID: G151-01	Dilution Factor: 0.83
Lab File ID: RGP338	Matrix : SOIL
Ext Btch ID: VS02G17	% Moisture : 17.1
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0050	0.00050
1,1,2,2-TETRACHLOROETHANE	ND	0.0050	0.00050
1,1,2-TRICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHENE	ND	0.0050	0.00050
1,2,3-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0050	0.00055
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0050	0.0010
1,2-DICHLOROBENZENE	ND	0.0050	0.00050
1,2-DICHLOROETHANE	ND	0.0050	0.00050
1,2-DICHLOROPROPANE	ND	0.0050	0.00050
1,3,5-TRIMETHYLBENZENE	ND	0.0050	0.00059
1,3-DICHLOROBENZENE	ND	0.0050	0.00052
1,4-DICHLOROBENZENE	ND	0.0050	0.00050
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	ND	0.010	0.0031
BENZENE	ND	0.0050	0.00050
BROMOCHLOROMETHANE	ND	0.0050	0.00050
BROMODICHLOROMETHANE	ND	0.0050	0.00050
BROMOFORM	ND	0.0050	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0050	0.00050
CARBON TETRACHLORIDE	ND	0.0050	0.00054
CHLOROBENZENE	ND	0.0050	0.00050
CHLOROETHANE	ND	0.0050	0.0013
CHLOROFORM	ND	0.0050	0.00050
CHLOROMETHANE	ND	0.0050	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0050	0.00050
DIBROMOCHLOROMETHANE	ND	0.0050	0.00050
DICHLORODIFLUOROMETHANE	ND	0.0050	0.0012
ETHYLBENZENE	ND	0.0050	0.00050
ISOPROPYLBENZENE	ND	0.0050	0.00064
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0050	0.00050
O-XYLENE	ND	0.0050	0.00050
STYRENE	ND	0.0050	0.00050
TETRACHLOROETHENE	ND	0.0050	0.00050
TOLUENE	ND	0.0050	0.00050
TRANS-1,2-DCE	ND	0.0050	0.00050
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0050	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TCE	ND	0.0050	0.00050
TRICHLOROFLUOROMETHANE	ND	0.0050	0.0011
VINYL CHLORIDE	ND	0.0050	0.0014
1,2-DIBROMOETHANE	ND	0.0050	0.00050
VINYL ACETATE	ND	0.0050	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0050	0.0010
METHYL ACETATE	ND	0.0050	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0419	0.05006	83.7	70-130
BROMOFLUOROBENZENE	0.0505	0.05006	101	70-130
TOLUENE-D8	0.0488	0.05006	97.5	70-130
DIBROMOFLUOROMETHANE	0.0497	0.05006	99.2	70-130

QC SUMMARIES

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/19/19
Batch No. : 19G151	Date Extracted: 07/19/19 10:51
Sample ID: MBLK1S	Date Analyzed: 07/19/19 10:51
Lab Samp ID: VS02G17B	Dilution Factor: 1
Lab File ID: RGP336	Matrix : SOIL
Ext Btch ID: VS02G17	% Moisture : NA
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0050	0.00050
1,1,2,2-TETRACHLOROETHANE	ND	0.0050	0.00050
1,1,2-TRICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHENE	ND	0.0050	0.00050
1,2,3-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0050	0.00055
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0050	0.0010
1,2-DICHLOROBENZENE	ND	0.0050	0.00050
1,2-DICHLOROETHANE	ND	0.0050	0.00050
1,2-DICHLOROPROPANE	ND	0.0050	0.00050
1,3,5-TRIMETHYLBENZENE	ND	0.0050	0.00059
1,3-DICHLOROBENZENE	ND	0.0050	0.00052
1,4-DICHLOROBENZENE	ND	0.0050	0.00050
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	ND	0.010	0.0031
BENZENE	ND	0.0050	0.00050
BROMOCHLOROMETHANE	ND	0.0050	0.00050
BROMODICHLOROMETHANE	ND	0.0050	0.00050
BROMOFORM	ND	0.0050	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0050	0.00050
CARBON TETRACHLORIDE	ND	0.0050	0.00054
CHLOROBENZENE	ND	0.0050	0.00050
CHLOROETHANE	ND	0.0050	0.0013
CHLOROFORM	ND	0.0050	0.00050
CHLOROMETHANE	ND	0.0050	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0050	0.00050
DIBROMOCHLOROMETHANE	ND	0.0050	0.00050
DICHLORODIFLUOROMETHANE	ND	0.0050	0.0012
ETHYLBENZENE	ND	0.0050	0.00050
ISOPROPYLBENZENE	ND	0.0050	0.00064
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0050	0.00050
O-XYLENE	ND	0.0050	0.00050
STYRENE	ND	0.0050	0.00050
TETRACHLOROETHENE	ND	0.0050	0.00050
TOLUENE	ND	0.0050	0.00050
TRANS-1,2-DCE	ND	0.0050	0.00050
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0050	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TCE	ND	0.0050	0.00050
TRICHLOROFLUOROMETHANE	ND	0.0050	0.0011
VINYL CHLORIDE	ND	0.0050	0.0014
1,2-DIBROMOETHANE	ND	0.0050	0.00050
VINYL ACETATE	ND	0.0050	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0050	0.0010
METHYL ACETATE	ND	0.0050	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0446	0.05000	89.2	70-130
BROMOFLUOROBENZENE	0.0480	0.05000	96.1	70-130
TOLUENE-D8	0.0490	0.05000	98.1	70-130
DIBROMOFLUOROMETHANE	0.0498	0.05000	99.6	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G151
METHOD: SW5035A/8260C

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: VS02G17B VS02G17L VS02G17C
LAB FILE ID: RGP336 RGP333 RGP334
DATE EXTRACTED: 07/19/1910:51 07/19/1909:35 07/19/1910:00 DATE COLLECTED: NA
DATE ANALYZED: 07/19/1910:51 07/19/1909:35 07/19/1910:00 DATE RECEIVED: 07/19/19
PREP. BATCH: VS02G17 VS02G17 VS02G17
CALIB. REF: RFP447 RFP447 RFP447

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	0.0500	0.0568	114	0.0500	0.0540	108	5	73-125	30
1,1,2,2-Tetrachloroethane	ND	0.0500	0.0441	88	0.0500	0.0422	84	4	70-124	30
1,1,2-Trichloroethane	ND	0.0500	0.0457	91	0.0500	0.0457	91	0	78-121	30
1,1-Dichloroethane	ND	0.0500	0.0497	99	0.0500	0.0483	97	3	76-125	30
1,1-Dichloroethene	ND	0.0500	0.0493	99	0.0500	0.0458	92	7	70-131	30
1,2,3-Trichlorobenzene	ND	0.0500	0.0495	99	0.0500	0.0481	96	3	66-130	30
1,2,4-Trichlorobenzene	ND	0.0500	0.0509	102	0.0500	0.0501	100	2	67-129	30
1,2,4-Trimethylbenzene	ND	0.0500	0.0480	96	0.0500	0.0456	91	5	75-123	30
1,2-Dibromo-3-chloropropane	ND	0.0500	0.0447	89	0.0500	0.0437	87	2	61-132	30
1,2-Dichlorobenzene	ND	0.0500	0.0486	97	0.0500	0.0462	92	5	78-121	30
1,2-Dichloroethane	ND	0.0500	0.0489	98	0.0500	0.0480	96	2	73-128	30
1,2-Dichloropropane	ND	0.0500	0.0486	97	0.0500	0.0452	90	7	76-123	30
1,3,5-Trimethylbenzene	ND	0.0500	0.0462	92	0.0500	0.0464	93	0	73-124	30
1,3-Dichlorobenzene	ND	0.0500	0.0485	97	0.0500	0.0486	97	0	77-121	30
1,4-Dichlorobenzene	ND	0.0500	0.0481	96	0.0500	0.0463	93	4	75-120	30
2-Butanone	ND	0.250	0.248	99	0.250	0.252	101	2	51-148	30
2-Hexanone	ND	0.250	0.213	85	0.250	0.221	88	4	53-145	30
Acetone	ND	0.250	0.249	99	0.250	0.243	97	2	36-164	30
Benzene	ND	0.0500	0.0506	101	0.0500	0.0491	98	3	77-121	30
Bromochloromethane	ND	0.0500	0.0472	94	0.0500	0.0446	89	6	78-125	30
Bromodichloromethane	ND	0.0500	0.0558	112	0.0500	0.0514	103	8	75-127	30
Bromoform	ND	0.0500	0.0459	92	0.0500	0.0452	90	2	67-132	30
Bromomethane	ND	0.0500	0.0497	99	0.0500	0.0460	92	8	53-143	30
Carbon Disulfide	ND	0.0500	0.0575	115	0.0500	0.0510	102	12	63-132	30
Carbon Tetrachloride	ND	0.0500	0.0591	118	0.0500	0.0556	111	6	70-135	30
Chlorobenzene	ND	0.0500	0.0479	96	0.0500	0.0470	94	2	79-120	30
Chloroethane	ND	0.0500	0.0506	101	0.0500	0.0461	92	9	59-139	30
Chloroform	ND	0.0500	0.0491	98	0.0500	0.0475	95	3	78-123	30
Chloromethane	ND	0.0500	0.0486	97	0.0500	0.0445	89	9	50-136	30
cis-1,2-Dichloroethylene	ND	0.0500	0.0534	107	0.0500	0.0511	102	4	77-123	30
Dibromochloromethane	ND	0.0500	0.0457	91	0.0500	0.0471	94	3	74-126	30

Dichlorodifluoromethane	ND	0.0500	0.0507	101	0.0500	0.0466	93	8	29-149	30
Ethylbenzene	ND	0.0500	0.0470	94	0.0500	0.0455	91	3	76-122	30
Isopropylbenzene	ND	0.0500	0.0480	96	0.0500	0.0477	95	1	68-134	30
m,p-Xylene	ND	0.100	0.0945	95	0.100	0.0966	97	2	77-124	30
4-Methyl-2-Pentanone	ND	0.250	0.225	90	0.250	0.230	92	2	65-135	30
Methylene Chloride	ND	0.0500	0.0466	93	0.0500	0.0449	90	4	70-128	30
tert-Butyl Methyl Ether	ND	0.0500	0.0492	98	0.0500	0.0488	98	1	73-125	30
o-Xylene	ND	0.0500	0.0473	95	0.0500	0.0470	94	1	77-123	30
Styrene	ND	0.0500	0.0473	95	0.0500	0.0469	94	1	76-124	30
Tetrachloroethene	ND	0.0500	0.0508	102	0.0500	0.0502	100	1	73-128	30
Toluene	ND	0.0500	0.0468	94	0.0500	0.0456	91	3	77-121	30
Trans-1,2-DCE	ND	0.0500	0.0512	102	0.0500	0.0497	99	3	74-125	30
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.100	0.0929	93	0.100	0.0918	92	1	71-130	30
cis-1,3-Dichloropropene	ND	0.0500	0.0486	97	0.0500	0.0487	97	0	74-126	30
Trans-1,3-Dichloropropene	ND	0.0500	0.0443	89	0.0500	0.0432	86	3	71-130	30
TCE	ND	0.0500	0.0562	112	0.0500	0.0531	106	6	77-123	30
Trichlorofluoromethane	ND	0.0500	0.0564	113	0.0500	0.0506	101	11	62-140	30
Vinyl Chloride	ND	0.0500	0.0514	103	0.0500	0.0471	94	9	56-135	30
1,2-Dibromoethane	ND	0.0500	0.0470	94	0.0500	0.0458	92	3	78-122	30
Vinyl Acetate	ND	0.0500	0.0457	91	0.0500	0.0429	86	6	50-151	30
Trichlorotrifluoroethane	ND	0.0500	0.0546	109	0.0500	0.0526	105	4	66-136	30
Methyl Acetate	ND	0.0500	0.0445	89	0.0500	0.0432	86	3	53-144	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	0.0500	0.0446	89	0.0500	0.0447	89	70-130
Bromofluorobenzene	0.0500	0.0472	94	0.0500	0.0456	91	70-130
Toluene-d8	0.0500	0.0457	91	0.0500	0.0466	93	70-130
Dibromofluoromethane	0.0500	0.0501	100	0.0500	0.0486	97	70-130

INITIAL CALIBRATION

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RFP441
Instrument ID: 02
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G151
BFB Injection Date : 06/29/19
BFB Injection Time : 11:36
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.94
75	30.0 - 60.0% of mass 95	48.25
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.67
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	80.72
175	5.0 - 9.0% of mass 174	6.28(7.8)1
176	95.0 - 101.0% of mass 174	77.18(95.6)1
177	5.0 - 9.0% of mass 176	4.95(6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD01	V002F291	RFP442	06/29/19	12:07
2	VSTD02	V002F292	RFP443	06/29/19	12:32
3	VSTD04	V002F293	RFP444	06/29/19	12:57
4	VSTD010	V002F294	RFP445	06/29/19	13:22
5	VSTD020	V002F295	RFP446	06/29/19	13:46
6	VSTD050	V002F296	RFP447	06/29/19	14:11
7	VSTD100	V002F297	RFP448	06/29/19	14:36
8	VSTD200	V002F298	RFP449	06/29/19	15:00
9	VSTD300	V002F299	RFP450	06/29/19	15:26
10	VSTD500	V002F2910	RFP451	06/29/19	15:51
11	VSTD050	IV002F2901	RFP454	06/29/19	17:06

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :02
Beginning DateTime :06/29/19 12:07
Spike Units :PPB
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :06/29/19 15:51
HPChem Method :V002F29

M	IDX	Parameters	1 12:07 RFP442	2 12:32 RFP443	4 12:57 RFP444	10 13:22 RFP445	20 13:46 RFP446	50 14:11 RFP447	100 14:36 RFP448	200 15:00 RFP449	300 15:26 RFP450	500 15:51 RFP451	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.6646
	2	Dichlorodifluoromethane	------	------	0.227	0.269	0.263	0.307	0.301	0.291	0.300	0.303	0.283	9.82	1.7287
	3	Chloromethane	0.354	0.355	0.445	0.478	0.434	0.494	0.481	0.466	0.465	0.486	0.446	11.51	1.9895
	4	Vinyl chloride	------	------	0.354	0.410	0.391	0.454	0.414	0.309	------	------	0.389	13.10	2.1089
	5	Bromomethane	------	------	0.281	0.320	0.297	0.351	0.345	0.333	0.338	0.350	0.327	7.90	2.5804
	6	Chloroethane	------	------	0.221	0.261	0.246	0.286	0.288	0.277	0.276	0.277	0.267	8.50	2.6771
	7	Dichlorofluoromethane	0.669	0.681	0.705	0.742	0.671	0.708	0.716	0.719	0.728	0.736	0.708	3.70	2.7140
	8	Trichlorofluoromethane	------	------	0.276	0.315	0.297	0.344	0.347	0.333	0.328	0.335	0.322	7.67	2.9578
5	9	Acrolein	------	0.062	0.080	0.073	0.063	0.061	0.068	0.064	0.069	------	0.068	9.30	3.4403
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	0.187	0.204	0.208	0.223	0.202	0.215	0.223	0.221	0.227	0.225	0.213	6.03	3.4756
5	11	Acetone	------	0.127	0.136	0.121	0.104	0.106	0.105	0.114	0.114	0.099	0.114	10.74	3.5159
	12	1,1-Dichloroethene	0.522	0.591	0.582	0.618	0.562	0.578	0.602	0.598	0.601	0.631	0.589	5.16	3.6705
5	13	tert-Butyl alcohol	0.049	0.036	0.043	0.043	0.042	0.043	0.043	0.047	0.049	0.042	0.044	8.94	3.7687
10	14	Acetonitrile	0.044	0.039	0.045	0.046	0.040	0.041	0.045	0.053	0.054	0.047	0.045	11.06	3.8371
	15	Iodomethane	0.470	0.502	0.526	0.584	0.517	0.542	0.564	0.568	0.569	0.585	0.543	7.02	4.0498
	16	Methyl Acetate	------	------	0.307	0.368	0.375	0.411	0.388	0.406	0.388	0.402	0.381	8.76	4.0642
	17	Allyl Chloride	------	0.178	0.198	0.213	0.185	0.205	0.196	0.205	0.195	0.190	0.196	5.48	4.1076
	18	Methylene chloride	0.539	0.546	0.555	0.566	0.508	0.522	0.544	0.536	0.541	0.556	0.541	3.12	4.2730
	19	Carbon disulfide	------	------	1.143	1.337	1.294	1.420	1.459	1.405	1.417	1.482	1.370	8.04	4.2595
5	20	Acrylonitrile	0.149	0.137	0.155	0.178	0.157	0.170	0.178	0.186	0.190	0.177	0.168	10.29	4.4068
	21	tert-Butyl methyl ether (MTBE)	0.882	0.925	0.948	0.997	0.884	0.827	0.959	1.040	1.084	1.046	0.959	8.61	4.4381
	22	trans-1,2-Dichloroethene	0.478	0.566	0.585	0.638	0.583	0.624	0.642	0.639	0.637	0.639	0.603	8.72	4.6032
	23	Isopropyl ether (DIPE)	1.461	1.694	1.719	1.834	1.686	1.780	1.815	1.849	1.879	1.838	1.755	7.04	5.0153
	24	1,1-Dichloroethane	0.704	0.787	0.834	0.899	0.790	0.840	0.849	0.864	0.889	0.874	0.833	7.07	5.1506
	25	Vinyl acetate	------	------	0.861	0.967	0.939	1.058	1.147	1.055	1.128	1.040	1.024	9.45	5.1595
5	26	2-Butanol	------	------	0.038	0.042	0.042	0.049	0.047	0.052	0.051	0.048	0.046	10.56	5.4402
	27	tert-Butyl ethyl ether (ETBE)	1.181	1.264	1.308	1.399	1.229	1.248	1.327	1.450	1.468	1.423	1.330	7.55	5.5389
5	28	2-Butanone	0.038	0.038	0.044	0.047	0.043	0.049	0.049	0.052	0.052	0.049	0.046	10.89	5.7010
10	29	Propionitrile	0.048	0.049	0.054	0.061	0.053	0.060	0.061	0.066	0.067	0.063	0.058	11.74	5.8037
	30	2,2-Dichloropropane	------	0.297	0.304	0.304	0.272	0.281	0.274	0.264	0.250	------	0.281	7.05	5.8781
	31	cis-1,2-Dichloroethene	0.317	0.366	0.389	0.431	0.389	0.419	0.429	0.450	0.447	0.465	0.410	11.04	5.9391
10	32	Methylacrynonitrile	0.055	0.055	0.062	0.069	0.063	0.068	0.069	0.072	0.074	0.069	0.066	10.16	6.0625
20	33	Isobutyl Alcohol	0.028	0.028	0.020	0.021	0.020	0.022	0.024	0.026	0.026	0.023	0.024	12.72	6.0908
	34	Chloroform	0.602	0.684	0.681	0.726	0.672	0.685	0.714	0.712	0.740	0.747	0.696	6.02	6.1473
	35	Bromochloromethane	0.354	0.379	0.423	0.447	0.414	0.446	0.449	0.459	0.471	0.485	0.433	9.45	6.3630
	36	Tetrahydrofuran	------	0.138	0.143	0.151	0.128	0.139	0.140	0.148	0.150	0.137	0.142	5.24	6.4134
	37	Dibromofluoromethane	------	0.256	0.300	0.350	0.348	0.394	0.371	------	------	------	0.337	14.89	6.4313
	38	1,1,1-Trichloroethane	0.319	0.350	0.372	0.399	0.354	0.374	0.391	0.387	0.386	0.383	0.372	6.52	6.6828
	39	Cyclohexane	------	0.375	0.465	0.545	0.528	0.590	0.585	0.578	0.567	------	0.529	14.11	6.6981
	40	1,1-Dichloropropene	0.131	0.144	0.152	0.170	0.155	0.168	0.174	0.177	0.184	0.180	0.164	10.56	6.8911
	41	Carbon tetrachloride	------	0.229	0.260	0.288	0.266	0.292	0.317	0.330	0.334	0.338	0.295	12.91	7.0250
	42	tert-Amyl methyl ether (TAME)	------	0.165	0.183	0.197	0.177	0.182	0.194	0.211	0.213	0.209	0.192	8.75	7.0564
	43	1,2-Dichloroethane-d4	------	0.257	0.307	0.350	0.340	0.393	0.368	------	------	------	0.336	14.28	7.1156
	44	1,2-Dichloroethane	0.354	0.371	0.420	0.469	0.431	0.458	0.484	0.487	0.490	0.525	0.449	12.20	7.2481
	45	Benzene	1.482	1.645	1.749	1.831	1.641	1.740	1.836	1.879	1.909	------	1.746	7.86	7.2634
	46	Trichloroethene	0.301	0.335	0.360	0.403	0.355	0.386	0.390	0.407	0.412	0.424	0.377	10.28	8.1258
	47	Methylcyclohexane	0.488	0.523	0.610	0.698	0.687	0.762	0.715	0.729	0.719	0.723	0.665	14.04	8.2017
	48	1,2-Dichloropropane	0.420	0.434	0.478	0.528	0.454	0.494	0.518	0.511	0.524	0.533	0.489	8.41	8.3787
	49	Methyl Methacrylate	0.251	0.252	0.287	0.308	0.293	0.325	0.332	0.346	0.355	0.336	0.309	12.05	8.4828
	50	Bromodichloromethane	0.378	0.387	0.411	0.463	0.431	0.472	0.498	0.506	0.515	------	0.451	11.45	8.7229
20	51	1,4-Dioxane	------	0.002	0.002	0.003	0.002	0.003	0.004	0.004	0.004	------	0.003	28.06	8.7659
	52	Dibromomethane	------	0.196	0.221	0.257	0.238	0.263	0.284	0.286	0.290	0.294	0.259	13.33	8.8001
	53	2-Chloroethyl vinyl ether	------	------	0.093	0.128	0.121	0.146	0.142	0.138	0.146	0.148	0.133	13.97	9.2020
5	54	4-Methyl-2-pentanone	0.463	0.446	0.474	0.538	0.483	0.540	0.544	0.573	0.539	------	0.511	8.73	9.2419
	55	cis-1,3-Dichloropropene	------	0.554	0.592	0.694	0.638	0.698	0.725	0.741	0.763	0.792	0.689	11.54	9.5539
	56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3490
	57	Toluene-d8	------	1.095	1.356	1.480	1.515	1.713	1.582	------	------	------	1.457	14.59	9.9123
	58	Toluene	1.762	1.834	1.940	2.023	1.904	1.953	1.965	1.962	2.171	------	1.946	5.89	10.0353

SL

7/3/19

59	Ethyl methacrylate	------	0.534	0.591	0.648	0.634	0.677	0.742	0.738	0.785	0.803	0.684	13.28	10.3373
60	trans-1,3-Dichloropropene	------	------	0.576	0.649	0.631	0.687	0.743	0.745	0.784	0.836	0.706	12.21	10.3362
61	1,1,2-Trichloroethane	0.329	0.324	0.382	0.391	0.369	0.388	0.411	0.401	0.422	0.442	0.386	9.73	10.5788
5 62	2-Hexanone	0.381	0.338	0.388	0.418	0.401	0.446	0.468	0.465	0.495	------	0.422	11.94	10.6055
63	1,3-Dichloropropane	0.629	0.653	0.765	0.806	0.746	0.785	0.801	0.819	0.845	0.873	0.772	10.17	10.9820
64	Tetrachloroethene	0.306	0.331	0.381	0.394	0.352	0.369	0.374	0.377	0.391	0.418	0.369	8.75	11.0667
65	Dibromochloromethane	------	------	0.363	0.407	0.390	0.432	0.467	0.479	0.498	0.508	0.443	11.97	11.3869
66	1,2-Dibromoethane	0.279	0.319	0.353	0.398	0.372	0.399	0.410	0.429	0.447	0.451	0.386	14.43	11.7124
67	1-Chlorohexane	0.562	0.587	0.683	0.713	0.663	0.702	0.748	0.734	0.750	0.763	0.690	9.98	12.0144
68	Chlorobenzene	0.943	0.963	1.083	1.170	1.131	1.162	1.176	1.178	1.219	1.281	1.131	9.47	12.4100
69	1,1,1,2-Tetrachloroethane	0.259	0.324	0.348	0.385	0.350	0.378	0.402	0.400	0.420	0.434	0.370	13.96	12.4904
70	Ethylbenzene	1.819	1.853	2.019	2.183	1.945	2.062	2.161	2.171	2.252	------	2.052	7.51	12.5129
2 71	m-Xylene & p-Xylene	1.319	1.378	1.512	1.549	1.417	1.568	1.598	1.616	1.524	------	1.498	6.89	12.6402
72	o-Xylene	1.242	1.351	1.485	1.582	1.397	1.525	1.528	1.560	1.605	1.612	1.489	8.18	13.3770
73	Styrene	1.094	1.052	1.057	1.172	1.096	1.195	1.215	1.200	1.290	1.296	1.167	7.64	13.4409
74	Isopropylbenzene	1.438	1.489	1.646	1.798	1.697	1.782	1.819	1.845	1.892	------	1.712	9.32	14.0038
75	Cis-1,4-Dichloro-2-Butene	------	------	0.123	0.137	0.139	0.151	0.160	0.166	0.172	0.164	0.152	11.25	14.1054
76	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.1837
77	Bromoform	------	------	0.552	0.613	0.594	0.667	0.691	0.776	0.808	0.815	0.689	14.68	13.9994
78	1,1,2,2-Tetrachloroethane	1.378	1.442	1.508	1.619	1.510	1.532	1.577	1.640	1.683	1.637	1.553	6.22	14.3126
79	4-Bromofluorobenzene	------	0.924	1.044	1.159	1.217	1.291	1.230	------	------	------	1.144	11.93	14.4320
80	1,2,3-Trichloropropane	------	0.239	0.277	0.315	0.275	0.286	0.289	0.312	0.322	0.314	0.292	9.06	14.5670
81	trans-1,4-Dichloro-2-butene	------	------	0.276	0.326	0.308	0.333	0.351	0.381	0.390	0.375	0.342	11.51	14.7079
82	n-Propylbenzene	4.994	5.418	5.710	6.350	5.747	6.077	6.206	6.619	6.817	------	5.993	9.73	14.7046
83	Bromobenzene	0.927	1.113	1.139	1.240	1.145	1.199	1.222	1.308	1.348	1.373	1.201	10.90	14.7470
84	1,3,5-Trimethylbenzene	2.762	3.189	3.281	3.685	3.435	3.526	3.552	3.733	3.915	4.010	3.509	10.47	14.9910
85	2-Chlorotoluene	0.866	1.014	1.035	1.180	1.075	1.070	1.102	1.163	1.198	1.229	1.093	9.84	14.9984
86	4-Chlorotoluene	0.721	0.881	0.953	1.000	0.948	0.988	1.031	1.072	1.124	1.144	0.986	12.52	15.0862
87	tert-Butylbenzene	0.490	0.649	0.678	0.761	0.684	0.700	0.727	0.755	0.773	0.764	0.698	12.12	15.6188
88	1,2,4-Trimethylbenzene	2.642	2.957	3.135	3.599	3.267	3.413	3.432	3.569	3.687	3.771	3.347	10.54	15.6812
89	sec-Butylbenzene	3.951	4.427	4.584	5.128	4.688	4.726	4.931	4.990	5.064	5.166	4.765	7.91	15.9966
90	p-Isopropyltoluene	3.020	3.240	3.419	3.777	3.571	3.750	3.687	3.861	4.008	3.966	3.630	8.81	16.2525
91	1,3-Dichlorobenzene	1.667	1.771	1.868	2.052	1.925	1.991	2.025	2.121	2.150	2.215	1.978	8.73	16.3819
92	1,2,3-Trimethylbenzene	2.659	2.947	3.127	3.482	3.164	3.264	3.345	3.426	3.486	3.635	3.254	8.94	16.5247
93	1,4-Dichlorobenzene	1.702	1.810	1.815	2.024	1.941	1.965	2.057	2.058	2.158	2.220	1.975	8.23	16.5767
94	n-Butylbenzene	2.776	3.159	3.248	3.764	3.398	3.543	3.708	3.812	3.807	3.933	3.515	10.42	16.9918
95	1,2-Dichlorobenzene	1.516	1.675	1.737	1.865	1.742	1.812	1.875	1.853	1.902	2.003	1.798	7.59	17.2298
96	1,2-Dibromo-3-chloropropane	------	------	0.169	0.182	0.170	0.184	0.200	0.212	0.220	0.216	0.194	10.65	18.5272
97	1,2,4-Trichlorobenzene	0.695	0.753	0.723	0.851	0.761	0.811	0.865	0.903	0.920	------	0.809	9.96	19.5723
98	Hexachlorobutadiene	0.373	0.383	0.373	0.419	0.383	0.403	0.419	0.439	0.441	0.480	0.411	8.51	19.7289
99	Naphthalene	1.970	1.873	1.961	2.078	1.964	2.076	2.199	2.424	2.491	------	2.115	10.20	19.8252
100	1,2,3-Trichlorobenzene	0.597	0.650	0.684	0.763	0.668	0.732	0.755	0.807	0.827	------	0.720	10.58	20.0715

Spike Amount = Nominal Amount * M
Ave_%RSD : 10 Max_%RSD : 28.1

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
51	1,4-Dioxane	-0.00297	0.00375	0.9947*

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Use Quadratic Regression of inv conc w.f. for comps of linear reg of inv conc w.f. with CCF < .995
Resp_Ratio = xo + x1 * Amt_Ratio + x2 * Amt_Ratio * Amt_Ratio

IDX	Parameter	x0	x1	x2	CCF2
51	1,4-Dioxane	-0.00134	0.00297	0.00001	0.9984

PROGRAM: ICALMAX

Input: R:RFP447.ICL Output: R:RFP447.MAX

IDX	Parameter	x0	x1	x2	CCF2	MaxMinAmtRatio	MaxMinRespRatio	MaxMinRRF	MaxMinConc
51	1,4-Dioxane	-0.00134	0.00297	0.00001	0.9984	%-148.50000	-0.22186	0.00149	-7425.0

SW
7/3/19

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :02
Beginning DateTime :06/29/19 12:07
Spike Units :PPB
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :06/29/19 15:51
HPChem Method :V002F29

M	IDX	Parameters	1 12:07 RFP442	2 12:32 RFP443	4 12:57 RFP444	10 13:22 RFP445	20 13:46 RFP446	50 14:11 RFP447	100 14:36 RFP448	200 15:00 RFP449	300 15:26 RFP450	500 15:51 RFP451	AvDRec	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.6646
	2	Dichlorodifluoromethane	------	------	80	95	93	108	106	103	106	107	7.8	9.82	1.7287
	3	Chloromethane	79	80	100	107	97	111	108	104	104	109	8.7	11.51	1.9895
	4	Vinyl chloride	------	------	91	105	101	117	106	79	------	------	9.8	13.10	2.1089
	5	Bromomethane	------	------	86	98	91	107	106	102	103	107	6.3	7.90	2.5804
	6	Chloroethane	------	------	83	98	92	107	108	104	103	104	6.6	8.50	2.6771
	7	Dichlorofluoromethane	94	96	100	105	95	100	101	102	103	104	2.9	3.70	2.7140
	8	Trichlorofluoromethane	------	------	86	98	92	107	108	103	102	104	6	7.67	2.9578
5	9	Acrolein	------	91	118	107	93	90	100	94	101	------	7.4	9.30	3.4403
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	88	96	98	105	95	101	105	104	107	106	5	6.03	3.4756
5	11	Acetone	------	111	119	106	91	93	92	100	100	87	8.2	10.74	3.5159
	12	1,1-Dichloroethene	89	100	99	105	95	98	102	102	102	107	3.7	5.16	3.6705
5	13	tert-Butyl alcohol	111	82	98	98	95	98	98	107	111	95	6.6	8.94	3.7687
10	14	Acetonitrile	98	87	100	102	89	91	100	118	120	104	8	11.06	3.8371
	15	Iodomethane	87	92	97	108	95	100	104	105	105	108	5.8	7.02	4.0498
	16	Methyl Acetate	------	------	81	97	98	108	102	107	102	106	6	8.76	4.0642
	17	Allyl Chloride	------	91	101	109	94	105	100	105	99	97	4.1	5.48	4.1076
	18	Methylene chloride	100	101	103	105	94	96	101	99	100	103	2.2	3.12	4.2730
	19	Carbon disulfide	------	------	83	98	94	104	106	103	103	108	6.1	8.04	4.2595
5	20	Acrylonitrile	89	82	92	106	93	101	106	111	113	105	8.6	10.29	4.4068
	21	tert-Butyl methyl ether (MTBE)	92	96	99	104	92	86	100	108	113	109	6.9	8.61	4.4381
	22	trans-1,2-Dichloroethene	79	94	97	106	97	103	106	106	106	106	6.7	8.72	4.6032
	23	Isopropyl ether (DIPE)	83	97	98	105	96	101	103	105	107	105	5.3	7.04	5.0153
	24	1,1-Dichloroethane	85	94	100	108	95	101	102	104	107	105	5.2	7.07	5.1506
	25	Vinyl acetate	------	------	84	94	92	103	112	103	110	102	7.5	9.45	5.1595
5	26	2-Butanol	------	------	83	91	91	107	102	113	111	104	9	10.56	5.4402
	27	tert-Butyl ethyl ether (ETBE)	89	95	98	105	92	94	100	109	110	107	6.3	7.55	5.5389
5	28	2-Butanone	83	83	96	102	93	107	107	113	113	107	9.3	10.89	5.7010
10	29	Propionitrile	83	84	93	105	91	103	105	114	116	109	10	11.74	5.8037
	30	2,2-Dichloropropane	------	106	108	108	97	100	98	94	89	------	5.6	7.05	5.8781
	31	cis-1,2-Dichloroethene	77	89	95	105	95	102	105	110	109	113	8.8	11.04	5.9391
10	32	Methylacrynonitrile	83	83	94	105	95	103	105	109	112	105	8.2	10.16	6.0625
20	33	Isobutyl Alcohol	117	117	83	88	83	92	100	108	108	96	10.8	12.72	6.0908
	34	Chloroform	86	98	98	104	97	98	103	102	106	107	4.5	6.02	6.1473
	35	Bromochloromethane	82	88	98	103	96	103	104	106	109	112	7.4	9.45	6.3630
	36	Tetrahydrofuran	------	97	101	106	90	98	99	104	106	96	4.1	5.24	6.4134
	37	Dibromofluoromethane	------	76	89	104	103	117	110	------	------	------	11.5	14.89	6.4313
	38	1,1,1-Trichloroethane	86	94	100	107	95	101	105	104	104	103	4.9	6.52	6.6828
	39	Cyclohexane	------	71	88	103	100	112	111	109	107	------	10.4	14.11	6.6981
	40	1,1-Dichloropropene	80	88	93	104	95	102	106	108	112	110	8.7	10.56	6.8911
	41	Carbon tetrachloride	------	78	88	98	90	99	107	112	113	115	10.5	12.91	7.0250
	42	tert-Amyl methyl ether (TAME)	------	86	95	103	92	95	101	110	111	109	7.2	8.75	7.0564
	43	1,2-Dichloroethane-d4	------	76	91	104	101	117	110	------	------	------	10.7	14.28	7.1156
	44	1,2-Dichloroethane	79	83	94	104	96	102	108	108	109	117	9.8	12.20	7.2481
	45	Benzene	85	94	100	105	94	100	105	108	109	------	6	7.86	7.2634
	46	Trichloroethene	80	89	95	107	94	102	103	108	109	112	8.4	10.28	8.1258
	47	Methylcyclohexane	73	79	92	105	103	115	108	110	108	109	11.3	14.04	8.2017
	48	1,2-Dichloropropane	86	89	98	108	93	101	106	104	107	109	7	8.41	8.3787

Fa 8260C

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49	Methyl Methacrylate	81	82	93	100	95	105	107	112	115	109	9.8	12.05	8.4828
50	Bromodichloromethane	84	86	91	103	96	105	110	112	114	------	9.8	11.45	8.7229
20 51	1,4-Dioxane	------	114	102	107	82	87	107	103	099	------	15.5	28.06	8.7659
52	Dibromomethane	------	76	85	99	92	102	110	110	112	114	10.6	13.33	8.8001
53	2-Chloroethyl vinyl ether	------	------	70	96	91	110	107	104	110	111	10.5	13.97	9.2020
5 54	4-Methyl-2-pentanone	91	87	93	105	95	106	106	112	105	------	7.8	8.73	9.2419
55	cis-1,3-Dichloropropene	------	80	86	101	93	101	105	108	111	115	9.1	11.54	9.5539
56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3490
57	Toluene-d8	------	75	93	102	104	118	109	------	------	------	10.6	14.59	9.9123
58	Toluene	91	94	100	104	98	100	101	101	112	------	3.9	5.89	10.0353
59	Ethyl methacrylate	------	78	86	95	93	99	108	108	115	117	10.9	13.28	10.3373
60	trans-1,3-Dichloropropene	------	------	82	92	89	97	105	106	111	118	10	12.21	10.3362
61	1,1,2-Trichloroethane	85	84	99	101	96	101	106	104	109	115	7.2	9.73	10.5788
5 62	2-Hexanone	90	80	92	99	95	106	111	110	117	------	9.7	11.94	10.6055
63	1,3-Dichloropropane	81	85	99	104	97	102	104	106	109	113	7.7	10.17	10.9820
64	Tetrachloroethene	83	90	103	107	95	100	101	102	106	113	6.5	8.75	11.0667
65	Dibromochloromethane	------	------	82	92	88	98	105	108	112	115	10.2	11.97	11.3869
66	1,2-Dibromoethane	72	83	91	103	96	103	106	111	116	117	11.4	14.43	11.7124
67	1-Chlorohexane	81	85	99	103	96	102	108	106	109	111	7.8	9.98	12.0144
68	Chlorobenzene	83	85	96	103	100	103	104	104	108	113	7.1	9.47	12.4100
69	1,1,1,2-Tetrachloroethane	70	88	94	104	95	102	109	108	114	117	10.8	13.96	12.4904
70	Ethylbenzene	89	90	98	106	95	100	105	106	110	------	6.2	7.51	12.5129
2 71	m-Xylene & p-Xylene	88	92	101	103	95	105	107	108	102	------	5.6	6.89	12.6402
72	o-Xylene	83	91	100	106	94	102	103	105	108	108	6.4	8.18	13.3770
73	Styrene	94	90	91	100	94	102	104	103	111	111	6.3	7.64	13.4409
74	Isopropylbenzene	84	87	96	105	99	104	106	108	111	------	7.5	9.32	14.0038
75	Cis-1,4-Dichloro-2-Butene	------	------	81	90	91	99	105	109	113	108	9.2	11.25	14.1054
76	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.1837
77	Bromoform	------	------	80	89	86	97	100	113	117	118	12	14.68	13.9994
78	1,1,2,2-Tetrachloroethane	89	93	97	104	97	99	102	106	108	105	5.1	6.22	14.3126
79	4-Bromofluorobenzene	------	81	91	101	106	113	108	------	------	------	9.3	11.93	14.4320
80	1,2,3-Trichloropropane	------	82	95	108	94	98	99	107	110	108	7.2	9.06	14.5670
81	trans-1,4-Dichloro-2-butene	------	------	81	95	90	97	103	111	114	110	9.3	11.51	14.7079
82	n-Propylbenzene	83	90	95	106	96	101	104	110	114	------	7.8	9.73	14.7046
83	Bromobenzene	77	93	95	103	95	100	102	109	112	114	8.1	10.90	14.7470
84	1,3,5-Trimethylbenzene	79	91	94	105	98	100	101	106	112	114	7.8	10.47	14.9910
85	2-Chlorotoluene	79	93	95	108	98	98	101	106	110	112	7.4	9.84	14.9984
86	4-Chlorotoluene	73	89	97	101	96	100	105	109	114	116	9	12.52	15.0862
87	tert-Butylbenzene	70	93	97	109	98	100	104	108	111	109	8.4	12.12	15.6188
88	1,2,4-Trimethylbenzene	79	88	94	108	98	102	103	107	110	113	8.3	10.54	15.6812
89	sec-Butylbenzene	83	93	96	108	98	99	103	105	106	108	6.1	7.91	15.9966
90	p-Isopropyltoluene	83	89	94	104	98	103	102	106	110	109	7	8.81	16.2525
91	1,3-Dichlorobenzene	84	90	94	104	97	101	102	107	109	112	6.9	8.73	16.3819
92	1,2,3-Trimethylbenzene	82	91	96	107	97	100	103	105	107	112	6.9	8.94	16.5247
93	1,4-Dichlorobenzene	86	92	92	102	98	99	104	104	109	112	6.5	8.23	16.5767
94	n-Butylbenzene	79	90	92	107	97	101	105	108	108	112	8.4	10.42	16.9918
95	1,2-Dichlorobenzene	84	93	97	104	97	101	104	103	106	111	5.8	7.59	17.2298
96	1,2-Dibromo-3-chloropropane	------	------	87	94	88	95	103	109	113	111	9.2	10.65	18.5272
97	1,2,4-Trichlorobenzene	86	93	89	105	94	100	107	112	114	------	8.4	9.96	19.5723
98	Hexachlorobutadiene	91	93	91	102	93	98	102	107	107	117	6.9	8.51	19.7289
99	Naphthalene	93	89	93	98	93	98	104	115	118	------	8.1	10.20	19.8252
100	1,2,3-Trichlorobenzene	83	90	95	106	93	102	105	112	115	------	8.7	10.58	20.0715

For 8260C
SM
7/31/19

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :02
IC Beginning DateTime :06/29/19 12:07
Spike Amount :50 PPB
CC/CV File :RFP454
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
IC Ending DateTime :06/29/19 15:51
HPChem Method :V002F29
Date_Time :06/29/19 17:06

M	IDX	Parameters	CC Con	CC% D	CC Resp	CCRRF	AVRRF	CC Rtm	AvRtm	% RSD	Co X0	Co X1	Co X2	Co Cor
	1	1,4-DIFLUOROBENZENE	50.000	0	1411705	1	1	7.663	7.665	0				
	2	Dichlorodifluoromethane	52.021	4.0	415371	0.294	0.283	1.743	1.729	9.82				
	3	Chloromethane	52.481	5.0	660697	0.468	0.446	1.996	1.990	11.51				
	4	Vinyl chloride	54.767	9.5	601087	0.426	0.389	2.115	2.109	13.10				
	5	Bromomethane	50.448	0.9	465833	0.330	0.327	2.591	2.580	7.90				
	6	Chloroethane	51.796	3.6	389805	0.276	0.267	2.680	2.677	8.50				
	7	Dichlorofluoromethane	47.748	-4.5	953880	0.676	0.708	2.724	2.714	3.70				
	8	Trichlorofluoromethane	50.524	1.0	459273	0.325	0.322	2.963	2.958	7.67				
5	9	Acrolein	231.836	-7.3	442006	0.063	0.068	3.438	3.440	9.30				
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	48.643	-2.7	292952	0.208	0.213	3.483	3.476	6.03				
5	11	Acetone	235.904	-5.6	759405	0.108	0.114	3.513	3.516	10.74				
	12	1,1-Dichloroethene	48.554	-2.9	806798	0.572	0.589	3.677	3.671	5.16				
5	13	tert-Butyl alcohol	265.347	6.1	329435	0.047	0.044	3.766	3.769	8.94				
10	14	Acetonitrile	504.754	1.0	648218	0.046	0.045	3.840	3.837	11.06				
	15	Iodomethane	48.701	-2.6	746322	0.529	0.543	4.048	4.050	7.02				
	16	Methyl Acetate	52.016	4.0	559039	0.396	0.381	4.063	4.064	8.76				
	17	Allyl Chloride	51.181	2.4	283406	0.201	0.196	4.108	4.108	5.48				
	18	Methylene chloride	48.348	-3.3	739107	0.524	0.541	4.272	4.273	3.12				
	19	Carbon disulfide	51.944	3.9	2008555	1.423	1.370	4.272	4.260	8.04				
5	20	Acrylonitrile	250.322	0.1	1185542	0.168	0.168	4.405	4.407	10.29				
	21	tert-Butyl methyl ether (MTBE)	49.820	-0.4	1349275	0.956	0.959	4.435	4.438	8.61				
	22	trans-1,2-Dichloroethene	50.181	0.4	854408	0.605	0.603	4.614	4.603	8.72				
	23	Isopropyl ether (DIPE)	49.709	-0.6	2463804	1.745	1.755	5.015	5.015	7.04				
	24	1,1-Dichloroethane	49.643	-0.7	1167487	0.827	0.833	5.149	5.151	7.07				
	25	Vinyl acetate	49.517	-1.0	1432091	1.014	1.024	5.164	5.160	9.45				
5	26	2-Butanol	249.329	-0.3	323658	0.046	0.046	5.447	5.440	10.56				
	27	tert-Butyl ethyl ether (ETBE)	49.569	-0.9	1860941	1.318	1.330	5.536	5.539	7.55				
5	28	2-Butanone	257.261	2.9	334788	0.047	0.046	5.700	5.701	10.89				
10	29	Propionitrile	500.981	0.2	822985	0.058	0.058	5.804	5.804	11.74				
	30	2,2-Dichloropropane	47.914	-4.2	379700	0.269	0.281	5.878	5.878	7.05				
	31	cis-1,2-Dichloroethene	50.439	0.9	584173	0.414	0.410	5.938	5.939	11.04				
10	32	Methylacrynonitrile	516.270	3.3	957614	0.068	0.066	6.057	6.063	10.16				
20	33	Isobutyl Alcohol	928.760	-7.1	627174	0.022	0.024	6.086	6.091	12.72				
	34	Chloroform	48.283	-3.4	949214	0.672	0.696	6.146	6.147	6.02				
	35	Bromochloromethane	50.207	0.4	613320	0.434	0.433	6.369	6.363	9.45				
	36	Tetrahydrofuran	48.413	-3.2	193895	0.137	0.142	6.414	6.413	5.24				
	37	Dibromofluoromethane	56.817	13.6	539892	0.382	0.337	6.444	6.431	14.89				
	38	1,1,1-Trichloroethane	49.465	-1.1	519092	0.368	0.372	6.681	6.683	6.52				
	39	Cyclohexane	53.422	6.8	798060	0.565	0.529	6.696	6.698	14.11				
	40	1,1-Dichloropropene	50.083	0.2	231338	0.164	0.164	6.905	6.891	10.56				
	41	Carbon tetrachloride	50.631	1.3	421654	0.299	0.295	7.024	7.025	12.91				
	42	tert-Amyl methyl ether (TAME)	50.809	1.6	275953	0.195	0.192	7.068	7.056	8.75				
	43	1,2-Dichloroethane-d4	57.616	15.2	546352	0.387	0.336	7.113	7.116	14.28				
	44	1,2-Dichloroethane	49.528	-0.9	627675	0.445	0.449	7.247	7.248	12.20				
	45	Benzene	48.513	-3.0	2391130	1.694	1.746	7.262	7.263	7.86				
	46	Trichloroethene	49.409	-1.2	526303	0.373	0.377	8.124	8.126	10.28				
	47	Methylcyclohexane	55.147	10.3	1035993	0.734	0.665	8.199	8.202	14.04				
	48	1,2-Dichloropropane	48.818	-2.4	674605	0.478	0.489	8.392	8.379	8.41				
	49	Methyl Methacrylate	52.353	4.7	456026	0.323	0.309	8.481	8.483	12.05				
	50	Bromodichloromethane	52.340	4.7	666891	0.472	0.451	8.719	8.723	11.45				
20	51	1,4-Dioxane	923.635	-7.6	79822	0.003	0.003	8.764	8.766	28.06	-0.0013	0.0030	0.0000	0.9984
	52	Dibromomethane	49.560	-0.9	362254	0.257	0.259	8.809	8.800	13.33				
	53	2-Chloroethyl vinyl ether	45.828	-8.3	171632	0.122	0.133	9.210	9.202	13.97				
5	54	4-Methyl-2-pentanone	253.515	1.4	3658719	0.518	0.511	9.240	9.242	8.73				
	55	cis-1,3-Dichloropropene	49.189	-1.6	956338	0.677	0.689	9.552	9.554	11.54				
	56	CHLOROBENZENE-D5	50.000	0	1059739	1	1	12.349	12.349	0				
	57	Toluene-d8	56.710	13.4	1750996	1.652	1.457	9.910	9.912	14.59				
	58	Toluene	50.107	0.2	2066574	1.950	1.946	10.043	10.035	5.89				
	59	Ethyl methacrylate	53.127	6.3	769738	0.726	0.684	10.341	10.337	13.28				
	60	trans-1,3-Dichloropropene	50.760	1.5	760048	0.717	0.706	10.341	10.336	12.21				
	61	1,1,2-Trichloroethane	51.062	2.1	417719	0.394	0.386	10.579	10.579	9.73				
5	62	2-Hexanone	255.740	5.3	2288403	0.432	0.422	10.609	10.606	11.94				
	63	1,3-Dichloropropane	52.690	5.4	862238	0.814	0.772	10.981	10.982	10.17				
	64	Tetrachloroethene	51.182	2.4	400721	0.378	0.369	11.070	11.067	8.75				
	65	Dibromochloromethane	51.389	2.8	482473	0.455	0.443	11.397	11.387	11.97				
	66	1,2-Dibromoethane	54.446	8.9	445131	0.420	0.386	11.724	11.712	14.43				
	67	Chlorohexane	51.469	2.9	753196	0.711	0.690	12.022	12.014	9.98				
	68	Chlorobenzene	49.893	-0.2	1195608	1.128	1.131	12.409	12.410	9.47				
	69	1,1,1,2-Tetrachloroethane	52.187	4.4	409116	0.386	0.370	12.498	12.490	13.96				
	70	Ethylbenzene	50.721	1.4	2205763	2.081	2.052	12.513	12.513	7.51				
2	71	m-Xylene & p-Xylene	102.732	2.7	3261462	1.539	1.498	12.647	12.640	6.89				
	72	o-Xylene	51.197	2.4	1615208	1.524	1.489	13.376	13.377	8.18				
	73	Styrene	50.507	1.0	1248796	1.178	1.167	13.450	13.441	7.64				
	74	Isopropylbenzene	50.965	1.9	1849051	1.745	1.712	14.000	14.004	9.32				
	75	Cis-1,4-Dichloro-2-Butene	50.445	0.9	162028	0.153	0.152	14.104	14.105	11.25				
	76	1,2-DICHLOROBENZENE-D4	50.000	0	397817	1	1	17.184	17.184	0				
	77	Bromoform	47.926	-4.1	262903	0.661	0.689	14.000	13.999	14.68				
	78	1,1,2,2-Tetrachloroethane	50.013	0.0	617825	1.553	1.553	14.313	14.313	6.22				
	79	4-Bromofluorobenzene	59.552	19.1	542141	1.363	1.144	14.432	14.432	11.03				
	80	1,2,3-Trichloropropane	50.756	1.5	118006	0.297	0.292	14.566	14.567	9.06				
	81	trans-1,4-Dichloro-2-butene	47.351	-5.3	129013	0.324	0.342	14.714	14.708	11.51				
	82	n-Propylbenzene	50.563	1.1	2410965	6.060	5.993	14.714	14.705	9.73				
	83	Bromobenzene	51.027	2.1	487755	1.226	1.201	14.744	14.747	10.90				
	84	1,3,5-Trimethylbenzene	49.894	-0.2	1392923	3.501	3.509	14.997	14.991	10.47				
	85	2-Chlorotoluene	48.431	-3.1	421221	1.059	1.093	14.997	14.998	9.84				
	86	4-Chlorotoluene	51.788	3.6	406397	1.022	0.986	15.086	15.086	12.52				
	87	tert-Butylbenzene	51.031	2.1	283457	0.713	0.698	15.622	15.619	12.12				
	88	1,2,4-Trimethylbenzene	49.883	-0.2	1328404	3.339	3.347	15.681	15.681	10.54				
	89	sec-Butylbenzene	51.493	3.0	1952356	4.908	4.765	15.994	15.997	7.91				
	90	p-Isopropyltoluene	52.303	4.6	1510490	3.797	3.630	16.261	16.253	8.81				
	91	1,3-Dichlorobenzene	51.658	3.3	813182	2.044	1.978	16.381	16.382	8.73				
	92	1,2,3-Trimethylbenzene	50.232	0.5	1300351	3.269	3.254	16.529	16.525	8.94				
	93	1,4-Dichlorobenzene	49.584	-0.8	779111	1.958	1.975	16.574	16.577	8.23				
	94	n-Butylbenzene	51.284	2.6	1434111	3.605	3.515	16.990	16.992	10.42				
	95	1,2-Dichlorobenzene	50.197	0.4	718162	1.805	1.798	17.228	17.230	7.59				
	96	1,2-Dibromo-3-chloropropane	48.362	-3.3	74687	0.188	0.194	18.538	18.527	10.65				
	97	1,2,4-Trichlorobenzene	48.765	-2.5	313908	0.789	0.809	19.579	19.572	9.96				
	98	Hexachlorobutadiene	48.058	-3.9	157269	0.395	0.411	19.728	19.729	8.51				
	99	Naphthalene	48.680	-2.6	819320	2.060	2.115	19.832	19.825	10.20				
	100	1,2,3-Trichlorobenzene	49.498	-1.0	283740	0.713	0.720	20.070	20.072	10.58				

Spike Amount = Nominal Amount * M

SU 7/3/19

DAILY CALIBRATIONS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RGP331
Instrument ID: 02
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G151
BFB Injection Date : 07/19/19
BFB Injection Time : 08:34
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.73
75	30.0 - 60.0% of mass 95	44.13
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.42
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	94.15
175	5.0 - 9.0% of mass 174	7.54(8.0)1
176	95.0 - 101.0% of mass 174	92.63(98.4)1
177	5.0 - 9.0% of mass 176	5.93(6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002F2907	RGP332	07/19/19	09:09
2	MBLK1S	VS02G17B	RGP336	07/19/19	10:51
3	LCS1S	VS02G17L	RGP333	07/19/19	09:35
4	LCD1S	VS02G17C	RGP334	07/19/19	10:00
5	MBLK2S	VPG017SB	RGP337	07/19/19	11:16
6	OU2-SB60	G151-01	RGP338	07/19/19	11:41

FORM 8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX Inc
Lab Code : EMXT
Lab File ID : RFP447
Instrument ID: 02
GC Column : RTX502.2ID:0.25mm (mm)

Project: VHA-SLC
SDG No: 19G151
Date Analyzed: 06/29/2019
Time Analyzed: 14:11
Heated Purge (Y/N): Y

		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5		1,2-DICHLOROBENZENE-D4	
		AREA #	RT(min)	AREA #	RT(min)	AREA #	RT(min)
	12 HOUR STD	1427074	7.66	1107798	12.35	413985	17.18
	UPPER LIMIT	2854148	7.83	2215596	12.52	827970	17.35
	LOWER LIMIT	713537	7.49	553899	12.18	206993	17.01
	SAMPLE ID						
1	VSTD050	1493578	7.68	1273701	12.35	462281	17.19
2	MBLK1S	1384868	7.66	1083293	12.33	389520	17.17
3	LCS1S	1505639	7.66	1257975	12.35	472474	17.18
4	LCD1S	1520681	7.66	1259246	12.35	487842	17.18
5	MBLK2S	1453512	7.65	1120199	12.34	405634	17.17
6	OU2-SB60	1443362	7.66	1077945	12.33	342301	17.18

Area Upper Limit = + 100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 0.167 min. (10 sec.) of internal standard RT
RT Lower Limit = - 0.167 min. (10 sec.) of internal standard RT

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I 1,4-DIFLUOROBENZENE	50.000	50.000	0.0	105	0.05
2	P,T,M Dichlorodifluoromethane	50.000	51.819	-3.6	100	0.00
3	P,T,M Chloromethane	50.000	49.262	1.5	93	0.02
4	P,C,T,M Vinyl chloride	50.000	52.091	-4.2	93	0.00
5	P,T,M Bromomethane	50.000	50.608	-1.2	99	0.02
6	P,T,M Chloroethane	50.000	50.964	-1.9	100	0.02
7	T,M Dichlorofluoromethane	50.000	47.225	5.5	99	0.02
8	P,T,M Trichlorofluoromethane	50.000	56.215	-12.4	110	0.02
9	T,M Acrolein	250.000	245.196	1.9	113	0.02
10	P,T,M 1,1,2-Trichloro-1,2,2-trifl	50.000	50.789	-1.6	106	0.03
11	P,T,M Acetone	250.000	270.137	-8.1	121	0.02
12	P,C,T,M 1,1-Dichloroethene	50.000	46.478	7.0	99	0.03
13	T,M tert-Butyl alcohol	250.000	310.759	-24.3#	132	0.02
14	T,M Acetonitrile	500.000	587.859	-17.6	137	0.03
15	T,M Iodomethane	50.000	52.233	-4.5	109	0.03
16	P,T,M Methyl Acetate	50.000	48.544	2.9	94	0.03
17	T,M Allyl Chloride	50.000	54.164	-8.3	108	0.03
18	P,T,M Methylene chloride	50.000	45.963	8.1	100	0.05
19	P,T,M Carbon disulfide	50.000	52.320	-4.6	106	0.03
20	T,M Acrylonitrile	250.000	257.362	-2.9	107	0.03
21	P,T,M tert-Butyl methyl ether (MT	50.000	50.638	-1.3	123	0.03
22	P,T,M trans-1,2-Dichloroethene	50.000	49.675	0.7	100	0.03
23	T,M Isopropyl ether (DIPE)	50.000	47.050	5.9	97	0.03
24	P,T,M 1,1-Dichloroethane	50.000	48.866	2.3	101	0.03
25	T,M Vinyl acetate	50.000	49.857	0.3	101	0.03
26	T,M 2-Butanol	250.000	263.919	-5.6	105	0.03
27	T,M tert-Butyl ethyl ether (ETB	50.000	49.341	1.3	110	0.03
28	P,T,M 2-Butanone	250.000	281.555	-12.6	111	0.03
29	T,M Propionitrile	500.000	535.185	-7.0	110	0.03
30	T,M 2,2-Dichloropropane	50.000	52.838	-5.7	110	0.03
31	P,T,M cis-1,2-Dichloroethene	50.000	51.715	-3.4	106	0.05
32	T,M Methylacrynonitrile	500.000	498.781	0.2	101	0.03
33	T,M Isobutyl Alcohol	1000.000	1032.089	-3.2	115	0.05
34	P,C,T,M Chloroform	50.000	49.422	1.2	105	0.03
35	T,M Bromochloromethane	50.000	46.452	7.1	94	0.03
36	T,M Tetrahydrofuran	50.000	47.339	5.3	101	0.03
37	S Dibromofluoromethane	50.000	48.275	3.5	86	0.03
38	P,T,M 1,1,1-Trichloroethane	50.000	54.952	-9.9	114	0.03
39	P,T,M Cyclohexane	50.000	51.273	-2.5	96	0.03
40	T,M 1,1-Dichloropropene	50.000	52.006	-4.0	106	0.05
41	P,T,M Carbon tetrachloride	50.000	57.049	-14.1	120	0.05

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	tert-Amyl methyl ether (TAM	50.000	51.743	-3.5	115	0.05
43	S	1,2-Dichloroethane-d4	50.000	44.930	10.1	80	0.05
44	P,T,M	1,2-Dichloroethane	50.000	49.520	1.0	102	0.03
45	P,T,M	Benzene	50.000	50.366	-0.7	106	0.03
46	P,T,M	Trichloroethene	50.000	55.113	-10.2	113	0.05
47	P,T,M	Methylcyclohexane	50.000	52.987	-6.0	97	0.05
48	P,C,T,M	1,2-Dichloropropane	50.000	48.176	3.6	100	0.05
49	T,M	Methyl Methacrylate	50.000	50.659	-1.3	101	0.05
50	P,T,M	Bromodichloromethane	50.000	53.704	-7.4	107	0.05
51	T,M	1,4-Dioxane	1000.000	1291.710	-29.2#	161	0.03
52	T,M	Dibromomethane	50.000	51.261	-2.5	106	0.05
53	T,M	2-Chloroethyl vinyl ether	50.000	38.599	22.8#	73	0.05
54	P,T,M	4-Methyl-2-pentanone	250.000	250.262	-0.1	99	0.05
55	P,T,M	cis-1,3-Dichloropropene	50.000	49.864	0.3	103	0.03
56	I	CHLOROBENZENE-D5	50.000	50.000	0.0	115	0.03
57	S	Toluene-d8	50.000	44.415	11.2	87	0.05
58	P,C,T,M	Toluene	50.000	46.524	7.0	107	0.05
59	T,M	Ethyl methacrylate	50.000	44.657	10.7	104	0.03
60	P,T,M	trans-1,3-Dichloropropene	50.000	44.566	10.9	105	0.05
61	P,T,M	1,1,2-Trichloroethane	50.000	46.600	6.8	107	0.03
62	P,T,M	2-Hexanone	250.000	233.696	6.5	102	0.03
63	T,M	1,3-Dichloropropane	50.000	45.282	9.4	102	0.05
64	P,T,M	Tetrachloroethene	50.000	49.786	0.4	115	0.03
65	P,T,M	Dibromochloromethane	50.000	46.679	6.6	110	0.05
66	P,T,M	1,2-Dibromoethane	50.000	49.134	1.7	109	0.05
67	T,M	1-Chlorohexane	50.000	47.199	5.6	107	0.05
68	P,T,M	Chlorobenzene	50.000	47.258	5.5	106	0.05
69	T,M	1,1,1,2-Tetrachloroethane	50.000	49.814	0.4	112	0.05
70	P,C,T,M	Ethylbenzene	50.000	45.219	9.6	103	0.03
71	P,T,M	m-Xylene & p-Xylene	100.000	93.147	6.9	102	0.05
72	P,T,M	o-Xylene	50.000	48.479	3.0	109	0.05
73	P,T,M	Styrene	50.000	50.121	-0.2	113	0.05
74	P,T,M	Isopropylbenzene	50.000	46.716	6.6	103	0.05
75	T,M	Cis-1,4-Dichloro-2-Butene	50.000	43.524	13.0	100	0.05
76	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	112	0.03
77	P,T,M	Bromoform	50.000	49.663	0.7	115	0.03
78	P,T,M	1,1,2,2-Tetrachloroethane	50.000	46.424	7.2	105	0.03
79	S	4-Bromofluorobenzene	50.000	47.336	5.3	94	0.05
80	T,M	1,2,3-Trichloropropane	50.000	48.947	2.1	112	0.05

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	50.000	43.547	12.9	100	0.05
82	T,M	n-Propylbenzene	50.000	47.156	5.7	104	0.05
83	T,M	Bromobenzene	50.000	48.960	2.1	110	0.05
84	T,M	1,3,5-Trimethylbenzene	50.000	46.513	7.0	103	0.05
85	T,M	2-Chlorotoluene	50.000	48.017	4.0	110	0.05
86	T,M	4-Chlorotoluene	50.000	48.532	2.9	108	0.03
87	T,M	tert-Butylbenzene	50.000	49.756	0.5	111	0.03
88	T,M	1,2,4-Trimethylbenzene	50.000	48.729	2.5	107	0.03
89	T,M	sec-Butylbenzene	50.000	46.616	6.8	105	0.05
90	T,M	p-Isopropyltoluene	50.000	49.102	1.8	106	0.05
91	P,T,M	1,3-Dichlorobenzene	50.000	48.654	2.7	108	0.05
92	T,M	1,2,3-Trimethylbenzene	50.000	47.656	4.7	106	0.05
93	P,T,M	1,4-Dichlorobenzene	50.000	47.942	4.1	108	0.05
94	T,M	n-Butylbenzene	50.000	47.274	5.5	105	0.05
95	P,T,M	1,2-Dichlorobenzene	50.000	47.903	4.2	106	0.05
96	P,T,M	1,2-Dibromo-3-chloropropane	50.000	48.657	2.7	115	0.03
97	P,T,M	1,2,4-Trichlorobenzene	50.000	51.417	-2.8	115	0.03
98	T,M	Hexachlorobutadiene	50.000	49.617	0.8	113	0.02
99	T,M	Naphthalene	50.000	45.304	9.4	103	0.03
100	T,M	1,2,3-Trichlorobenzene	50.000	50.763	-1.5	112	0.02

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I 1,4-DIFLUOROBENZENE	1.000	1.000	0.0	105	0.05
2	P,T,M Dichlorodifluoromethane	0.283	0.293	-3.5	100	0.00
3	P,T,M Chloromethane	0.446	0.439	1.6	93	0.02
4	P,C,T,M Vinyl chloride	0.389	0.405	-4.1	93	0.00
5	P,T,M Bromomethane	0.327	0.331	-1.2	99	0.02
6	P,T,M Chloroethane	0.267	0.272	-1.9	100	0.02
7	T,M Dichlorofluoromethane	0.708	0.668	5.6	99	0.02
8	P,T,M Trichlorofluoromethane	0.322	0.362	-12.4	110	0.02
9	T,M Acrolein	0.068	0.066	2.9	113	0.02
10	P,T,M 1,1,2-Trichloro-1,2,2-trifl	0.213	0.217	-1.9	106	0.03
11	P,T,M Acetone	0.114	0.123	-7.9	121	0.02
12	P,C,T,M 1,1-Dichloroethene	0.589	0.547	7.1	99	0.03
13	T,M tert-Butyl alcohol	0.044	0.055	-25.0#	132	0.02
14	T,M Acetonitrile	0.045	0.053	-17.8	137	0.03
15	T,M Iodomethane	0.543	0.567	-4.4	109	0.03
16	P,T,M Methyl Acetate	0.381	0.370	2.9	94	0.03
17	T,M Allyl Chloride	0.196	0.212	-8.2	108	0.03
18	P,T,M Methylene chloride	0.541	0.498	7.9	100	0.05
19	P,T,M Carbon disulfide	1.370	1.433	-4.6	106	0.03
20	T,M Acrylonitrile	0.168	0.173	-3.0	107	0.03
21	P,T,M tert-Butyl methyl ether (MT	0.959	0.971	-1.3	123	0.03
22	P,T,M trans-1,2-Dichloroethene	0.603	0.599	0.7	100	0.03
23	T,M Isopropyl ether (DIPE)	1.755	1.652	5.9	97	0.03
24	P,T,M 1,1-Dichloroethane	0.833	0.814	2.3	101	0.03
25	T,M Vinyl acetate	1.024	1.021	0.3	101	0.03
26	T,M 2-Butanol	0.046	0.049	-6.5	105	0.03
27	T,M tert-Butyl ethyl ether (ETB	1.330	1.312	1.4	110	0.03
28	P,T,M 2-Butanone	0.046	0.052#	-13.0	111	0.03
29	T,M Propionitrile	0.058	0.062	-6.9	110	0.03
30	T,M 2,2-Dichloropropane	0.281	0.297	-5.7	110	0.03
31	P,T,M cis-1,2-Dichloroethene	0.410	0.424	-3.4	106	0.05
32	T,M Methylacrynonitrile	0.066	0.066	0.0	101	0.03
33	T,M Isobutyl Alcohol	0.024	0.025	-4.2	115	0.05
34	P,C,T,M Chloroform	0.696	0.688	1.1	105	0.03
35	T,M Bromochloromethane	0.433	0.402	7.2	94	0.03
36	T,M Tetrahydrofuran	0.142	0.134	5.6	101	0.03
37	S Dibromofluoromethane	0.337	0.325	3.6	86	0.03
38	P,T,M 1,1,1-Trichloroethane	0.372	0.409	-9.9	114	0.03
39	P,T,M Cyclohexane	0.529	0.543	-2.6	96	0.03
40	T,M 1,1-Dichloropropene	0.164	0.170	-3.7	106	0.05
41	P,T,M Carbon tetrachloride	0.295	0.337	-14.2	120	0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M tert-Amyl methyl ether (TAM	0.192	0.199	-3.6	115	0.05
43	S 1,2-Dichloroethane-d4	0.336	0.302	10.1	80	0.05
44	P,T,M 1,2-Dichloroethane	0.449	0.445	0.9	102	0.03
45	P,T,M Benzene	1.746	1.759	-0.7	106	0.03
46	P,T,M Trichloroethene	0.377	0.416	-10.3	113	0.05
47	P,T,M Methylcyclohexane	0.665	0.705	-6.0	97	0.05
48	P,C,T,M 1,2-Dichloropropane	0.489	0.472	3.5	100	0.05
49	T,M Methyl Methacrylate	0.309	0.313	-1.3	101	0.05
50	P,T,M Bromodichloromethane	0.451	0.485	-7.5	107	0.05
51	T,M 1,4-Dioxane	0.003	0.004	-33.3#	161	0.03
52	T,M Dibromomethane	0.259	0.265	-2.3	106	0.05
53	T,M 2-Chloroethyl vinyl ether	0.133	0.102	23.3#	73	0.05
54	P,T,M 4-Methyl-2-pentanone	0.511	0.512	-0.2	99	0.05
55	P,T,M cis-1,3-Dichloropropene	0.689	0.687	0.3	103	0.03
56	I CHLOROBENZENE-D5	1.000	1.000	0.0	115	0.03
57	S Toluene-d8	1.457	1.294	11.2	87	0.05
58	P,C,T,M Toluene	1.946	1.811	6.9	107	0.05
59	T,M Ethyl methacrylate	0.684	0.611	10.7	104	0.03
60	P,T,M trans-1,3-Dichloropropene	0.706	0.630	10.8	105	0.05
61	P,T,M 1,1,2-Trichloroethane	0.386	0.360	6.7	107	0.03
62	P,T,M 2-Hexanone	0.422	0.395	6.4	102	0.03
63	T,M 1,3-Dichloropropane	0.772	0.699	9.5	102	0.05
64	P,T,M Tetrachloroethene	0.369	0.368	0.3	115	0.03
65	P,T,M Dibromochloromethane	0.443	0.414	6.5	110	0.05
66	P,T,M 1,2-Dibromoethane	0.386	0.379	1.8	109	0.05
67	T,M 1-Chlorohexane	0.690	0.652	5.5	107	0.05
68	P,T,M Chlorobenzene	1.131	1.069	5.5	106	0.05
69	T,M 1,1,1,2-Tetrachloroethane	0.370	0.368	0.5	112	0.05
70	P,C,T,M Ethylbenzene	2.052	1.856	9.6	103	0.03
71	P,T,M m-Xylene & p-Xylene	1.498	1.395	6.9	102	0.05
72	P,T,M o-Xylene	1.489	1.443	3.1	109	0.05
73	P,T,M Styrene	1.167	1.169	-0.2	113	0.05
74	P,T,M Isopropylbenzene	1.712	1.599	6.6	103	0.05
75	T,M Cis-1,4-Dichloro-2-Butene	0.152	0.132	13.2	100	0.05
76	I 1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	112	0.03
77	P,T,M Bromoform	0.689	0.685	0.6	115	0.03
78	P,T,M 1,1,2,2-Tetrachloroethane	1.553	1.442	7.1	105	0.03
79	S 4-Bromofluorobenzene	1.144	1.083	5.3	94	0.05
80	T,M 1,2,3-Trichloropropane	0.292	0.286	2.1	112	0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	0.342	0.298	12.9	100	0.05
82	T,M	n-Propylbenzene	5.993	5.652	5.7	104	0.05
83	T,M	Bromobenzene	1.201	1.176	2.1	110	0.05
84	T,M	1,3,5-Trimethylbenzene	3.509	3.264	7.0	103	0.05
85	T,M	2-Chlorotoluene	1.093	1.050	3.9	110	0.05
86	T,M	4-Chlorotoluene	0.986	0.957	2.9	108	0.03
87	T,M	tert-Butylbenzene	0.698	0.695	0.4	111	0.03
88	T,M	1,2,4-Trimethylbenzene	3.347	3.262	2.5	107	0.03
89	T,M	sec-Butylbenzene	4.765	4.443	6.8	105	0.05
90	T,M	p-Isopropyltoluene	3.630	3.565	1.8	106	0.05
91	P,T,M	1,3-Dichlorobenzene	1.978	1.925	2.7	108	0.05
92	T,M	1,2,3-Trimethylbenzene	3.254	3.101	4.7	106	0.05
93	P,T,M	1,4-Dichlorobenzene	1.975	1.894	4.1	108	0.05
94	T,M	n-Butylbenzene	3.515	3.323	5.5	105	0.05
95	P,T,M	1,2-Dichlorobenzene	1.798	1.723	4.2	106	0.05
96	P,T,M	1,2-Dibromo-3-chloropropane	0.194	0.189	2.6	115	0.03
97	P,T,M	1,2,4-Trichlorobenzene	0.809	0.832	-2.8	115	0.03
98	T,M	Hexachlorobutadiene	0.411	0.408	0.7	113	0.02
99	T,M	Naphthalene	2.115	1.917	9.4	103	0.03
100	T,M	1,2,3-Trichlorobenzene	0.720	0.731	-1.5	112	0.02

(#) = Out of Range SPCC's out = 1 CCC's out = 0

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 6/29/19 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge **Book #:** A02-050

BATCH V002F291

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH<2	Matrix W Cl_2<5ppm	Matrix S	Notes
01		RFP441	BFB02F18						
02	442	V002F291	A .02µL B .1µL	NA	NA	NA			1.0ppb 5.0ppb
03	443	2	.04 .2						2 10
04	444	3	.08 .4						4 20
05	445	4	.2 1						10 50
06	446	5	.4 2						20 100
07	447	6	1 5						50 250
08	448	7	2 10						100 500
09	449	8	4 20						200 1000
10	450	9	6 30						300 1500
11	451	10	10 50						500 2500
12	452	RINSE							
13	453	RINSE							
14	454	IV002F291							50 250
15	455	RINSE							
16	456	LOD VERF-01							0.5
17	457	-02							1 5
18	458	-03							2.5
19	459	LOD/LOQ							5 25
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									IP 7/02/19

Instrument No. 02

INITIAL CALIBRATION REFERENCE

DATE 6/29/19

ICAL ID V002F29

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC CS_2	SV1-32-26-02	*	
KET-AA DCC 8260	-43-01 -41-02		
DCC GAS	-39-02		
DCC 4-ADD	-40-02		
BFB	-44-03	↓	
IS/SURR. IS SS	-48-01 -42-02	1 *	50/250
ICV/LCS CS_2	-05-02	1	
KET-AA ICV/LCS 8260	-34-01 -36-02	5 5	
ICV/LCS GAS	-15-03	1	
2 BUTANOL ICV/LCS 3 ADD	-32-03 SV1-31-95-01	5 5	
Data File Folder	19F29		

	LOT #	Syringe Lot #
pH strip		MSV-01-03-13
Chlorine strip		-02-11
Methanol		-02-10-2
$NaHSO_4$		-04-08
Reagent Water	RW4-17-002	
Sand	SW1B-004-02-4	

Electronic Data Archival Location	Date
HPCHEM_VOA/TO02	

Comments: * Varried Amt.
A: CS_2, GAS, 4-Add'l.
B: KET-AA, 8260

☐ Refer to sample weight log

Analyzed By: DR

Date Disposed: 7/01/19 Disposed By: DN

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Book #: A02-050

Start Date: 7/19/19 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge

BATCH EVD02F2907

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH < 2	Matrix W Cl_2 < 5ppm	Matrix S	Notes
01		RGP331	BFB02G17						8:34
02		332	EVD02F2907						
03		333	VS02G17L						
04		334	↓ C						
05		335	RINSE						
06		336	VS02G17B	5.0g					
07		337	VPG017SB	"	"			✓	
08		338	19G151-01	"	"			✓	
09		339	EVD02F2907						12:06
10		↓ 340	RINSE						
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

IR 7/22/19

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	6/29/19
ICAL ID	VD02F29

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SVI-32-26-02	1	
DCC	-45-01	5	
DCC	-41-02	5	
DCC	-32-02	1	
DCC	-40-02	1	
BFB	-44-03	1	
IS/SURR.	-49-02	1	50/250
ICV/LCS	-05-02	1	
ICV/LCS	-34-01	5	
ICV/LCS	-36-02	5	
ICV/LCS	-15-03	1	
ICV/LCS	-33-03	5	
Data File Folder	SVI-31-23-01 19G19	5	

	LOT #	Syringe Lot #
pH strip		MSV-01-04-20
Chlorine strip		↓ -03-06-4
Methanol		NO1-F5046
$NaHSO_4$		
Reagent Water	RW04-17-002	
Sand	SWB-004-02-21	

Electronic Data Archival Location	Date
HPCHEM_VOA/TO02	

Comments:

☑ Refer to sample weight log

Analyzed By: IR

Date Disposed: 7/22/19 Disposed By: IR

EXTRACTION LOGS

EMAX LABORATORIES, INC.

PRESERVATION LOG FOR VOLATILES

19VPG017

PrepBatchID	Lab Sample ID	W1 (g)	DateTime	Wf (g)	DateTime	ExpWs(g)	Ws(g)	Prep Factor	Comments
19VPG01701	VPG017SB	30.10	7/19/19 9:41	35.11	7/19/19 9:42	5	5.01	1	
19VPG01702	VPG017SQ	30.02	7/19/19 9:42	35.08	7/19/19 9:43	5	5.06	0.99	
19VPG01703	19G151-01	30.53	7/19/19 9:43	36.55	7/19/19 9:44	5	6.02	0.83	

☑ EMAX-5035 Rev. 3 ☑ Balance Calibration Check performed prior to use Surrogate ID: Prepared By: RTorra

☐ Encore+$NaHSO_4 \cdot H_2O$ ☑ BalanceID 25451062 ☐ BalanceID 25650797 BlankSoil Lot#: SW1B-004-02-21 Standard Added By: N/A

☐ Frozen Sample ☐ Pre-weighed vial w/ H2O NaHSO4H2O: Witnessed By: N\A

☐ Pre-weighed vial w/ NaHSO4•H2O soln Expected Ws(g): 5 Extract Rcvd By: IRagas

☑ Volumetric dispenser was checked with 5-ml volumetric flask Sample Location: N/A Checked By: IRagas

W1=Weight of Vial + Stirrer+NaHSO4•H2O+Solvent Wf=W1 + Sample

RAW DATA
VOLATILE ORGANICS

LABORATORY REPORT FOR

JACOBS/CH2M HILL

VHA-SLC

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

SDG#: 19G151

CASE NARRATIVE

Client : JACOBS/CH2M HILL

Project: VHA-SLC

SDG : 19G151

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

One (1) soil sample was received on 07/18/19 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5035A/8260C and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. All calibration requirements were satisfied. Average response factors for all analytes were within method recommended response factors with the exception 2-Butanone. However, percent recoveries for all target analytes were within 70-130% on all calibration points. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. VPG017SB and VS02G17B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed.
VS02G17L/VS02G17C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.
Sample 19G151-01 was received without an associated temperature blank. Sample was received in cooler at temperature of 5.8 degree C. Sample was frozen upon receipt. Proceed with analysis per client directive.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL
Project : VHA-SLC

SDG NO. : 19G151
Instrument ID : 02

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	VS02G17B	1	NA	07/19/1910:51	07/19/1910:51	RGP336	RFP447	VS02G17	Method Blank
LCS1S	VS02G17L	1	NA	07/19/1909:35	07/19/1909:35	RGP333	RFP447	VS02G17	Lab Control Sample (LCS)
LCD1S	VS02G17C	1	NA	07/19/1910:00	07/19/1910:00	RGP334	RFP447	VS02G17	LCS Duplicate
MBLK2S	VPG017SB	1	NA	07/19/1911:16	07/19/1911:16	RGP337	RFP447	VS02G17	Method Blank
OU2-SB60	G151-01	0.83	17.1	07/19/1911:41	07/19/1911:41	RGP338	RFP447	VS02G17	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: 07/11/19
Project : VHA-SLC	Date Received: 07/18/19
Batch No. : 19G151	Date Extracted: 07/19/19 11:41
Sample ID: OU2-SB60	Date Analyzed: 07/19/19 11:41
Lab Samp ID: G151-01	Dilution Factor: 0.83
Lab File ID: RGP338	Matrix : SOIL
Ext Btch ID: VS02G17	% Moisture : 17.1
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0050	0.00050
1,1,2,2-TETRACHLOROETHANE	ND	0.0050	0.00050
1,1,2-TRICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHENE	ND	0.0050	0.00050
1,2,3-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0050	0.00055
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0050	0.0010
1,2-DICHLOROBENZENE	ND	0.0050	0.00050
1,2-DICHLOROETHANE	ND	0.0050	0.00050
1,2-DICHLOROPROPANE	ND	0.0050	0.00050
1,3,5-TRIMETHYLBENZENE	ND	0.0050	0.00059
1,3-DICHLOROBENZENE	ND	0.0050	0.00052
1,4-DICHLOROBENZENE	ND	0.0050	0.00050
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	ND	0.010	0.0031
BENZENE	ND	0.0050	0.00050
BROMOCHLOROMETHANE	ND	0.0050	0.00050
BROMODICHLOROMETHANE	ND	0.0050	0.00050
BROMOFORM	ND	0.0050	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0050	0.00050
CARBON TETRACHLORIDE	ND	0.0050	0.00054
CHLOROBENZENE	ND	0.0050	0.00050
CHLOROETHANE	ND	0.0050	0.0013
CHLOROFORM	ND	0.0050	0.00050
CHLOROMETHANE	ND	0.0050	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0050	0.00050
DIBROMOCHLOROMETHANE	ND	0.0050	0.00050
DICHLORODIFLUOROMETHANE	ND	0.0050	0.0012
ETHYLBENZENE	ND	0.0050	0.00050
ISOPROPYLBENZENE	ND	0.0050	0.00064
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0050	0.00050
O-XYLENE	ND	0.0050	0.00050
STYRENE	ND	0.0050	0.00050
TETRACHLOROETHENE	ND	0.0050	0.00050
TOLUENE	ND	0.0050	0.00050
TRANS-1,2-DCE	ND	0.0050	0.00050
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0050	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TCE	ND	0.0050	0.00050
TRICHLOROFLUOROMETHANE	ND	0.0050	0.0011
VINYL CHLORIDE	ND	0.0050	0.0014
1,2-DIBROMOETHANE	ND	0.0050	0.00050
VINYL ACETATE	ND	0.0050	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0050	0.0010
METHYL ACETATE	ND	0.0050	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0419	0.05006	83.7	70-130
BROMOFLUOROBENZENE	0.0505	0.05006	101	70-130
TOLUENE-D8	0.0488	0.05006	97.5	70-130
DIBROMOFLUOROMETHANE	0.0497	0.05006	99.2	70-130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP338.D
Acq On : 19 Jul 2019 11:41 am
Sample : 19G151-01
Misc :
MS Integration Params: RTE.P
Quant Time: Jul 22 13:37 2019

Vial: 8
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1443362	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.33	117	1077945	50.00	ug/l	0.01
76) 1,2-DICHLOROBENZENE-D4	17.18	152	342301	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	481891	49.60	ug/l	0.01
Spiked Amount 50.000			Recovery =	99.20%		
43) 1,2-Dichloroethane-d4	7.11	65	405525	41.83	ug/l	0.03
Spiked Amount 50.000			Recovery =	83.66%		
57) Toluene-d8	9.91	98	1531496	48.76	ug/l	0.03
Spiked Amount 50.000			Recovery =	97.52%		
79) 4-Bromofluorobenzene	14.43	95	395167	50.45	ug/l	0.03
Spiked Amount 50.000			Recovery =	100.90%		
Target Compounds						Qvalue
18) Methylene chloride	4.27	49	7770	0.50	ug/l	90

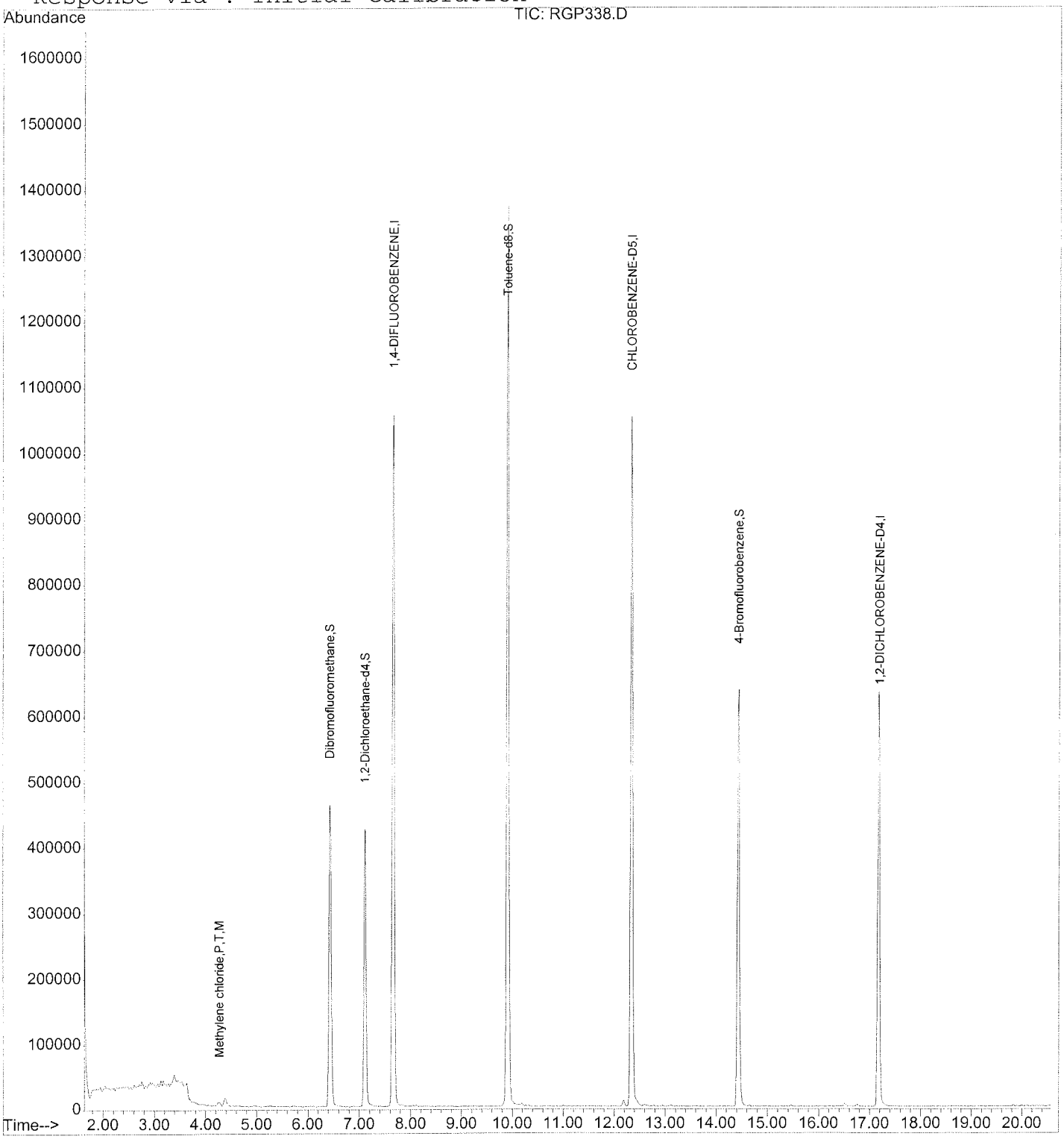
(#) = qualifier out of range (m) = manual integration

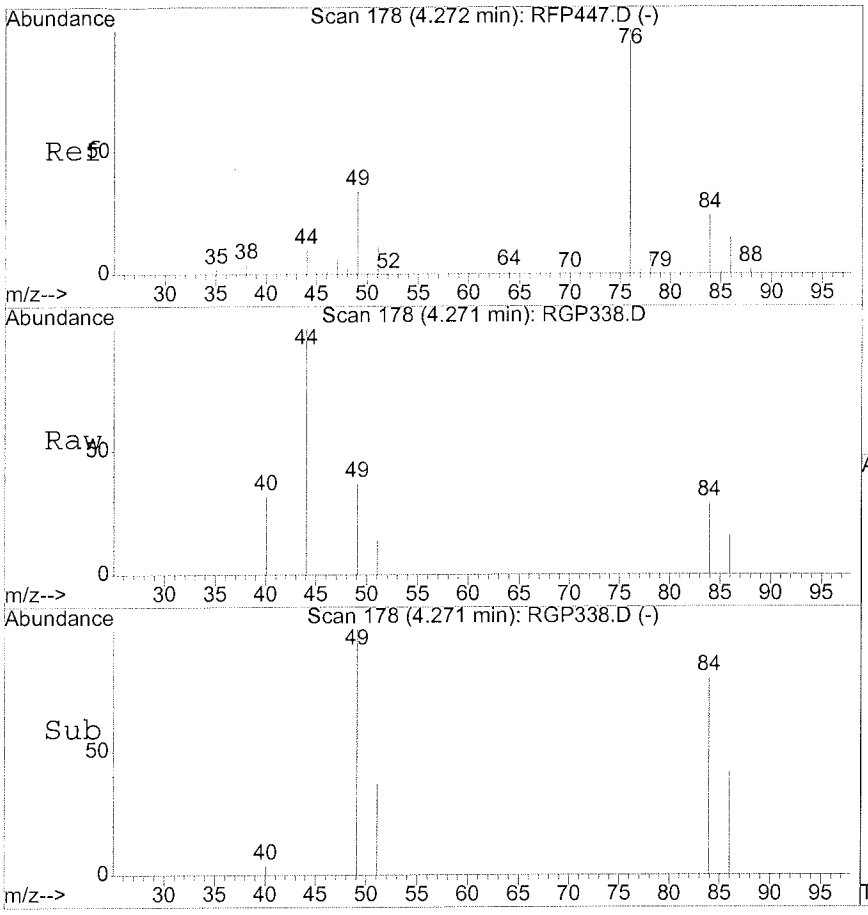
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP338.D
Acq On : 19 Jul 2019 11:41 am
Sample : 19G151-01
Misc :
MS Integration Params: RTE.P
Quant Time: Jul 22 13:37 2019

Vial: 8
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration

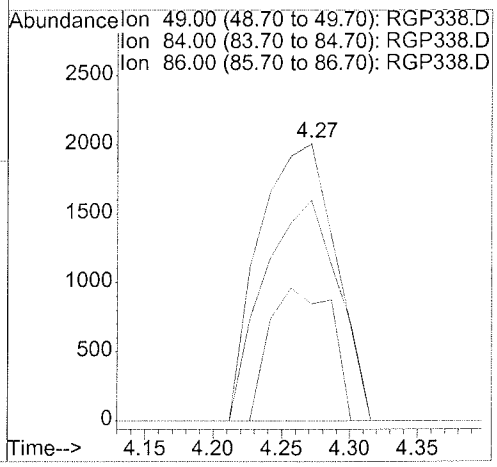




#18
Methylene chloride
Concen: 0.50 ug/l
RT: 4.27 min Scan# 178
Delta R.T. 0.04 min
Lab File: RGP338.D
Acq: 19 Jul 2019 11:41 am

Tgt Ion: 49 Resp: 7770

Ion	Ratio	Lower	Upper
49	100		
84	77.8	37.4	97.4
86	39.3	11.9	71.9



QC SUMMARIES

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

Client : JACOBS/CH2M HILL	Date Collected: NA
Project : VHA-SLC	Date Received: 07/19/19
Batch No. : 19G151	Date Extracted: 07/19/19 10:51
Sample ID: MBLK1S	Date Analyzed: 07/19/19 10:51
Lab Samp ID: VS02G17B	Dilution Factor: 1
Lab File ID: RGP336	Matrix : SOIL
Ext Btch ID: VS02G17	% Moisture : NA
Calib. Ref.: RFP447	Instrument ID : T-002

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
1,1,1-TRICHLOROETHANE	ND	0.0050	0.00050
1,1,2,2-TETRACHLOROETHANE	ND	0.0050	0.00050
1,1,2-TRICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHANE	ND	0.0050	0.00050
1,1-DICHLOROETHENE	ND	0.0050	0.00050
1,2,3-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRICHLOROBENZENE	ND	0.0050	0.0010
1,2,4-TRIMETHYLBENZENE	ND	0.0050	0.00055
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.0050	0.0010
1,2-DICHLOROBENZENE	ND	0.0050	0.00050
1,2-DICHLOROETHANE	ND	0.0050	0.00050
1,2-DICHLOROPROPANE	ND	0.0050	0.00050
1,3,5-TRIMETHYLBENZENE	ND	0.0050	0.00059
1,3-DICHLOROBENZENE	ND	0.0050	0.00052
1,4-DICHLOROBENZENE	ND	0.0050	0.00050
2-BUTANONE	ND	0.010	0.0025
2-HEXANONE	ND	0.010	0.0029
ACETONE	ND	0.010	0.0031
BENZENE	ND	0.0050	0.00050
BROMOCHLOROMETHANE	ND	0.0050	0.00050
BROMODICHLOROMETHANE	ND	0.0050	0.00050
BROMOFORM	ND	0.0050	0.0010
BROMOMETHANE	ND	0.010	0.0018
CARBON DISULFIDE	ND	0.0050	0.00050
CARBON TETRACHLORIDE	ND	0.0050	0.00054
CHLOROBENZENE	ND	0.0050	0.00050
CHLOROETHANE	ND	0.0050	0.0013
CHLOROFORM	ND	0.0050	0.00050
CHLOROMETHANE	ND	0.0050	0.0010
CIS-1,2-DICHLOROETHYLENE	ND	0.0050	0.00050
DIBROMOCHLOROMETHANE	ND	0.0050	0.00050
DICHLORODIFLUOROMETHANE	ND	0.0050	0.0012
ETHYLBENZENE	ND	0.0050	0.00050
ISOPROPYLBENZENE	ND	0.0050	0.00064
M,P-XYLENE	ND	0.010	0.0010
4-METHYL-2-PENTANONE	ND	0.010	0.0028
METHYLENE CHLORIDE	ND	0.010	0.0010
TERT-BUTYL METHYL ETHER	ND	0.0050	0.00050
O-XYLENE	ND	0.0050	0.00050
STYRENE	ND	0.0050	0.00050
TETRACHLOROETHENE	ND	0.0050	0.00050
TOLUENE	ND	0.0050	0.00050
TRANS-1,2-DCE	ND	0.0050	0.00050
TOTAL 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.0050	0.0010
CIS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TRANS-1,3-DICHLOROPROPENE	ND	0.0050	0.0010
TCE	ND	0.0050	0.00050
TRICHLOROFLUOROMETHANE	ND	0.0050	0.0011
VINYL CHLORIDE	ND	0.0050	0.0014
1,2-DIBROMOETHANE	ND	0.0050	0.00050
VINYL ACETATE	ND	0.0050	0.0013
TRICHLOROTRIFLUOROETHANE	ND	0.0050	0.0010
METHYL ACETATE	ND	0.0050	0.0015

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	0.0446	0.05000	89.2	70-130
BROMOFLUOROBENZENE	0.0480	0.05000	96.1	70-130
TOLUENE-D8	0.0490	0.05000	98.1	70-130
DIBROMOFLUOROMETHANE	0.0498	0.05000	99.6	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS/CH2M HILL
PROJECT: VHA-SLC
BATCH NO.: 19G151
METHOD: SW5035A/8260C

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: VS02G17B VS02G17L VS02G17C
LAB FILE ID: RGP336 RGP333 RGP334
DATE EXTRACTED: 07/19/1910:51 07/19/1909:35 07/19/1910:00 DATE COLLECTED: NA
DATE ANALYZED: 07/19/1910:51 07/19/1909:35 07/19/1910:00 DATE RECEIVED: 07/19/19
PREP. BATCH: VS02G17 VS02G17 VS02G17
CALIB. REF: RFP447 RFP447 RFP447

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	0.0500	0.0568	114	0.0500	0.0540	108	5	73-125	30
1,1,2,2-Tetrachloroethane	ND	0.0500	0.0441	88	0.0500	0.0422	84	4	70-124	30
1,1,2-Trichloroethane	ND	0.0500	0.0457	91	0.0500	0.0457	91	0	78-121	30
1,1-Dichloroethane	ND	0.0500	0.0497	99	0.0500	0.0483	97	3	76-125	30
1,1-Dichloroethene	ND	0.0500	0.0493	99	0.0500	0.0458	92	7	70-131	30
1,2,3-Trichlorobenzene	ND	0.0500	0.0495	99	0.0500	0.0481	96	3	66-130	30
1,2,4-Trichlorobenzene	ND	0.0500	0.0509	102	0.0500	0.0501	100	2	67-129	30
1,2,4-Trimethylbenzene	ND	0.0500	0.0480	96	0.0500	0.0456	91	5	75-123	30
1,2-Dibromo-3-chloropropane	ND	0.0500	0.0447	89	0.0500	0.0437	87	2	61-132	30
1,2-Dichlorobenzene	ND	0.0500	0.0486	97	0.0500	0.0462	92	5	78-121	30
1,2-Dichloroethane	ND	0.0500	0.0489	98	0.0500	0.0480	96	2	73-128	30
1,2-Dichloropropane	ND	0.0500	0.0486	97	0.0500	0.0452	90	7	76-123	30
1,3,5-Trimethylbenzene	ND	0.0500	0.0462	92	0.0500	0.0464	93	0	73-124	30
1,3-Dichlorobenzene	ND	0.0500	0.0485	97	0.0500	0.0486	97	0	77-121	30
1,4-Dichlorobenzene	ND	0.0500	0.0481	96	0.0500	0.0463	93	4	75-120	30
2-Butanone	ND	0.250	0.248	99	0.250	0.252	101	2	51-148	30
2-Hexanone	ND	0.250	0.213	85	0.250	0.221	88	4	53-145	30
Acetone	ND	0.250	0.249	99	0.250	0.243	97	2	36-164	30
Benzene	ND	0.0500	0.0506	101	0.0500	0.0491	98	3	77-121	30
Bromochloromethane	ND	0.0500	0.0472	94	0.0500	0.0446	89	6	78-125	30
Bromodichloromethane	ND	0.0500	0.0558	112	0.0500	0.0514	103	8	75-127	30
Bromoform	ND	0.0500	0.0459	92	0.0500	0.0452	90	2	67-132	30
Bromomethane	ND	0.0500	0.0497	99	0.0500	0.0460	92	8	53-143	30
Carbon Disulfide	ND	0.0500	0.0575	115	0.0500	0.0510	102	12	63-132	30
Carbon Tetrachloride	ND	0.0500	0.0591	118	0.0500	0.0556	111	6	70-135	30
Chlorobenzene	ND	0.0500	0.0479	96	0.0500	0.0470	94	2	79-120	30
Chloroethane	ND	0.0500	0.0506	101	0.0500	0.0461	92	9	59-139	30
Chloroform	ND	0.0500	0.0491	98	0.0500	0.0475	95	3	78-123	30
Chloromethane	ND	0.0500	0.0486	97	0.0500	0.0445	89	9	50-136	30
cis-1,2-Dichloroethylene	ND	0.0500	0.0534	107	0.0500	0.0511	102	4	77-123	30
Dibromochloromethane	ND	0.0500	0.0457	91	0.0500	0.0471	94	3	74-126	30

Dichlorodifluoromethane	ND	0.0500	0.0507	101	0.0500	0.0466	93	8	29-149	30
Ethylbenzene	ND	0.0500	0.0470	94	0.0500	0.0455	91	3	76-122	30
Isopropylbenzene	ND	0.0500	0.0480	96	0.0500	0.0477	95	1	68-134	30
m,p-Xylene	ND	0.100	0.0945	95	0.100	0.0966	97	2	77-124	30
4-Methyl-2-Pentanone	ND	0.250	0.225	90	0.250	0.230	92	2	65-135	30
Methylene Chloride	ND	0.0500	0.0466	93	0.0500	0.0449	90	4	70-128	30
tert-Butyl Methyl Ether	ND	0.0500	0.0492	98	0.0500	0.0488	98	1	73-125	30
o-Xylene	ND	0.0500	0.0473	95	0.0500	0.0470	94	1	77-123	30
Styrene	ND	0.0500	0.0473	95	0.0500	0.0469	94	1	76-124	30
Tetrachloroethene	ND	0.0500	0.0508	102	0.0500	0.0502	100	1	73-128	30
Toluene	ND	0.0500	0.0468	94	0.0500	0.0456	91	3	77-121	30
Trans-1,2-DCE	ND	0.0500	0.0512	102	0.0500	0.0497	99	3	74-125	30
TOTAL, 1,3-DICHLOROPROPENE (CIS AND TRANS)	ND	0.100	0.0929	93	0.100	0.0918	92	1	71-130	30
cis-1,3-Dichloropropene	ND	0.0500	0.0486	97	0.0500	0.0487	97	0	74-126	30
Trans-1,3-Dichloropropene	ND	0.0500	0.0443	89	0.0500	0.0432	86	3	71-130	30
TCE	ND	0.0500	0.0562	112	0.0500	0.0531	106	6	77-123	30
Trichlorofluoromethane	ND	0.0500	0.0564	113	0.0500	0.0506	101	11	62-140	30
Vinyl Chloride	ND	0.0500	0.0514	103	0.0500	0.0471	94	9	56-135	30
1,2-Dibromoethane	ND	0.0500	0.0470	94	0.0500	0.0458	92	3	78-122	30
Vinyl Acetate	ND	0.0500	0.0457	91	0.0500	0.0429	86	6	50-151	30
Trichlorotrifluoroethane	ND	0.0500	0.0546	109	0.0500	0.0526	105	4	66-136	30
Methyl Acetate	ND	0.0500	0.0445	89	0.0500	0.0432	86	3	53-144	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	0.0500	0.0446	89	0.0500	0.0447	89	70-130
Bromofluorobenzene	0.0500	0.0472	94	0.0500	0.0456	91	70-130
Toluene-d8	0.0500	0.0457	91	0.0500	0.0466	93	70-130
Dibromofluoromethane	0.0500	0.0501	100	0.0500	0.0486	97	70-130

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP336.D Vial: 6
Acq On : 19 Jul 2019 10:51 am Operator: IRagas
Sample : VS02G17B 5.0g Inst : 02
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 22 13:35 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1384868	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.33	117	1083293	50.00	ug/l	0.01
76) 1,2-DICHLOROBENZENE-D4	17.17	152	389520	50.00	ug/l	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	464396	49.82	ug/l	0.01
Spiked Amount 50.000			Recovery =	99.64%		
43) 1,2-Dichloroethane-d4	7.11	65	414837	44.59	ug/l	0.03
Spiked Amount 50.000			Recovery =	89.18%		
57) Toluene-d8	9.91	98	1547935	49.04	ug/l	0.03
Spiked Amount 50.000			Recovery =	98.08%		
79) 4-Bromofluorobenzene	14.42	95	428153	48.03	ug/l	0.01
Spiked Amount 50.000			Recovery =	96.06%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
RGP336.D VO02F29.M Mon Jul 22 13:42:36 2019 Page 1

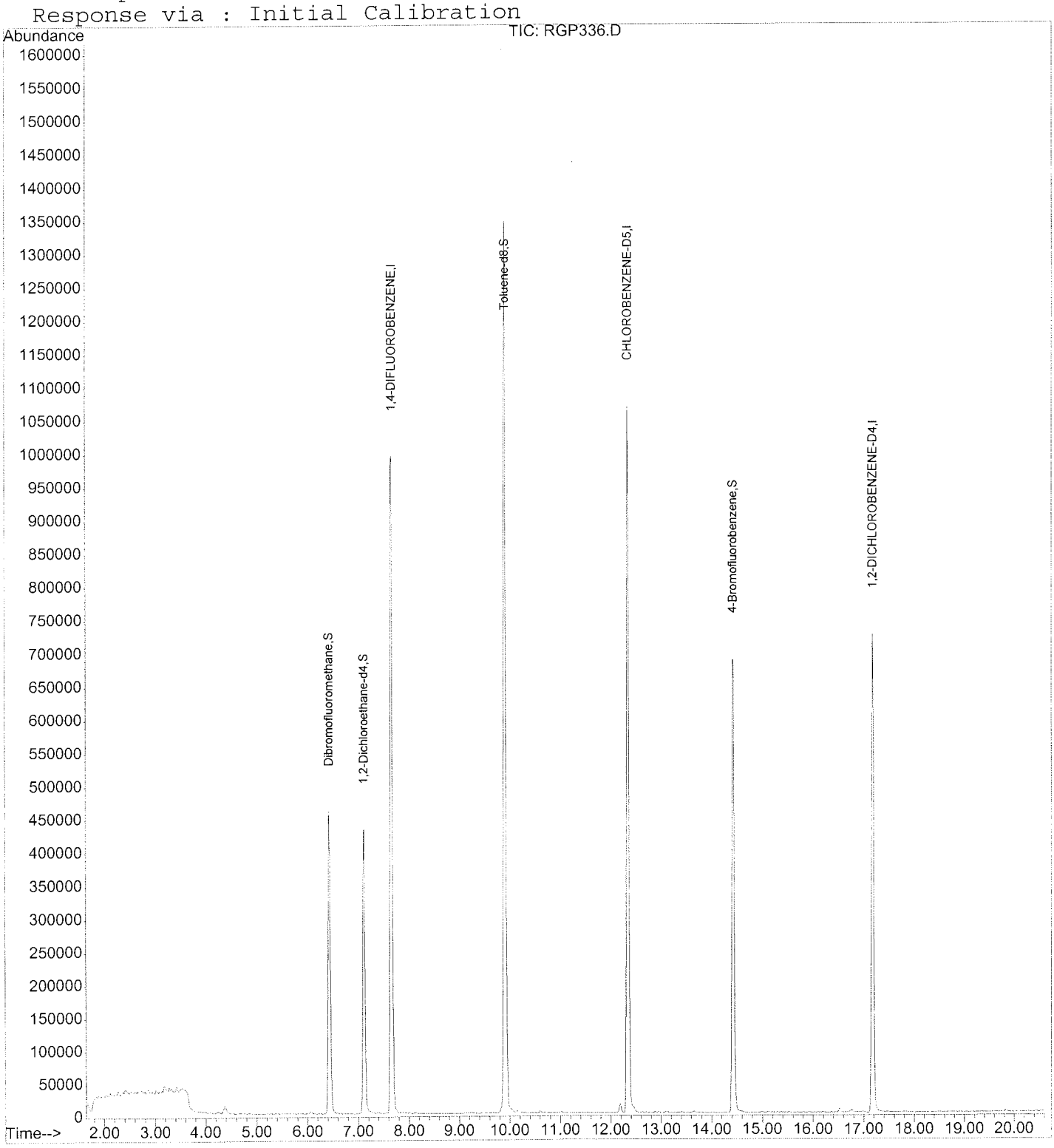
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP336.D
Acq On : 19 Jul 2019 10:51 am
Sample : VS02G17B 5.0g
Misc : DF=1.0
MS Integration Params: RTE.P
Quant Time: Jul 22 13:35 2019

Vial: 6
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP333.D Vial: 3
Acq On : 19 Jul 2019 9:35 am Operator: IRagas
Sample : VS02G17L Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 9:56 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1505639	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1257975	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	472474	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	508066	50.13	ug/l		0.03
Spiked Amount 50.000			Recovery =	100.26%			
43) 1,2-Dichloroethane-d4	7.13	65	451116	44.60	ug/l		0.04
Spiked Amount 50.000			Recovery =	89.20%			
57) Toluene-d8	9.92	98	1673813	45.67	ug/l		0.04
Spiked Amount 50.000			Recovery =	91.34%			
79) 4-Bromofluorobenzene	14.43	95	510235	47.19	ug/l		0.03
Spiked Amount 50.000			Recovery =	94.38%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.74	85	431617	50.68	ug/l		100
3) Chloromethane	1.99	50	653104	48.64	ug/l		99
4) Vinyl chloride	2.11	62	602172	51.44	ug/l		99
5) Bromomethane	2.59	94	489845	49.74	ug/l		99
6) Chloroethane	2.68	64	405983	50.58	ug/l		99
7) Dichlorofluoromethane	2.72	67	1064074	49.94	ug/l		100
8) Trichlorofluoromethane	2.96	101	546568	56.38	ug/l		100
9) Acrolein	3.45	56	472721	232.48	ug/l		97
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	350731	54.60	ug/l		100
11) Acetone	3.53	43	853348	248.55	ug/l		99
12) 1,1-Dichloroethene	3.68	61	873350	49.28	ug/l		97
13) tert-Butyl alcohol	3.76	59	326192	246.34	ug/l	#	78
14) Acetonitrile	3.84	41	722844	527.75	ug/l		98
15) Iodomethane	4.06	142	889215	54.40	ug/l		97
16) Methyl Acetate	4.08	43	510569	44.54	ug/l		94
17) Allyl Chloride	4.11	76	336282	56.94	ug/l		99
18) Methylene chloride	4.27	49	760512	46.64	ug/l		94
19) Carbon disulfide	4.27	76	2369400	57.45	ug/l		100
20) Acrylonitrile	4.40	53	1212278	240.00	ug/l		100
21) tert-Butyl methyl ether (M	4.43	73	1421995	49.23	ug/l		98
22) trans-1,2-Dichloroethene	4.61	61	930499	51.24	ug/l		95
23) Isopropyl ether (DIPE)	5.01	45	2491240	47.13	ug/l		98
24) 1,1-Dichloroethane	5.15	63	1247155	49.72	ug/l		99
25) Vinyl acetate	5.16	43	1409396	45.69	ug/l		99
26) 2-Butanol	5.45	45	318177	229.81	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.55	59	1962497	49.01	ug/l		97
28) 2-Butanone	5.70	72	343930	247.80	ug/l		96

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G19\RGP333.D
Acq On : 19 Jul 2019 9:35 am
Sample : VS02G17L
Misc : 50ppt 8260\250ppt KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 19 9:56 2019

Vial: 3
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.80	54	848992	484.57	ug/l	99
30)	2,2-Dichloropropane	5.88	77	476825	56.42	ug/l	99
31)	cis-1,2-Dichloroethene	5.95	96	659320	53.38	ug/l	95
32)	Methylacrynonitrile	6.06	52	919544	464.82	ug/l	98
33)	Isobutyl Alcohol	6.09	43	638042	885.91	ug/l	98
34)	Chloroform	6.14	83	1029308	49.09	ug/l	99
35)	Bromochloromethane	6.37	49	614994	47.20	ug/l	92
36)	Tetrahydrofuran	6.41	42	180933	42.36	ug/l	98
38)	1,1,1-Trichloroethane	6.68	97	635869	56.81	ug/l	98
39)	Cyclohexane	6.70	84	873463	54.82	ug/l	95
40)	1,1-Dichloropropene	6.90	110	260118	52.80	ug/l	99
41)	Carbon tetrachloride	7.04	119	524974	59.10	ug/l	100
42)	tert-Amyl methyl ether (TA	7.07	87	290571	50.16	ug/l	95
44)	1,2-Dichloroethane	7.25	62	660628	48.88	ug/l	100
45)	Benzene	7.26	78	2660107	50.60	ug/l	99
46)	Trichloroethene	8.14	130	638711	56.22	ug/l	97
47)	Methylcyclohexane	8.21	83	1130447	56.42	ug/l	96
48)	1,2-Dichloropropane	8.39	63	716614	48.62	ug/l	99
49)	Methyl Methacrylate	8.50	69	441069	47.48	ug/l	99
50)	Bromodichloromethane	8.73	83	757835	55.77	ug/l	99
51)	1,4-Dioxane	8.76	88	107389	1145.26	ug/l	90
52)	Dibromomethane	8.81	93	382720	49.09	ug/l	96
53)	2-Chloroethyl vinyl ether	9.21	63	136713	34.23	ug/l	95
54)	4-Methyl-2-pentanone	9.24	43	3459134	224.73	ug/l	98
55)	cis-1,3-Dichloropropene	9.55	75	1007472	48.59	ug/l	98
58)	Toluene	10.04	91	2290921	46.79	ug/l	100
59)	Ethyl methacrylate	10.34	69	737470	42.88	ug/l	97
60)	trans-1,3-Dichloropropene	10.34	75	787304	44.29	ug/l	98
61)	1,1,2-Trichloroethane	10.58	97	444095	45.73	ug/l	97
62)	2-Hexanone	10.61	43	2257450	212.53	ug/l	99
63)	1,3-Dichloropropane	10.99	76	880667	45.34	ug/l	100
64)	Tetrachloroethene	11.07	164	472194	50.81	ug/l	98
65)	Dibromochloromethane	11.40	129	508970	45.67	ug/l	99
66)	1,2-Dibromoethane	11.72	107	456187	47.01	ug/l	99
67)	1-Chlorohexane	12.02	91	849110	48.88	ug/l	95
68)	Chlorobenzene	12.42	112	1361346	47.86	ug/l	98
69)	1,1,1,2-Tetrachloroethane	12.50	131	468536	50.35	ug/l	99
70)	Ethylbenzene	12.51	91	2424837	46.97	ug/l	99
71)	m-Xylene & p-Xylene	12.65	91	3563037	94.55	ug/l	99
72)	o-Xylene	13.37	91	1772339	47.33	ug/l	100
73)	Styrene	13.45	104	1388003	47.29	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP333.D
Acq On : 19 Jul 2019 9:35 am
Sample : VS02G17L
Misc : 50ppt 8260\250ppt KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 19 9:56 2019

Vial: 3
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

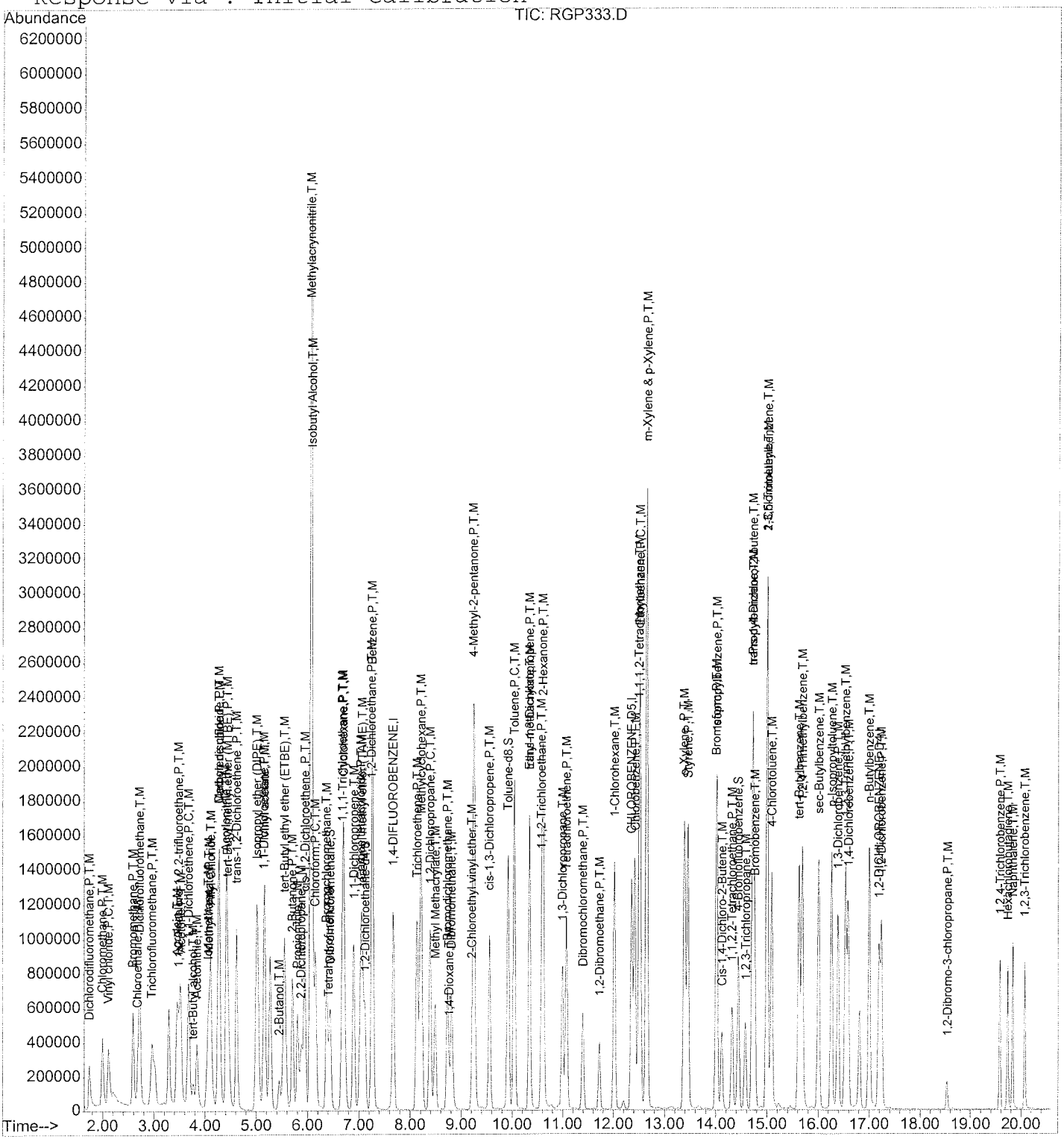
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.01	105	2066030	47.97	ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.12	53	162617	42.65	ug/l	96
77)	Bromoform	14.00	173	299358	45.95	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	646654	44.07	ug/l	100
80)	1,2,3-Trichloropropane	14.58	110	119959	43.44	ug/l	93
81)	trans-1,4-Dichloro-2-buten	14.71	53	132219	40.86	ug/l	98
82)	n-Propylbenzene	14.71	91	2635513	46.54	ug/l	99
83)	Bromobenzene	14.76	156	553911	48.79	ug/l	92
84)	1,3,5-Trimethylbenzene	15.00	105	1531651	46.19	ug/l	98
85)	2-Chlorotoluene	15.00	126	475651	46.05	ug/l	95
86)	4-Chlorotoluene	15.09	126	453607	48.67	ug/l	96
87)	tert-Butylbenzene	15.62	134	322135	48.83	ug/l	94
88)	1,2,4-Trimethylbenzene	15.68	105	1517496	47.98	ug/l	99
89)	sec-Butylbenzene	16.01	105	2106107	46.77	ug/l	99
90)	p-Isopropyltoluene	16.26	119	1676375	48.88	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	907186	48.52	ug/l	99
92)	1,2,3-Trimethylbenzene	16.53	105	1424496	46.33	ug/l	99
93)	1,4-Dichlorobenzene	16.59	146	897203	48.08	ug/l	99
94)	n-Butylbenzene	16.99	91	1561604	47.02	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	826462	48.64	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.54	157	81949	44.68	ug/l	96
97)	1,2,4-Trichlorobenzene	19.58	180	389128	50.90	ug/l	99
98)	Hexachlorobutadiene	19.73	225	204551	52.63	ug/l	99
99)	Naphthalene	19.83	128	863113	43.18	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	337133	49.52	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP333.D Vial: 3
Acq On : 19 Jul 2019 9:35 am Operator: IRagas
Sample : VS02G17L Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 9:56 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP334.D
Acq On : 19 Jul 2019 10:00 am
Sample : VS02G17C
Misc : 50ppt 8260\250ppt KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 19 10:21 2019

Vial: 4
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1520681	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1259246	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	487842	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	497767	48.63	ug/l	0.03
Spiked Amount 50.000			Recovery =	97.26%		
43) 1,2-Dichloroethane-d4	7.11	65	457052	44.74	ug/l	0.03
Spiked Amount 50.000			Recovery =	89.48%		
57) Toluene-d8	9.91	98	1710390	46.62	ug/l	0.03
Spiked Amount 50.000			Recovery =	93.24%		
79) 4-Bromofluorobenzene	14.43	95	508731	45.57	ug/l	0.03
Spiked Amount 50.000			Recovery =	91.14%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.74	85	400676	46.58	ug/l	100
3) Chloromethane	2.00	50	603107	44.47	ug/l	100
4) Vinyl chloride	2.11	62	557295	47.14	ug/l	99
5) Bromomethane	2.59	94	457855	46.03	ug/l	99
6) Chloroethane	2.68	64	374006	46.14	ug/l	100
7) Dichlorofluoromethane	2.72	67	1038949	48.28	ug/l	100
8) Trichlorofluoromethane	2.96	101	495915	50.65	ug/l	100
9) Acrolein	3.44	56	454573	221.34	ug/l	92
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	341311	52.61	ug/l	99
11) Acetone	3.51	43	843193	243.16	ug/l	99
12) 1,1-Dichloroethene	3.68	61	819019	45.76	ug/l	97
13) tert-Butyl alcohol	3.77	59	351232	262.63	ug/l	88
14) Acetonitrile	3.84	41	724767	523.92	ug/l	99
15) Iodomethane	4.05	142	848913	51.43	ug/l	97
16) Methyl Acetate	4.06	43	499825	43.17	ug/l	95
17) Allyl Chloride	4.11	76	321099	53.83	ug/l	100
18) Methylene chloride	4.27	49	738820	44.87	ug/l	95
19) Carbon disulfide	4.26	76	2124703	51.01	ug/l	100
20) Acrylonitrile	4.41	53	1231336	241.36	ug/l	99
21) tert-Butyl methyl ether (M	4.44	73	1422934	48.77	ug/l	98
22) trans-1,2-Dichloroethene	4.61	61	911623	49.70	ug/l	95
23) Isopropyl ether (DIPE)	5.02	45	2457418	46.03	ug/l	98
24) 1,1-Dichloroethane	5.15	63	1222859	48.27	ug/l	99
25) Vinyl acetate	5.16	43	1335256	42.86	ug/l	99
26) 2-Butanol	5.45	45	343697	245.79	ug/l #	100
27) tert-Butyl ethyl ether (ET	5.54	59	1910530	47.24	ug/l	97
28) 2-Butanone	5.70	72	353005	251.82	ug/l	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP334.D Vial: 4
Acq On : 19 Jul 2019 10:00 am Operator: IRagas
Sample : VS02G17C Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:21 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Propionitrile	5.80	54	872511	493.07	ug/l	100
30) 2,2-Dichloropropane	5.88	77	453012	53.07	ug/l	99
31) cis-1,2-Dichloroethene	5.94	96	638015	51.14	ug/l	95
32) Methylacrynonitrile	6.06	52	903695	452.29	ug/l	98
33) Isobutyl Alcohol	6.09	43	650395	894.13	ug/l	96
34) Chloroform	6.15	83	1005811	47.50	ug/l	99
35) Bromochloromethane	6.37	49	587280	44.63	ug/l	90
36) Tetrahydrofuran	6.41	42	177461	41.13	ug/l	98
38) 1,1,1-Trichloroethane	6.68	97	610847	54.04	ug/l	98
39) Cyclohexane	6.70	84	796505	49.50	ug/l	94
40) 1,1-Dichloropropene	6.89	110	263788	53.02	ug/l	99
41) Carbon tetrachloride	7.02	119	498496	55.57	ug/l	100
42) tert-Amyl methyl ether (TA	7.05	87	287717	49.18	ug/l	94
44) 1,2-Dichloroethane	7.25	62	654951	47.98	ug/l	99
45) Benzene	7.26	78	2609198	49.14	ug/l	99
46) Trichloroethene	8.12	130	609076	53.08	ug/l	97
47) Methylcyclohexane	8.20	83	1058570	52.31	ug/l	96
48) 1,2-Dichloropropane	8.38	63	672845	45.20	ug/l	99
49) Methyl Methacrylate	8.48	69	432637	46.11	ug/l	97
50) Bromodichloromethane	8.72	83	705698	51.42	ug/l	99
51) 1,4-Dioxane	8.76	88	102397	1085.97	ug/l	96
52) Dibromomethane	8.81	93	375052	47.63	ug/l	95
53) 2-Chloroethyl vinyl ether	9.20	63	141161	34.99	ug/l	95
54) 4-Methyl-2-pentanone	9.24	43	3570706	229.69	ug/l	99
55) cis-1,3-Dichloropropene	9.55	75	1018905	48.65	ug/l	98
58) Toluene	10.04	91	2235387	45.61	ug/l	100
59) Ethyl methacrylate	10.34	69	742388	43.12	ug/l	97
60) trans-1,3-Dichloropropene	10.34	75	768484	43.19	ug/l	99
61) 1,1,2-Trichloroethane	10.58	97	444369	45.71	ug/l	98
62) 2-Hexanone	10.61	43	2347391	220.77	ug/l	99
63) 1,3-Dichloropropane	10.98	76	864381	44.45	ug/l	99
64) Tetrachloroethene	11.07	164	466849	50.18	ug/l	98
65) Dibromochloromethane	11.40	129	525682	47.12	ug/l	99
66) 1,2-Dibromoethane	11.71	107	444570	45.76	ug/l	99
67) 1-Chlorohexane	12.01	91	811506	46.67	ug/l	95
68) Chlorobenzene	12.41	112	1338345	47.00	ug/l	98
69) 1,1,1,2-Tetrachloroethane	12.48	131	462774	49.68	ug/l	99
70) Ethylbenzene	12.51	91	2353786	45.55	ug/l	99
71) m-Xylene & p-Xylene	12.63	91	3645232	96.63	ug/l	99
72) o-Xylene	13.38	91	1760332	46.96	ug/l	99
73) Styrene	13.44	104	1378732	46.93	ug/l	98

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G19\RGP334.D
Acq On : 19 Jul 2019 10:00 am
Sample : VS02G17C
Misc : 50ppt 8260\250ppt KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 19 10:21 2019

Vial: 4
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

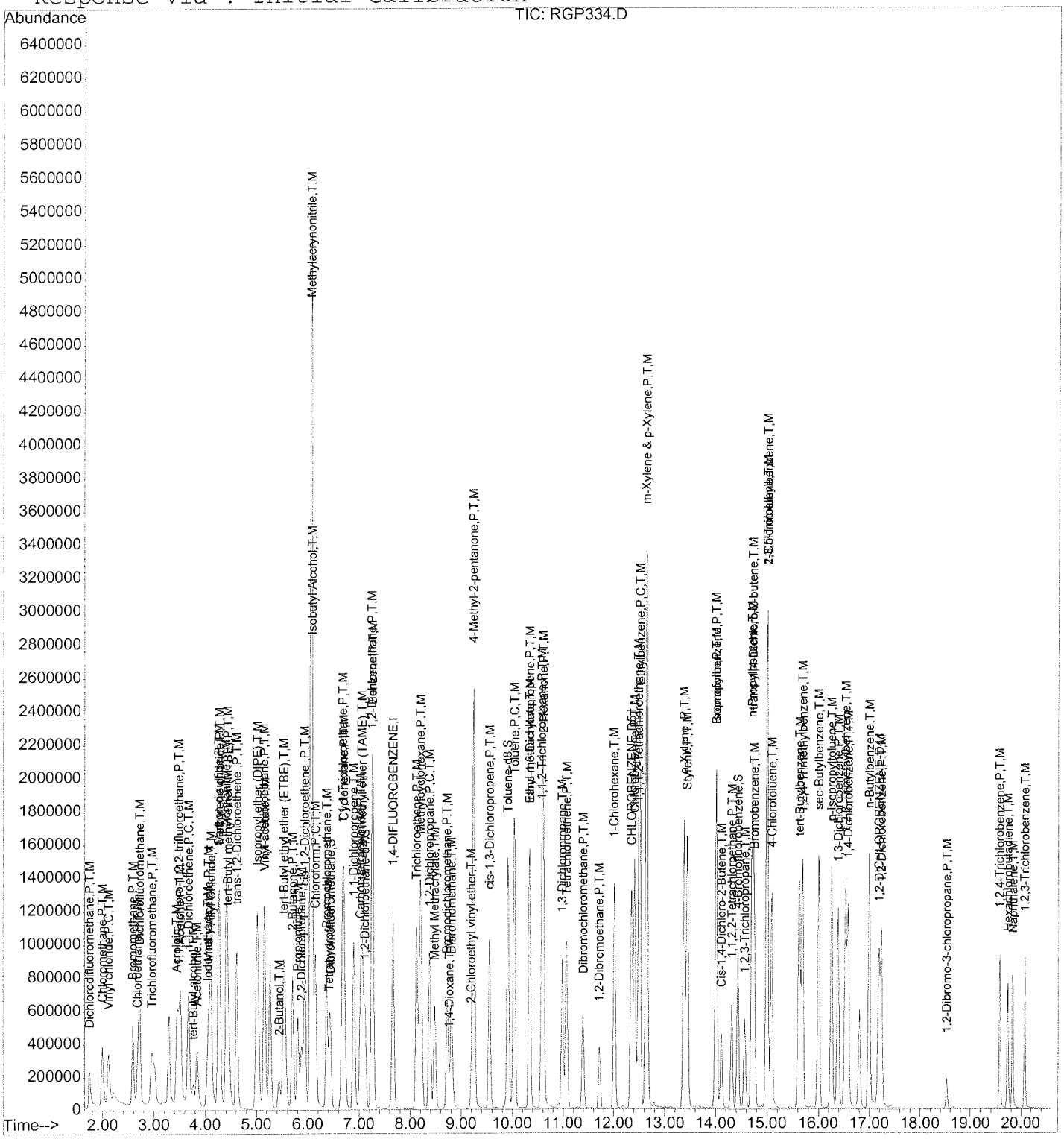
Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	2056262	47.70	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	164425	43.08	ug/l	97
77)	Bromoform	14.00	173	303919	45.18	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	639290	42.20	ug/l	100
80)	1,2,3-Trichloropropane	14.57	110	120554	42.28	ug/l	95
81)	trans-1,4-Dichloro-2-buten	14.71	53	131426	39.34	ug/l	99
82)	n-Propylbenzene	14.70	91	2561492	43.81	ug/l	99
83)	Bromobenzene	14.74	156	548971	46.83	ug/l	92
84)	1,3,5-Trimethylbenzene	15.00	105	1587203	46.36	ug/l	99
85)	2-Chlorotoluene	15.00	126	484393	45.42	ug/l	97
86)	4-Chlorotoluene	15.09	126	446135	46.36	ug/l	95
87)	tert-Butylbenzene	15.62	134	325942	47.85	ug/l	94
88)	1,2,4-Trimethylbenzene	15.68	105	1489807	45.62	ug/l	98
89)	sec-Butylbenzene	15.99	105	2075310	44.63	ug/l	99
90)	p-Isopropyltoluene	16.25	119	1637891	46.25	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	937446	48.56	ug/l	99
92)	1,2,3-Trimethylbenzene	16.53	105	1448518	45.63	ug/l	100
93)	1,4-Dichlorobenzene	16.57	146	892651	46.33	ug/l	99
94)	n-Butylbenzene	16.99	91	1563015	45.58	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	809890	46.16	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.52	157	82668	43.65	ug/l	98
97)	1,2,4-Trichlorobenzene	19.56	180	395636	50.12	ug/l	99
98)	Hexachlorobutadiene	19.73	225	194480	48.46	ug/l	99
99)	Naphthalene	19.83	128	876727	42.48	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	338159	48.10	ug/l	99

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G19\RGP334.D Vial: 4
Acq On : 19 Jul 2019 10:00 am Operator: IRagas
Sample : VS02G17C Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 10:21 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP337.D Vial: 7
Acq On : 19 Jul 2019 11:16 am Operator: IRagas
Sample : VPG017SB Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 22 13:36 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

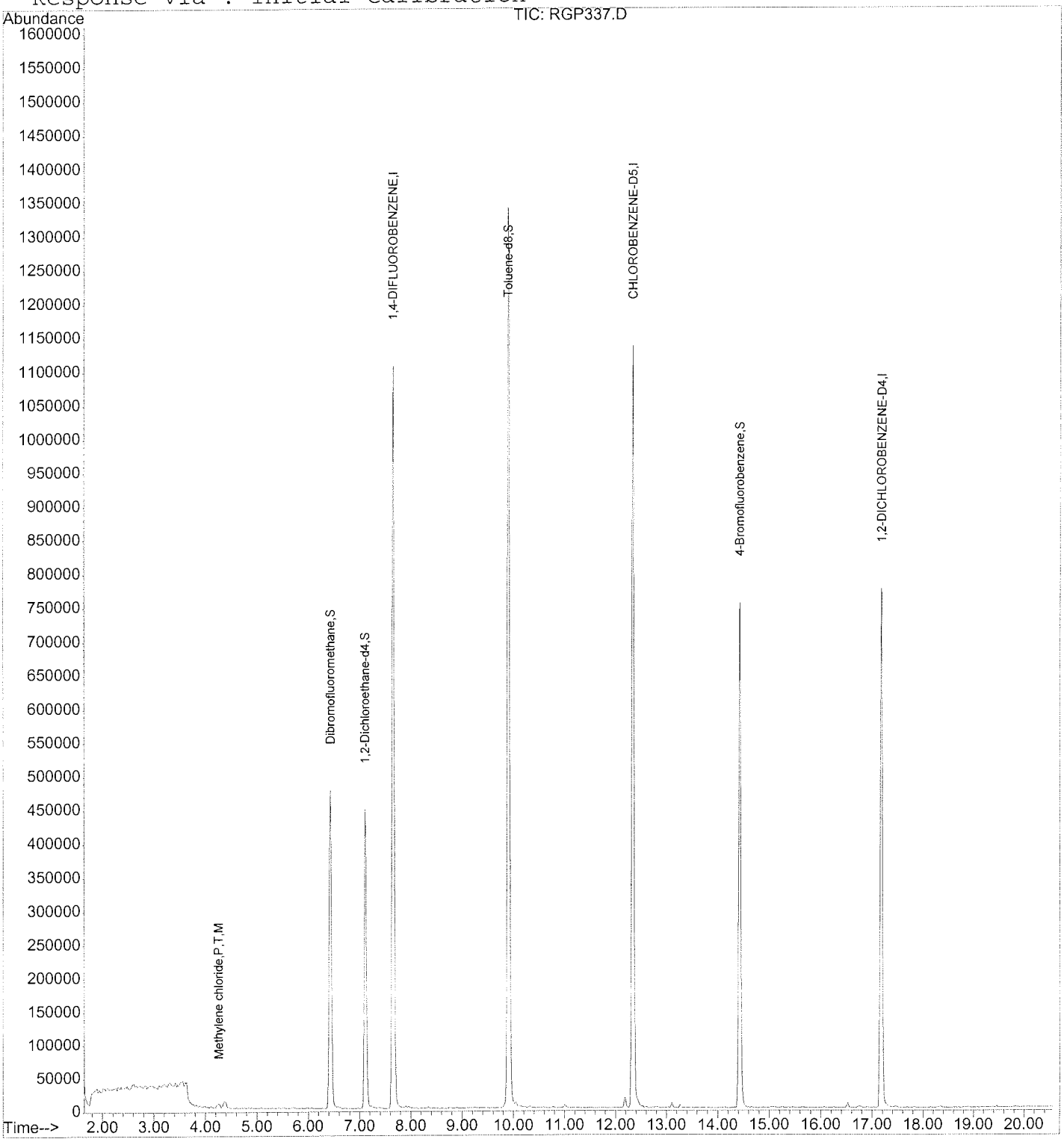
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.65	114	1453512	50.00	ug/l	0.02
56) CHLOROBENZENE-D5	12.34	117	1120199	50.00	ug/l	0.02
76) 1,2-DICHLOROBENZENE-D4	17.17	152	405634	50.00	ug/l	0.02
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	494436	50.54	ug/l	0.02
Spiked Amount 50.000			Recovery =	101.08%		
43) 1,2-Dichloroethane-d4	7.10	65	434997	44.55	ug/l	0.02
Spiked Amount 50.000			Recovery =	89.10%		
57) Toluene-d8	9.90	98	1578488	48.36	ug/l	0.02
Spiked Amount 50.000			Recovery =	96.72%		
79) 4-Bromofluorobenzene	14.42	95	431095	46.44	ug/l	0.02
Spiked Amount 50.000			Recovery =	92.88%		
Target Compounds						Qvalue
18) Methylene chloride	4.26	49	9180	0.58	ug/l	98

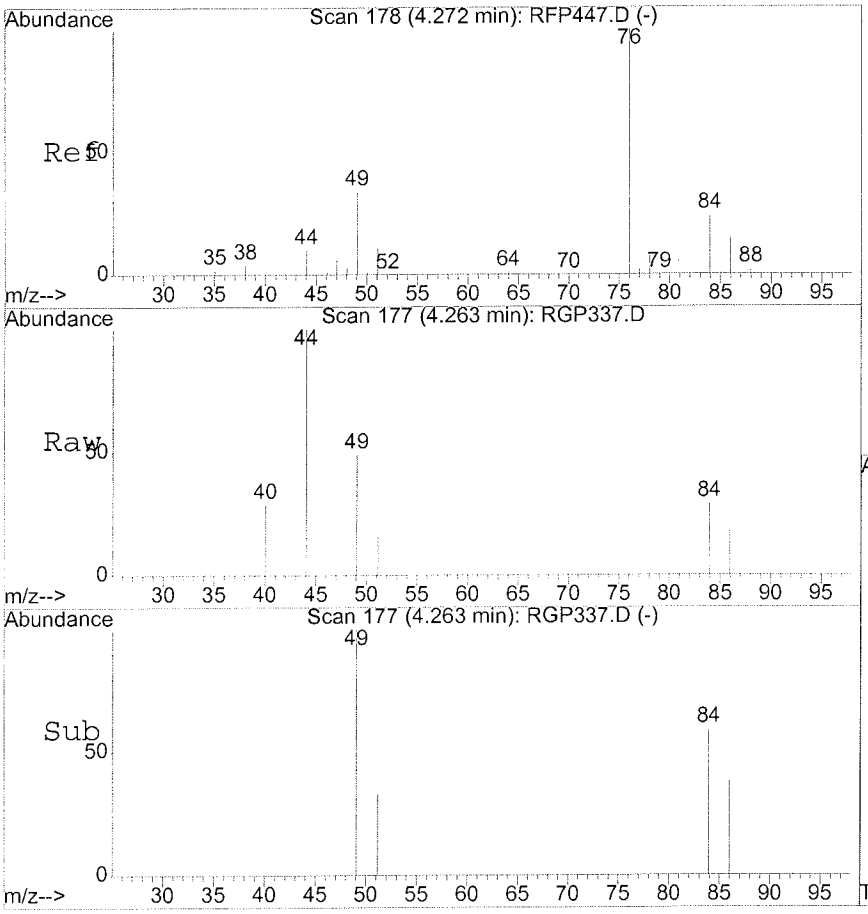
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G19\RGP337.D
Acq On : 19 Jul 2019 11:16 am
Sample : VPG017SB
Misc :
MS Integration Params: RTE.P
Quant Time: Jul 22 13:36 2019

Vial: 7
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration

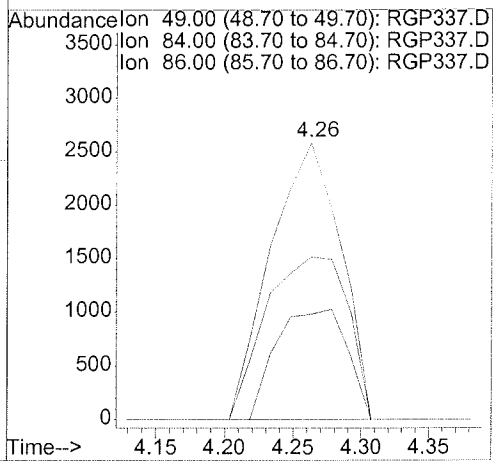




#18
Methylene chloride
Concen: 0.58 ug/l
RT: 4.26 min Scan# 177
Delta R.T. 0.03 min
Lab File: RGP337.D
Acq: 19 Jul 2019 11:16 am

Tgt Ion: 49 Resp: 9180

Ion	Ratio	Lower	Upper
49	100		
84	68.8	37.4	97.4
86	40.3	11.9	71.9



INITIAL CALIBRATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RFP441
Instrument ID: 02
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G151
BFB Injection Date : 06/29/19
BFB Injection Time : 11:36
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.94
75	30.0 - 60.0% of mass 95	48.25
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.67
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	80.72
175	5.0 - 9.0% of mass 174	6.28(7.8)1
176	95.0 - 101.0% of mass 174	77.18(95.6)1
177	5.0 - 9.0% of mass 176	4.95(6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD01	V002F291	RFP442	06/29/19	12:07
2	VSTD02	V002F292	RFP443	06/29/19	12:32
3	VSTD04	V002F293	RFP444	06/29/19	12:57
4	VSTD010	V002F294	RFP445	06/29/19	13:22
5	VSTD020	V002F295	RFP446	06/29/19	13:46
6	VSTD050	V002F296	RFP447	06/29/19	14:11
7	VSTD100	V002F297	RFP448	06/29/19	14:36
8	VSTD200	V002F298	RFP449	06/29/19	15:00
9	VSTD300	V002F299	RFP450	06/29/19	15:26
10	VSTD500	V002F2910	RFP451	06/29/19	15:51
11	VSTD050	IV002F2901	RFP454	06/29/19	17:06

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :02
Beginning DateTime :06/29/19 12:07
Spike Units :PPB
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :06/29/19 15:51
HPChem Method :VO02F29

M	IDX	Parameters	1 12:07 RFP442	2 12:32 RFP443	4 12:57 RFP444	10 13:22 RFP445	20 13:46 RFP446	50 14:11 RFP447	100 14:36 RFP448	200 15:00 RFP449	300 15:26 RFP450	500 15:51 RFP451	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.6646
	2	Dichlorodifluoromethane	------	------	0.227	0.269	0.263	0.307	0.301	0.291	0.300	0.303	0.283	9.82	1.7287
	3	Chloromethane	0.354	0.355	0.445	0.478	0.434	0.494	0.481	0.466	0.465	0.486	0.446	11.51	1.9895
	4	Vinyl chloride	------	------	0.354	0.410	0.391	0.454	0.414	0.309	------	------	0.389	13.10	2.1089
	5	Bromomethane	------	------	0.281	0.320	0.297	0.351	0.345	0.333	0.338	0.350	0.327	7.90	2.5804
	6	Chloroethane	------	------	0.221	0.261	0.246	0.286	0.288	0.277	0.276	0.277	0.267	8.50	2.6771
	7	Dichlorofluoromethane	0.669	0.681	0.705	0.742	0.671	0.708	0.716	0.719	0.728	0.736	0.708	3.70	2.7140
	8	Trichlorofluoromethane	------	------	0.276	0.315	0.297	0.344	0.347	0.333	0.328	0.335	0.322	7.67	2.9578
5	9	Acrolein	------	0.062	0.080	0.073	0.063	0.061	0.068	0.064	0.069	------	0.068	9.30	3.4403
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	0.187	0.204	0.208	0.223	0.202	0.215	0.223	0.221	0.227	0.225	0.213	6.03	3.4756
5	11	Acetone	------	0.127	0.136	0.121	0.104	0.106	0.105	0.114	0.114	0.099	0.114	10.74	3.5159
	12	1,1-Dichloroethene	0.522	0.591	0.582	0.618	0.562	0.578	0.602	0.598	0.601	0.631	0.589	5.16	3.6705
5	13	tert-Butyl alcohol	0.049	0.036	0.043	0.043	0.042	0.043	0.043	0.047	0.049	0.042	0.044	8.94	3.7687
10	14	Acetonitrile	0.044	0.039	0.045	0.046	0.040	0.041	0.045	0.053	0.054	0.047	0.045	11.06	3.8371
	15	Iodomethane	0.470	0.502	0.526	0.584	0.517	0.542	0.564	0.568	0.569	0.585	0.543	7.02	4.0498
	16	Methyl Acetate	------	------	0.307	0.368	0.375	0.411	0.388	0.406	0.388	0.402	0.381	8.76	4.0642
	17	Allyl Chloride	------	0.178	0.198	0.213	0.185	0.205	0.196	0.205	0.195	0.190	0.196	5.48	4.1076
	18	Methylene chloride	0.539	0.546	0.555	0.566	0.508	0.522	0.544	0.536	0.541	0.556	0.541	3.12	4.2730
	19	Carbon disulfide	------	------	1.143	1.337	1.294	1.420	1.459	1.405	1.417	1.482	1.370	8.04	4.2595
5	20	Acrylonitrile	0.149	0.137	0.155	0.178	0.157	0.170	0.178	0.186	0.190	0.177	0.168	10.29	4.4068
	21	tert-Butyl methyl ether (MTBE)	0.882	0.925	0.948	0.997	0.884	0.827	0.959	1.040	1.084	1.046	0.959	8.61	4.4381
	22	trans-1,2-Dichloroethene	0.478	0.566	0.585	0.638	0.583	0.624	0.642	0.639	0.637	0.639	0.603	8.72	4.6032
	23	Isopropyl ether (DIPE)	1.461	1.694	1.719	1.834	1.686	1.780	1.815	1.849	1.879	1.838	1.755	7.04	5.0153
	24	1,1-Dichloroethane	0.704	0.787	0.834	0.899	0.790	0.840	0.849	0.864	0.889	0.874	0.833	7.07	5.1506
	25	Vinyl acetate	------	------	0.861	0.967	0.939	1.058	1.147	1.055	1.128	1.040	1.024	9.45	5.1595
5	26	2-Butanol	------	------	0.038	0.042	0.042	0.049	0.047	0.052	0.051	0.048	0.046	10.56	5.4402
	27	tert-Butyl ethyl ether (ETBE)	1.181	1.264	1.308	1.399	1.229	1.248	1.327	1.450	1.468	1.423	1.330	7.55	5.5389
5	28	2-Butanone	0.038	0.038	0.044	0.047	0.043	0.049	0.049	0.052	0.052	0.049	0.046	10.89	5.7010
10	29	Propionitrile	0.048	0.049	0.054	0.061	0.053	0.060	0.061	0.066	0.067	0.063	0.058	11.74	5.8037
	30	2,2-Dichloropropane	------	0.297	0.304	0.304	0.272	0.281	0.274	0.264	0.250	------	0.281	7.05	5.8781
	31	cis-1,2-Dichloroethene	0.317	0.366	0.389	0.431	0.389	0.419	0.429	0.450	0.447	0.465	0.410	11.04	5.9391
10	32	Methylacrynonitrile	0.055	0.055	0.062	0.069	0.063	0.068	0.069	0.072	0.074	0.069	0.066	10.16	6.0625
20	33	Isobutyl Alcohol	0.028	0.028	0.020	0.021	0.020	0.022	0.024	0.026	0.026	0.023	0.024	12.72	6.0908
	34	Chloroform	0.602	0.684	0.681	0.726	0.672	0.685	0.714	0.712	0.740	0.747	0.696	6.02	6.1473
	35	Bromochloromethane	0.354	0.379	0.423	0.447	0.414	0.446	0.449	0.459	0.471	0.485	0.433	9.45	6.3630
	36	Tetrahydrofuran	------	0.138	0.143	0.151	0.128	0.139	0.140	0.148	0.150	0.137	0.142	5.24	6.4134
	37	Dibromofluoromethane	------	0.256	0.300	0.350	0.348	0.394	0.371	------	------	------	0.337	14.89	6.4313
	38	1,1,1-Trichloroethane	0.319	0.350	0.372	0.399	0.354	0.374	0.391	0.387	0.386	0.383	0.372	6.52	6.6828
	39	Cyclohexane	------	0.375	0.465	0.545	0.528	0.590	0.585	0.578	0.567	------	0.529	14.11	6.6981
	40	1,1-Dichloropropene	0.131	0.144	0.152	0.170	0.155	0.168	0.174	0.177	0.184	0.180	0.164	10.56	6.8911
	41	Carbon tetrachloride	------	0.229	0.260	0.288	0.266	0.292	0.317	0.330	0.334	0.338	0.295	12.91	7.0250
	42	tert-Amyl methyl ether (TAME)	------	0.165	0.183	0.197	0.177	0.182	0.194	0.211	0.213	0.209	0.192	8.75	7.0564
	43	1,2-Dichloroethane-d4	------	0.257	0.307	0.350	0.340	0.393	0.368	------	------	------	0.336	14.28	7.1156
	44	1,2-Dichloroethane	0.354	0.371	0.420	0.469	0.431	0.458	0.484	0.487	0.490	0.525	0.449	12.20	7.2481
	45	Benzene	1.482	1.645	1.749	1.831	1.641	1.740	1.836	1.879	1.909	------	1.746	7.86	7.2634
	46	Trichloroethene	0.301	0.335	0.360	0.403	0.355	0.386	0.390	0.407	0.412	0.424	0.377	10.28	8.1258
	47	Methylcyclohexane	0.488	0.523	0.610	0.698	0.687	0.762	0.715	0.729	0.719	0.723	0.665	14.04	8.2017
	48	1,2-Dichloropropane	0.420	0.434	0.478	0.528	0.454	0.494	0.518	0.511	0.524	0.533	0.489	8.41	8.3787
	49	Methyl Methacrylate	0.251	0.252	0.287	0.308	0.293	0.325	0.332	0.346	0.355	0.336	0.309	12.05	8.4828
	50	Bromodichloromethane	0.378	0.387	0.411	0.463	0.431	0.472	0.498	0.506	0.515	------	0.451	11.45	8.7229
20	51	1,4-Dioxane	------	0.002	0.002	0.003	0.002	0.003	0.004	0.004	0.004	------	0.003	28.06	8.7659
	52	Dibromomethane	------	0.196	0.221	0.257	0.238	0.263	0.284	0.286	0.290	0.294	0.259	13.33	8.8001
	53	2-Chloroethyl vinyl ether	------	------	0.093	0.128	0.121	0.146	0.142	0.138	0.146	0.148	0.133	13.97	9.2020
5	54	4-Methyl-2-pentanone	0.463	0.446	0.474	0.538	0.483	0.540	0.544	0.573	0.539	------	0.511	8.73	9.2419
	55	cis-1,3-Dichloropropene	------	0.554	0.592	0.694	0.638	0.698	0.725	0.741	0.763	0.792	0.689	11.54	9.5539
	56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3490
	57	Toluene-d8	------	1.095	1.356	1.480	1.515	1.713	1.582	------	------	------	1.457	14.59	9.9123
	58	Toluene	1.762	1.834	1.940	2.023	1.904	1.953	1.965	1.962	2.171	------	1.946	5.89	10.0353

7/3/19

59	Ethyl methacrylate	------	0.534	0.591	0.648	0.634	0.677	0.742	0.738	0.785	0.803	0.684	13.28	10.3373
60	trans-1,3-Dichloropropene	------	------	0.576	0.649	0.631	0.687	0.743	0.745	0.784	0.836	0.706	12.21	10.3362
61	1,1,2-Trichloroethane	0.329	0.324	0.382	0.391	0.369	0.388	0.411	0.401	0.422	0.442	0.386	9.73	10.5788
5 62	2-Hexanone	0.381	0.338	0.388	0.418	0.401	0.446	0.468	0.465	0.495	------	0.422	11.94	10.6055
63	1,3-Dichloropropane	0.629	0.653	0.765	0.806	0.746	0.785	0.801	0.819	0.845	0.873	0.772	10.17	10.9820
64	Tetrachloroethene	0.306	0.331	0.381	0.394	0.352	0.369	0.374	0.377	0.391	0.418	0.369	8.75	11.0667
65	Dibromochloromethane	------	------	0.363	0.407	0.390	0.432	0.467	0.479	0.498	0.508	0.443	11.97	11.3869
66	1,2-Dibromoethane	0.279	0.319	0.353	0.398	0.372	0.399	0.410	0.429	0.447	0.451	0.386	14.43	11.7124
67	1-Chlorohexane	0.562	0.587	0.683	0.713	0.663	0.702	0.748	0.734	0.750	0.763	0.690	9.98	12.0144
68	Chlorobenzene	0.943	0.963	1.083	1.170	1.131	1.162	1.176	1.178	1.219	1.281	1.131	9.47	12.4100
69	1,1,1,2-Tetrachloroethane	0.259	0.324	0.348	0.385	0.350	0.378	0.402	0.400	0.420	0.434	0.370	13.96	12.4904
70	Ethylbenzene	1.819	1.853	2.019	2.183	1.945	2.062	2.161	2.171	2.252	------	2.052	7.51	12.5129
2 71	m-Xylene & p-Xylene	1.319	1.378	1.512	1.549	1.417	1.568	1.598	1.616	1.524	------	1.498	6.89	12.6402
72	o-Xylene	1.242	1.351	1.485	1.582	1.397	1.525	1.528	1.560	1.605	1.612	1.489	8.18	13.3770
73	Styrene	1.094	1.052	1.057	1.172	1.096	1.195	1.215	1.200	1.290	1.296	1.167	7.64	13.4409
74	Isopropylbenzene	1.438	1.489	1.646	1.798	1.697	1.782	1.819	1.845	1.892	------	1.712	9.32	14.0038
75	Cis-1,4-Dichloro-2-Butene	------	------	0.123	0.137	0.139	0.151	0.160	0.166	0.172	0.164	0.152	11.25	14.1054
76	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.1837
77	Bromoform	------	------	0.552	0.613	0.594	0.667	0.691	0.776	0.808	0.815	0.689	14.68	13.9994
78	1,1,2,2-Tetrachloroethane	1.378	1.442	1.508	1.619	1.510	1.532	1.577	1.640	1.683	1.637	1.553	6.22	14.3126
79	4-Bromofluorobenzene	------	0.924	1.044	1.159	1.217	1.291	1.230	------	------	------	1.144	11.93	14.4320
80	1,2,3-Trichloropropane	------	0.239	0.277	0.315	0.275	0.286	0.289	0.312	0.322	0.314	0.292	9.06	14.5670
81	trans-1,4-Dichloro-2-butene	------	------	0.276	0.326	0.308	0.333	0.351	0.381	0.390	0.375	0.342	11.51	14.7079
82	n-Propylbenzene	4.994	5.418	5.710	6.350	5.747	6.077	6.206	6.619	6.817	------	5.993	9.73	14.7046
83	Bromobenzene	0.927	1.113	1.139	1.240	1.145	1.199	1.222	1.308	1.348	1.373	1.201	10.90	14.7470
84	1,3,5-Trimethylbenzene	2.762	3.189	3.281	3.685	3.435	3.526	3.552	3.733	3.915	4.010	3.509	10.47	14.9910
85	2-Chlorotoluene	0.866	1.014	1.035	1.180	1.075	1.070	1.102	1.163	1.198	1.229	1.093	9.84	14.9984
86	4-Chlorotoluene	0.721	0.881	0.953	1.000	0.948	0.988	1.031	1.072	1.124	1.144	0.986	12.52	15.0862
87	tert-Butylbenzene	0.490	0.649	0.678	0.761	0.684	0.700	0.727	0.755	0.773	0.764	0.698	12.12	15.6188
88	1,2,4-Trimethylbenzene	2.642	2.957	3.135	3.599	3.267	3.413	3.432	3.569	3.687	3.771	3.347	10.54	15.6812
89	sec-Butylbenzene	3.951	4.427	4.584	5.128	4.688	4.726	4.931	4.990	5.064	5.166	4.765	7.91	15.9966
90	p-Isopropyltoluene	3.020	3.240	3.419	3.777	3.571	3.750	3.687	3.861	4.008	3.966	3.630	8.81	16.2525
91	1,3-Dichlorobenzene	1.667	1.771	1.868	2.052	1.925	1.991	2.025	2.121	2.150	2.215	1.978	8.73	16.3819
92	1,2,3-Trimethylbenzene	2.659	2.947	3.127	3.482	3.164	3.264	3.345	3.426	3.486	3.635	3.254	8.94	16.5247
93	1,4-Dichlorobenzene	1.702	1.810	1.815	2.024	1.941	1.965	2.057	2.058	2.158	2.220	1.975	8.23	16.5767
94	n-Butylbenzene	2.776	3.159	3.248	3.764	3.398	3.543	3.708	3.812	3.807	3.933	3.515	10.42	16.9918
95	1,2-Dichlorobenzene	1.516	1.675	1.737	1.865	1.742	1.812	1.875	1.853	1.902	2.003	1.798	7.59	17.2298
96	1,2-Dibromo-3-chloropropane	------	------	0.169	0.182	0.170	0.184	0.200	0.212	0.220	0.216	0.194	10.65	18.5272
97	1,2,4-Trichlorobenzene	0.695	0.753	0.723	0.851	0.761	0.811	0.865	0.903	0.920	------	0.809	9.96	19.5723
98	Hexachlorobutadiene	0.373	0.383	0.373	0.419	0.383	0.403	0.419	0.439	0.441	0.480	0.411	8.51	19.7289
99	Naphthalene	1.970	1.873	1.961	2.078	1.964	2.076	2.199	2.424	2.491	------	2.115	10.20	19.8252
100	1,2,3-Trichlorobenzene	0.597	0.650	0.684	0.763	0.668	0.732	0.755	0.807	0.827	------	0.720	10.58	20.0715

Spike Amount = Nominal Amount * M
Ave_%RSD : 10 Max_%RSD : 28.1

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
51	1,4-Dioxane	-0.00297	0.00375	0.9947*

SM 7/3/19

Use Quadratic Regression of inv conc w.f. for comps of linear reg of inv conc w.f. with CCF < .995
Resp_Ratio = xo + x1 * Amt_Ratio + x2 * Amt_Ratio * Amt_Ratio

IDX	Parameter	x0	x1	x2	CCF2
51	1,4-Dioxane	-0.00134	0.00297	0.00001	0.9984

PROGRAM: ICALMAX

Input: R:RFP447.ICL Output: R:RFP447.MAX

IDX	Parameter	x0	x1	x2	CCF2	MaxMinAmtRatio	MaxMinRespRatio	MaxMinRRF	MaxMinConc
51	1,4-Dioxane	-0.00134	0.00297	0.00001	0.9984	%-148.50000	-0.22186	0.00149	-7425.0

SW
7/3/19

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :02
Beginning DateTime :06/29/19 12:07
Spike Units :PPB
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :06/29/19 15:51
HPChem Method :VO02F29

M	IDX	Parameters	1 12:07 RFP442	2 12:32 RFP443	4 12:57 RFP444	10 13:22 RFP445	20 13:46 RFP446	50 14:11 RFP447	100 14:36 RFP448	200 15:00 RFP449	300 15:26 RFP450	500 15:51 RFP451	AvDRec	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.6646
	2	Dichlorodifluoromethane	------	------	80	95	93	108	106	103	106	107	7.8	9.82	1.7287
	3	Chloromethane	79	80	100	107	97	111	108	104	104	109	8.7	11.51	1.9895
	4	Vinyl chloride	------	------	91	105	101	117	106	79	------	------	9.8	13.10	2.1089
	5	Bromomethane	------	------	86	98	91	107	106	102	103	107	6.3	7.90	2.5804
	6	Chloroethane	------	------	83	98	92	107	108	104	103	104	6.6	8.50	2.6771
	7	Dichlorofluoromethane	94	96	100	105	95	100	101	102	103	104	2.9	3.70	2.7140
	8	Trichlorofluoromethane	------	------	86	98	92	107	108	103	102	104	6	7.67	2.9578
5	9	Acrolein	------	91	118	107	93	90	100	94	101	------	7.4	9.30	3.4403
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	88	96	98	105	95	101	105	104	107	106	5	6.03	3.4756
5	11	Acetone	------	111	119	106	91	93	92	100	100	87	8.2	10.74	3.5159
	12	1,1-Dichloroethene	89	100	99	105	95	98	102	102	102	107	3.7	5.16	3.6705
5	13	tert-Butyl alcohol	111	82	98	98	95	98	98	107	111	95	6.6	8.94	3.7687
10	14	Acetonitrile	98	87	100	102	89	91	100	118	120	104	8	11.06	3.8371
	15	Iodomethane	87	92	97	108	95	100	104	105	105	108	5.8	7.02	4.0498
	16	Methyl Acetate	------	------	81	97	98	108	102	107	102	106	6	8.76	4.0642
	17	Allyl Chloride	------	91	101	109	94	105	100	105	99	97	4.1	5.48	4.1076
	18	Methylene chloride	100	101	103	105	94	96	101	99	100	103	2.2	3.12	4.2730
	19	Carbon disulfide	------	------	83	98	94	104	106	103	103	108	6.1	8.04	4.2595
5	20	Acrylonitrile	89	82	92	106	93	101	106	111	113	105	8.6	10.29	4.4068
	21	tert-Butyl methyl ether (MTBE)	92	96	99	104	92	86	100	108	113	109	6.9	8.61	4.4381
	22	trans-1,2-Dichloroethene	79	94	97	106	97	103	106	106	106	106	6.7	8.72	4.6032
	23	Isopropyl ether (DIPE)	83	97	98	105	96	101	103	105	107	105	5.3	7.04	5.0153
	24	1,1-Dichloroethane	85	94	100	108	95	101	102	104	107	105	5.2	7.07	5.1506
	25	Vinyl acetate	------	------	84	94	92	103	112	103	110	102	7.5	9.45	5.1595
5	26	2-Butanol	------	------	83	91	91	107	102	113	111	104	9	10.56	5.4402
	27	tert-Butyl ethyl ether (ETBE)	89	95	98	105	92	94	100	109	110	107	6.3	7.55	5.5389
5	28	2-Butanone	83	83	96	102	93	107	107	113	113	107	9.3	10.89	5.7010
10	29	Propionitrile	83	84	93	105	91	103	105	114	116	109	10	11.74	5.8037
	30	2,2-Dichloropropane	------	106	108	108	97	100	98	94	89	------	5.6	7.05	5.8781
	31	cis-1,2-Dichloroethene	77	89	95	105	95	102	105	110	109	113	8.8	11.04	5.9391
10	32	Methylacrynonitrile	83	83	94	105	95	103	105	109	112	105	8.2	10.16	6.0625
20	33	Isobutyl Alcohol	117	117	83	88	83	92	100	108	108	96	10.8	12.72	6.0908
	34	Chloroform	86	98	98	104	97	98	103	102	106	107	4.5	6.02	6.1473
	35	Bromochloromethane	82	88	98	103	96	103	104	106	109	112	7.4	9.45	6.3630
	36	Tetrahydrofuran	------	97	101	106	90	98	99	104	106	96	4.1	5.24	6.4134
	37	Dibromofluoromethane	------	76	89	104	103	117	110	------	------	------	11.5	14.89	6.4313
	38	1,1,1-Trichloroethane	86	94	100	107	95	101	105	104	104	103	4.9	6.52	6.6828
	39	Cyclohexane	------	71	88	103	100	112	111	109	107	------	10.4	14.11	6.6981
	40	1,1-Dichloropropene	80	88	93	104	95	102	106	108	112	110	8.7	10.56	6.8911
	41	Carbon tetrachloride	------	78	88	98	90	99	107	112	113	115	10.5	12.91	7.0250
	42	tert-Amyl methyl ether (TAME)	------	86	95	103	92	95	101	110	111	109	7.2	8.75	7.0564
	43	1,2-Dichloroethane-d4	------	76	91	104	101	117	110	------	------	------	10.7	14.28	7.1156
	44	1,2-Dichloroethane	79	83	94	104	96	102	108	108	109	117	9.8	12.20	7.2481
	45	Benzene	85	94	100	105	94	100	105	108	109	------	6	7.86	7.2634
	46	Trichloroethene	80	89	95	107	94	102	103	108	109	112	8.4	10.28	8.1258
	47	Methylcyclohexane	73	79	92	105	103	115	108	110	108	109	11.3	14.04	8.2017
	48	1,2-Dichloropropane	86	89	98	108	93	101	106	104	107	109	7	8.41	8.3787

Fa 8260C

Su 7/3/19

49	Methyl Methacrylate	81	82	93	100	95	105	107	112	115	109	9.8	12.05	8.4828
50	Bromodichloromethane	84	86	91	103	96	105	110	112	114	------	9.8	11.45	8.7229
20 51	1,4-Dioxane	------	114	102	107	82	87	107	103	099	------	15.5	28.06	8.7659
52	Dibromomethane	------	76	85	99	92	102	110	110	112	114	10.6	13.33	8.8001
53	2-Chloroethyl vinyl ether	------	------	70	96	91	110	107	104	110	111	10.5	13.97	9.2020
5 54	4-Methyl-2-pentanone	91	87	93	105	95	106	106	112	105	------	7.8	8.73	9.2419
55	cis-1,3-Dichloropropene	------	80	86	101	93	101	105	108	111	115	9.1	11.54	9.5539
56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3490
57	Toluene-d8	------	75	93	102	104	118	109	------	------	------	10.6	14.59	9.9123
58	Toluene	91	94	100	104	98	100	101	101	112	------	3.9	5.89	10.0353
59	Ethyl methacrylate	------	78	86	95	93	99	108	108	115	117	10.9	13.28	10.3373
60	trans-1,3-Dichloropropene	------	------	82	92	89	97	105	106	111	118	10	12.21	10.3362
61	1,1,2-Trichloroethane	85	84	99	101	96	101	106	104	109	115	7.2	9.73	10.5788
5 62	2-Hexanone	90	80	92	99	95	106	111	110	117	------	9.7	11.94	10.6055
63	1,3-Dichloropropane	81	85	99	104	97	102	104	106	109	113	7.7	10.17	10.9820
64	Tetrachloroethene	83	90	103	107	95	100	101	102	106	113	6.5	8.75	11.0667
65	Dibromochloromethane	------	------	82	92	88	98	105	108	112	115	10.2	11.97	11.3869
66	1,2-Dibromoethane	72	83	91	103	96	103	106	111	116	117	11.4	14.43	11.7124
67	1-Chlorohexane	81	85	99	103	96	102	108	106	109	111	7.8	9.98	12.0144
68	Chlorobenzene	83	85	96	103	100	103	104	104	108	113	7.1	9.47	12.4100
69	1,1,1,2-Tetrachloroethane	70	88	94	104	95	102	109	108	114	117	10.8	13.96	12.4904
70	Ethylbenzene	89	90	98	106	95	100	105	106	110	------	6.2	7.51	12.5129
2 71	m-Xylene & p-Xylene	88	92	101	103	95	105	107	108	102	------	5.6	6.89	12.6402
72	o-Xylene	83	91	100	106	94	102	103	105	108	108	6.4	8.18	13.3770
73	Styrene	94	90	91	100	94	102	104	103	111	111	6.3	7.64	13.4409
74	Isopropylbenzene	84	87	96	105	99	104	106	108	111	------	7.5	9.32	14.0038
75	Cis-1,4-Dichloro-2-Butene	------	------	81	90	91	99	105	109	113	108	9.2	11.25	14.1054
76	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	17.1837
77	Bromoform	------	------	80	89	86	97	100	113	117	118	12	14.68	13.9994
78	1,1,2,2-Tetrachloroethane	89	93	97	104	97	99	102	106	108	105	5.1	6.22	14.3126
79	4-Bromofluorobenzene	------	81	91	101	106	113	108	------	------	------	9.3	11.93	14.4320
80	1,2,3-Trichloropropane	------	82	95	108	94	98	99	107	110	108	7.2	9.06	14.5670
81	trans-1,4-Dichloro-2-butene	------	------	81	95	90	97	103	111	114	110	9.3	11.51	14.7079
82	n-Propylbenzene	83	90	95	106	96	101	104	110	114	------	7.8	9.73	14.7046
83	Bromobenzene	77	93	95	103	95	100	102	109	112	114	8.1	10.90	14.7470
84	1,3,5-Trimethylbenzene	79	91	94	105	98	100	101	106	112	114	7.8	10.47	14.9910
85	2-Chlorotoluene	79	93	95	108	98	98	101	106	110	112	7.4	9.84	14.9984
86	4-Chlorotoluene	73	89	97	101	96	100	105	109	114	116	9	12.52	15.0862
87	tert-Butylbenzene	70	93	97	109	98	100	104	108	111	109	8.4	12.12	15.6188
88	1,2,4-Trimethylbenzene	79	88	94	108	98	102	103	107	110	113	8.3	10.54	15.6812
89	sec-Butylbenzene	83	93	96	108	98	99	103	105	106	108	6.1	7.91	15.9966
90	p-Isopropyltoluene	83	89	94	104	98	103	102	106	110	109	7	8.81	16.2525
91	1,3-Dichlorobenzene	84	90	94	104	97	101	102	107	109	112	6.9	8.73	16.3819
92	1,2,3-Trimethylbenzene	82	91	96	107	97	100	103	105	107	112	6.9	8.94	16.5247
93	1,4-Dichlorobenzene	86	92	92	102	98	99	104	104	109	112	6.5	8.23	16.5767
94	n-Butylbenzene	79	90	92	107	97	101	105	108	108	112	8.4	10.42	16.9918
95	1,2-Dichlorobenzene	84	93	97	104	97	101	104	103	106	111	5.8	7.59	17.2298
96	1,2-Dibromo-3-chloropropane	------	------	87	94	88	95	103	109	113	111	9.2	10.65	18.5272
97	1,2,4-Trichlorobenzene	86	93	89	105	94	100	107	112	114	------	8.4	9.96	19.5723
98	Hexachlorobutadiene	91	93	91	102	93	98	102	107	107	117	6.9	8.51	19.7289
99	Naphthalene	93	89	93	98	93	98	104	115	118	------	8.1	10.20	19.8252
100	1,2,3-Trichlorobenzene	83	90	95	106	93	102	105	112	115	------	8.7	10.58	20.0715

For 8260C
SM
7/31/19

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
Total Cpnds : 100

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	7.63	1.000	A	1	A	B
2	T	Dichlorodifluoromethane	85	1.73	0.226	A	1	A	B
3	T	Chloromethane	50	1.98	0.260	A	1	A	B
4	T	Vinyl chloride	62	2.12	0.277	A	1	A	B
5	T	Bromomethane	94	2.58	0.338	A	1	A	B
6	T	Chloroethane	64	2.67	0.349	A	2	A	B
7	T	Dichlorofluoromethane	67	2.71	0.355	A	1	A	B
8	T	Trichlorofluoromethane	101	2.95	0.386	A	1	A	B
9	T	Acrolein	56	3.42	0.449	A	1	A	B
10	T	1,1,2-Trichloro-1,2,2-trifluor	151	3.45	0.453	A	1	A	B
11	T	Acetone	43	3.50	0.458	A	2	A	B
12	T	1,1-Dichloroethene	61	3.65	0.478	A	2	A	B
13	T	tert-Butyl alcohol	59	3.75	0.491	A	1	A	B
14	T	Acetonitrile	41	3.81	0.499	A	2	A	B
15	T	Iodomethane	142	4.03	0.528	A	1	A	B
16	T	Methyl Acetate	43	4.05	0.530	A	1	A	B
17	T	Allyl Chloride	76	4.08	0.534	A	1	A	B
18	T	Methylene chloride	49	4.23	0.554	A	2	A	B
19	T	Carbon disulfide	76	4.24	0.556	A	1	A	B
20	T	Acrylonitrile	53	4.38	0.573	A	2	A	B
21	T	tert-Butyl methyl ether (MTBE)	73	4.42	0.579	A	1	A	B
22	T	trans-1,2-Dichloroethene	61	4.59	0.601	A	2	A	B
23	T	Isopropyl ether (DIPE)	45	4.99	0.653	A	1	A	B
24	T	1,1-Dichloroethane	63	5.12	0.671	A	2	A	B
25	T	Vinyl acetate	43	5.13	0.673	A	1	A	B
26	T	2-Butanol	45	5.42	0.710	A	1	A	B
27	T	tert-Butyl ethyl ether (ETBE)	59	5.52	0.723	A	1	A	B
28	T	2-Butanone	72	5.67	0.743	A	1	A	B
29	T	Propionitrile	54	5.78	0.756	A	1	A	B
30	T	2,2-Dichloropropane	77	5.85	0.766	A	2	A	B
31	T	cis-1,2-Dichloroethene	96	5.91	0.774	A	2	A	B
32	T	Methylacrynonitrile	52	6.03	0.790	A	2	A	B
33	T	Isobutyl Alcohol	43	6.06	0.793	A	1	A	B
34	T	Chloroform	83	6.12	0.801	A	2	A	B
35	T	Bromochloromethane	49	6.34	0.830	A	2	A	B
36	T	Tetrahydrofuran	42	6.38	0.836	A	2	A	B
37	S	Dibromofluoromethane	111	6.42	0.840	A	1	A	B
38	T	1,1,1-Trichloroethane	97	6.65	0.871	A	2	A	B
39	T	Cyclohexane	84	6.67	0.873	A	2	A	B
40	T	1,1-Dichloropropene	110	6.86	0.899	A	1	A	B
41	T	Carbon tetrachloride	119	7.00	0.916	A	1	A	B
42	T	tert-Amyl methyl ether (TAME)	87	7.03	0.920	A	2	A	B
43	S	1,2-Dichloroethane-d4	65	7.08	0.928	A	1	A	B
44	T	1,2-Dichloroethane	62	7.22	0.945	A	1	A	B
45	T	Benzene	78	7.23	0.947	A	2	A	B
46	T	Trichloroethene	130	8.10	1.060	A	3	A	B
47	T	Methylcyclohexane	83	8.17	1.070	A	2	A	B
48	T	1,2-Dichloropropane	63	8.35	1.094	A	2	A	B
49	T	Methyl Methacrylate	69	8.45	1.107	A	2	A	B
50	T	Bromodichloromethane	83	8.69	1.138	A	1	A	B
51	T	1,4-Dioxane	88	8.73	1.144	Q	1	A	B
52	T	Dibromomethane	93	8.77	1.148	A	2	A	B
53	T	2-Chloroethyl vinyl ether	63	9.17	1.201	A	1	A	B

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54	T	4-Methyl-2-pentanone	43	9.21	1.206	A	3	A	B
55	T	cis-1,3-Dichloropropene	75	9.52	1.247	A	3	A	B
56	I	CHLOROBENZENE-D5	117	12.32	1.000	A	2	A	B
57	S	Toluene-d8	98	9.88	0.802	A	1	A	B
58	T	Toluene	91	10.00	0.812	A	1	A	B
59	T	Ethyl methacrylate	69	10.31	0.837	A	2	A	B
60	T	trans-1,3-Dichloropropene	75	10.30	0.836	A	2	A	B
61	T	1,1,2-Trichloroethane	97	10.55	0.856	A	3	A	B
62	T	2-Hexanone	43	10.58	0.859	A	2	A	B
63	T	1,3-Dichloropropane	76	10.95	0.889	A	1	A	B
64	T	Tetrachloroethene	164	11.04	0.896	A	3	A	B
65	T	Dibromochloromethane	129	11.35	0.921	A	1	A	B
66	T	1,2-Dibromoethane	107	11.68	0.948	A	1	A	B
67	T	1-Chlorohexane	91	11.98	0.972	A	3	A	B
68	T	Chlorobenzene	112	12.38	1.005	A	3	A	B
69	T	1,1,1,2-Tetrachloroethane	131	12.45	1.011	A	3	A	B
70	T	Ethylbenzene	91	12.48	1.013	A	1	A	B
71	T	m-Xylene & p-Xylene	91	12.60	1.023	A	1	A	B
72	T	o-Xylene	91	13.35	1.083	A	1	A	B
73	T	Styrene	104	13.41	1.088	A	2	A	B
74	T	Isopropylbenzene	105	13.97	1.134	A	3	A	B
75	T	Cis-1,4-Dichloro-2-Butene	53	14.08	1.142	A	2	A	B
76	I	1,2-DICHLOROBENZENE-D4	152	17.16	1.000	A	1	A	B
77	T	Bromoform	173	13.97	0.814	A	2	A	B
78	T	1,1,2,2-Tetrachloroethane	83	14.28	0.833	A	1	A	B
79	S	4-Bromofluorobenzene	95	14.40	0.840	A	2	A	B
80	T	1,2,3-Trichloropropane	110	14.54	0.847	A	1	A	B
81	T	trans-1,4-Dichloro-2-butene	53	14.67	0.855	A	1	A	B
82	T	n-Propylbenzene	91	14.67	0.855	A	2	A	B
83	T	Bromobenzene	156	14.72	0.858	A	2	A	B
84	T	1,3,5-Trimethylbenzene	105	14.95	0.872	A	2	A	B
85	T	2-Chlorotoluene	126	14.97	0.873	A	1	A	B
86	T	4-Chlorotoluene	126	15.06	0.878	A	1	A	B
87	T	tert-Butylbenzene	134	15.59	0.909	A	2	A	B
88	T	1,2,4-Trimethylbenzene	105	15.65	0.912	A	1	A	B
89	T	sec-Butylbenzene	105	15.97	0.931	A	1	A	B
90	T	p-Isopropyltoluene	119	16.22	0.945	A	2	A	B
91	T	1,3-Dichlorobenzene	146	16.35	0.953	A	2	A	B
92	T	1,2,3-Trimethylbenzene	105	16.49	0.961	A	2	A	B
93	T	1,4-Dichlorobenzene	146	16.55	0.964	A	2	A	B
94	T	n-Butylbenzene	91	16.96	0.989	A	2	A	B
95	T	1,2-Dichlorobenzene	146	17.20	1.003	A	2	A	B
96	T	1,2-Dibromo-3-chloropropane	157	18.51	1.079	A	2	A	B
97	T	1,2,4-Trichlorobenzene	180	19.55	1.140	A	2	A	B
98	T	Hexachlorobutadiene	225	19.71	1.149	A	2	A	B
99	T	Naphthalene	128	19.80	1.154	A	1	A	B
100	T	1,2,3-Trichlorobenzene	180	20.06	1.169	A	2	A	B

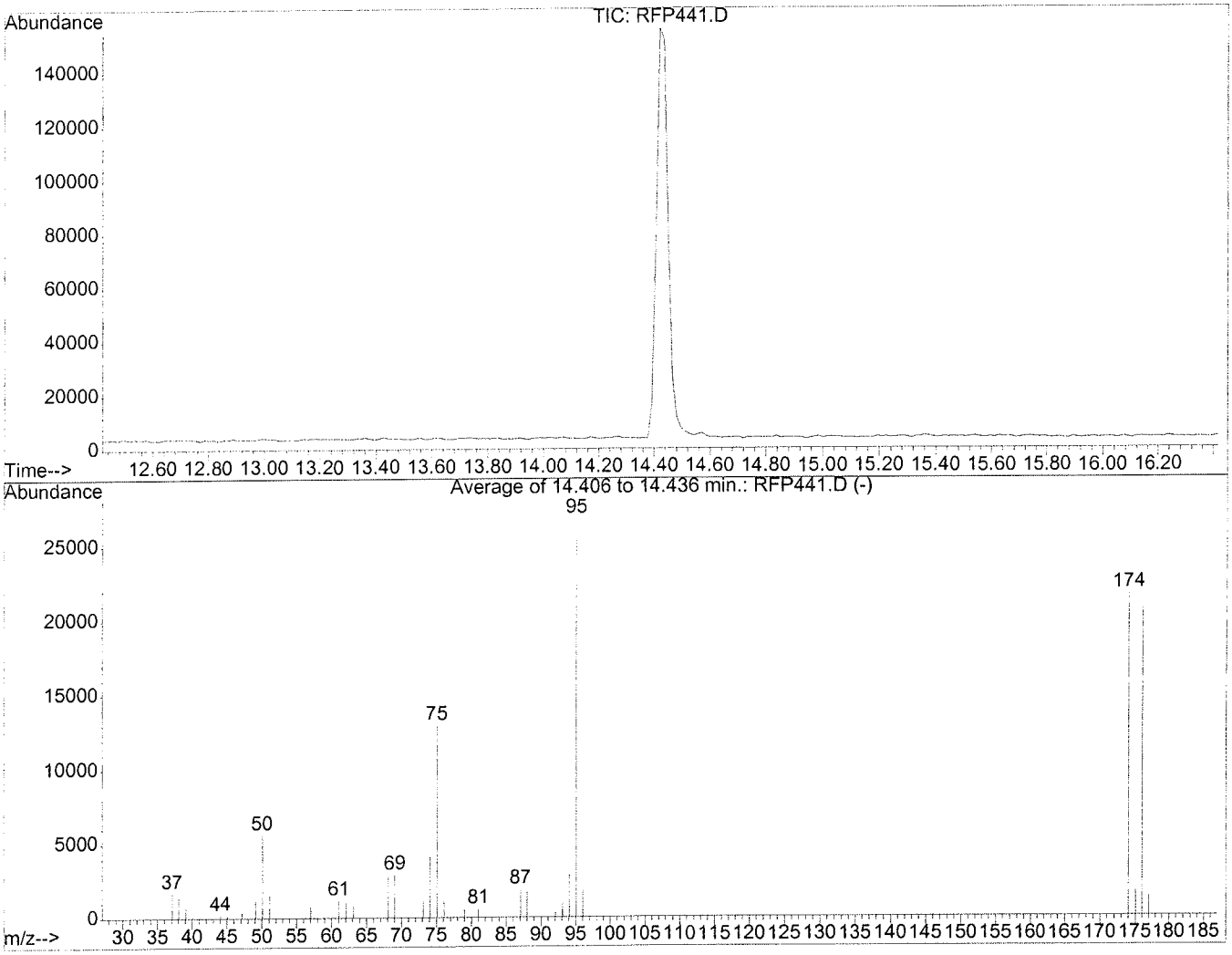
Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VO02F29.M Tue Jul 02 12:35:32 2019

SC 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP441.D
Acq On : 29 Jun 2019 11:36 am
Sample : BFB02F18
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL

Vial: 1
Operator: IRagas
Inst : 02
Multiplr: 1.00



AutoFind: Scans 859, 860, 861; Background Corrected with Scan 855

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.9	5617	PASS
75	95	30	60	48.2	12943	PASS
95	95	100	100	100.0	26827	PASS
96	95	5	9	6.7	1790	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.7	21654	PASS
175	174	5	9	7.8	1686	PASS
176	174	95	101	95.6	20705	PASS
177	176	5	9	6.4	1328	PASS

RFP441.D VO02F29.M Tue Jul 02 12:47:43 2019 SR 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP442.D
Acq On : 29 Jun 2019 12:07 pm
Sample : VO02F291
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:36 2019

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1402061	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1042161	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	366339	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.45	111	3970	0.42	ug/l		0.03
Spiked Amount 50.000			Recovery =	0.84%			
43) 1,2-Dichloroethane-d4	0.00	65	0d	0.00	ug/l		
Spiked Amount 50.000			Recovery =	0.00%			
57) Toluene-d8	9.93	98	15815	0.52	ug/l		0.04
Spiked Amount 50.000			Recovery =	1.04%			
79) 4-Bromofluorobenzene	14.43	95	5528	0.66	ug/l		0.03
Spiked Amount 50.000			Recovery =	1.32%			
Target Compounds							Qvalue
3) Chloromethane	2.00	50	9940	0.79	ug/l		97
4) Vinyl chloride	2.12	62	5140	0.47	ug/l		88
5) Bromomethane	2.59	94	5179	0.56	ug/l		95
6) Chloroethane	2.68	64	3970	0.53	ug/l	#	1
7) Dichlorofluoromethane	2.73	67	18762	0.95	ug/l		64
8) Trichlorofluoromethane	2.96	101	4156	0.46	ug/l		87
9) Acrolein	3.44	56	13766	7.27	ug/l	#	16
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	5235	0.88	ug/l		83
11) Acetone	3.51	43	51463	16.10	ug/l	#	84
12) 1,1-Dichloroethene	3.68	61	14650	0.89	ug/l		91
13) tert-Butyl alcohol	3.77	59	6923	5.61	ug/l		99
14) Acetonitrile	3.84	41	12386	9.71	ug/l		70
15) Iodomethane	4.05	142	13190	0.87	ug/l		97
18) Methylene chloride	4.27	49	15127	1.00	ug/l		98
19) Carbon disulfide	4.26	76	16695	0.43	ug/l		94
20) Acrylonitrile	4.41	53	20847	4.43	ug/l		96
21) tert-Butyl methyl ether (M	4.44	73	24736	0.92	ug/l		95
22) trans-1,2-Dichloroethene	4.62	61	13390	0.79	ug/l		94
23) Isopropyl ether (DIPE)	5.02	45	40977	0.83	ug/l		98
24) 1,1-Dichloroethane	5.15	63	19729	0.84	ug/l		94
26) 2-Butanol	5.45	45	4244	3.29	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.55	59	33121	0.89	ug/l		99
28) 2-Butanone	5.70	72	5373	4.16	ug/l	#	30
29) Propionitrile	5.81	54	13462	8.25	ug/l		95
31) cis-1,2-Dichloroethene	5.94	96	8881	0.77	ug/l		89
32) Methylacrynonitrile	6.06	52	15347	8.33	ug/l	#	91
33) Isobutyl Alcohol	6.09	43	15939	23.77	ug/l		73

(#) = qualifier out of range (m) = manual integration
RFP442.D VO02F29.M Tue Jul 02 12:37:19 2019 SA 7/3/19 Page 1

Data File : D:\HPCHEM\1\DATA\19F29\RFP442.D
Acq On : 29 Jun 2019 12:07 pm
Sample : VO02F291
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:36 2019

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
34)	Chloroform	6.15	83	16892	0.87	ug/l		96
35)	Bromochloromethane	6.37	49	9929	0.82	ug/l		88
38)	1,1,1-Trichloroethane	6.68	97	8939	0.86	ug/l		95
39)	Cyclohexane	6.70	84	8863	0.60	ug/l		96
40)	1,1-Dichloropropene	6.89	110	3684	0.80	ug/l		69
41)	Carbon tetrachloride	7.03	119	5312	0.64	ug/l		96
42)	tert-Amyl methyl ether (TA	7.07	87	3544	0.66	ug/l	#	7
44)	1,2-Dichloroethane	7.25	62	9918	0.79	ug/l		95
45)	Benzene	7.26	78	41552	0.85	ug/l		99
46)	Trichloroethene	8.13	130	8454	0.80	ug/l		99
47)	Methylcyclohexane	8.20	83	13681	0.73	ug/l		89
48)	1,2-Dichloropropane	8.38	63	11782	0.86	ug/l		90
49)	Methyl Methacrylate	8.48	69	7035	0.81	ug/l		75
50)	Bromodichloromethane	8.74	83	10608	0.84	ug/l		91
52)	Dibromomethane	8.81	93	5286	0.73	ug/l		91
54)	4-Methyl-2-pentanone	9.24	43	64949	4.53	ug/l		95
55)	cis-1,3-Dichloropropene	9.55	75	13417	0.69	ug/l		85
58)	Toluene	10.04	91	36732	0.91	ug/l		99
59)	Ethyl methacrylate	10.34	69	10363	0.73	ug/l	#	82
60)	trans-1,3-Dichloropropene	10.34	75	9250	0.63	ug/l		80
61)	1,1,2-Trichloroethane	10.58	97	6862	0.85	ug/l		92
62)	2-Hexanone	10.61	43	39675	4.51	ug/l		88
63)	1,3-Dichloropropane	10.98	76	13100	0.81	ug/l		95
64)	Tetrachloroethene	11.07	164	6384	0.83	ug/l		97
65)	Dibromochloromethane	11.38	129	5989	0.65	ug/l		94
66)	1,2-Dibromoethane	11.71	107	5818	0.72	ug/l		100
67)	1-Chlorohexane	12.02	91	11716	0.81	ug/l		87
68)	Chlorobenzene	12.41	112	19646	0.83	ug/l	#	85
69)	1,1,1,2-Tetrachloroethane	12.50	131	5405	0.70	ug/l	#	71
70)	Ethylbenzene	12.51	91	37908	0.89	ug/l		98
71)	m-Xylene & p-Xylene	12.65	91	54989	1.76	ug/l		98
72)	o-Xylene	13.38	91	25880	0.83	ug/l		97
73)	Styrene	13.45	104	22794	0.94	ug/l		97
74)	Isopropylbenzene	14.02	105	29966	0.84	ug/l		96
77)	Bromoform	14.00	173	2794	0.55	ug/l	#	29
78)	1,1,2,2-Tetrachloroethane	14.31	83	10093	0.89	ug/l		99
80)	1,2,3-Trichloropropane	14.57	110	1216	0.57	ug/l	#	58
82)	n-Propylbenzene	14.72	91	36588	0.83	ug/l		98
83)	Bromobenzene	14.75	156	6794	0.77	ug/l		91
84)	1,3,5-Trimethylbenzene	15.00	105	20238	0.79	ug/l		98
85)	2-Chlorotoluene	15.00	126	6344	0.79	ug/l		91

(#) = qualifier out of range (m) = manual integration
RFP442.D VO02F29.M Tue Jul 02 12:37:20 2019

SU 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP442.D
Acq On : 29 Jun 2019 12:07 pm
Sample : VO02F291
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:36 2019

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
86)	4-Chlorotoluene	15.09	126	5286	0.73	ug/l	#	75
87)	tert-Butylbenzene	15.62	134	3589	0.70	ug/l	#	61
88)	1,2,4-Trimethylbenzene	15.68	105	19356	0.79	ug/l		98
89)	sec-Butylbenzene	16.00	105	28946	0.83	ug/l		97
90)	p-Isopropyltoluene	16.26	119	22127	0.83	ug/l		97
91)	1,3-Dichlorobenzene	16.38	146	12214	0.84	ug/l		94
92)	1,2,3-Trimethylbenzene	16.53	105	19482	0.82	ug/l		97
93)	1,4-Dichlorobenzene	16.58	146	12469	0.86	ug/l		93
94)	n-Butylbenzene	16.99	91	20336	0.79	ug/l		98
95)	1,2-Dichlorobenzene	17.23	146	11111	0.84	ug/l		77
97)	1,2,4-Trichlorobenzene	19.58	180	5089	0.86	ug/l		97
98)	Hexachlorobutadiene	19.73	225	2735	0.91	ug/l	#	20
99)	Naphthalene	19.83	128	14436	0.93	ug/l		97
100)	1,2,3-Trichlorobenzene	20.07	180	4375	0.83	ug/l	#	84

SM 7/3/19

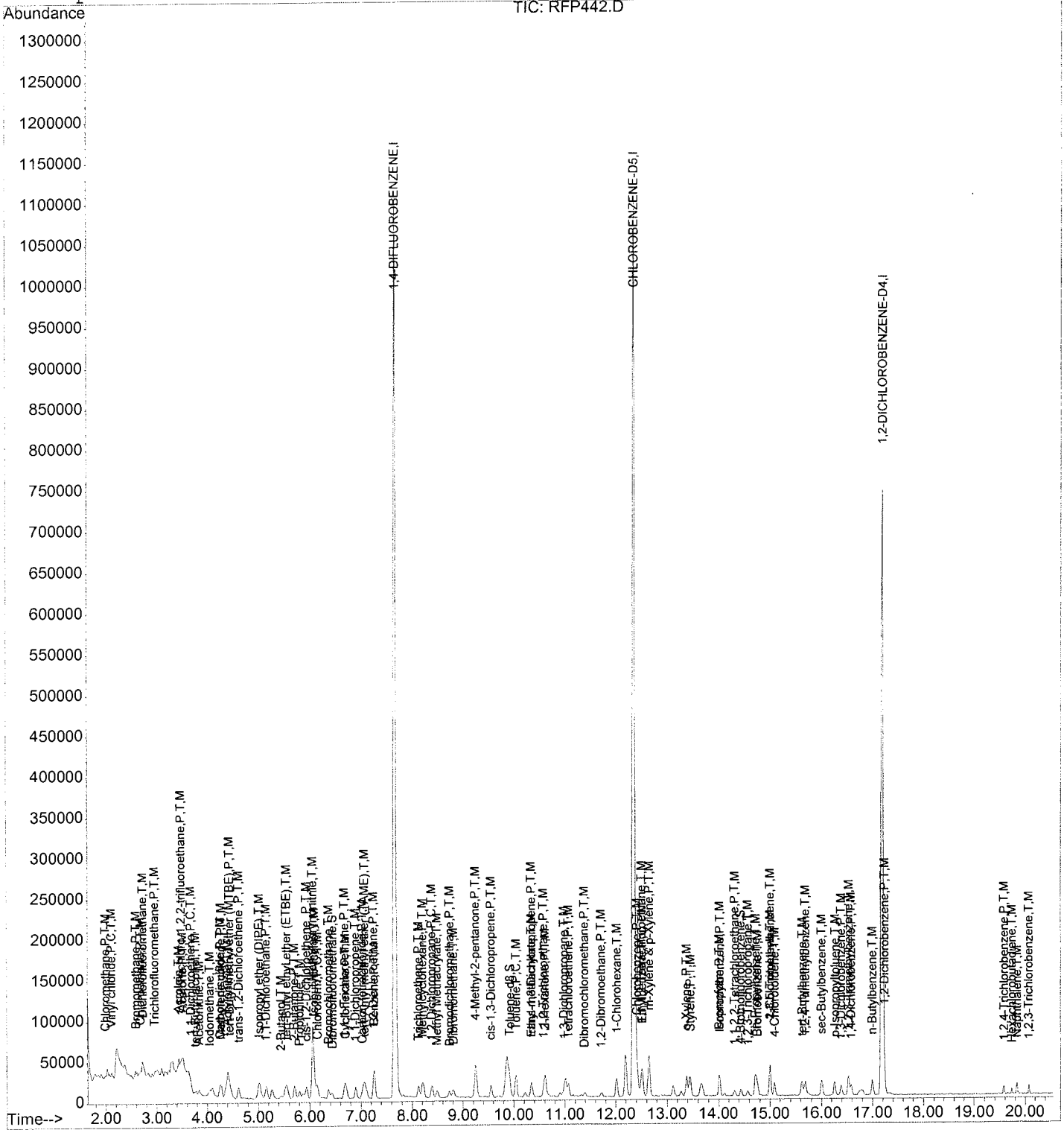
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP442.D
Acq On : 29 Jun 2019 12:07 pm
Sample : VO02F291
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:36 2019

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP443.D
Acq On : 29 Jun 2019 12:32 pm
Sample : VO02F292
Misc : 2.0ppb 8260/10ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:37 2019

Vial: 3
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1345693	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1038631	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	350269	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	13805	1.52	ug/l		0.02
Spiked Amount 50.000			Recovery =	3.04%			
43) 1,2-Dichloroethane-d4	7.12	65	13859	1.53	ug/l		0.03
Spiked Amount 50.000			Recovery =	3.06%			
57) Toluene-d8	9.91	98	45504	1.50	ug/l		0.03
Spiked Amount 50.000			Recovery =	3.00%			
79) 4-Bromofluorobenzene	14.44	95	12942	1.61	ug/l		0.03
Spiked Amount 50.000			Recovery =	3.22%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	8909	1.17	ug/l		75
3) Chloromethane	1.99	50	19133	1.59	ug/l		97
4) Vinyl chloride	2.12	62	14041	1.34	ug/l		94
5) Bromomethane	2.58	94	11665	1.33	ug/l		97
6) Chloroethane	2.68	64	9583	1.34	ug/l	#	40
7) Dichlorofluoromethane	2.71	67	36672	1.93	ug/l		80
8) Trichlorofluoromethane	2.97	101	10378	1.20	ug/l		97
9) Acrolein	3.44	56	16802	9.25	ug/l		94
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	10971	1.91	ug/l		95
11) Acetone	3.52	43	34138	11.12	ug/l	#	79
12) 1,1-Dichloroethene	3.67	61	31801	2.01	ug/l		97
13) tert-Butyl alcohol	3.77	59	9720	8.21	ug/l		81
14) Acetonitrile	3.85	41	21082	17.22	ug/l		71
15) Iodomethane	4.05	142	27035	1.85	ug/l		100
16) Methyl Acetate	4.07	43	25776	2.52	ug/l		76
17) Allyl Chloride	4.11	76	9590	1.82	ug/l		97
18) Methylene chloride	4.28	49	29395	2.02	ug/l		97
19) Carbon disulfide	4.26	76	49062	1.33	ug/l		97
20) Acrylonitrile	4.41	53	36981	8.19	ug/l		99
21) tert-Butyl methyl ether (M	4.44	73	49770	1.93	ug/l		98
22) trans-1,2-Dichloroethene	4.60	61	30445	1.88	ug/l		97
23) Isopropyl ether (DIPE)	5.02	45	91168	1.93	ug/l		98
24) 1,1-Dichloroethane	5.15	63	42352	1.89	ug/l		96
25) Vinyl acetate	5.15	43	36899	1.34	ug/l		90
26) 2-Butanol	5.45	45	7112	5.75	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	68051	1.90	ug/l		99
28) 2-Butanone	5.70	72	10259	8.27	ug/l	#	57

(#) = qualifier out of range (m) = manual integration

SU 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP443.D
Acq On : 29 Jun 2019 12:32 pm
Sample : VO02F292
Misc : 2.0ppb 8260/10ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:37 2019

Vial: 3
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29)	Propionitrile	5.81	54	26174	16.71	ug/l		95
30)	2,2-Dichloropropane	5.88	77	15970	2.11	ug/l		90
31)	cis-1,2-Dichloroethene	5.94	96	19707	1.79	ug/l		96
32)	Methylacrynonitrile	6.06	52	29801	16.85	ug/l	#	89
33)	Isobutyl Alcohol	6.09	43	30024	46.64	ug/l		70
34)	Chloroform	6.15	83	36807	1.96	ug/l		96
35)	Bromochloromethane	6.36	49	20413	1.75	ug/l		97
36)	Tetrahydrofuran	6.42	42	7441	1.95	ug/l		73
38)	1,1,1-Trichloroethane	6.69	97	18862	1.89	ug/l		98
39)	Cyclohexane	6.70	84	20160	1.42	ug/l		96
40)	1,1-Dichloropropene	6.89	110	7760	1.76	ug/l		94
41)	Carbon tetrachloride	7.03	119	12326	1.55	ug/l		99
42)	tert-Amyl methyl ether (TA	7.06	87	8860	1.71	ug/l	#	83
44)	1,2-Dichloroethane	7.25	62	19944	1.65	ug/l		97
45)	Benzene	7.27	78	88525	1.88	ug/l		99
46)	Trichloroethene	8.13	130	18020	1.77	ug/l		95
47)	Methylcyclohexane	8.20	83	28138	1.57	ug/l		94
48)	1,2-Dichloropropane	8.38	63	23338	1.77	ug/l		89
49)	Methyl Methacrylate	8.49	69	13553	1.63	ug/l		89
50)	Bromodichloromethane	8.72	83	20825	1.71	ug/l		96
51)	1,4-Dioxane	8.77	88	1852	45.54	ug/l		77
52)	Dibromomethane	8.80	93	10546	1.51	ug/l		97
53)	2-Chloroethyl vinyl ether	9.20	63	4344	1.22	ug/l		84
54)	4-Methyl-2-pentanone	9.24	43	120139	8.73	ug/l		96
55)	cis-1,3-Dichloropropene	9.56	75	29824	1.61	ug/l		95
58)	Toluene	10.03	91	76183	1.88	ug/l		99
59)	Ethyl methacrylate	10.35	69	22178	1.56	ug/l		94
60)	trans-1,3-Dichloropropene	10.33	75	20979	1.43	ug/l		93
61)	1,1,2-Trichloroethane	10.57	97	13466	1.68	ug/l		94
62)	2-Hexanone	10.61	43	70149	8.00	ug/l		92
63)	1,3-Dichloropropane	10.99	76	27110	1.69	ug/l		98
64)	Tetrachloroethene	11.07	164	13760	1.79	ug/l		98
65)	Dibromochloromethane	11.39	129	12843	1.40	ug/l		99
66)	1,2-Dibromoethane	11.71	107	13247	1.65	ug/l		97
67)	1-Chlorohexane	12.01	91	24373	1.70	ug/l		97
68)	Chlorobenzene	12.41	112	39991	1.70	ug/l		81
69)	1,1,1,2-Tetrachloroethane	12.49	131	13458	1.75	ug/l	#	72
70)	Ethylbenzene	12.52	91	76997	1.81	ug/l		100
71)	m-Xylene & p-Xylene	12.64	91	114495	3.68	ug/l		98
72)	o-Xylene	13.38	91	56130	1.82	ug/l		97
73)	Styrene	13.44	104	43686	1.80	ug/l		97

(#) = qualifier out of range (m) = manual integration

SU 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP443.D
Acq On : 29 Jun 2019 12:32 pm
Sample : VO02F292
Misc : 2.0ppb 8260/10ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:37 2019

Vial: 3
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
74)	Isopropylbenzene	14.01	105	61855	1.74	ug/l		99
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	4364	1.39	ug/l		70
77)	Bromoform	14.01	173	6799	1.41	ug/l		93
78)	1,1,2,2-Tetrachloroethane	14.32	83	20205	1.86	ug/l		98
80)	1,2,3-Trichloropropane	14.57	110	3354	1.64	ug/l		92
82)	n-Propylbenzene	14.70	91	75912	1.81	ug/l		99
83)	Bromobenzene	14.75	156	15597	1.85	ug/l		98
84)	1,3,5-Trimethylbenzene	14.99	105	44687	1.82	ug/l		100
85)	2-Chlorotoluene	15.00	126	14200	1.85	ug/l		95
86)	4-Chlorotoluene	15.09	126	12343	1.79	ug/l		95
87)	tert-Butylbenzene	15.63	134	9093	1.86	ug/l		97
88)	1,2,4-Trimethylbenzene	15.69	105	41429	1.77	ug/l		99
89)	sec-Butylbenzene	16.00	105	62019	1.86	ug/l		98
90)	p-Isopropyltoluene	16.25	119	45393	1.79	ug/l		99
91)	1,3-Dichlorobenzene	16.39	146	24811	1.79	ug/l		97
92)	1,2,3-Trimethylbenzene	16.52	105	41294	1.81	ug/l		99
93)	1,4-Dichlorobenzene	16.58	146	25362	1.83	ug/l		98
94)	n-Butylbenzene	17.00	91	44254	1.80	ug/l		98
95)	1,2-Dichlorobenzene	17.23	146	23472	1.86	ug/l		89
96)	1,2-Dibromo-3-chloropropan	18.53	157	1481	1.09	ug/l	#	46
97)	1,2,4-Trichlorobenzene	19.57	180	10547	1.86	ug/l		96
98)	Hexachlorobutadiene	19.73	225	5372	1.86	ug/l		96
99)	Naphthalene	19.82	128	26247	1.77	ug/l		96
100)	1,2,3-Trichlorobenzene	20.07	180	9107	1.80	ug/l		99

SU 7/3/19

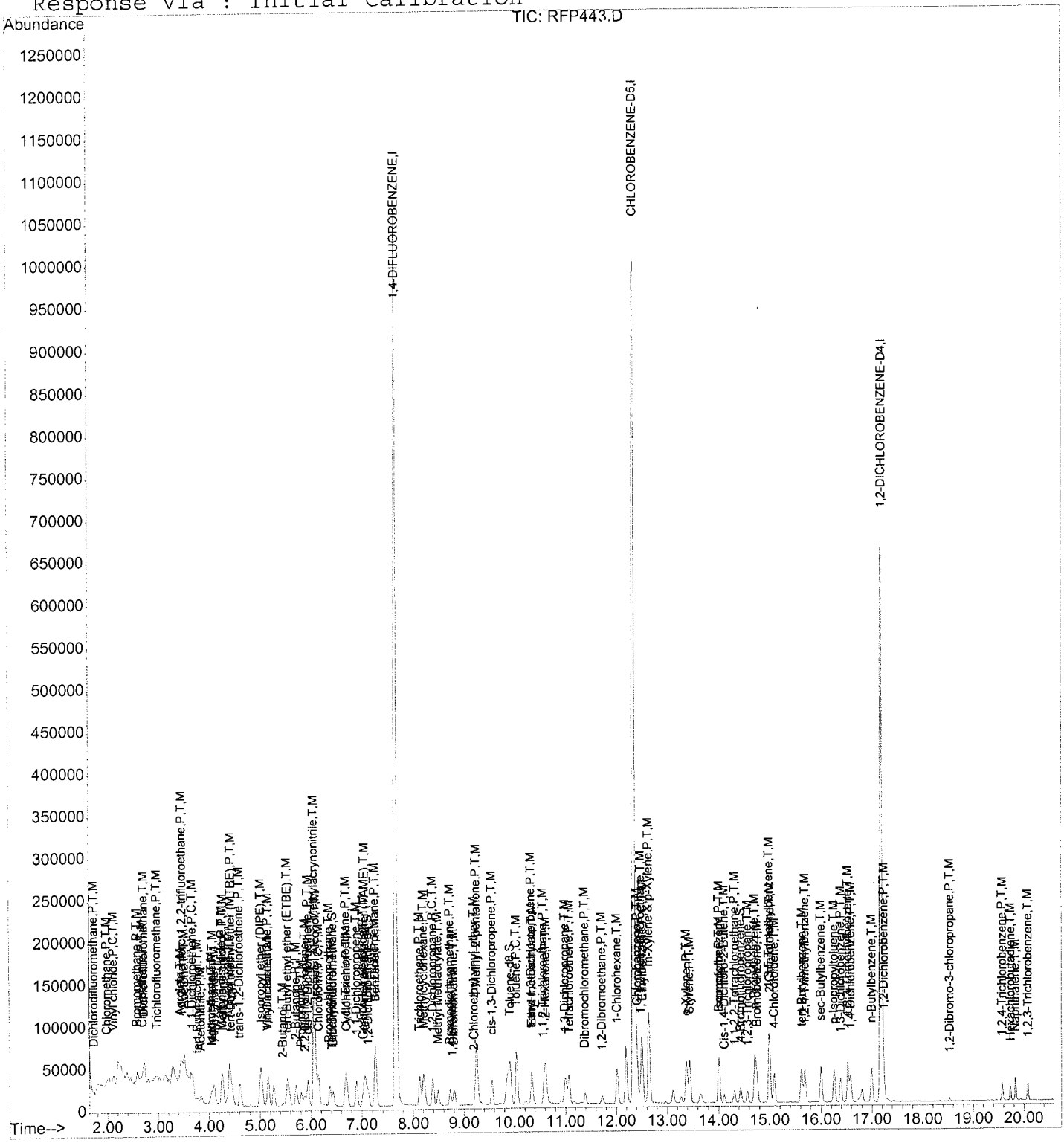
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP443.D
Acq On : 29 Jun 2019 12:32 pm
Sample : VO02F292
Misc : 2.0ppb 8260/10ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:37 2019

Vial: 3
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP444.D
Acq On : 29 Jun 2019 12:57 pm
Sample : VO02F293
Misc : 4.0ppb 8260/20ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019

Vial: 4
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1351219	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	998957	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	362296	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	32412	3.56	ug/l		0.02
Spiked Amount 50.000			Recovery =	7.12%			
43) 1,2-Dichloroethane-d4	7.11	65	33182	3.66	ug/l		0.03
Spiked Amount 50.000			Recovery =	7.32%			
57) Toluene-d8	9.91	98	108359	3.72	ug/l		0.03
Spiked Amount 50.000			Recovery =	7.44%			
79) 4-Bromofluorobenzene	14.43	95	30263	3.65	ug/l		0.03
Spiked Amount 50.000			Recovery =	7.30%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	24541	3.21	ug/l		99
3) Chloromethane	2.00	50	48064	3.99	ug/l		97
4) Vinyl chloride	2.12	62	38278	3.64	ug/l		97
5) Bromomethane	2.59	94	30356	3.43	ug/l		100
6) Chloroethane	2.68	64	23940	3.32	ug/l		74
7) Dichlorofluoromethane	2.71	67	76169	3.98	ug/l		91
8) Trichlorofluoromethane	2.96	101	29808	3.43	ug/l		98
9) Acrolein	3.44	56	43152	23.65	ug/l		87
10) 1,1,2-Trichloro-1,2,2-trif	3.49	151	22505	3.90	ug/l		100
11) Acetone	3.52	43	73722	23.93	ug/l	#	90
12) 1,1-Dichloroethene	3.68	61	62866	3.95	ug/l		99
13) tert-Butyl alcohol	3.77	59	23301	19.61	ug/l		84
14) Acetonitrile	3.84	41	48761	39.67	ug/l		84
15) Iodomethane	4.05	142	56864	3.88	ug/l		100
16) Methyl Acetate	4.07	43	33174	3.22	ug/l		67
17) Allyl Chloride	4.11	76	21426	4.04	ug/l		94
18) Methylene chloride	4.27	49	60044	4.10	ug/l		99
19) Carbon disulfide	4.26	76	123513	3.34	ug/l		99
20) Acrylonitrile	4.41	53	83912	18.51	ug/l		100
21) tert-Butyl methyl ether (M	4.44	73	102425	3.95	ug/l		100
22) trans-1,2-Dichloroethene	4.60	61	63215	3.88	ug/l		98
23) Isopropyl ether (DIPE)	5.02	45	185788	3.92	ug/l		98
24) 1,1-Dichloroethane	5.15	63	90190	4.01	ug/l		98
25) Vinyl acetate	5.17	43	93048	3.36	ug/l		96
26) 2-Butanol	5.45	45	20701	16.66	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	141354	3.93	ug/l		100
28) 2-Butanone	5.70	72	23735	19.06	ug/l		96

(#) = qualifier out of range (m) = manual integration
RFP444.D VO02F29.M Tue Jul 02 12:38:30 2019

SM 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP444.D
Acq On : 29 Jun 2019 12:57 pm
Sample : VO02F293
Misc : 4.0ppb 8260/20ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019

Vial: 4
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29) Propionitrile	5.81	54	58543	37.23 ug/l		95
30) 2,2-Dichloropropane	5.88	77	32912	4.34 ug/l		95
31) cis-1,2-Dichloroethene	5.94	96	42028	3.79 ug/l		100
32) Methylacrynonitrile	6.06	52	67100	37.79 ug/l		93
33) Isobutyl Alcohol	6.09	43	43821	67.80 ug/l		97
34) Chloroform	6.15	83	73650	3.91 ug/l		99
35) Bromochloromethane	6.36	49	45673	3.91 ug/l		99
36) Tetrahydrofuran	6.42	42	15503	4.04 ug/l		89
38) 1,1,1-Trichloroethane	6.68	97	40164	4.00 ug/l		99
39) Cyclohexane	6.70	84	50233	3.51 ug/l		98
40) 1,1-Dichloropropene	6.89	110	16426	3.72 ug/l		100
41) Carbon tetrachloride	7.03	119	28088	3.52 ug/l		98
42) tert-Amyl methyl ether (TA	7.06	87	19811	3.81 ug/l	#	86
44) 1,2-Dichloroethane	7.25	62	45405	3.74 ug/l		99
45) Benzene	7.26	78	189070	4.01 ug/l		99
46) Trichloroethene	8.13	130	38898	3.82 ug/l		97
47) Methylcyclohexane	8.20	83	65911	3.67 ug/l		99
48) 1,2-Dichloropropane	8.38	63	51682	3.91 ug/l		97
49) Methyl Methacrylate	8.48	69	30987	3.72 ug/l		90
50) Bromodichloromethane	8.72	83	44403	3.64 ug/l		100
51) 1,4-Dioxane	8.77	88	4789	81.76 ug/l		96
52) Dibromomethane	8.80	93	23884	3.41 ug/l		95
53) 2-Chloroethyl vinyl ether	9.20	63	10082	2.81 ug/l		94
54) 4-Methyl-2-pentanone	9.24	43	256149	18.54 ug/l		97
55) cis-1,3-Dichloropropene	9.55	75	63975	3.44 ug/l		96
58) Toluene	10.03	91	155014	3.99 ug/l		100
59) Ethyl methacrylate	10.34	69	47199	3.46 ug/l		98
60) trans-1,3-Dichloropropene	10.34	75	46060	3.26 ug/l		93
61) 1,1,2-Trichloroethane	10.58	97	30562	3.96 ug/l		96
62) 2-Hexanone	10.61	43	155043	18.38 ug/l		97
63) 1,3-Dichloropropane	10.98	76	61102	3.96 ug/l		99
64) Tetrachloroethene	11.07	164	30443	4.12 ug/l		98
65) Dibromochloromethane	11.38	129	29004	3.28 ug/l		99
66) 1,2-Dibromoethane	11.71	107	28244	3.66 ug/l		98
67) 1-Chlorohexane	12.01	91	54582	3.96 ug/l		98
68) Chlorobenzene	12.41	112	86576	3.83 ug/l		91
69) 1,1,1,2-Tetrachloroethane	12.49	131	27774	3.76 ug/l		88
70) Ethylbenzene	12.51	91	161385	3.94 ug/l		99
71) m-Xylene & p-Xylene	12.63	91	241618	8.07 ug/l		99
72) o-Xylene	13.38	91	118673	3.99 ug/l		100
73) Styrene	13.44	104	84484	3.62 ug/l		98

(#) = qualifier out of range (m) = manual integration

SV 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP444.D Vial: 4
Acq On : 29 Jun 2019 12:57 pm Operator: IRagas
Sample : VO02F293 Inst : 02
Misc : 4.0ppb 8260/20ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
74)	Isopropylbenzene	14.00	105	131582	3.85 ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	9847	3.25 ug/l	90
77)	Bromoform	14.00	173	15990	3.20 ug/l	97
78)	1,1,2,2-Tetrachloroethane	14.31	83	43708	3.89 ug/l	98
80)	1,2,3-Trichloropropane	14.57	110	8040	3.80 ug/l	99
81)	trans-1,4-Dichloro-2-buten	14.70	53	8001	3.22 ug/l	86
82)	n-Propylbenzene	14.70	91	165489	3.81 ug/l	98
83)	Bromobenzene	14.75	156	32999	3.79 ug/l	97
84)	1,3,5-Trimethylbenzene	14.98	105	95108	3.74 ug/l	99
85)	2-Chlorotoluene	15.00	126	30004	3.79 ug/l	97
86)	4-Chlorotoluene	15.09	126	27621	3.86 ug/l	99
87)	tert-Butylbenzene	15.62	134	19658	3.89 ug/l	98
88)	1,2,4-Trimethylbenzene	15.68	105	90856	3.75 ug/l	99
89)	sec-Butylbenzene	16.00	105	132872	3.85 ug/l	99
90)	p-Isopropyltoluene	16.25	119	99090	3.77 ug/l	98
91)	1,3-Dichlorobenzene	16.38	146	54149	3.78 ug/l	99
92)	1,2,3-Trimethylbenzene	16.53	105	90641	3.84 ug/l	97
93)	1,4-Dichlorobenzene	16.58	146	52603	3.68 ug/l	98
94)	n-Butylbenzene	16.99	91	94148	3.70 ug/l	95
95)	1,2-Dichlorobenzene	17.23	146	50357	3.86 ug/l	96
96)	1,2-Dibromo-3-chloropropan	18.52	157	4899	3.48 ug/l	96
97)	1,2,4-Trichlorobenzene	19.57	180	20965	3.58 ug/l	96
98)	Hexachlorobutadiene	19.73	225	10822	3.63 ug/l	99
99)	Naphthalene	19.82	128	56851	3.71 ug/l	96
100)	1,2,3-Trichlorobenzene	20.07	180	19833	3.80 ug/l	99

SU 7/3/19

(#) = qualifier out of range (m) = manual integration

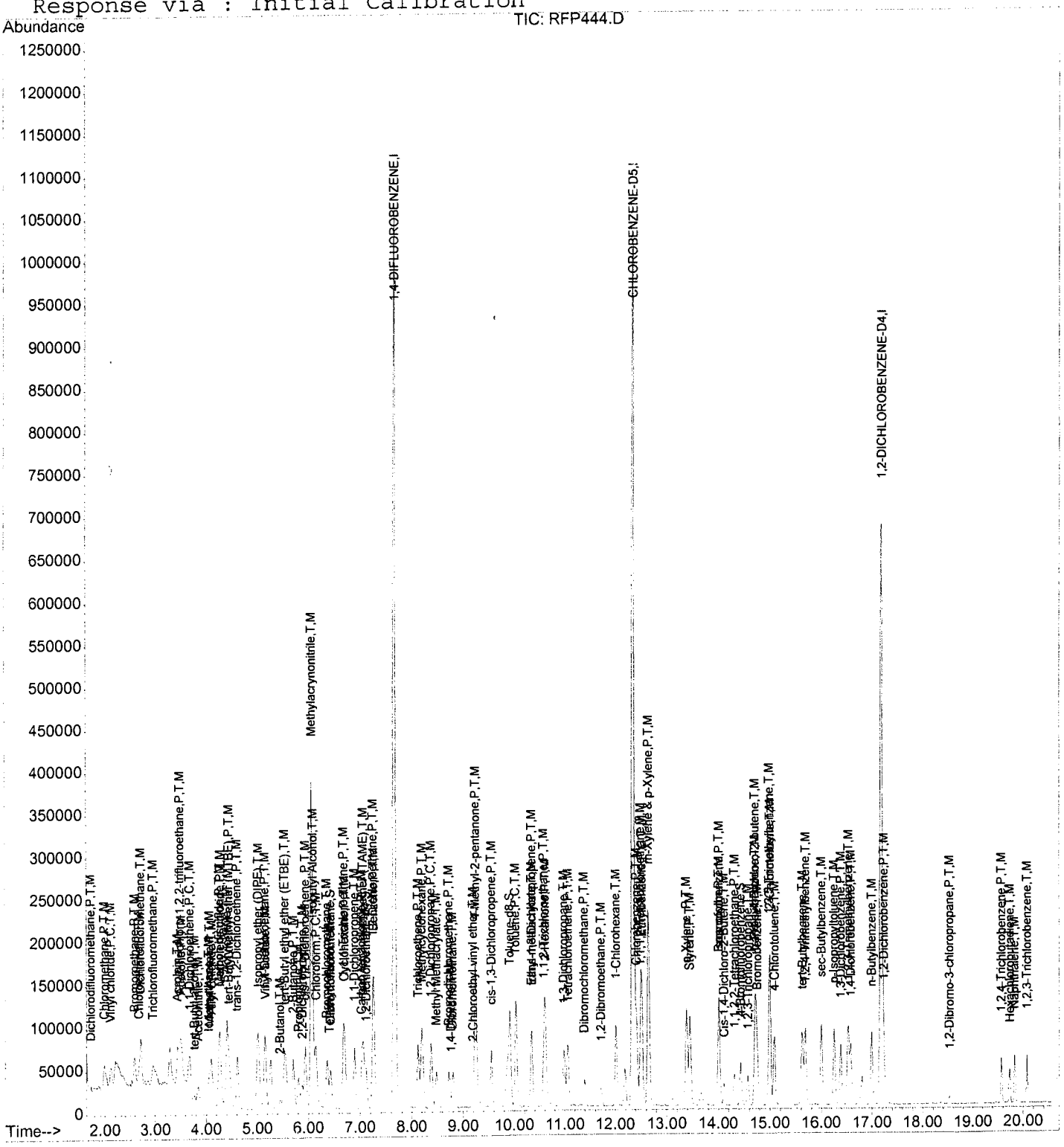
Quantitation Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP444.D
Acq On : 29 Jun 2019 12:57 pm
Sample : VO02F293
Misc : 4.0ppb 8260/20ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019

Vial: 4
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP445.D
Acq On : 29 Jun 2019 1:22 pm
Sample : VO02F294
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019

Vial: 5
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	Qion	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1358389	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.34	117	1062743	50.00	ug/l	0.02
76) 1,2-DICHLOROBENZENE-D4	17.17	152	379878	50.00	ug/l	0.02
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	95017	10.39	ug/l	0.02
Spiked Amount 50.000			Recovery = 20.78%			
43) 1,2-Dichloroethane-d4	7.12	65	95035	10.42	ug/l	0.03
Spiked Amount 50.000			Recovery = 20.84%			
57) Toluene-d8	9.91	98	314511	10.16	ug/l	0.03
Spiked Amount 50.000			Recovery = 20.32%			
79) 4-Bromofluorobenzene	14.42	95	88021	10.13	ug/l	0.02
Spiked Amount 50.000			Recovery = 20.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.73	85	73214	9.53	ug/l	99
3) Chloromethane	2.00	50	129963	10.73	ug/l	98
4) Vinyl chloride	2.12	62	111505	10.56	ug/l	100
5) Bromomethane	2.59	94	87045	9.80	ug/l	98
6) Chloroethane	2.68	64	70979	9.80	ug/l	95
7) Dichlorofluoromethane	2.71	67	201608	10.49	ug/l	98
8) Trichlorofluoromethane	2.97	101	85668	9.79	ug/l	99
9) Acrolein	3.44	56	98844	53.88	ug/l	100
10) 1,1,2-Trichloro-1,2,2-trif	3.49	151	60517	10.44	ug/l	98
11) Acetone	3.52	43	164326	53.05	ug/l	94
12) 1,1-Dichloroethene	3.68	61	167944	10.50	ug/l	100
13) tert-Butyl alcohol	3.77	59	58927	49.33	ug/l	84
14) Acetonitrile	3.83	41	124940	101.11	ug/l	96
15) Iodomethane	4.05	142	158747	10.77	ug/l	99
16) Methyl Acetate	4.07	43	99930	9.66	ug/l	78
17) Allyl Chloride	4.11	76	57817	10.85	ug/l	98
18) Methylene chloride	4.28	49	153706	10.45	ug/l	100
19) Carbon disulfide	4.26	76	363165	9.76	ug/l	100
20) Acrylonitrile	4.41	53	241631	53.02	ug/l	99
21) tert-Butyl methyl ether (M	4.44	73	270769	10.39	ug/l	99
22) trans-1,2-Dichloroethene	4.60	61	173447	10.59	ug/l	98
23) Isopropyl ether (DIPE)	5.02	45	498167	10.45	ug/l	99
24) 1,1-Dichloroethane	5.15	63	244152	10.79	ug/l	100
25) Vinyl acetate	5.15	43	262648	9.44	ug/l	99
26) 2-Butanol	5.44	45	56999	45.63	ug/l #	100
27) tert-Butyl ethyl ether (ET	5.54	59	380010	10.52	ug/l	99
28) 2-Butanone	5.70	72	64018	51.12	ug/l	91

(#) = qualifier out of range (m) = manual integration
RFP445.D VO02F29.M Tue Jul 02 12:38:52 2019

SN 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP445.D
Acq On : 29 Jun 2019 1:22 pm
Sample : VO02F294
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019

Vial: 5
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Propionitrile	5.81	54	165625	104.78	ug/l	97
30) 2,2-Dichloropropane	5.88	77	82584	10.83	ug/l	99
31) cis-1,2-Dichloroethene	5.94	96	117205	10.52	ug/l	99
32) Methylacrynonitrile	6.06	52	188240	105.47	ug/l	98
33) Isobutyl Alcohol	6.09	43	113837	175.19	ug/l	94
34) Chloroform	6.15	83	197116	10.42	ug/l	99
35) Bromochloromethane	6.36	49	121339	10.32	ug/l	99
36) Tetrahydrofuran	6.42	42	41133	10.67	ug/l	93
38) 1,1,1-Trichloroethane	6.69	97	108501	10.74	ug/l	100
39) Cyclohexane	6.70	84	147983	10.29	ug/l	100
40) 1,1-Dichloropropene	6.89	110	46205	10.40	ug/l	99
41) Carbon tetrachloride	7.03	119	78327	9.77	ug/l	99
42) tert-Amyl methyl ether (TA	7.06	87	53592	10.25	ug/l	92
44) 1,2-Dichloroethane	7.25	62	127365	10.44	ug/l	99
45) Benzene	7.27	78	497329	10.49	ug/l	100
46) Trichloroethene	8.13	130	109532	10.69	ug/l	100
47) Methylcyclohexane	8.20	83	189590	10.49	ug/l	99
48) 1,2-Dichloropropane	8.38	63	143500	10.79	ug/l	99
49) Methyl Methacrylate	8.49	69	83695	9.99	ug/l	92
50) Bromodichloromethane	8.72	83	125851	10.26	ug/l	98
51) 1,4-Dioxane	8.77	88	15680	214.07	ug/l	99
52) Dibromomethane	8.80	93	69917	9.94	ug/l	98
53) 2-Chloroethyl vinyl ether	9.20	63	34673	9.62	ug/l	97
54) 4-Methyl-2-pentanone	9.24	43	730305	52.59	ug/l	99
55) cis-1,3-Dichloropropene	9.56	75	188578	10.08	ug/l	98
58) Toluene	10.03	91	429890	10.39	ug/l	99
59) Ethyl methacrylate	10.33	69	137725	9.48	ug/l	97
60) trans-1,3-Dichloropropene	10.33	75	137909	9.18	ug/l	95
61) 1,1,2-Trichloroethane	10.58	97	83071	10.13	ug/l	98
62) 2-Hexanone	10.60	43	444352	49.52	ug/l	99
63) 1,3-Dichloropropane	10.98	76	171220	10.43	ug/l	99
64) Tetrachloroethene	11.06	164	83824	10.68	ug/l	99
65) Dibromochloromethane	11.39	129	86580	9.20	ug/l	100
66) 1,2-Dibromoethane	11.71	107	84581	10.32	ug/l	99
67) 1-Chlorohexane	12.01	91	151592	10.33	ug/l	99
68) Chlorobenzene	12.41	112	248774	10.35	ug/l	98
69) 1,1,1,2-Tetrachloroethane	12.49	131	81807	10.41	ug/l	93
70) Ethylbenzene	12.50	91	464080	10.64	ug/l	99
71) m-Xylene & p-Xylene	12.64	91	658393	20.68	ug/l	100
72) o-Xylene	13.38	91	336182	10.63	ug/l	98
73) Styrene	13.44	104	249046	10.04	ug/l	99

(#) = qualifier out of range (m) = manual integration

7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP445.D
Acq On : 29 Jun 2019 1:22 pm
Sample : VO02F294
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019

Vial: 5
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

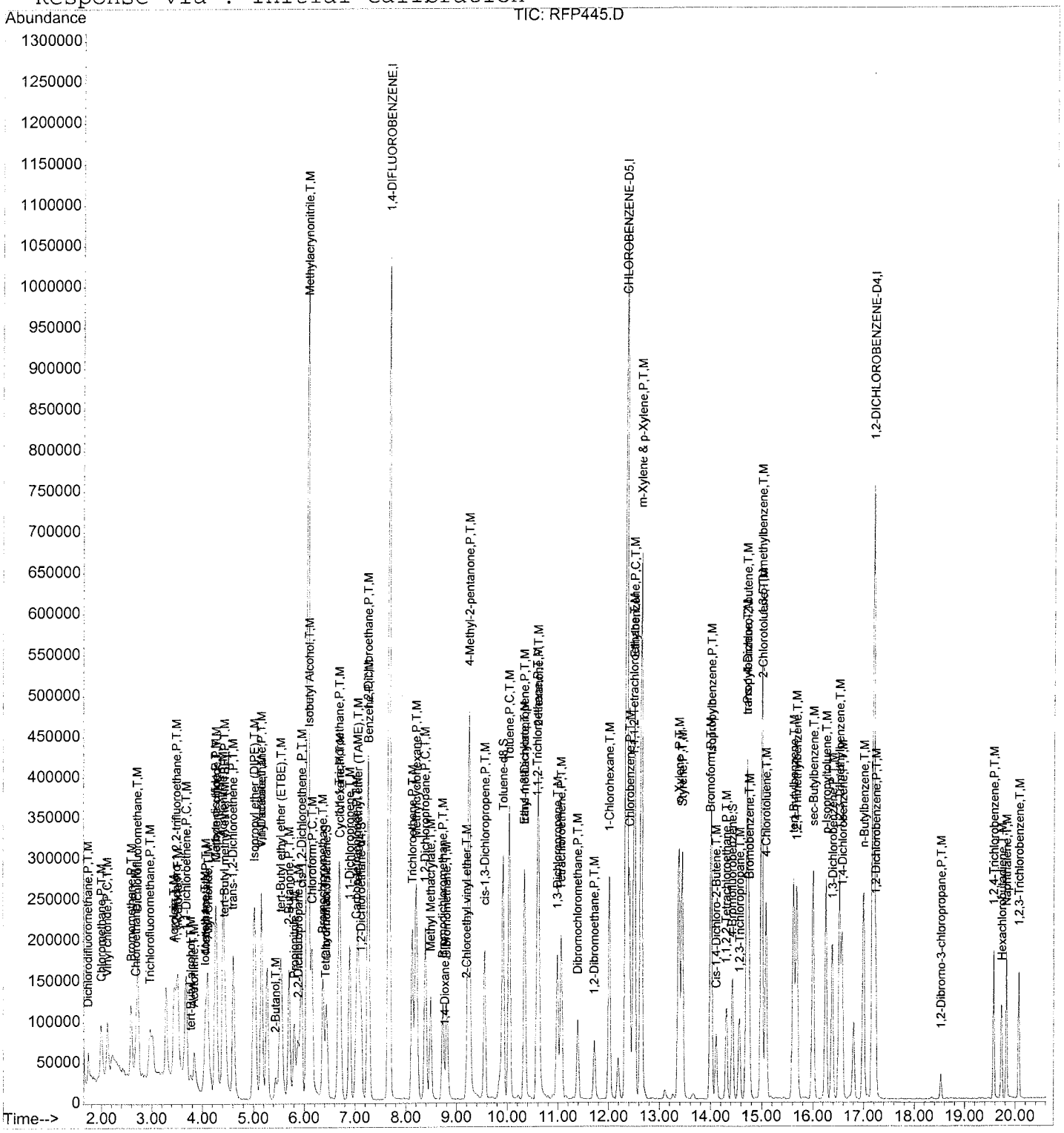
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	382112	10.50	ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	29165	9.05	ug/l	98
77)	Bromoform	13.99	173	46603	8.90	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.30	83	123037	10.43	ug/l	99
80)	1,2,3-Trichloropropane	14.57	110	23921	10.77	ug/l	94
81)	trans-1,4-Dichloro-2-buten	14.70	53	24762	9.52	ug/l	94
82)	n-Propylbenzene	14.70	91	482415	10.60	ug/l	99
83)	Bromobenzene	14.75	156	94174	10.32	ug/l	98
84)	1,3,5-Trimethylbenzene	14.99	105	279949	10.50	ug/l	100
85)	2-Chlorotoluene	15.00	126	89654	10.79	ug/l	97
86)	4-Chlorotoluene	15.08	126	76013	10.14	ug/l	97
87)	tert-Butylbenzene	15.61	134	57799	10.90	ug/l	97
88)	1,2,4-Trimethylbenzene	15.67	105	273404	10.75	ug/l	100
89)	sec-Butylbenzene	16.00	105	389597	10.76	ug/l	99
90)	p-Isopropyltoluene	16.25	119	286962	10.41	ug/l	98
91)	1,3-Dichlorobenzene	16.38	146	155923	10.37	ug/l	99
92)	1,2,3-Trimethylbenzene	16.52	105	264532	10.70	ug/l	98
93)	1,4-Dichlorobenzene	16.58	146	153755	10.25	ug/l	99
94)	n-Butylbenzene	16.99	91	285939	10.71	ug/l	98
95)	1,2-Dichlorobenzene	17.23	146	141673	10.37	ug/l	98
96)	1,2-Dibromo-3-chloropropan	18.53	157	13833	9.38	ug/l	97
97)	1,2,4-Trichlorobenzene	19.57	180	64623	10.51	ug/l	99
98)	Hexachlorobutadiene	19.73	225	31846	10.19	ug/l	99
99)	Naphthalene	19.82	128	157913	9.83	ug/l	100
100)	1,2,3-Trichlorobenzene	20.07	180	57996	10.60	ug/l	97

(#) = qualifier out of range (m) = manual integration

SU 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP445.D Vial: 5
Acq On : 29 Jun 2019 1:22 pm Operator: IRagas
Sample : VO02F294 Inst : 02
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:38 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



SM 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP446.D
Acq On : 29 Jun 2019 1:46 pm
Sample : VO02F295
Misc : 20ppb 8260/100ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019

Vial: 6
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1470841	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1126505	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	403927	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	204945	20.70	ug/l		0.02
Spiked Amount 50.000			Recovery =	41.40%			
43) 1,2-Dichloroethane-d4	7.12	65	200008	20.24	ug/l		0.03
Spiked Amount 50.000			Recovery =	40.48%			
57) Toluene-d8	9.91	98	682845	20.80	ug/l		0.03
Spiked Amount 50.000			Recovery =	41.60%			
79) 4-Bromofluorobenzene	14.43	95	196669	21.28	ug/l		0.03
Spiked Amount 50.000			Recovery =	42.56%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	154817	18.61	ug/l		100
3) Chloromethane	2.00	50	255194	19.46	ug/l		99
4) Vinyl chloride	2.12	62	229879	20.10	ug/l		100
5) Bromomethane	2.58	94	174899	18.18	ug/l		100
6) Chloroethane	2.68	64	144994	18.49	ug/l		97
7) Dichlorofluoromethane	2.71	67	394696	18.96	ug/l		99
8) Trichlorofluoromethane	2.97	101	174782	18.45	ug/l		99
9) Acrolein	3.44	56	185609	93.44	ug/l		99
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	118913	18.95	ug/l		100
11) Acetone	3.52	43	305826	91.18	ug/l		100
12) 1,1-Dichloroethene	3.66	61	330937	19.12	ug/l		99
13) tert-Butyl alcohol	3.77	59	125004	96.64	ug/l		99
14) Acetonitrile	3.83	41	234309	175.12	ug/l		99
15) Iodomethane	4.05	142	304316	19.06	ug/l		99
16) Methyl Acetate	4.07	43	220784	19.72	ug/l		88
17) Allyl Chloride	4.11	76	108751	18.85	ug/l		99
18) Methylene chloride	4.27	49	298739	18.76	ug/l		99
19) Carbon disulfide	4.26	76	761575	18.90	ug/l		100
20) Acrylonitrile	4.41	53	462694	93.77	ug/l		100
21) tert-Butyl methyl ether (M	4.44	73	520334	18.44	ug/l		99
22) trans-1,2-Dichloroethene	4.60	61	342752	19.32	ug/l		99
23) Isopropyl ether (DIPE)	5.00	45	992111	19.21	ug/l		98
24) 1,1-Dichloroethane	5.15	63	464663	18.96	ug/l		100
25) Vinyl acetate	5.15	43	552187	18.33	ug/l		99
26) 2-Butanol	5.43	45	122706	90.73	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	722816	18.48	ug/l		100
28) 2-Butanone	5.70	72	127247	93.85	ug/l		97

(#) = qualifier out of range (m) = manual integration

SC 1/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP446.D
Acq On : 29 Jun 2019 1:46 pm
Sample : VO02F295
Misc : 20ppb 8260/100ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019

Vial: 6
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Propionitrile	5.79	54	314385	183.68	ug/l	99
30) 2,2-Dichloropropane	5.88	77	159791	19.35	ug/l	99
31) cis-1,2-Dichloroethene	5.94	96	228691	18.95	ug/l	99
32) Methylacrynonitrile	6.06	52	370479	191.70	ug/l	99
33) Isobutyl Alcohol	6.09	43	237330	337.32	ug/l	98
34) Chloroform	6.15	83	395370	19.30	ug/l	99
35) Bromochloromethane	6.36	49	243486	19.13	ug/l	98
36) Tetrahydrofuran	6.42	42	75245	18.03	ug/l	99
38) 1,1,1-Trichloroethane	6.68	97	208556	19.07	ug/l	100
39) Cyclohexane	6.70	84	310737	19.96	ug/l	99
40) 1,1-Dichloropropene	6.89	110	90966	18.90	ug/l	99
41) Carbon tetrachloride	7.03	119	156358	18.02	ug/l	100
42) tert-Amyl methyl ether (TA	7.06	87	104320	18.44	ug/l	96
44) 1,2-Dichloroethane	7.25	62	253858	19.23	ug/l	100
45) Benzene	7.26	78	965690	18.80	ug/l	100
46) Trichloroethene	8.13	130	208781	18.81	ug/l	99
47) Methylcyclohexane	8.20	83	404214	20.65	ug/l	100
48) 1,2-Dichloropropane	8.38	63	267030	18.55	ug/l	99
49) Methyl Methacrylate	8.48	69	172390	19.00	ug/l	98
50) Bromodichloromethane	8.72	83	253527	19.10	ug/l	100
51) 1,4-Dioxane	8.77	88	27097	326.27	ug/l	96
52) Dibromomethane	8.80	93	139736	18.35	ug/l	99
53) 2-Chloroethyl vinyl ether	9.20	63	71252	18.26	ug/l	99
54) 4-Methyl-2-pentanone	9.24	43	1419698	94.42	ug/l	100
55) cis-1,3-Dichloropropene	9.56	75	375342	18.53	ug/l	97
58) Toluene	10.03	91	858076	19.57	ug/l	100
59) Ethyl methacrylate	10.33	69	285500	18.54	ug/l	100
60) trans-1,3-Dichloropropene	10.33	75	284221	17.86	ug/l	97
61) 1,1,2-Trichloroethane	10.58	97	166251	19.12	ug/l	98
62) 2-Hexanone	10.60	43	903215	94.96	ug/l	100
63) 1,3-Dichloropropane	10.98	76	336350	19.34	ug/l	99
64) Tetrachloroethene	11.06	164	158633	19.06	ug/l	99
65) Dibromochloromethane	11.38	129	175671	17.60	ug/l	99
66) 1,2-Dibromoethane	11.71	107	167569	19.28	ug/l	99
67) 1-Chlorohexane	12.01	91	298559	19.19	ug/l	100
68) Chlorobenzene	12.41	112	509667	20.01	ug/l	99
69) 1,1,1,2-Tetrachloroethane	12.49	131	157778	18.93	ug/l	97
70) Ethylbenzene	12.52	91	876478	18.96	ug/l	100
71) m-Xylene & p-Xylene	12.63	91	1276987	37.84	ug/l	99
72) o-Xylene	13.38	91	629420	18.77	ug/l	99
73) Styrene	13.44	104	494027	18.80	ug/l	99

(#) = qualifier out of range (m) = manual integration

SA 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP446.D
Acq On : 29 Jun 2019 1:46 pm
Sample : VO02F295
Misc : 20ppb 8260/100ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019

Vial: 6
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	764537	19.82	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	62505	18.31	ug/l	95
77)	Bromoform	14.00	173	95971	17.23	ug/l	98
78)	1,1,2,2-Tetrachloroethane	14.32	83	243933	19.45	ug/l	99
80)	1,2,3-Trichloropropane	14.57	110	44489	18.85	ug/l	99
81)	trans-1,4-Dichloro-2-buten	14.70	53	49739	17.98	ug/l	95
82)	n-Propylbenzene	14.70	91	928495	19.18	ug/l	99
83)	Bromobenzene	14.75	156	184938	19.05	ug/l	98
84)	1,3,5-Trimethylbenzene	14.98	105	554937	19.58	ug/l	99
85)	2-Chlorotoluene	15.00	126	173609	19.66	ug/l	99
86)	4-Chlorotoluene	15.09	126	153167	19.22	ug/l	96
87)	tert-Butylbenzene	15.61	134	110454	19.58	ug/l	99
88)	1,2,4-Trimethylbenzene	15.68	105	527897	19.52	ug/l	100
89)	sec-Butylbenzene	16.00	105	757473	19.68	ug/l	100
90)	p-Isopropyltoluene	16.25	119	576893	19.67	ug/l	98
91)	1,3-Dichlorobenzene	16.38	146	311032	19.46	ug/l	100
92)	1,2,3-Trimethylbenzene	16.52	105	511198	19.45	ug/l	100
93)	1,4-Dichlorobenzene	16.58	146	313582	19.66	ug/l	98
94)	n-Butylbenzene	16.99	91	548979	19.33	ug/l	100
95)	1,2-Dichlorobenzene	17.23	146	281419	19.37	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.53	157	27414	17.48	ug/l	98
97)	1,2,4-Trichlorobenzene	19.57	180	123001	18.82	ug/l	100
98)	Hexachlorobutadiene	19.73	225	61818	18.60	ug/l	99
99)	Naphthalene	19.82	128	317385	18.57	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	107888	18.54	ug/l	98

SH 7/3/19

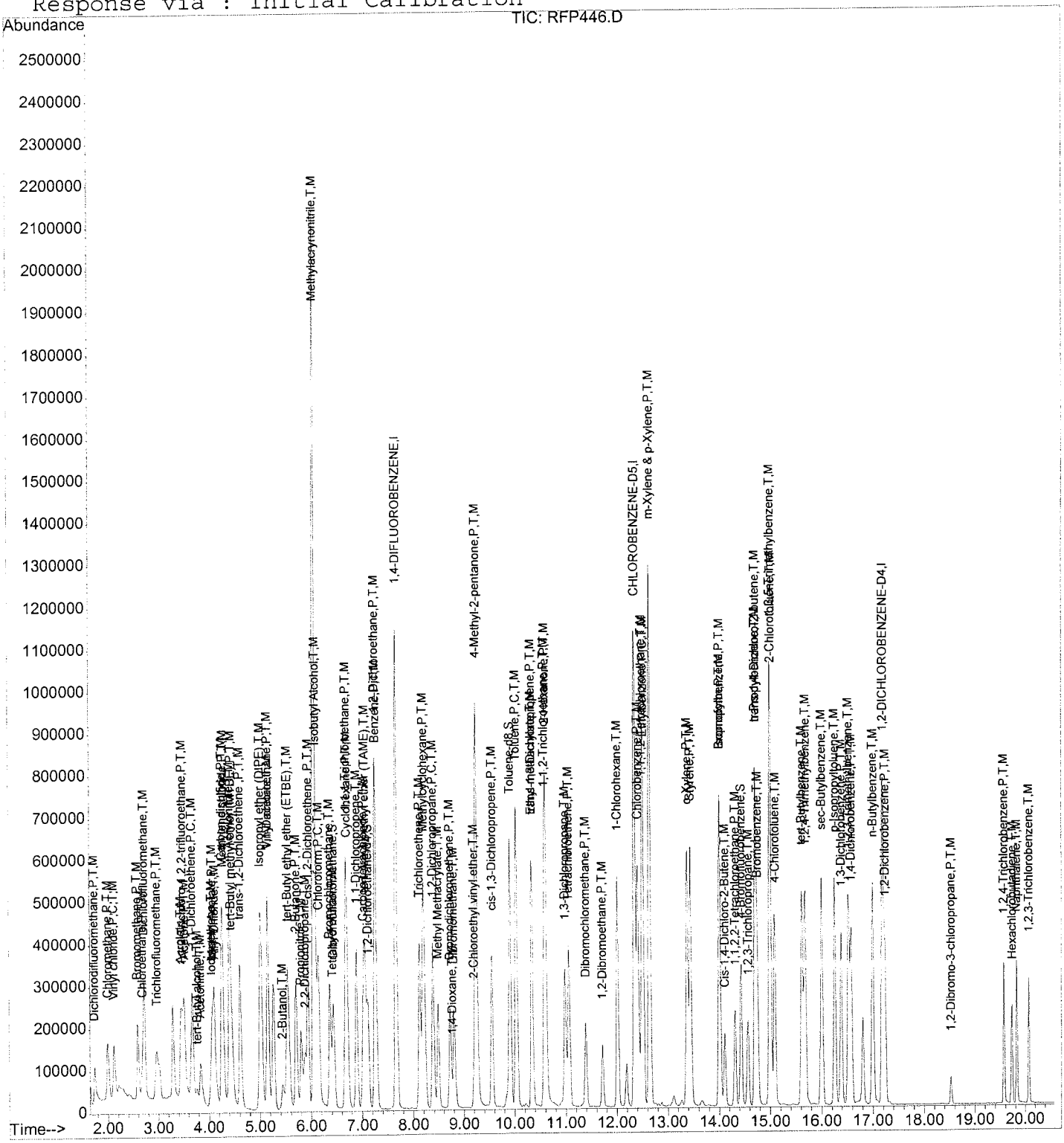
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP446.D
Acq On : 29 Jun 2019 1:46 pm
Sample : VO02F295
Misc : 20ppb 8260/100ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019

Vial: 6
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP447.D
Acq On : 29 Jun 2019 2:11 pm
Sample : VO02F296
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019

Vial: 7
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1427074	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1107798	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	413985	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.43	111	562396	58.55	ug/l		0.01
Spiked Amount 50.000			Recovery =	117.10%			
43) 1,2-Dichloroethane-d4	7.11	65	561397	58.56	ug/l		0.03
Spiked Amount 50.000			Recovery =	117.12%			
57) Toluene-d8	9.91	98	1897593	58.79	ug/l		0.03
Spiked Amount 50.000			Recovery =	117.58%			
79) 4-Bromofluorobenzene	14.43	95	534572	56.43	ug/l		0.03
Spiked Amount 50.000			Recovery =	112.86%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	438417	54.32	ug/l		100
3) Chloromethane	2.00	50	705059	55.40	ug/l		100
4) Vinyl chloride	2.11	62	648341	58.44	ug/l		100
5) Bromomethane	2.59	94	500872	53.66	ug/l		100
6) Chloroethane	2.68	64	407499	53.56	ug/l		100
7) Dichlorofluoromethane	2.72	67	1011039	50.06	ug/l		100
8) Trichlorofluoromethane	2.96	101	491352	53.47	ug/l		100
9) Acrolein	3.44	56	437401	226.95	ug/l		100
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	306528	50.35	ug/l		100
11) Acetone	3.51	43	759179	233.29	ug/l		100
12) 1,1-Dichloroethene	3.68	61	825195	49.13	ug/l		100
13) tert-Butyl alcohol	3.77	59	309470	246.58	ug/l		100
14) Acetonitrile	3.84	41	584148	449.97	ug/l		100
15) Iodomethane	4.05	142	773402	49.92	ug/l		100
16) Methyl Acetate	4.06	43	587001	54.03	ug/l		100
17) Allyl Chloride	4.11	76	292608	52.27	ug/l		100
18) Methylene chloride	4.27	49	745262	48.23	ug/l		100
19) Carbon disulfide	4.27	76	2026533	51.84	ug/l		100
20) Acrylonitrile	4.41	53	1210299	252.80	ug/l		100
21) tert-Butyl methyl ether (M	4.44	73	1180685	43.13	ug/l		100
22) trans-1,2-Dichloroethene	4.61	61	890635	51.75	ug/l		100
23) Isopropyl ether (DIPE)	5.02	45	2540794	50.71	ug/l		100
24) 1,1-Dichloroethane	5.15	63	1198221	50.40	ug/l		100
25) Vinyl acetate	5.16	43	1510151	51.65	ug/l		100
26) 2-Butanol	5.43	45	346271	263.88	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	1781649	46.95	ug/l		100
28) 2-Butanone	5.70	72	348468	264.89	ug/l		100

(#) = qualifier out of range (m) = manual integration

SR 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP447.D
Acq On : 29 Jun 2019 2:11 pm
Sample : VO02F296
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019

Vial: 7
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	Propionitrile	5.80	54	849443	511.52 ug/l	100
30)	2,2-Dichloropropane	5.88	77	400993	50.06 ug/l	100
31)	cis-1,2-Dichloroethene	5.94	96	597332	51.02 ug/l	100
32)	Methylacrynonitrile	6.06	52	971782	518.27 ug/l	100
33)	Isobutyl Alcohol	6.09	43	640333	938.03 ug/l	100
34)	Chloroform	6.15	83	977587	49.19 ug/l	100
35)	Bromochloromethane	6.37	49	636624	51.55 ug/l	100
36)	Tetrahydrofuran	6.41	42	198932	49.14 ug/l	100
38)	1,1,1-Trichloroethane	6.68	97	534217	50.36 ug/l	100
39)	Cyclohexane	6.70	84	842656	55.80 ug/l	100
40)	1,1-Dichloropropene	6.89	110	240150	51.43 ug/l	100
41)	Carbon tetrachloride	7.02	119	417313	49.57 ug/l	100
42)	tert-Amyl methyl ether (TA	7.05	87	259306	47.23 ug/l	100
44)	1,2-Dichloroethane	7.25	62	653356	51.00 ug/l	100
45)	Benzene	7.26	78	2482544	49.82 ug/l	100
46)	Trichloroethene	8.12	130	550650	51.14 ug/l	100
47)	Methylcyclohexane	8.20	83	1086824	57.23 ug/l	100
48)	1,2-Dichloropropane	8.38	63	705594	50.51 ug/l	100
49)	Methyl Methacrylate	8.48	69	464130	52.71 ug/l	100
50)	Bromodichloromethane	8.72	83	674081	52.33 ug/l	100
51)	1,4-Dioxane	8.76	88	75462	867.88 ug/l	100
52)	Dibromomethane	8.79	93	375018	50.75 ug/l	100
53)	2-Chloroethyl vinyl ether	9.20	63	208488	55.07 ug/l	100
54)	4-Methyl-2-pentanone	9.24	43	3855060	264.24 ug/l	100
55)	cis-1,3-Dichloropropene	9.55	75	996666	50.71 ug/l	100
58)	Toluene	10.03	91	2163146	50.17 ug/l	100
59)	Ethyl methacrylate	10.34	69	750237	49.54 ug/l	100
60)	trans-1,3-Dichloropropene	10.34	75	761159	48.63 ug/l	100
61)	1,1,2-Trichloroethane	10.58	97	429690	50.25 ug/l	100
62)	2-Hexanone	10.61	43	2471667	264.24 ug/l	100
63)	1,3-Dichloropropane	10.98	76	869465	50.83 ug/l	100
64)	Tetrachloroethene	11.07	164	408676	49.93 ug/l	100
65)	Dibromochloromethane	11.38	129	478683	48.77 ug/l	100
66)	1,2-Dibromoethane	11.71	107	442101	51.73 ug/l	100
67)	1-Chlorohexane	12.01	91	778033	50.86 ug/l	100
68)	Chlorobenzene	12.41	112	1287380	51.39 ug/l	100
69)	1,1,1,2-Tetrachloroethane	12.48	131	418382	51.05 ug/l	100
70)	Ethylbenzene	12.51	91	2284481	50.25 ug/l	100
71)	m-Xylene & p-Xylene	12.65	91	3475082	104.71 ug/l	100
72)	o-Xylene	13.38	91	1689647	51.23 ug/l	100
73)	Styrene	13.44	104	1323909	51.22 ug/l	100

(#) = qualifier out of range (m) = manual integration

SA 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP447.D
Acq On : 29 Jun 2019 2:11 pm
Sample : VO02F296
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019

Vial: 7
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	1974473	52.06	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	167221	49.80	ug/l	100
77)	Bromoform	14.00	173	275960	48.34	ug/l	100
78)	1,1,2,2-Tetrachloroethane	14.31	83	634248	49.34	ug/l	100
80)	1,2,3-Trichloropropane	14.57	110	118580	49.01	ug/l	100
81)	trans-1,4-Dichloro-2-buten	14.71	53	137780	48.59	ug/l	100
82)	n-Propylbenzene	14.70	91	2515879	50.70	ug/l	100
83)	Bromobenzene	14.74	156	496471	49.91	ug/l	100
84)	1,3,5-Trimethylbenzene	15.00	105	1459753	50.25	ug/l	100
85)	2-Chlorotoluene	15.00	126	442945	48.94	ug/l	100
86)	4-Chlorotoluene	15.09	126	408935	50.08	ug/l	100
87)	tert-Butylbenzene	15.62	134	289995	50.17	ug/l	100
88)	1,2,4-Trimethylbenzene	15.68	105	1412789	50.98	ug/l	100
89)	sec-Butylbenzene	15.99	105	1956405	49.58	ug/l	100
90)	p-Isopropyltoluene	16.25	119	1552358	51.65	ug/l	100
91)	1,3-Dichlorobenzene	16.38	146	824413	50.33	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	1351135	50.16	ug/l	100
93)	1,4-Dichlorobenzene	16.57	146	813391	49.74	ug/l	100
94)	n-Butylbenzene	16.99	91	1466656	50.40	ug/l	100
95)	1,2-Dichlorobenzene	17.23	146	750148	50.38	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.52	157	76043	47.32	ug/l	100
97)	1,2,4-Trichlorobenzene	19.58	180	335642	50.11	ug/l	100
98)	Hexachlorobutadiene	19.73	225	166765	48.97	ug/l	100
99)	Naphthalene	19.83	128	859381	49.07	ug/l	100
100)	1,2,3-Trichlorobenzene	20.07	180	302865	50.77	ug/l	100

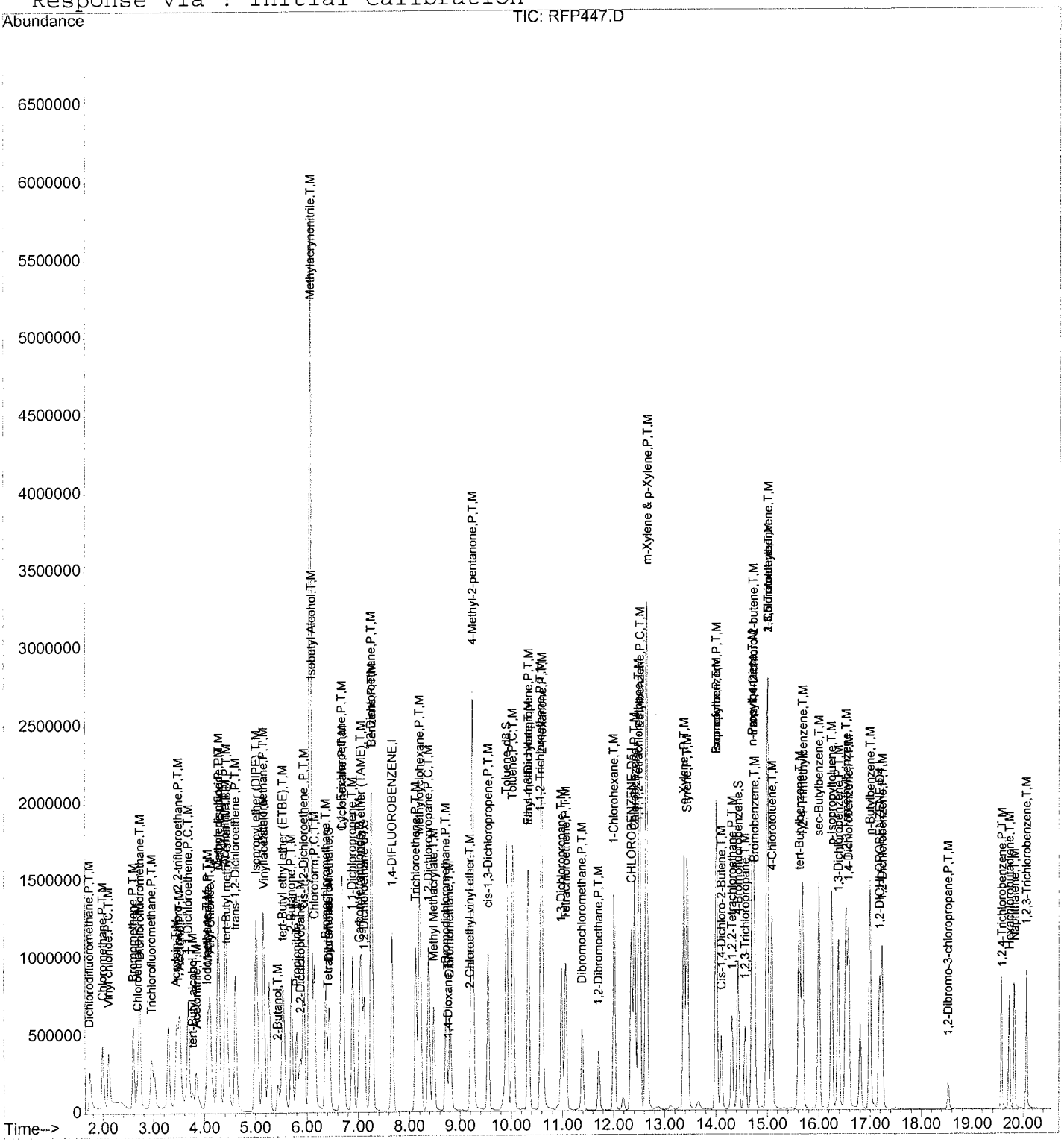
SM 7/3/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP447.D Vial: 7
Acq On : 29 Jun 2019 2:11 pm Operator: IRagas
Sample : VO02F296 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:39 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP448.D
Acq On : 29 Jun 2019 2:36 pm
Sample : VO02F297
Misc : 100ppb 8260/500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019

Vial: 8
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.67	114	1423084	50.00	ug/l	0.03
56) CHLOROBENZENE-D5	12.35	117	1115497	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	427341	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.43	111	1055445	110.18	ug/l	0.02
Spiked Amount 50.000			Recovery =	220.36%		
43) 1,2-Dichloroethane-d4	7.12	65	1046175	109.44	ug/l	0.03
Spiked Amount 50.000			Recovery =	218.88%		
57) Toluene-d8	9.91	98	3528400	108.56	ug/l	0.03
Spiked Amount 50.000			Recovery =	217.12%		
79) 4-Bromofluorobenzene	14.43	95	1051484	107.52	ug/l	0.03
Spiked Amount 50.000			Recovery =	215.04%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.73	85	858001	106.60	ug/l	99
3) Chloromethane	1.98	50	1369506	107.91	ug/l	99
4) Vinyl chloride	2.10	62	1177914	106.47	ug/l	99
5) Bromomethane	2.58	94	981822	105.48	ug/l	100
6) Chloroethane	2.68	64	820920	108.21	ug/l	97
7) Dichlorofluoromethane	2.71	67	2036726	101.14	ug/l	100
8) Trichlorofluoromethane	2.95	101	988064	107.83	ug/l	99
9) Acrolein	3.44	56	965040	502.13	ug/l	100
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	633718	104.38	ug/l	100
11) Acetone	3.52	43	1489502	459.00	ug/l	100
12) 1,1-Dichloroethene	3.66	61	1714498	102.35	ug/l	100
13) tert-Butyl alcohol	3.77	59	607643	485.52	ug/l	84
14) Acetonitrile	3.83	41	1288749	995.50	ug/l	96
15) Iodomethane	4.05	142	1604174	103.84	ug/l	100
16) Methyl Acetate	4.07	43	1104051	101.91	ug/l	99
17) Allyl Chloride	4.11	76	557912	99.95	ug/l	99
18) Methylene chloride	4.27	49	1549330	100.54	ug/l	99
19) Carbon disulfide	4.26	76	4153102	106.55	ug/l	100
20) Acrylonitrile	4.41	53	2532202	530.39	ug/l	100
21) tert-Butyl methyl ether (M	4.44	73	2730057	100.00	ug/l	100
22) trans-1,2-Dichloroethene	4.60	61	1828611	106.54	ug/l	100
23) Isopropyl ether (DIPE)	5.02	45	5166439	103.40	ug/l	99
24) 1,1-Dichloroethane	5.15	63	2416982	101.95	ug/l	100
25) Vinyl acetate	5.15	43	3265936	112.02	ug/l	100
26) 2-Butanol	5.44	45	662156	506.01	ug/l #	100
27) tert-Butyl ethyl ether (ET	5.54	59	3777386	99.81	ug/l	99
28) 2-Butanone	5.70	72	696499	530.93	ug/l	100

(#) = qualifier out of range (m) = manual integration
RFP448.D VO02F29.M Tue Jul 02 12:40:13 2019

SA 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP448.D Vial: 8
Acq On : 29 Jun 2019 2:36 pm Operator: IRagas
Sample : VO02F297 Inst : 02
Misc : 100ppb 8260/500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	Propionitrile	5.79	54	1731838	1045.80 ug/l	100
30)	2,2-Dichloropropane	5.87	77	780155	97.66 ug/l	99
31)	cis-1,2-Dichloroethene	5.94	96	1222303	104.69 ug/l	100
32)	Methylacrynonitrile	6.06	52	1975607	1056.58 ug/l	97
33)	Isobutyl Alcohol	6.09	43	1358288	1995.36 ug/l	99
34)	Chloroform	6.15	83	2032599	102.56 ug/l	100
35)	Bromochloromethane	6.36	49	1278917	103.86 ug/l	99
36)	Tetrahydrofuran	6.40	42	399486	98.95 ug/l	99
38)	1,1,1-Trichloroethane	6.68	97	1113153	105.22 ug/l	100
39)	Cyclohexane	6.70	84	1665951	110.63 ug/l	100
40)	1,1-Dichloropropene	6.89	110	495119	106.33 ug/l	98
41)	Carbon tetrachloride	7.03	119	902622	107.52 ug/l	100
42)	tert-Amyl methyl ether (TA	7.06	87	552796	100.97 ug/l	99
44)	1,2-Dichloroethane	7.25	62	1377845	107.85 ug/l	99
45)	Benzene	7.26	78	5226025	105.18 ug/l	100
46)	Trichloroethene	8.13	130	1108673	103.25 ug/l	99
47)	Methylcyclohexane	8.20	83	2034687	107.44 ug/l	99
48)	1,2-Dichloropropane	8.38	63	1473517	105.78 ug/l	100
49)	Methyl Methacrylate	8.48	69	945012	107.62 ug/l	99
50)	Bromodichloromethane	8.72	83	1416135	110.25 ug/l	99
51)	1,4-Dioxane	8.77	88	201726	2137.64 ug/l	97
52)	Dibromomethane	8.80	93	809369	109.84 ug/l	99
53)	2-Chloroethyl vinyl ether	9.20	63	403000	106.75 ug/l	100
54)	4-Methyl-2-pentanone	9.24	43	7740327	532.04 ug/l	100
55)	cis-1,3-Dichloropropene	9.56	75	2062206	105.22 ug/l	100
58)	Toluene	10.03	91	4384803	101.00 ug/l	100
59)	Ethyl methacrylate	10.33	69	1655958	108.58 ug/l	98
60)	trans-1,3-Dichloropropene	10.33	75	1658443	105.22 ug/l	100
61)	1,1,2-Trichloroethane	10.58	97	917900	106.60 ug/l	100
62)	2-Hexanone	10.60	43	5224661	554.69 ug/l	100
63)	1,3-Dichloropropane	10.98	76	1787206	103.75 ug/l	99
64)	Tetrachloroethene	11.06	164	835128	101.34 ug/l	100
65)	Dibromochloromethane	11.39	129	1041094	105.35 ug/l	100
66)	1,2-Dibromoethane	11.71	107	915477	106.38 ug/l	99
67)	1-Chlorohexane	12.01	91	1667713	108.27 ug/l	99
68)	Chlorobenzene	12.41	112	2624014	104.03 ug/l	99
69)	1,1,1,2-Tetrachloroethane	12.49	131	895798	108.56 ug/l	100
70)	Ethylbenzene	12.52	91	4820488	105.31 ug/l	100
71)	m-Xylene & p-Xylene	12.63	91	7131259	213.40 ug/l	100
72)	o-Xylene	13.38	91	3408197	102.63 ug/l	99
73)	Styrene	13.44	104	2710800	104.16 ug/l	100

(#) = qualifier out of range (m) = manual integration

7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP448.D
Acq On : 29 Jun 2019 2:36 pm
Sample : VO02F297
Misc : 100ppb 8260/500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019

Vial: 8
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	4058872	106.28	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.11	53	356952	105.58	ug/l	100
77)	Bromoform	14.00	173	590760	100.25	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.32	83	1348183	101.59	ug/l	99
80)	1,2,3-Trichloropropane	14.57	110	246589	98.73	ug/l	100
81)	trans-1,4-Dichloro-2-buten	14.70	53	299602	102.36	ug/l	100
82)	n-Propylbenzene	14.70	91	5304559	103.56	ug/l	100
83)	Bromobenzene	14.75	156	1044536	101.72	ug/l	99
84)	1,3,5-Trimethylbenzene	14.99	105	3036135	101.24	ug/l	99
85)	2-Chlorotoluene	15.00	126	942105	100.84	ug/l	99
86)	4-Chlorotoluene	15.09	126	881594	104.58	ug/l	99
87)	tert-Butylbenzene	15.61	134	621488	104.16	ug/l	96
88)	1,2,4-Trimethylbenzene	15.68	105	2933329	102.54	ug/l	100
89)	sec-Butylbenzene	16.00	105	4214506	103.48	ug/l	100
90)	p-Isopropyltoluene	16.25	119	3151614	101.59	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	1730559	102.34	ug/l	100
92)	1,2,3-Trimethylbenzene	16.52	105	2859009	102.81	ug/l	99
93)	1,4-Dichlorobenzene	16.58	146	1758240	104.17	ug/l	99
94)	n-Butylbenzene	16.99	91	3169414	105.51	ug/l	100
95)	1,2-Dichlorobenzene	17.23	146	1602723	104.28	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.53	157	171142	103.16	ug/l	100
97)	1,2,4-Trichlorobenzene	19.57	180	738924	106.86	ug/l	100
98)	Hexachlorobutadiene	19.73	225	357805	101.78	ug/l	100
99)	Naphthalene	19.82	128	1879764	103.97	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	645633	104.85	ug/l	100

SU 7/3/19

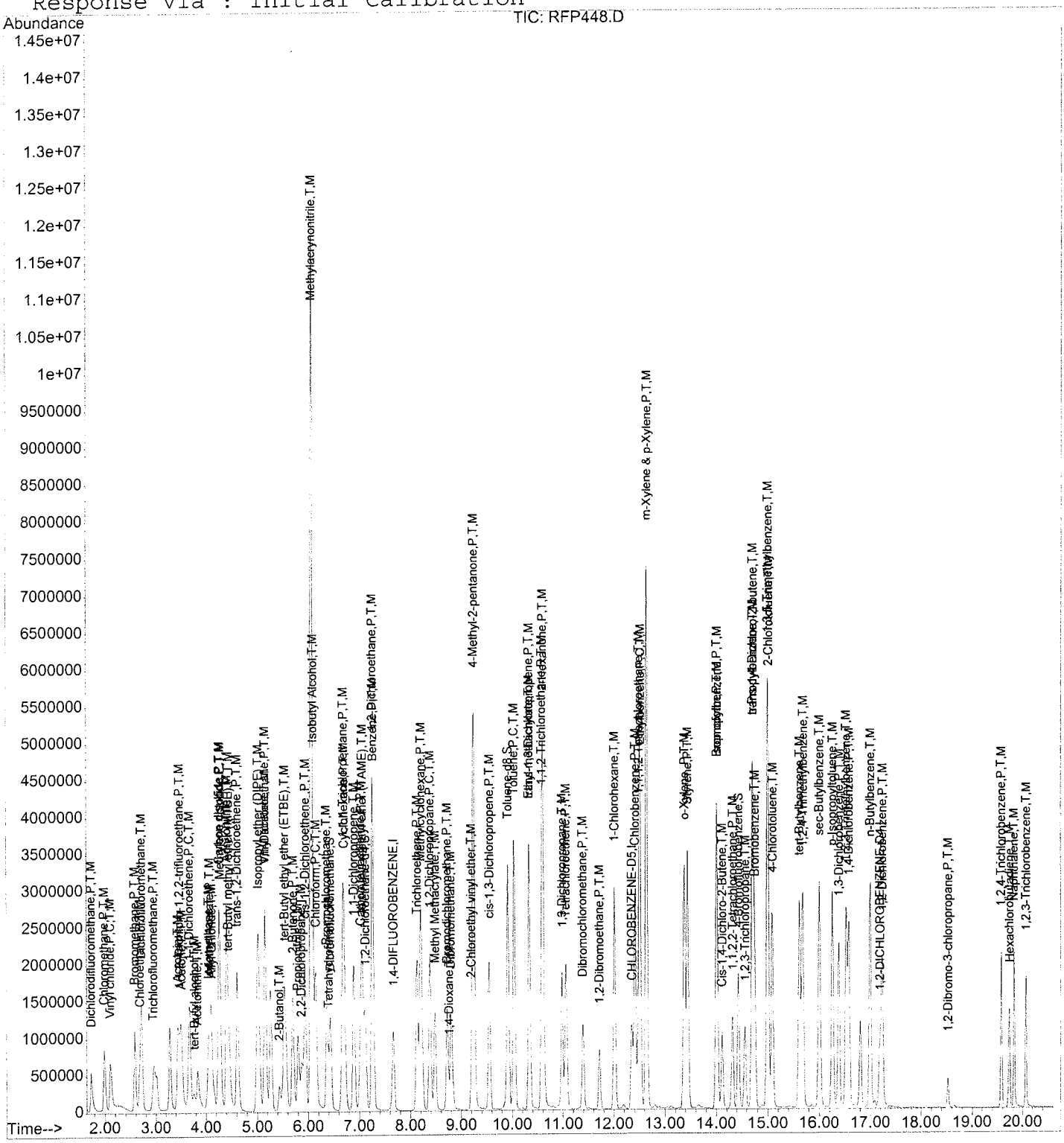
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP448.D
Acq On : 29 Jun 2019 2:36 pm
Sample : VO02F297
Misc : 100ppb 8260/500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019

Vial: 8
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/31/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP449.D
Acq On : 29 Jun 2019 3:00 pm
Sample : VO02F298
Misc : 200ppb 8260/1000ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019

Vial: 9
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1422982	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1133689	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	399902	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	2196416	229.31	ug/l		0.03
Spiked Amount 50.000			Recovery =	458.62%			
43) 1,2-Dichloroethane-d4	7.11	65	2187670	228.87	ug/l		0.03
Spiked Amount 50.000			Recovery =	457.74%			
57) Toluene-d8	9.91	98	7293938	220.82	ug/l		0.03
Spiked Amount 50.000			Recovery =	441.64%			
79) 4-Bromofluorobenzene	14.43	95	2102143	229.71	ug/l		0.03
Spiked Amount 50.000			Recovery =	459.42%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	1655830	205.73	ug/l		98
3) Chloromethane	1.98	50	2653609	209.11	ug/l		99
4) Vinyl chloride	2.08	62	1758410	158.94	ug/l		99
5) Bromomethane	2.57	94	1897938	203.91	ug/l		99
6) Chloroethane	2.68	64	1574626	207.57	ug/l		97
7) Dichlorofluoromethane	2.71	67	4092055	203.21	ug/l		100
8) Trichlorofluoromethane	2.96	101	1895195	206.84	ug/l		99
9) Acrolein	3.44	56	1827150	950.76	ug/l		100
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	1257095	207.08	ug/l		99
11) Acetone	3.51	43	3245302	1000.14	ug/l		100
12) 1,1-Dichloroethene	3.68	61	3401801	203.10	ug/l		100
13) tert-Butyl alcohol	3.77	59	1349437	1078.31	ug/l	#	77
14) Acetonitrile	3.84	41	3005868	2322.06	ug/l		99
15) Iodomethane	4.05	142	3232127	209.24	ug/l		100
16) Methyl Acetate	4.06	43	2311398	213.36	ug/l		99
17) Allyl Chloride	4.11	76	1165170	208.75	ug/l		99
18) Methylene chloride	4.27	49	3051188	198.01	ug/l		99
19) Carbon disulfide	4.26	76	7994551	205.11	ug/l		100
20) Acrylonitrile	4.40	53	5288146	1107.72	ug/l		100
21) tert-Butyl methyl ether (M	4.43	73	5922304	216.94	ug/l		100
22) trans-1,2-Dichloroethene	4.60	61	3638179	211.98	ug/l		100
23) Isopropyl ether (DIPE)	5.01	45	10522969	210.63	ug/l		99
24) 1,1-Dichloroethane	5.15	63	4917523	207.44	ug/l		100
25) Vinyl acetate	5.16	43	6005165	205.99	ug/l		100
26) 2-Butanol	5.45	45	1479308	1130.55	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	8252783	218.08	ug/l		100
28) 2-Butanone	5.70	72	1466461	1117.94	ug/l		97

(#) = qualifier out of range (m) = manual integration
RFP449.D VO02F29.M Tue Jul 02 12:40:34 2019

7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP449.D
Acq On : 29 Jun 2019 3:00 pm
Sample : VO02F298
Misc : 200ppb 8260/1000ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019

Vial: 9
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.80	54	3785045	2285.84	ug/l	99
30)	2,2-Dichloropropane	5.88	77	1503105	188.17	ug/l	98
31)	cis-1,2-Dichloroethene	5.94	96	2561289	219.40	ug/l	99
32)	Methylacrynonitrile	6.07	52	4113315	2200.00	ug/l	96
33)	Isobutyl Alcohol	6.09	43	2914399	4281.63	ug/l	97
34)	Chloroform	6.15	83	4049974	204.37	ug/l	99
35)	Bromochloromethane	6.37	49	2610954	212.04	ug/l	99
36)	Tetrahydrofuran	6.41	42	842755	208.76	ug/l	98
38)	1,1,1-Trichloroethane	6.68	97	2205578	208.50	ug/l	100
39)	Cyclohexane	6.70	84	3288517	218.39	ug/l	99
40)	1,1-Dichloropropene	6.89	110	1007219	216.33	ug/l	99
41)	Carbon tetrachloride	7.02	119	1878016	223.72	ug/l	100
42)	tert-Amyl methyl ether (TA	7.05	87	1202015	219.56	ug/l	98
44)	1,2-Dichloroethane	7.25	62	2770539	216.88	ug/l	99
45)	Benzene	7.26	78	10696476	215.30	ug/l	99
46)	Trichloroethene	8.12	130	2315067	215.62	ug/l	99
47)	Methylcyclohexane	8.20	83	4150570	219.19	ug/l	99
48)	1,2-Dichloropropane	8.38	63	2907432	208.73	ug/l	100
49)	Methyl Methacrylate	8.48	69	1971471	224.54	ug/l	99
50)	Bromodichloromethane	8.72	83	2880300	224.26	ug/l	100
51)	1,4-Dioxane	8.76	88	431276	4118.69	ug/l	98
52)	Dibromomethane	8.81	93	1629491	221.16	ug/l	99
53)	2-Chloroethyl vinyl ether	9.21	63	783805	207.63	ug/l	99
54)	4-Methyl-2-pentanone	9.24	43	16310048	1121.18	ug/l	99
55)	cis-1,3-Dichloropropene	9.55	75	4217667	215.22	ug/l	100
58)	Toluene	10.04	91	8895644	201.62	ug/l	100
59)	Ethyl methacrylate	10.34	69	3348889	216.06	ug/l	98
60)	trans-1,3-Dichloropropene	10.34	75	3378224	210.90	ug/l	99
61)	1,1,2-Trichloroethane	10.58	97	1818057	207.74	ug/l	100
62)	2-Hexanone	10.61	43	10535779	1100.62	ug/l	100
63)	1,3-Dichloropropane	10.98	76	3712897	212.09	ug/l	99
64)	Tetrachloroethene	11.07	164	1709256	204.07	ug/l	99
65)	Dibromochloromethane	11.38	129	2173996	216.45	ug/l	99
66)	1,2-Dibromoethane	11.71	107	1944907	222.37	ug/l	100
67)	1-Chlorohexane	12.02	91	3330356	212.73	ug/l	99
68)	Chlorobenzene	12.41	112	5339942	208.30	ug/l	99
69)	1,1,1,2-Tetrachloroethane	12.50	131	1813955	216.30	ug/l	99
70)	Ethylbenzene	12.51	91	9846475	211.65	ug/l	100
71)	m-Xylene & p-Xylene	12.65	91	14654149	431.48	ug/l	99
72)	o-Xylene	13.37	91	7072816	209.56	ug/l	99
73)	Styrene	13.43	104	5441211	205.71	ug/l	99

(#) = qualifier out of range (m) = manual integration

SA 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP449.D Vial: 9
Acq On : 29 Jun 2019 3:00 pm Operator: IRagas
Sample : VO02F298 Inst : 02
Misc : 200ppb 8260/1000ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	8366015	215.55	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	752609	219.03	ug/l	98
77)	Bromoform	14.00	173	1240953	225.04	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	2622728	211.20	ug/l	100
80)	1,2,3-Trichloropropane	14.56	110	499159	213.58	ug/l	98
81)	trans-1,4-Dichloro-2-buten	14.71	53	609596	222.57	ug/l	98
82)	n-Propylbenzene	14.70	91	10587407	220.88	ug/l	99
83)	Bromobenzene	14.74	156	2092842	217.80	ug/l	99
84)	1,3,5-Trimethylbenzene	15.00	105	5971921	212.80	ug/l	99
85)	2-Chlorotoluene	15.00	126	1860277	212.77	ug/l	100
86)	4-Chlorotoluene	15.09	126	1714924	217.40	ug/l	99
87)	tert-Butylbenzene	15.62	134	1207919	216.33	ug/l	97
88)	1,2,4-Trimethylbenzene	15.68	105	5708543	213.25	ug/l	100
89)	sec-Butylbenzene	15.99	105	7982562	209.44	ug/l	100
90)	p-Isopropyltoluene	16.25	119	6175714	212.73	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	3392506	214.39	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	5480926	210.62	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	3291420	208.38	ug/l	99
94)	n-Butylbenzene	16.99	91	6097667	216.92	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	2964713	206.14	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.52	157	338867	218.28	ug/l	100
97)	1,2,4-Trichlorobenzene	19.58	180	1444864	223.29	ug/l	100
98)	Hexachlorobutadiene	19.73	225	702227	213.47	ug/l	99
99)	Naphthalene	19.83	128	3877630	229.19	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	1291604	224.14	ug/l	99

SC 7/3/19

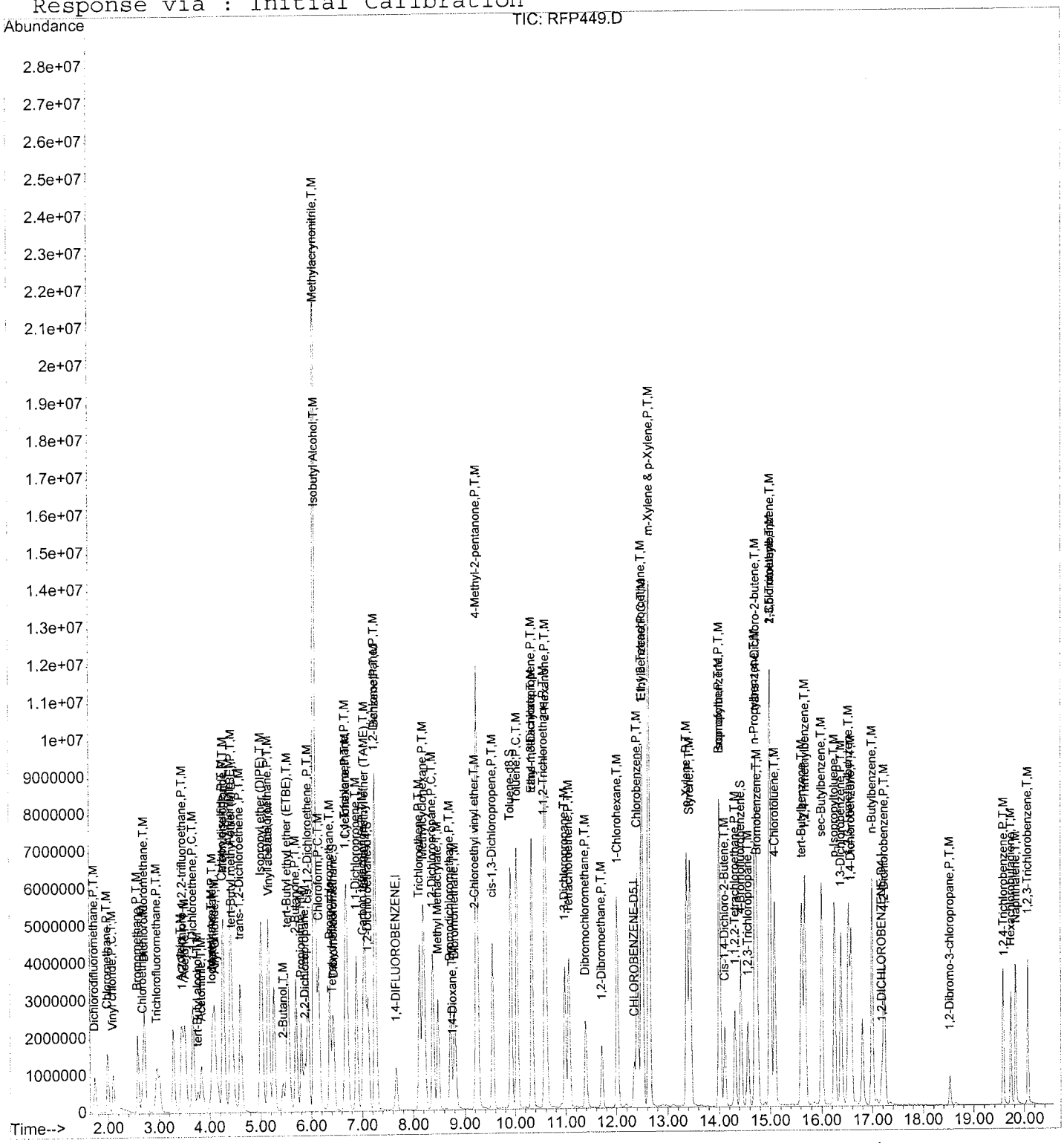
(#) = qualifier out of range (m) = manual integration
RFP449.D VO02F29.M Tue Jul 02 12:40:35 2019 Page 3

Data File : D:\HPCHEM\1\DATA\19F29\RFP449.D
Acq On : 29 Jun 2019 3:00 pm
Sample : VO02F298
Misc : 200ppb 8260/1000ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019

Vial: 9
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP450.D Vial: 10
Acq On : 29 Jun 2019 3:26 pm Operator: IRagas
Sample : VO02F299 Inst : 02
Misc : 300ppb 8260/1500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1417779	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1090229	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	389301	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	3382142	354.41	ug/l		0.03
Spiked Amount 50.000			Recovery =	708.82%			
43) 1,2-Dichloroethane-d4	7.11	65	3406391	357.68	ug/l		0.03
Spiked Amount 50.000			Recovery =	715.36%			
57) Toluene-d8	9.91	98	11085285	348.98	ug/l		0.03
Spiked Amount 50.000			Recovery =	697.96%			
79) 4-Bromofluorobenzene	14.43	95	3117824	349.97	ug/l		0.03
Spiked Amount 50.000			Recovery =	699.94%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.73	85	2554254	318.52	ug/l		98
3) Chloromethane	1.98	50	3952269	312.59	ug/l		100
4) Vinyl chloride	2.08	62	2282712	207.09	ug/l		99
5) Bromomethane	2.57	94	2875787	310.10	ug/l		99
6) Chloroethane	2.66	64	2347905	310.65	ug/l		97
7) Dichlorofluoromethane	2.71	67	6194142	308.73	ug/l		100
8) Trichlorofluoromethane	2.95	101	2786981	305.28	ug/l		100
9) Acrolein	3.44	56	2924817	1527.52	ug/l		98
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	1926794	318.56	ug/l		100
11) Acetone	3.51	43	4862791	1504.12	ug/l		100
12) 1,1-Dichloroethene	3.66	61	5110205	306.22	ug/l		99
13) tert-Butyl alcohol	3.76	59	2097923	1682.56	ug/l	#	79
14) Acetonitrile	3.84	41	4608470	3573.15	ug/l		99
15) Iodomethane	4.05	142	4839871	314.47	ug/l		100
16) Methyl Acetate	4.06	43	3299831	305.72	ug/l		98
17) Allyl Chloride	4.11	76	1662357	298.92	ug/l		100
18) Methylene chloride	4.27	49	4603588	299.85	ug/l		98
19) Carbon disulfide	4.26	76	12054937	310.42	ug/l		100
20) Acrylonitrile	4.40	53	8091351	1701.13	ug/l		100
21) tert-Butyl methyl ether (M	4.43	73	9221258	339.02	ug/l		99
22) trans-1,2-Dichloroethene	4.60	61	5419229	316.92	ug/l		100
23) Isopropyl ether (DIPE)	5.01	45	15981681	321.06	ug/l		99
24) 1,1-Dichloroethane	5.15	63	7565501	320.32	ug/l		100
25) Vinyl acetate	5.16	43	9594206	330.32	ug/l		100
26) 2-Butanol	5.45	45	2171559	1665.69	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.53	59	12485453	331.14	ug/l		100
28) 2-Butanone	5.70	72	2217901	1697.00	ug/l		97

(#) = qualifier out of range (m) = manual integration
RFP450.D VO02F29.M Tue Jul 02 12:40:58 2019 SK 7/3/19 Page 1

Data File : D:\HPCHEM\1\DATA\19F29\RFP450.D
Acq On : 29 Jun 2019 3:26 pm
Sample : VO02F299
Misc : 300ppb 8260/1500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019

Vial: 10
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Propionitrile	5.80	54	5714118	3463.49 ug/l	99
30) 2,2-Dichloropropane	5.88	77	2122592	266.70 ug/l	98
31) cis-1,2-Dichloroethene	5.94	96	3804597	327.09 ug/l	97
32) Methylacrynonitrile	6.07	52	6288798	3375.90 ug/l	96
33) Isobutyl Alcohol	6.10	43	4472945	6595.45 ug/l	96
34) Chloroform	6.14	83	6297474	318.95 ug/l	99
35) Bromochloromethane	6.37	49	4006149	326.54 ug/l	98
36) Tetrahydrofuran	6.41	42	1279716	318.16 ug/l	98
38) 1,1,1-Trichloroethane	6.68	97	3282533	311.45 ug/l	100
39) Cyclohexane	6.69	84	4824569	321.57 ug/l	99
40) 1,1-Dichloropropene	6.89	110	1566298	337.64 ug/l	99
41) Carbon tetrachloride	7.02	119	2840126	339.57 ug/l	100
42) tert-Amyl methyl ether (TA	7.05	87	1810977	332.01 ug/l	98
44) 1,2-Dichloroethane	7.25	62	4172287	327.81 ug/l	99
45) Benzene	7.26	78	16239107	328.06 ug/l	99
46) Trichloroethene	8.12	130	3505211	327.66 ug/l	100
47) Methylcyclohexane	8.20	83	6119856	324.37 ug/l	99
48) 1,2-Dichloropropane	8.38	63	4459855	321.35 ug/l	100
49) Methyl Methacrylate	8.48	69	3017803	344.97 ug/l	99
50) Bromodichloromethane	8.72	83	4384982	342.68 ug/l	100
51) 1,4-Dioxane	8.76	88	670932	5914.84 ug/l	97
52) Dibromomethane	8.81	93	2471001	336.61 ug/l	99
53) 2-Chloroethyl vinyl ether	9.21	63	1238144	329.19 ug/l	99
54) 4-Methyl-2-pentanone	9.24	43	22938622	1582.63 ug/l	97
55) cis-1,3-Dichloropropene	9.55	75	6492752	332.52 ug/l	99
58) Toluene	10.04	91	14200060	334.67 ug/l	99
59) Ethyl methacrylate	10.34	69	5136309	344.60 ug/l	97
60) trans-1,3-Dichloropropene	10.34	75	5129645	333.00 ug/l	99
61) 1,1,2-Trichloroethane	10.58	97	2759733	327.91 ug/l	99
62) 2-Hexanone	10.61	43	16189863	1758.69 ug/l	100
63) 1,3-Dichloropropane	10.98	76	5529206	328.43 ug/l	100
64) Tetrachloroethene	11.07	164	2559432	317.76 ug/l	100
65) Dibromochloromethane	11.40	129	3255721	337.08 ug/l	98
66) 1,2-Dibromoethane	11.71	107	2920946	347.28 ug/l	100
67) 1-Chlorohexane	12.02	91	4903263	325.69 ug/l	98
68) Chlorobenzene	12.41	112	7976587	323.55 ug/l	99
69) 1,1,1,2-Tetrachloroethane	12.50	131	2746762	340.58 ug/l	99
70) Ethylbenzene	12.51	91	14733434	329.32 ug/l	99
71) m-Xylene & p-Xylene	12.65	91	19936920	610.43 ug/l	93
72) o-Xylene	13.37	91	10495641	323.38 ug/l	99
73) Styrene	13.45	104	8437164	331.69 ug/l	98

(#) = qualifier out of range (m) = manual integration

SC 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP450.D
Acq On : 29 Jun 2019 3:26 pm
Sample : VO02F299
Misc : 300ppb 8260/1500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019

Vial: 10
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	12377282	331.61	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	1124998	340.46	ug/l	98
77)	Bromoform	14.00	173	1886567	351.43	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	3932055	325.26	ug/l	100
80)	1,2,3-Trichloropropane	14.56	110	751813	330.44	ug/l	98
81)	trans-1,4-Dichloro-2-buten	14.71	53	911602	341.90	ug/l	97
82)	n-Propylbenzene	14.71	91	15922102	341.23	ug/l	99
83)	Bromobenzene	14.74	156	3148719	336.61	ug/l	100
84)	1,3,5-Trimethylbenzene	15.00	105	9143599	334.69	ug/l	99
85)	2-Chlorotoluene	15.00	126	2798267	328.77	ug/l	99
86)	4-Chlorotoluene	15.08	126	2625504	341.89	ug/l	98
87)	tert-Butylbenzene	15.62	134	1806263	332.30	ug/l	99
88)	1,2,4-Trimethylbenzene	15.68	105	8612293	330.48	ug/l	100
89)	sec-Butylbenzene	15.99	105	11827474	318.77	ug/l	99
90)	p-Isopropyltoluene	16.26	119	9360745	331.22	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	5021732	325.99	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	8143644	321.46	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	5040926	327.83	ug/l	100
94)	n-Butylbenzene	16.99	91	8891857	324.93	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	4443854	317.40	ug/l	100
96)	1,2-Dibromo-3-chloropropan	18.54	157	513695	339.91	ug/l	100
97)	1,2,4-Trichlorobenzene	19.58	180	2149750	341.27	ug/l	100
98)	Hexachlorobutadiene	19.73	225	1029539	321.49	ug/l	99
99)	Naphthalene	19.83	128	5818462	353.27	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	1932617	344.51	ug/l	99

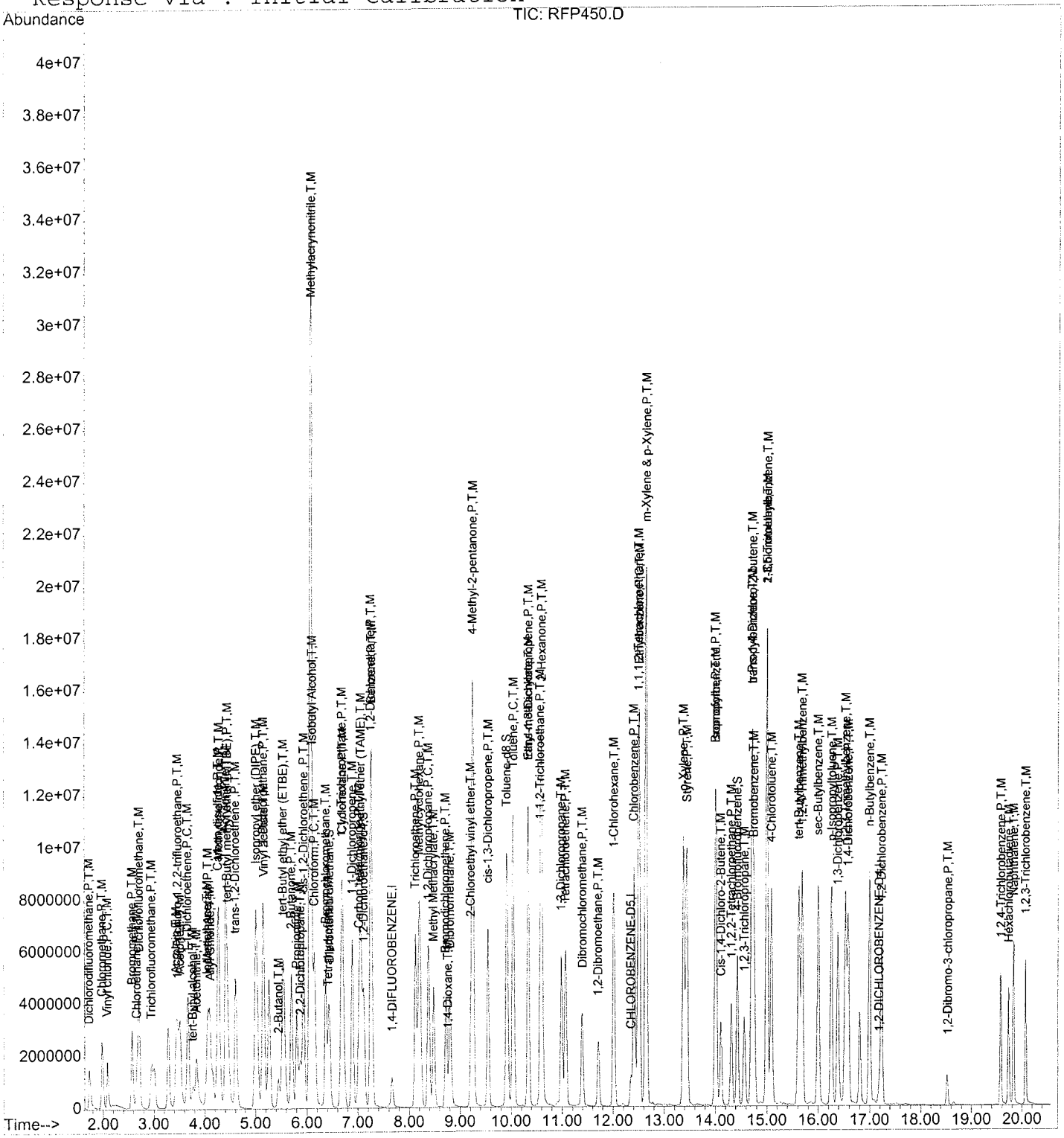
SU

(#) = qualifier out of range (m) = manual integration
RFP450.D VO02F29.M Tue Jul 02 12:40:59 2019

7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP450.D Vial: 10
Acq On : 29 Jun 2019 3:26 pm Operator: IRagas
Sample : VO02F299 Inst : 02
Misc : 300ppb 8260/1500ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:40 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



SM 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP451.D
Acq On : 29 Jun 2019 3:51 pm
Sample : VO02F2910
Misc : 500ppb 8260/2500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019

Vial: 11
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1420971	50.00 ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1059617	50.00 ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	371894	50.00 ug/l		0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.44	111	5751896	601.37 ug/l		0.03
Spiked Amount 50.000			Recovery	= 1202.74%		
43) 1,2-Dichloroethane-d4	7.11	65	5604221	587.14 ug/l		0.03
Spiked Amount 50.000			Recovery	= 1174.28%		
57) Toluene-d8	9.92	98	18867419	611.13 ug/l		0.04
Spiked Amount 50.000			Recovery	= 1222.26%		
79) 4-Bromofluorobenzene	14.43	95	5142056	604.21 ug/l		0.03
Spiked Amount 50.000			Recovery	= 1208.42%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.73	85	4304637	535.59 ug/l		99
3) Chloromethane	1.98	50	6908010	545.14 ug/l		100
4) Vinyl chloride	2.08	62	3879812	351.20 ug/l		99
5) Bromomethane	2.56	94	4979554	535.75 ug/l		99
6) Chloroethane	2.66	64	3930083	518.81 ug/l		99
7) Dichlorofluoromethane	2.71	67	10465200	520.44 ug/l		99
8) Trichlorofluoromethane	2.95	101	4766785	520.97 ug/l		100
9) Acrolein	3.44	56	3550153	1849.95 ug/l		100
10) 1,1,2-Trichloro-1,2,2-trif	3.47	151	3192370	526.62 ug/l		100
11) Acetone	3.53	43	7001152	2160.68 ug/l		99
12) 1,1-Dichloroethene	3.66	61	8963688	535.92 ug/l		99
13) tert-Butyl alcohol	3.78	59	3015091	2412.70 ug/l	#	76
14) Acetonitrile	3.84	41	6734357	5209.71 ug/l		99
15) Iodomethane	4.05	142	8314434	539.01 ug/l		99
16) Methyl Acetate	4.06	43	5712295	528.04 ug/l		99
17) Allyl Chloride	4.09	76	2698169	484.09 ug/l		99
18) Methylene chloride	4.27	49	7901569	513.51 ug/l		98
19) Carbon disulfide	4.25	76	21053932	540.93 ug/l		99
20) Acrylonitrile	4.40	53	12597529	2642.57 ug/l		100
21) tert-Butyl methyl ether (M	4.45	73	14863373	545.23 ug/l		99
22) trans-1,2-Dichloroethene	4.60	61	9076253	529.59 ug/l		99
23) Isopropyl ether (DIPE)	5.01	45	26115445	523.47 ug/l		100
24) 1,1-Dichloroethane	5.15	63	12421969	524.75 ug/l		100
25) Vinyl acetate	5.16	43	14778107	507.65 ug/l		99
26) 2-Butanol	5.44	45	3392455	2596.32 ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.53	59	20223280	535.16 ug/l		99
28) 2-Butanone	5.70	72	3461842	2642.84 ug/l		97

(#) = qualifier out of range (m) = manual integration
RFP451.D VO02F29.M Tue Jul 02 12:41:28 2019

SU 7/3/19

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19F29\RFP451.D
Acq On : 29 Jun 2019 3:51 pm
Sample : VO02F2910
Misc : 500ppb 8260/2500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019

Vial: 11
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29) Propionitrile	5.82	54	8894928	5379.36	ug/l		99
30) 2,2-Dichloropropane	5.88	77	3269047	409.82	ug/l		97
31) cis-1,2-Dichloroethene	5.94	96	6607935	566.83	ug/l		97
32) Methylacrynonitrile	6.07	52	9780874	5238.69	ug/l	#	89
33) Isobutyl Alcohol	6.10	43	6617193	9735.27	ug/l		98
34) Chloroform	6.14	83	10614090	536.37	ug/l		99
35) Bromochloromethane	6.37	49	6894284	560.70	ug/l		97
36) Tetrahydrofuran	6.41	42	1952990	484.46	ug/l		97
38) 1,1,1-Trichloroethane	6.68	97	5448533	515.81	ug/l		99
39) Cyclohexane	6.69	84	8433043	560.83	ug/l		98
40) 1,1-Dichloropropene	6.89	110	2564693	551.62	ug/l		99
41) Carbon tetrachloride	7.02	119	4808421	573.61	ug/l		100
42) tert-Amyl methyl ether (TA	7.07	87	2967308	542.78	ug/l		97
44) 1,2-Dichloroethane	7.24	62	7458242	584.67	ug/l		99
45) Benzene	7.26	78	24474026	493.31	ug/l		94
46) Trichloroethene	8.12	130	6030650	562.46	ug/l		100
47) Methylcyclohexane	8.21	83	10278874	543.58	ug/l		98
48) 1,2-Dichloropropane	8.38	63	7577554	544.77	ug/l		99
49) Methyl Methacrylate	8.48	69	4779263	545.10	ug/l		99
50) Bromodichloromethane	8.73	83	7954920	620.26	ug/l		99
51) 1,4-Dioxane	8.76	88	1094033	8599.81	ug/l		96
52) Dibromomethane	8.81	93	4182304	568.45	ug/l		99
53) 2-Chloroethyl vinyl ether	9.21	63	2106060	558.68	ug/l		99
54) 4-Methyl-2-pentanone	9.24	43	29172821	2008.23	ug/l		83
55) cis-1,3-Dichloropropene	9.55	75	11257466	575.25	ug/l		99
58) Toluene	10.04	91	21209479	514.32	ug/l		90
59) Ethyl methacrylate	10.34	69	8509922	587.42	ug/l		96
60) trans-1,3-Dichloropropene	10.34	75	8860384	591.81	ug/l		97
61) 1,1,2-Trichloroethane	10.58	97	4684296	572.67	ug/l		99
62) 2-Hexanone	10.61	43	22067832	2466.47	ug/l		90
63) 1,3-Dichloropropane	10.98	76	9253943	565.56	ug/l		100
64) Tetrachloroethene	11.07	164	4426059	565.38	ug/l		100
65) Dibromochloromethane	11.39	129	5380009	573.10	ug/l		99
66) 1,2-Dibromoethane	11.72	107	4782492	585.03	ug/l		99
67) 1-Chlorohexane	12.02	91	8086504	552.65	ug/l		97
68) Chlorobenzene	12.41	112	13575593	566.57	ug/l		99
69) 1,1,1,2-Tetrachloroethane	12.50	131	4596838	586.44	ug/l		99
70) Ethylbenzene	12.51	91	21390200	491.92	ug/l		92
71) m-Xylene & p-Xylene	12.64	91	24806643	781.47	ug/l		66
72) o-Xylene	13.37	91	17078792	541.41	ug/l		99
73) Styrene	13.45	104	13727398	555.26	ug/l		98

(#) = qualifier out of range (m) = manual integration

SA 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP451.D
Acq On : 29 Jun 2019 3:51 pm
Sample : VO02F2910
Misc : 500ppb 8260/2500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019

Vial: 11
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.01	105	19181198	528.74	ug/l	99
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	1741132	542.14	ug/l	97
77)	Bromoform	14.00	173	3032483	591.34	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	6088570	527.22	ug/l	100
80)	1,2,3-Trichloropropane	14.56	110	1167984	537.39	ug/l	97
81)	trans-1,4-Dichloro-2-buten	14.71	53	1394729	547.58	ug/l	95
82)	n-Propylbenzene	14.71	91	21655881	485.83	ug/l	95
83)	Bromobenzene	14.76	156	5106736	571.48	ug/l	100
84)	1,3,5-Trimethylbenzene	14.99	105	14911358	571.35	ug/l	99
85)	2-Chlorotoluene	14.99	126	4571103	562.20	ug/l	98
86)	4-Chlorotoluene	15.08	126	4253355	579.79	ug/l	97
87)	tert-Butylbenzene	15.62	134	2840540	547.03	ug/l	100
88)	1,2,4-Trimethylbenzene	15.68	105	14022641	563.27	ug/l	100
89)	sec-Butylbenzene	16.01	105	19210696	541.99	ug/l	100
90)	p-Isopropyltoluene	16.26	119	14747497	546.25	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	8235661	559.65	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	13519704	558.66	ug/l	99
93)	1,4-Dichlorobenzene	16.59	146	8254338	561.94	ug/l	99
94)	n-Butylbenzene	16.99	91	14627964	559.56	ug/l	99
95)	1,2-Dichlorobenzene	17.23	146	7449139	556.96	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.54	157	804627	557.33	ug/l	98
97)	1,2,4-Trichlorobenzene	19.58	180	3777963	627.81	ug/l	100
98)	Hexachlorobutadiene	19.73	225	1784947	583.46	ug/l	99
99)	Naphthalene	19.83	128	9982430	634.46	ug/l	100
100)	1,2,3-Trichlorobenzene	20.07	180	3366548	628.22	ug/l	100

SV 7/3/19

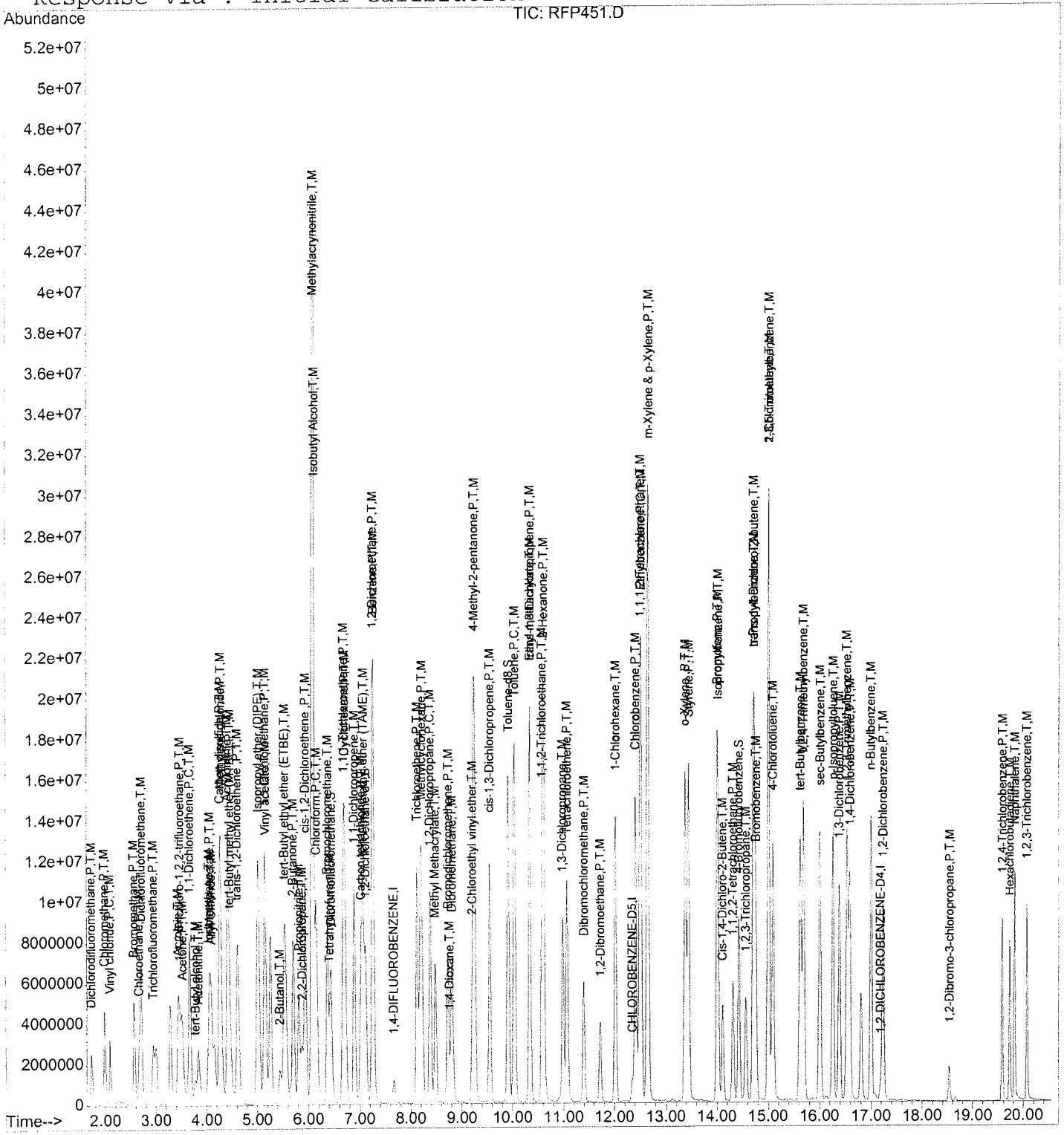
(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP451.D
Acq On : 29 Jun 2019 3:51 pm
Sample : VO02F2910
Misc : 500ppb 8260/2500ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019

Vial: 11
Operator: IRagas
Inst : 02
Multiplr: 1.00

Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



Sun 7/3/19

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :02
IC Beginning DateTime :06/29/19 12:07
SpTke Amount :50 PPB
CC/CV File :RFP454
IC File :RFP447

Column Spec :RTX502.2 ID :0.25MM
IC Ending DateTime :06/29/19 15:51
HPChem Method :V002F29
Date_Time :06/29/19 17:06

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	50.000	0	1411705	1	1	7.663	7.665	0				
	2	Dichlorodifluoromethane	52.021	4.0	415371	0.294	0.283	1.743	1.729	9.82				
	3	Chloromethane	52.481	5.0	660697	0.468	0.446	1.996	1.990	11.51				
	4	Vinyl chloride	54.767	9.5	601087	0.426	0.389	2.115	2.109	13.10				
	5	Bromomethane	50.448	0.9	465833	0.330	0.327	2.591	2.580	7.90				
	6	Chloroethane	51.796	3.6	389805	0.276	0.267	2.680	2.677	8.50				
	7	Dichlorofluoromethane	47.748	-4.5	953880	0.676	0.708	2.724	2.714	3.70				
	8	Trichlorofluoromethane	50.524	1.0	459273	0.325	0.322	2.963	2.958	7.67				
5	9	Acrolein	231.836	-7.3	442006	0.063	0.068	3.438	3.440	9.30				
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	48.643	-2.7	292952	0.208	0.213	3.483	3.476	6.03				
5	11	Acetone	235.904	-5.6	759405	0.108	0.114	3.513	3.516	10.74				
	12	1,1-Dichloroethene	48.554	-2.9	806798	0.572	0.589	3.677	3.671	5.16				
5	13	tert-Butyl alcohol	265.347	6.1	329435	0.047	0.044	3.766	3.769	8.94				
10	14	Acetonitrile	504.754	1.0	648218	0.046	0.045	3.840	3.837	11.06				
	15	Iodomethane	48.701	-2.6	746322	0.529	0.543	4.048	4.050	7.02				
	16	Methyl Acetate	52.016	4.0	559039	0.396	0.381	4.063	4.064	8.76				
	17	Allyl Chloride	51.181	2.4	283406	0.201	0.196	4.108	4.108	5.48				
	18	Methylene chloride	48.348	-3.3	739107	0.524	0.541	4.272	4.273	3.12				
	19	Carbon disulfide	51.944	3.9	2008555	1.423	1.370	4.272	4.260	8.04				
5	20	Acrylonitrile	250.322	0.1	1185542	0.168	0.168	4.405	4.407	10.29				
	21	tert-Butyl methyl ether (MTBE)	49.820	-0.4	1349275	0.956	0.959	4.435	4.438	8.61				
	22	trans-1,2-Dichloroethene	50.181	0.4	854408	0.605	0.603	4.614	4.603	8.72				
	23	Isopropyl ether (DIPE)	49.709	-0.6	2463804	1.745	1.755	5.015	5.015	7.04				
	24	1,1-Dichloroethane	49.643	-0.7	1167487	0.827	0.833	5.149	5.151	7.07				
	25	Vinyl acetate	49.517	-1.0	1432091	1.014	1.024	5.164	5.160	9.45				
5	26	2-Butanol	249.329	-0.3	323658	0.046	0.046	5.447	5.440	10.56				
	27	tert-Butyl ethyl ether (ETBE)	49.569	-0.9	1860941	1.318	1.330	5.536	5.539	7.55				
5	28	2-Butanone	257.261	2.9	334788	0.047	0.046	5.700	5.701	10.89				
10	29	Propionitrile	500.981	0.2	822985	0.058	0.058	5.804	5.804	11.74				
	30	2,2-Dichloropropane	47.914	-4.2	379700	0.269	0.281	5.878	5.878	7.05				
	31	cis-1,2-Dichloroethene	50.439	0.9	584173	0.414	0.410	5.938	5.939	11.04				
10	32	Methylacrynonitrile	516.270	3.3	957614	0.068	0.066	6.057	6.063	10.16				
20	33	Isobutyl Alcohol	928.760	-7.1	627174	0.022	0.024	6.086	6.091	12.72				
	34	Chloroform	48.283	-3.4	949214	0.672	0.696	6.146	6.147	6.02				
	35	Bromochloromethane	50.207	0.4	613320	0.434	0.433	6.369	6.363	9.45				
	36	Tetrahydrofuran	48.413	-3.2	193895	0.137	0.142	6.414	6.413	5.24				
	37	Dibromofluoromethane	56.817	13.6	539892	0.382	0.337	6.444	6.431	14.89				
	38	1,1,1-Trichloroethane	49.465	-1.1	519092	0.368	0.372	6.681	6.683	6.52				
	39	Cyclohexane	53.422	6.8	798060	0.565	0.529	6.696	6.698	14.11				
	40	1,1-Dichloropropene	50.083	0.2	231338	0.164	0.164	6.905	6.891	10.56				
	41	Carbon tetrachloride	50.631	1.3	421654	0.299	0.295	7.024	7.025	12.91				
	42	tert-Amyl methyl ether (TAME)	50.809	1.6	272953	0.195	0.192	7.068	7.056	8.75				
	43	1,2-Dichloroethane-d4	57.616	15.2	546352	0.387	0.336	7.113	7.116	14.28				
	44	1,2-Dichloroethane	49.528	-0.9	627675	0.445	0.449	7.247	7.248	12.20				
	45	Benzene	48.513	-3.0	2391130	1.694	1.746	7.262	7.263	7.86				
	46	Trichloroethene	49.409	-1.2	526303	0.373	0.377	8.124	8.126	10.28				
	47	Methylcyclohexane	55.147	10.3	1035993	0.734	0.665	8.199	8.202	14.04				
	48	1,2-Dichloropropane	48.818	-2.4	674605	0.478	0.489	8.392	8.379	8.41				
	49	Methyl Methacrylate	52.353	4.7	456026	0.323	0.309	8.481	8.483	12.05				
	50	Bromodichloromethane	52.340	4.7	666891	0.472	0.451	8.719	8.723	11.45				
20	51	1,4-Dioxane	923.635	-7.6	79822	0.003	0.003	8.764	8.766	28.06	-0.0013	0.0030	0.0000	0.9984
	52	Dibromomethane	49.560	-0.9	362254	0.257	0.259	8.809	8.800	13.33				
	53	2-Chloroethyl vinyl ether	45.828	-8.3	171632	0.122	0.133	9.210	9.202	13.97				
5	54	4-Methyl-2-pentanone	253.515	1.4	3658719	0.518	0.511	9.240	9.242	8.73				
	55	cis-1,3-Dichloropropene	49.189	-1.6	956338	0.677	0.689	9.552	9.554	11.54				
	56	CHLOROBENZENE-D5	50.000	0	1059739	1	1	12.349	12.349	0				
	57	Toluene-d8	56.710	13.4	1750996	1.652	1.457	9.910	9.912	14.59				
	58	Toluene	50.107	0.2	2066574	1.950	1.946	10.043	10.035	5.89				
	59	Ethyl methacrylate	53.127	6.3	769738	0.726	0.684	10.341	10.337	13.28				
	60	trans-1,3-Dichloropropene	50.760	1.5	760048	0.717	0.706	10.341	10.336	12.21				
	61	1,1,2-Trichloroethane	51.062	2.1	417719	0.394	0.386	10.579	10.579	9.73				
5	62	2-Hexanone	255.740	2.3	2288403	0.432	0.422	10.609	10.606	11.94				
	63	1,3-Dichloropropane	52.690	5.4	862238	0.814	0.772	10.981	10.982	10.17				
	64	Tetrachloroethene	51.182	2.4	400721	0.378	0.369	11.070	11.067	8.75				
	65	Dibromochloromethane	51.389	2.8	482473	0.455	0.443	11.397	11.387	11.97				
	66	1,2-Dibromoethane	54.446	8.9	445131	0.420	0.386	11.724	11.712	14.43				
	67	1-Chlorohexane	51.469	2.9	753196	0.711	0.690	12.022	12.014	9.98				
	68	Chlorobenzene	49.893	-0.2	1195608	1.128	1.131	12.409	12.410	9.47				
	69	1,1,1,2-Tetrachloroethane	52.187	4.4	409116	0.386	0.370	12.498	12.490	13.96				
	70	Ethylbenzene	50.721	1.4	2205763	2.081	2.052	12.513	12.513	7.51				
2	71	m-Xylene & p-Xylene	102.732	2.7	3261462	1.539	1.498	12.647	12.640	6.89				
	72	o-Xylene	51.197	2.4	1615208	1.524	1.489	13.376	13.377	8.18				
	73	Styrene	50.507	1.0	1248796	1.178	1.167	13.450	13.441	7.64				
	74	Isopropylbenzene	50.965	1.9	1849051	1.745	1.712	14.000	14.004	9.32				
	75	Cis-1,4-Dichloro-2-Butene	50.445	0.9	162028	0.153	0.152	14.104	14.105	11.25				
	76	1,2-DICHLOROBENZENE-D4	50.000	0	397817	1	1	17.184	17.184	0				
	77	Bromoform	47.926	-4.1	262903	0.661	0.689	14.000	13.999	14.68				
	78	1,1,2,2-Tetrachloroethane	50.013	0.0	617825	1.553	1.553	14.313	14.313	6.22				
	79	4-Bromofluorobenzene	59.552	19.1	542141	1.363	1.144	14.432	14.432	11.93				
	80	1,2,3-Trichloropropane	50.756	1.5	118006	0.297	0.292	14.566	14.567	9.06				
	81	trans-1,4-Dichloro-2-butene	47.351	-5.3	129013	0.324	0.342	14.714	14.708	11.51				
	82	n-Propylbenzene	50.563	1.1	2410965	6.060	5.993	14.714	14.705	9.73				
	83	Bromobenzene	51.027	2.1	487755	1.226	1.201	14.744	14.747	10.90				
	84	1,3,5-Trimethylbenzene	49.894	-0.2	1392923	3.501	3.509	14.997	14.991	10.47				
	85	2-Chlorotoluene	48.431	-3.1	421221	1.059	1.093	14.997	14.998	9.84				
	86	4-Chlorotoluene	51.788	3.6	406397	1.022	0.986	15.086	15.086	12.52				
	87	tert-Butylbenzene	51.031	2.1	283457	0.713	0.698	15.622	15.619	12.12				
	88	1,2,4-Trimethylbenzene	49.883	-0.2	1328404	3.339	3.347	15.681	15.681	10.54				
	89	sec-Butylbenzene	51.493	3.0	1952356	4.908	4.765	15.994	15.997	7.91				
	90	p-Isopropyltoluene	52.303	4.6	1510490	3.797	3.630	16.261	16.253	8.81				
	91	1,3-Dichlorobenzene	51.658	3.3	813182	2.044	1.978	16.381	16.382	8.73				
	92	1,2,3-Trimethylbenzene	50.232	0.5	1300351	3.269	3.254	16.529	16.525	8.94				
	93	1,4-Dichlorobenzene	49.584	-0.8	779111	1.958	1.975	16.574	16.577	8.23				
	94	n-Butylbenzene	51.284	2.6	1434111	3.605	3.515	16.990	16.992	10.42				
	95	1,2-Dichlorobenzene	50.197	0.4	718162	1.805	1.798	17.228	17.230	7.59				
	96	1,2-Dibromo-3-chloropropane	48.362	-3.3	74687	0.188	0.194	18.538	18.527	10.65				
	97	1,2,4-Trichlorobenzene	48.765	-2.5	313908	0.789	0.809	19.579	19.572	9.96				
	98	Hexachlorobutadiene	48.058	-3.9	157269	0.395	0.411	19.728	19.729	8.51				
	99	Naphthalene	48.680	-2.6	819320	2.060	2.115	19.832	19.825	10.20				
	100	1,2,3-Trichlorobenzene	49.498	-1.0	283740	0.713	0.720	20.070	20.072	10.58				

SpTke Amount = Nominal Amount * M

SU 7/3/19

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	99	0.03
2	P,T,M	Dichlorodifluoromethane	50.000	52.021	-4.0	95	0.01
3	P,T,M	Chloromethane	50.000	52.481	-5.0	94	0.01
4	P,C,T,M	Vinyl chloride	50.000	54.767	-9.5	93	0.00
5	P,T,M	Bromomethane	50.000	50.448	-0.9	93	0.01
6	P,T,M	Chloroethane	50.000	51.796	-3.6	96	0.01
7	T,M	Dichlorofluoromethane	50.000	47.748	4.5	94	0.01
8	P,T,M	Trichlorofluoromethane	50.000	50.524	-1.0	93	0.01
9	T,M	Acrolein	250.000	231.836	7.3	101	0.01
10	P,T,M	1,1,2-Trichloro-1,2,2-trifl	50.000	48.643	2.7	96	0.03
11	P,T,M	Acetone	250.000	235.904	5.6	100	0.01
12	P,C,T,M	1,1-Dichloroethene	50.000	48.554	2.9	98	0.03
13	T,M	tert-Butyl alcohol	250.000	265.347	-6.1	106	0.01
14	T,M	Acetonitrile	500.000	504.754	-1.0	111	0.03
15	T,M	Iodomethane	50.000	48.701	2.6	96	0.01
16	P,T,M	Methyl Acetate	50.000	52.016	-4.0	95	0.01
17	T,M	Allyl Chloride	50.000	51.181	-2.4	97	0.03
18	P,T,M	Methylene chloride	50.000	48.348	3.3	99	0.04
19	P,T,M	Carbon disulfide	50.000	51.944	-3.9	99	0.03
20	T,M	Acrylonitrile	250.000	250.322	-0.1	98	0.03
21	P,T,M	tert-Butyl methyl ether (MT	50.000	49.820	0.4	114	0.01
22	P,T,M	trans-1,2-Dichloroethene	50.000	50.181	-0.4	96	0.03
23	T,M	Isopropyl ether (DIPE)	50.000	49.710	0.6	97	0.03
24	P,T,M	1,1-Dichloroethane	50.000	49.643	0.7	97	0.03
25	T,M	Vinyl acetate	50.000	49.517	1.0	95	0.03
26	T,M	2-Butanol	250.000	249.329	0.3	93	0.03
27	T,M	tert-Butyl ethyl ether (ETB	50.000	49.569	0.9	104	0.01
28	P,T,M	2-Butanone	250.000	257.261	-2.9	96	0.03
29	T,M	Propionitrile	500.000	500.981	-0.2	97	0.03
30	T,M	2,2-Dichloropropane	50.000	47.914	4.2	95	0.03
31	P,T,M	cis-1,2-Dichloroethene	50.000	50.439	-0.9	98	0.03
32	T,M	Methylacrynonitrile	500.000	516.270	-3.3	99	0.03
33	T,M	Isobutyl Alcohol	1000.000	928.760	7.1	98	0.03
34	P,C,T,M	Chloroform	50.000	48.283	3.4	97	0.03
35	T,M	Bromochloromethane	50.000	50.207	-0.4	96	0.03
36	T,M	Tetrahydrofuran	50.000	48.413	3.2	97	0.03
37	S	Dibromofluoromethane	50.000	56.817	-13.6	96	0.03
38	P,T,M	1,1,1-Trichloroethane	50.000	49.465	1.1	97	0.03
39	P,T,M	Cyclohexane	50.000	53.422	-6.8	95	0.03
40	T,M	1,1-Dichloropropene	50.000	50.083	-0.2	96	0.04
41	P,T,M	Carbon tetrachloride	50.000	50.631	-1.3	101	0.03

(#) = Out of Range

SY 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	tert-Amyl methyl ether (TAM	50.000	50.809	-1.6	106	0.04
43	S	1,2-Dichloroethane-d4	50.000	57.616	-15.2	97	0.03
44	P,T,M	1,2-Dichloroethane	50.000	49.528	0.9	96	0.03
45	P,T,M	Benzene	50.000	48.513	3.0	96	0.03
46	P,T,M	Trichloroethene	50.000	49.409	1.2	96	0.03
47	P,T,M	Methylcyclohexane	50.000	55.147	-10.3	95	0.03
48	P,C,T,M	1,2-Dichloropropane	50.000	48.817	2.4	96	0.04
49	T,M	Methyl Methacrylate	50.000	52.353	-4.7	98	0.03
50	P,T,M	Bromodichloromethane	50.000	52.340	-4.7	99	0.03
51	T,M	1,4-Dioxane	1000.000	923.635	7.6	106	0.03
52	T,M	Dibromomethane	50.000	49.560	0.9	97	0.04
53	T,M	2-Chloroethyl vinyl ether	50.000	45.828	8.3	82	0.04
54	P,T,M	4-Methyl-2-pentanone	250.000	253.515	-1.4	95	0.03
55	P,T,M	cis-1,3-Dichloropropene	50.000	49.189	1.6	96	0.03
56	I	CHLOROBENZENE-D5	50.000	50.000	0.0	96	0.03
57	S	Toluene-d8	50.000	56.710	-13.4	92	0.03
58	P,C,T,M	Toluene	50.000	50.107	-0.2	96	0.04
59	T,M	Ethyl methacrylate	50.000	53.128	-6.3	103	0.03
60	P,T,M	trans-1,3-Dichloropropene	50.000	50.760	-1.5	100	0.04
61	P,T,M	1,1,2-Trichloroethane	50.000	51.062	-2.1	97	0.03
62	P,T,M	2-Hexanone	250.000	255.740	-2.3	93	0.03
63	T,M	1,3-Dichloropropane	50.000	52.690	-5.4	99	0.03
64	P,T,M	Tetrachloroethene	50.000	51.182	-2.4	98	0.03
65	P,T,M	Dibromochloromethane	50.000	51.389	-2.8	101	0.04
66	P,T,M	1,2-Dibromoethane	50.000	54.446	-8.9	101	0.04
67	T,M	1-Chlorohexane	50.000	51.469	-2.9	97	0.04
68	P,T,M	Chlorobenzene	50.000	49.892	0.2	93	0.03
69	T,M	1,1,1,2-Tetrachloroethane	50.000	52.187	-4.4	98	0.04
70	P,C,T,M	Ethylbenzene	50.000	50.721	-1.4	97	0.03
71	P,T,M	m-Xylene & p-Xylene	100.000	102.732	-2.7	94	0.04
72	P,T,M	o-Xylene	50.000	51.198	-2.4	96	0.03
73	P,T,M	Styrene	50.000	50.507	-1.0	94	0.04
74	P,T,M	Isopropylbenzene	50.000	50.964	-1.9	94	0.03
75	T,M	Cis-1,4-Dichloro-2-Butene	50.000	50.445	-0.9	97	0.03
76	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	96	0.03
77	P,T,M	Bromoform	50.000	47.926	4.1	95	0.03
78	P,T,M	1,1,2,2-Tetrachloroethane	50.000	50.013	-0.0	97	0.03
79	S	4-Bromofluorobenzene	50.000	59.552	-19.1	101	0.03
80	T,M	1,2,3-Trichloropropane	50.000	50.756	-1.5	100	0.03

(#) = Out of Range

5/13/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	50.000	47.351	5.3	94	0.04
82	T,M	n-Propylbenzene	50.000	50.563	-1.1	96	0.04
83	T,M	Bromobenzene	50.000	51.027	-2.1	98	0.03
84	T,M	1,3,5-Trimethylbenzene	50.000	49.894	0.2	95	0.04
85	T,M	2-Chlorotoluene	50.000	48.431	3.1	95	0.03
86	T,M	4-Chlorotoluene	50.000	51.788	-3.6	99	0.03
87	T,M	tert-Butylbenzene	50.000	51.031	-2.1	98	0.03
88	T,M	1,2,4-Trimethylbenzene	50.000	49.883	0.2	94	0.03
89	T,M	sec-Butylbenzene	50.000	51.493	-3.0	100	0.03
90	T,M	p-Isopropyltoluene	50.000	52.303	-4.6	97	0.04
91	P,T,M	1,3-Dichlorobenzene	50.000	51.658	-3.3	99	0.03
92	T,M	1,2,3-Trimethylbenzene	50.000	50.232	-0.5	96	0.04
93	P,T,M	1,4-Dichlorobenzene	50.000	49.584	0.8	96	0.03
94	T,M	n-Butylbenzene	50.000	51.284	-2.6	98	0.03
95	P,T,M	1,2-Dichlorobenzene	50.000	50.197	-0.4	96	0.03
96	P,T,M	1,2-Dibromo-3-chloropropane	50.000	48.362	3.3	98	0.03
97	P,T,M	1,2,4-Trichlorobenzene	50.000	48.765	2.5	94	0.03
98	T,M	Hexachlorobutadiene	50.000	48.058	3.9	94	0.01
99	T,M	Naphthalene	50.000	48.680	2.6	95	0.03
100	T,M	1,2,3-Trichlorobenzene	50.000	49.498	1.0	94	0.01

SU 7/3/19

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I 1,4-DIFLUOROBENZENE	1.000	1.000	0.0	99	0.03
2	P,T,M Dichlorodifluoromethane	0.283	0.294	-3.9	95	0.01
3	P,T,M Chloromethane	0.446	0.468	-4.9	94	0.01
4	P,C,T,M Vinyl chloride	0.389	0.426	-9.5	93	0.00
5	P,T,M Bromomethane	0.327	0.330	-0.9	93	0.01
6	P,T,M Chloroethane	0.267	0.276	-3.4	96	0.01
7	T,M Dichlorofluoromethane	0.708	0.676	4.5	94	0.01
8	P,T,M Trichlorofluoromethane	0.322	0.325	-0.9	93	0.01
9	T,M Acrolein	0.068	0.063	7.4	101	0.01
10	P,T,M 1,1,2-Trichloro-1,2,2-trifl	0.213	0.208	2.3	96	0.03
11	P,T,M Acetone	0.114	0.108	5.3	100	0.01
12	P,C,T,M 1,1-Dichloroethene	0.589	0.572	2.9	98	0.03
13	T,M tert-Butyl alcohol	0.044	0.047	-6.8	106	0.01
14	T,M Acetonitrile	0.045	0.046	-2.2	111	0.03
15	T,M Iodomethane	0.543	0.529	2.6	96	0.01
16	P,T,M Methyl Acetate	0.381	0.396	-3.9	95	0.01
17	T,M Allyl Chloride	0.196	0.201	-2.6	97	0.03
18	P,T,M Methylene chloride	0.541	0.524	3.1	99	0.04
19	P,T,M Carbon disulfide	1.370	1.423	-3.9	99	0.03
20	T,M Acrylonitrile	0.168	0.168	0.0	98	0.03
21	P,T,M tert-Butyl methyl ether (MT	0.959	0.956	0.3	114	0.01
22	P,T,M trans-1,2-Dichloroethene	0.603	0.605	-0.3	96	0.03
23	T,M Isopropyl ether (DIPE)	1.755	1.745	0.6	97	0.03
24	P,T,M 1,1-Dichloroethane	0.833	0.827	0.7	97	0.03
25	T,M Vinyl acetate	1.024	1.014	1.0	95	0.03
26	T,M 2-Butanol	0.046	0.046	0.0	93	0.03
27	T,M tert-Butyl ethyl ether (ETB	1.330	1.318	0.9	104	0.01
28	P,T,M 2-Butanone	0.046	0.047#	-2.2	96	0.03
29	T,M Propionitrile	0.058	0.058	0.0	97	0.03
30	T,M 2,2-Dichloropropane	0.281	0.269	4.3	95	0.03
31	P,T,M cis-1,2-Dichloroethene	0.410	0.414	-1.0	98	0.03
32	T,M Methylacrynonitrile	0.066	0.068	-3.0	99	0.03
33	T,M Isobutyl Alcohol	0.024	0.022	8.3	98	0.03
34	P,C,T,M Chloroform	0.696	0.672	3.4	97	0.03
35	T,M Bromochloromethane	0.433	0.434	-0.2	96	0.03
36	T,M Tetrahydrofuran	0.142	0.137	3.5	97	0.03
37	S Dibromofluoromethane	0.337	0.382	-13.4	96	0.03
38	P,T,M 1,1,1-Trichloroethane	0.372	0.368	1.1	97	0.03
39	P,T,M Cyclohexane	0.529	0.565	-6.8	95	0.03
40	T,M 1,1-Dichloropropene	0.164	0.164	0.0	96	0.04
41	P,T,M Carbon tetrachloride	0.295	0.299	-1.4	101	0.03

(#) = Out of Range

RFP454.D VO02F29.M Tue Jul 02 12:42:01 2019 SA 7/3/19 Page 1

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	tert-Amyl methyl ether (TAM	0.192	0.195	-1.6	106	0.04
43	S	1,2-Dichloroethane-d4	0.336	0.387	-15.2	97	0.03
44	P,T,M	1,2-Dichloroethane	0.449	0.445	0.9	96	0.03
45	P,T,M	Benzene	1.746	1.694	3.0	96	0.03
46	P,T,M	Trichloroethene	0.377	0.373	1.1	96	0.03
47	P,T,M	Methylcyclohexane	0.665	0.734	-10.4	95	0.03
48	P,C,T,M	1,2-Dichloropropane	0.489	0.478	2.2	96	0.04
49	T,M	Methyl Methacrylate	0.309	0.323	-4.5	98	0.03
50	P,T,M	Bromodichloromethane	0.451	0.472	-4.7	99	0.03
51	T,M	1,4-Dioxane	0.003	0.003	0.0	106	0.03
52	T,M	Dibromomethane	0.259	0.257	0.8	97	0.04
53	T,M	2-Chloroethyl vinyl ether	0.133	0.122	8.3	82	0.04
54	P,T,M	4-Methyl-2-pentanone	0.511	0.518	-1.4	95	0.03
55	P,T,M	cis-1,3-Dichloropropene	0.689	0.677	1.7	96	0.03
56	I	CHLOROBENZENE-D5	1.000	1.000	0.0	96	0.03
57	S	Toluene-d8	1.457	1.652	-13.4	92	0.03
58	P,C,T,M	Toluene	1.946	1.950	-0.2	96	0.04
59	T,M	Ethyl methacrylate	0.684	0.726	-6.1	103	0.03
60	P,T,M	trans-1,3-Dichloropropene	0.706	0.717	-1.6	100	0.04
61	P,T,M	1,1,2-Trichloroethane	0.386	0.394	-2.1	97	0.03
62	P,T,M	2-Hexanone	0.422	0.432	-2.4	93	0.03
63	T,M	1,3-Dichloropropane	0.772	0.814	-5.4	99	0.03
64	P,T,M	Tetrachloroethene	0.369	0.378	-2.4	98	0.03
65	P,T,M	Dibromochloromethane	0.443	0.455	-2.7	101	0.04
66	P,T,M	1,2-Dibromoethane	0.386	0.420	-8.8	101	0.04
67	T,M	1-Chlorohexane	0.690	0.711	-3.0	97	0.04
68	P,T,M	Chlorobenzene	1.131	1.128	0.3	93	0.03
69	T,M	1,1,1,2-Tetrachloroethane	0.370	0.386	-4.3	98	0.04
70	P,C,T,M	Ethylbenzene	2.052	2.081	-1.4	97	0.03
71	P,T,M	m-Xylene & p-Xylene	1.498	1.539	-2.7	94	0.04
72	P,T,M	o-Xylene	1.489	1.524	-2.4	96	0.03
73	P,T,M	Styrene	1.167	1.178	-0.9	94	0.04
74	P,T,M	Isopropylbenzene	1.712	1.745	-1.9	94	0.03
75	T,M	Cis-1,4-Dichloro-2-Butene	0.152	0.153	-0.7	97	0.03
76	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	96	0.03
77	P,T,M	Bromoform	0.689	0.661	4.1	95	0.03
78	P,T,M	1,1,2,2-Tetrachloroethane	1.553	1.553	0.0	97	0.03
79	S	4-Bromofluorobenzene	1.144	1.363	-19.1	101	0.03
80	T,M	1,2,3-Trichloropropane	0.292	0.297	-1.7	100	0.03

(#) = Out of Range

7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	0.342	0.324	5.3	94	0.04
82	T,M	n-Propylbenzene	5.993	6.060	-1.1	96	0.04
83	T,M	Bromobenzene	1.201	1.226	-2.1	98	0.03
84	T,M	1,3,5-Trimethylbenzene	3.509	3.501	0.2	95	0.04
85	T,M	2-Chlorotoluene	1.093	1.059	3.1	95	0.03
86	T,M	4-Chlorotoluene	0.986	1.022	-3.7	99	0.03
87	T,M	tert-Butylbenzene	0.698	0.713	-2.1	98	0.03
88	T,M	1,2,4-Trimethylbenzene	3.347	3.339	0.2	94	0.03
89	T,M	sec-Butylbenzene	4.765	4.908	-3.0	100	0.03
90	T,M	p-Isopropyltoluene	3.630	3.797	-4.6	97	0.04
91	P,T,M	1,3-Dichlorobenzene	1.978	2.044	-3.3	99	0.03
92	T,M	1,2,3-Trimethylbenzene	3.254	3.269	-0.5	96	0.04
93	P,T,M	1,4-Dichlorobenzene	1.975	1.958	0.9	96	0.03
94	T,M	n-Butylbenzene	3.515	3.605	-2.6	98	0.03
95	P,T,M	1,2-Dichlorobenzene	1.798	1.805	-0.4	96	0.03
96	P,T,M	1,2-Dibromo-3-chloropropane	0.194	0.188	3.1	98	0.03
97	P,T,M	1,2,4-Trichlorobenzene	0.809	0.789	2.5	94	0.03
98	T,M	Hexachlorobutadiene	0.411	0.395	3.9	94	0.01
99	T,M	Naphthalene	2.115	2.060	2.6	95	0.03
100	T,M	1,2,3-Trichlorobenzene	0.720	0.713	1.0	94	0.01

SV SV 7/3/19

(#) = Out of Range SPCC's out = 1 CCC's out = 0

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.66	114	1411705	50.00	ug/l		0.03
56) CHLOROBENZENE-D5	12.35	117	1059739	50.00	ug/l		0.03
76) 1,2-DICHLOROBENZENE-D4	17.18	152	397817	50.00	ug/l		0.03
System Monitoring Compounds							
37) Dibromofluoromethane	6.44	111	539892	56.82	ug/l		0.03
Spiked Amount 50.000			Recovery =	113.64%			
43) 1,2-Dichloroethane-d4	7.11	65	546352	57.62	ug/l		0.03
Spiked Amount 50.000			Recovery =	115.24%			
57) Toluene-d8	9.91	98	1750996	56.71	ug/l		0.03
Spiked Amount 50.000			Recovery =	113.42%			
79) 4-Bromofluorobenzene	14.43	95	542141	59.55	ug/l		0.03
Spiked Amount 50.000			Recovery =	119.10%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.74	85	415371	52.02	ug/l		99
3) Chloromethane	2.00	50	660697	52.48	ug/l		99
4) Vinyl chloride	2.11	62	601087	54.77	ug/l		100
5) Bromomethane	2.59	94	465833	50.45	ug/l		99
6) Chloroethane	2.68	64	389805	51.80	ug/l		99
7) Dichlorofluoromethane	2.72	67	953880	47.75	ug/l		99
8) Trichlorofluoromethane	2.96	101	459273	50.52	ug/l		100
9) Acrolein	3.44	56	442006	231.84	ug/l		96
10) 1,1,2-Trichloro-1,2,2-trif	3.48	151	292952	48.64	ug/l		100
11) Acetone	3.51	43	759405	235.90	ug/l		100
12) 1,1-Dichloroethene	3.68	61	806798	48.55	ug/l		100
13) tert-Butyl alcohol	3.77	59	329435	265.35	ug/l		95
14) Acetonitrile	3.84	41	648218	504.75	ug/l		98
15) Iodomethane	4.05	142	746322	48.70	ug/l		100
16) Methyl Acetate	4.06	43	559039	52.02	ug/l		97
17) Allyl Chloride	4.11	76	283406	51.18	ug/l		99
18) Methylene chloride	4.27	49	739107	48.35	ug/l		99
19) Carbon disulfide	4.27	76	2008555	51.94	ug/l		100
20) Acrylonitrile	4.41	53	1185542	250.32	ug/l		99
21) tert-Butyl methyl ether (M	4.44	73	1349275	49.82	ug/l		100
22) trans-1,2-Dichloroethene	4.61	61	854408	50.18	ug/l		100
23) Isopropyl ether (DIPE)	5.02	45	2463804	49.71	ug/l		100
24) 1,1-Dichloroethane	5.15	63	1167487	49.64	ug/l		100
25) Vinyl acetate	5.16	43	1432091	49.52	ug/l		100
26) 2-Butanol	5.45	45	323658	249.33	ug/l	#	100
27) tert-Butyl ethyl ether (ET	5.54	59	1860941	49.57	ug/l		99
28) 2-Butanone	5.70	72	334788	257.26	ug/l		99

(#) = qualifier out of range (m) = manual integration

SU 7/3/19

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29) Propionitrile	5.80	54	822985	500.98	ug/l	100
30) 2,2-Dichloropropane	5.88	77	379700	47.91	ug/l	99
31) cis-1,2-Dichloroethene	5.94	96	584173	50.44	ug/l	99
32) Methylacrynonitrile	6.06	52	957614	516.27	ug/l	99
33) Isobutyl Alcohol	6.09	43	627174	928.76	ug/l	99
34) Chloroform	6.15	83	949214	48.28	ug/l	99
35) Bromochloromethane	6.37	49	613320	50.21	ug/l	100
36) Tetrahydrofuran	6.41	42	193895	48.41	ug/l	99
38) 1,1,1-Trichloroethane	6.68	97	519092	49.46	ug/l	100
39) Cyclohexane	6.70	84	798060	53.42	ug/l	99
40) 1,1-Dichloropropene	6.90	110	231338	50.08	ug/l	99
41) Carbon tetrachloride	7.02	119	421654	50.63	ug/l	100
42) tert-Amyl methyl ether (TA	7.07	87	275953	50.81	ug/l	99
44) 1,2-Dichloroethane	7.25	62	627675	49.53	ug/l	100
45) Benzene	7.26	78	2391130	48.51	ug/l	100
46) Trichloroethene	8.12	130	526303	49.41	ug/l	99
47) Methylcyclohexane	8.20	83	1035993	55.15	ug/l	99
48) 1,2-Dichloropropane	8.39	63	674605	48.82	ug/l	99
49) Methyl Methacrylate	8.48	69	456026	52.35	ug/l	98
50) Bromodichloromethane	8.72	83	666891	52.34	ug/l	99
51) 1,4-Dioxane	8.76	88	79822	923.63	ug/l	99
52) Dibromomethane	8.81	93	362254	49.56	ug/l	99
53) 2-Chloroethyl vinyl ether	9.21	63	171632	45.83	ug/l	98
54) 4-Methyl-2-pentanone	9.24	43	3658719	253.52	ug/l	100
55) cis-1,3-Dichloropropene	9.55	75	956338	49.19	ug/l	100
58) Toluene	10.04	91	2066574	50.11	ug/l	100
59) Ethyl methacrylate	10.34	69	769738	53.13	ug/l	99
60) trans-1,3-Dichloropropene	10.34	75	760048	50.76	ug/l	98
61) 1,1,2-Trichloroethane	10.58	97	417719	51.06	ug/l	99
62) 2-Hexanone	10.61	43	2288403	255.74	ug/l	100
63) 1,3-Dichloropropane	10.98	76	862238	52.69	ug/l	99
64) Tetrachloroethene	11.07	164	400721	51.18	ug/l	99
65) Dibromochloromethane	11.40	129	482473	51.39	ug/l	100
66) 1,2-Dibromoethane	11.72	107	445131	54.45	ug/l	100
67) 1-Chlorohexane	12.02	91	753196	51.47	ug/l	99
68) Chlorobenzene	12.41	112	1195608	49.89	ug/l	99
69) 1,1,1,2-Tetrachloroethane	12.50	131	409116	52.19	ug/l	100
70) Ethylbenzene	12.51	91	2205763	50.72	ug/l	100
71) m-Xylene & p-Xylene	12.65	91	3261462	102.73	ug/l	100
72) o-Xylene	13.38	91	1615208	51.20	ug/l	100
73) Styrene	13.45	104	1248796	50.51	ug/l	100

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D
Acq On : 29 Jun 2019 5:06 pm
Sample : IVO02F2901
Misc : 50ppb 8260/250ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019

Vial: 14
Operator: IRagas
Inst : 02
Multiplr: 1.00
Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.00	105	1849051	50.96	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.10	53	162028	50.45	ug/l	99
77)	Bromoform	14.00	173	262903	47.93	ug/l	99
78)	1,1,2,2-Tetrachloroethane	14.31	83	617825	50.01	ug/l	100
80)	1,2,3-Trichloropropane	14.57	110	118006	50.76	ug/l	98
81)	trans-1,4-Dichloro-2-buten	14.71	53	129013	47.35	ug/l	99
82)	n-Propylbenzene	14.71	91	2410965	50.56	ug/l	100
83)	Bromobenzene	14.74	156	487755	51.03	ug/l	99
84)	1,3,5-Trimethylbenzene	15.00	105	1392923	49.89	ug/l	99
85)	2-Chlorotoluene	15.00	126	421221	48.43	ug/l	100
86)	4-Chlorotoluene	15.09	126	406397	51.79	ug/l	99
87)	tert-Butylbenzene	15.62	134	283457	51.03	ug/l	98
88)	1,2,4-Trimethylbenzene	15.68	105	1328404	49.88	ug/l	99
89)	sec-Butylbenzene	15.99	105	1952356	51.49	ug/l	100
90)	p-Isopropyltoluene	16.26	119	1510490	52.30	ug/l	99
91)	1,3-Dichlorobenzene	16.38	146	813182	51.66	ug/l	100
92)	1,2,3-Trimethylbenzene	16.53	105	1300351	50.23	ug/l	99
93)	1,4-Dichlorobenzene	16.57	146	779111	49.58	ug/l	100
94)	n-Butylbenzene	16.99	91	1434111	51.28	ug/l	100
95)	1,2-Dichlorobenzene	17.23	146	718162	50.20	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.54	157	74687	48.36	ug/l	98
97)	1,2,4-Trichlorobenzene	19.58	180	313908	48.77	ug/l	100
98)	Hexachlorobutadiene	19.73	225	157269	48.06	ug/l	100
99)	Naphthalene	19.83	128	819320	48.68	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	283740	49.50	ug/l	99

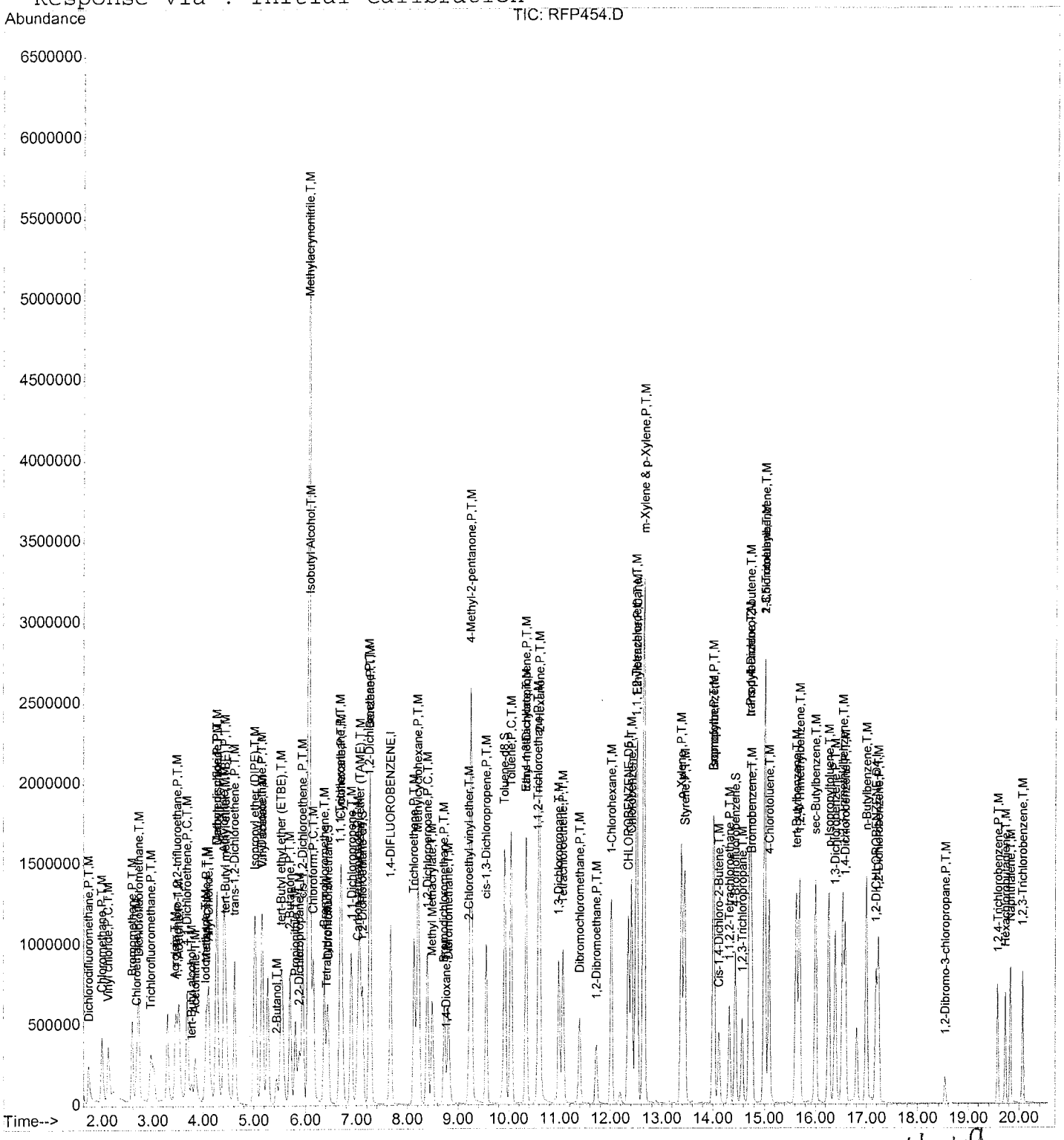
SA 7/3/19

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19F29\RFP454.D Vial: 14
Acq On : 29 Jun 2019 5:06 pm Operator: IRagas
Sample : IVO02F2901 Inst : 02
Misc : 50ppb 8260/250ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 2 12:41 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



5 a 11/3/19

DAILY CALIBRATIONS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RGP331
Instrument ID: 02
GC Column:RTX502.2ID:0.25mm (mm)

Contract: VHA-SLC
SAS No.: SDG No.: 19G151
BFB Injection Date : 07/19/19
BFB Injection Time : 08:34
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.73
75	30.0 - 60.0% of mass 95	44.13
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.42
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	94.15
175	5.0 - 9.0% of mass 174	7.54(8.0)1
176	95.0 - 101.0% of mass 174	92.63(98.4)1
177	5.0 - 9.0% of mass 176	5.93(6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CVO02F2907	RGP332	07/19/19	09:09
2	MBLK1S	VS02G17B	RGP336	07/19/19	10:51
3	LCS1S	VS02G17L	RGP333	07/19/19	09:35
4	LCD1S	VS02G17C	RGP334	07/19/19	10:00
5	MBLK2S	VPG017SB	RGP337	07/19/19	11:16
6	OU2-SB60	G151-01	RGP338	07/19/19	11:41

FORM 8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX Inc
Lab Code : EMXT
Lab File ID : RFP447
Instrument ID: 02
GC Column : RTX502.2ID:0.25mm (mm)

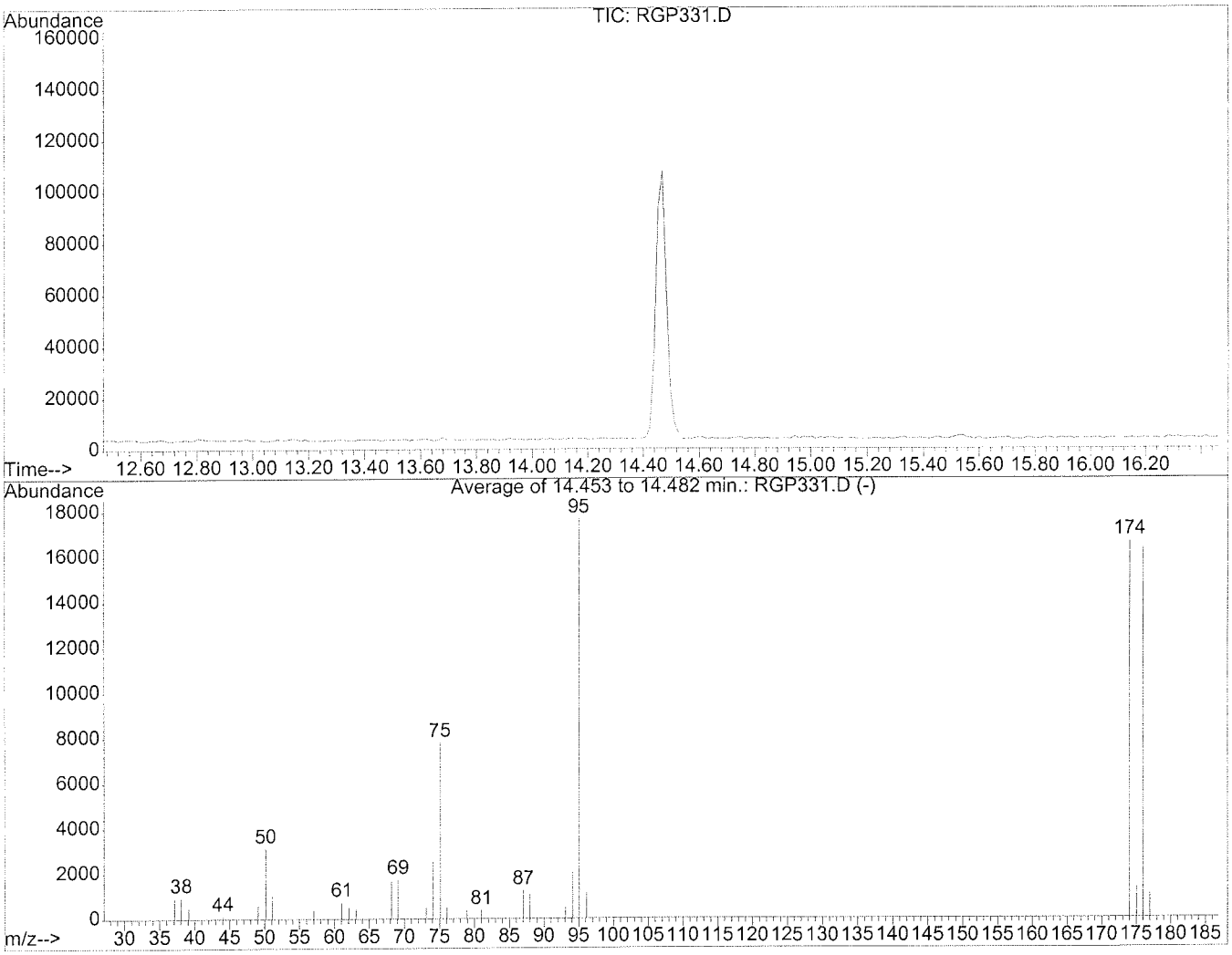
Project: VHA-SLC
SDG No: 19G151
Date Analyzed: 06/29/2019
Time Analyzed: 14:11
Heated Purge (Y/N): Y

		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5		1,2-DICHLOROBENZENE-D4	
		AREA #	RT(min)	AREA #	RT(min)	AREA #	RT(min)
	12 HOUR STD	1427074	7.66	1107798	12.35	413985	17.18
	UPPER LIMIT	2854148	7.83	2215596	12.52	827970	17.35
	LOWER LIMIT	713537	7.49	553899	12.18	206993	17.01
	SAMPLE ID						
1	VSTD050	1493578	7.68	1273701	12.35	462281	17.19
2	MBLK1S	1384868	7.66	1083293	12.33	389520	17.17
3	LCS1S	1505639	7.66	1257975	12.35	472474	17.18
4	LCD1S	1520681	7.66	1259246	12.35	487842	17.18
5	MBLK2S	1453512	7.65	1120199	12.34	405634	17.17
6	OU2-SB60	1443362	7.66	1077945	12.33	342301	17.18

Area Upper Limit = + 100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 0.167 min. (10 sec.) of internal standard RT
RT Lower Limit = - 0.167 min. (10 sec.) of internal standard RT

Data File : D:\HPCHEM\1\DATA\19G19\RGP331.D
Acq On : 19 Jul 2019 8:34 am
Sample : BFB02G17
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL

Vial: 1
Operator: IRagas
Inst : 02
Multiplr: 1.00



AutoFind: Scans 862, 863, 864; Background Corrected with Scan 857

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	3132	PASS
75	95	30	60	44.1	7798	PASS
95	95	100	100	100.0	17670	PASS
96	95	5	9	6.4	1135	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	94.1	16636	PASS
175	174	5	9	8.0	1333	PASS
176	174	95	101	98.4	16368	PASS
177	176	5	9	6.4	1047	PASS

RGP331.D VO02F29.M Mon Jul 22 13:40:50 2019

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D
Acq On : 19 Jul 2019 9:09 am
Sample : CVO02F2907
Misc : 50ppt 8260\250ppt KET-AA-TBA
MS Integration Params: RTE.P

Vial: 2
Operator: IRagas
Inst : 02
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	105	0.05
2	P,T,M	Dichlorodifluoromethane	50.000	51.819	-3.6	100	0.00
3	P,T,M	Chloromethane	50.000	49.262	1.5	93	0.02
4	P,C,T,M	Vinyl chloride	50.000	52.091	-4.2	93	0.00
5	P,T,M	Bromomethane	50.000	50.608	-1.2	99	0.02
6	P,T,M	Chloroethane	50.000	50.964	-1.9	100	0.02
7	T,M	Dichlorofluoromethane	50.000	47.225	5.5	99	0.02
8	P,T,M	Trichlorofluoromethane	50.000	56.215	-12.4	110	0.02
9	T,M	Acrolein	250.000	245.196	1.9	113	0.02
10	P,T,M	1,1,2-Trichloro-1,2,2-trifl	50.000	50.789	-1.6	106	0.03
11	P,T,M	Acetone	250.000	270.137	-8.1	121	0.02
12	P,C,T,M	1,1-Dichloroethene	50.000	46.478	7.0	99	0.03
13	T,M	tert-Butyl alcohol	250.000	310.759	-24.3#	132	0.02
14	T,M	Acetonitrile	500.000	587.859	-17.6	137	0.03
15	T,M	Iodomethane	50.000	52.233	-4.5	109	0.03
16	P,T,M	Methyl Acetate	50.000	48.544	2.9	94	0.03
17	T,M	Allyl Chloride	50.000	54.164	-8.3	108	0.03
18	P,T,M	Methylene chloride	50.000	45.963	8.1	100	0.05
19	P,T,M	Carbon disulfide	50.000	52.320	-4.6	106	0.03
20	T,M	Acrylonitrile	250.000	257.362	-2.9	107	0.03
21	P,T,M	tert-Butyl methyl ether (MT	50.000	50.638	-1.3	123	0.03
22	P,T,M	trans-1,2-Dichloroethene	50.000	49.675	0.7	100	0.03
23	T,M	Isopropyl ether (DIPE)	50.000	47.050	5.9	97	0.03
24	P,T,M	1,1-Dichloroethane	50.000	48.866	2.3	101	0.03
25	T,M	Vinyl acetate	50.000	49.857	0.3	101	0.03
26	T,M	2-Butanol	250.000	263.919	-5.6	105	0.03
27	T,M	tert-Butyl ethyl ether (ETB	50.000	49.341	1.3	110	0.03
28	P,T,M	2-Butanone	250.000	281.555	-12.6	111	0.03
29	T,M	Propionitrile	500.000	535.185	-7.0	110	0.03
30	T,M	2,2-Dichloropropane	50.000	52.838	-5.7	110	0.03
31	P,T,M	cis-1,2-Dichloroethene	50.000	51.715	-3.4	106	0.05
32	T,M	Methylacrynonitrile	500.000	498.781	0.2	101	0.03
33	T,M	Isobutyl Alcohol	1000.000	1032.089	-3.2	115	0.05
34	P,C,T,M	Chloroform	50.000	49.422	1.2	105	0.03
35	T,M	Bromochloromethane	50.000	46.452	7.1	94	0.03
36	T,M	Tetrahydrofuran	50.000	47.339	5.3	101	0.03
37	S	Dibromofluoromethane	50.000	48.275	3.5	86	0.03
38	P,T,M	1,1,1-Trichloroethane	50.000	54.952	-9.9	114	0.03
39	P,T,M	Cyclohexane	50.000	51.273	-2.5	96	0.03
40	T,M	1,1-Dichloropropene	50.000	52.006	-4.0	106	0.05
41	P,T,M	Carbon tetrachloride	50.000	57.049	-14.1	120	0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	tert-Amyl methyl ether (TAM	50.000	51.743	-3.5	115	0.05
43	S	1,2-Dichloroethane-d4	50.000	44.930	10.1	80	0.05
44	P,T,M	1,2-Dichloroethane	50.000	49.520	1.0	102	0.03
45	P,T,M	Benzene	50.000	50.366	-0.7	106	0.03
46	P,T,M	Trichloroethene	50.000	55.113	-10.2	113	0.05
47	P,T,M	Methylcyclohexane	50.000	52.987	-6.0	97	0.05
48	P,C,T,M	1,2-Dichloropropane	50.000	48.176	3.6	100	0.05
49	T,M	Methyl Methacrylate	50.000	50.659	-1.3	101	0.05
50	P,T,M	Bromodichloromethane	50.000	53.704	-7.4	107	0.05
51	T,M	1,4-Dioxane	1000.000	1291.710	-29.2#	161	0.03
52	T,M	Dibromomethane	50.000	51.261	-2.5	106	0.05
53	T,M	2-Chloroethyl vinyl ether	50.000	38.599	22.8#	73	0.05
54	P,T,M	4-Methyl-2-pentanone	250.000	250.262	-0.1	99	0.05
55	P,T,M	cis-1,3-Dichloropropene	50.000	49.864	0.3	103	0.03
56	I	CHLOROBENZENE-D5	50.000	50.000	0.0	115	0.03
57	S	Toluene-d8	50.000	44.415	11.2	87	0.05
58	P,C,T,M	Toluene	50.000	46.524	7.0	107	0.05
59	T,M	Ethyl methacrylate	50.000	44.657	10.7	104	0.03
60	P,T,M	trans-1,3-Dichloropropene	50.000	44.566	10.9	105	0.05
61	P,T,M	1,1,2-Trichloroethane	50.000	46.600	6.8	107	0.03
62	P,T,M	2-Hexanone	250.000	233.696	6.5	102	0.03
63	T,M	1,3-Dichloropropane	50.000	45.282	9.4	102	0.05
64	P,T,M	Tetrachloroethene	50.000	49.786	0.4	115	0.03
65	P,T,M	Dibromochloromethane	50.000	46.679	6.6	110	0.05
66	P,T,M	1,2-Dibromoethane	50.000	49.134	1.7	109	0.05
67	T,M	1-Chlorohexane	50.000	47.199	5.6	107	0.05
68	P,T,M	Chlorobenzene	50.000	47.258	5.5	106	0.05
69	T,M	1,1,1,2-Tetrachloroethane	50.000	49.814	0.4	112	0.05
70	P,C,T,M	Ethylbenzene	50.000	45.219	9.6	103	0.03
71	P,T,M	m-Xylene & p-Xylene	100.000	93.147	6.9	102	0.05
72	P,T,M	o-Xylene	50.000	48.479	3.0	109	0.05
73	P,T,M	Styrene	50.000	50.121	-0.2	113	0.05
74	P,T,M	Isopropylbenzene	50.000	46.716	6.6	103	0.05
75	T,M	Cis-1,4-Dichloro-2-Butene	50.000	43.524	13.0	100	0.05
76	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	112	0.03
77	P,T,M	Bromoform	50.000	49.663	0.7	115	0.03
78	P,T,M	1,1,2,2-Tetrachloroethane	50.000	46.424	7.2	105	0.03
79	S	4-Bromofluorobenzene	50.000	47.336	5.3	94	0.05
80	T,M	1,2,3-Trichloropropane	50.000	48.947	2.1	112	0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	50.000	43.547	12.9	100	0.05
82	T,M	n-Propylbenzene	50.000	47.156	5.7	104	0.05
83	T,M	Bromobenzene	50.000	48.960	2.1	110	0.05
84	T,M	1,3,5-Trimethylbenzene	50.000	46.513	7.0	103	0.05
85	T,M	2-Chlorotoluene	50.000	48.017	4.0	110	0.05
86	T,M	4-Chlorotoluene	50.000	48.532	2.9	108	0.03
87	T,M	tert-Butylbenzene	50.000	49.756	0.5	111	0.03
88	T,M	1,2,4-Trimethylbenzene	50.000	48.729	2.5	107	0.03
89	T,M	sec-Butylbenzene	50.000	46.616	6.8	105	0.05
90	T,M	p-Isopropyltoluene	50.000	49.102	1.8	106	0.05
91	P,T,M	1,3-Dichlorobenzene	50.000	48.654	2.7	108	0.05
92	T,M	1,2,3-Trimethylbenzene	50.000	47.656	4.7	106	0.05
93	P,T,M	1,4-Dichlorobenzene	50.000	47.942	4.1	108	0.05
94	T,M	n-Butylbenzene	50.000	47.274	5.5	105	0.05
95	P,T,M	1,2-Dichlorobenzene	50.000	47.903	4.2	106	0.05
96	P,T,M	1,2-Dibromo-3-chloropropane	50.000	48.657	2.7	115	0.03
97	P,T,M	1,2,4-Trichlorobenzene	50.000	51.417	-2.8	115	0.03
98	T,M	Hexachlorobutadiene	50.000	49.617	0.8	113	0.02
99	T,M	Naphthalene	50.000	45.304	9.4	103	0.03
100	T,M	1,2,3-Trichlorobenzene	50.000	50.763	-1.5	112	0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	105	0.05
2	P,T,M	Dichlorodifluoromethane	0.283	0.293	-3.5	100	0.00
3	P,T,M	Chloromethane	0.446	0.439	1.6	93	0.02
4	P,C,T,M	Vinyl chloride	0.389	0.405	-4.1	93	0.00
5	P,T,M	Bromomethane	0.327	0.331	-1.2	99	0.02
6	P,T,M	Chloroethane	0.267	0.272	-1.9	100	0.02
7	T,M	Dichlorofluoromethane	0.708	0.668	5.6	99	0.02
8	P,T,M	Trichlorofluoromethane	0.322	0.362	-12.4	110	0.02
9	T,M	Acrolein	0.068	0.066	2.9	113	0.02
10	P,T,M	1,1,2-Trichloro-1,2,2-trifl	0.213	0.217	-1.9	106	0.03
11	P,T,M	Acetone	0.114	0.123	-7.9	121	0.02
12	P,C,T,M	1,1-Dichloroethene	0.589	0.547	7.1	99	0.03
13	T,M	tert-Butyl alcohol	0.044	0.055	-25.0#	132	0.02
14	T,M	Acetonitrile	0.045	0.053	-17.8	137	0.03
15	T,M	Iodomethane	0.543	0.567	-4.4	109	0.03
16	P,T,M	Methyl Acetate	0.381	0.370	2.9	94	0.03
17	T,M	Allyl Chloride	0.196	0.212	-8.2	108	0.03
18	P,T,M	Methylene chloride	0.541	0.498	7.9	100	0.05
19	P,T,M	Carbon disulfide	1.370	1.433	-4.6	106	0.03
20	T,M	Acrylonitrile	0.168	0.173	-3.0	107	0.03
21	P,T,M	tert-Butyl methyl ether (MT	0.959	0.971	-1.3	123	0.03
22	P,T,M	trans-1,2-Dichloroethene	0.603	0.599	0.7	100	0.03
23	T,M	Isopropyl ether (DIPE)	1.755	1.652	5.9	97	0.03
24	P,T,M	1,1-Dichloroethane	0.833	0.814	2.3	101	0.03
25	T,M	Vinyl acetate	1.024	1.021	0.3	101	0.03
26	T,M	2-Butanol	0.046	0.049	-6.5	105	0.03
27	T,M	tert-Butyl ethyl ether (ETB	1.330	1.312	1.4	110	0.03
28	P,T,M	2-Butanone	0.046	0.052#	-13.0	111	0.03
29	T,M	Propionitrile	0.058	0.062	-6.9	110	0.03
30	T,M	2,2-Dichloropropane	0.281	0.297	-5.7	110	0.03
31	P,T,M	cis-1,2-Dichloroethene	0.410	0.424	-3.4	106	0.05
32	T,M	Methylacrynonitrile	0.066	0.066	0.0	101	0.03
33	T,M	Isobutyl Alcohol	0.024	0.025	-4.2	115	0.05
34	P,C,T,M	Chloroform	0.696	0.688	1.1	105	0.03
35	T,M	Bromochloromethane	0.433	0.402	7.2	94	0.03
36	T,M	Tetrahydrofuran	0.142	0.134	5.6	101	0.03
37	S	Dibromofluoromethane	0.337	0.325	3.6	86	0.03
38	P,T,M	1,1,1-Trichloroethane	0.372	0.409	-9.9	114	0.03
39	P,T,M	Cyclohexane	0.529	0.543	-2.6	96	0.03
40	T,M	1,1-Dichloropropene	0.164	0.170	-3.7	106	0.05
41	P,T,M	Carbon tetrachloride	0.295	0.337	-14.2	120	0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M tert-Amyl methyl ether (TAM	0.192	0.199	-3.6	115	0.05
43	S 1,2-Dichloroethane-d4	0.336	0.302	10.1	80	0.05
44	P,T,M 1,2-Dichloroethane	0.449	0.445	0.9	102	0.03
45	P,T,M Benzene	1.746	1.759	-0.7	106	0.03
46	P,T,M Trichloroethene	0.377	0.416	-10.3	113	0.05
47	P,T,M Methylcyclohexane	0.665	0.705	-6.0	97	0.05
48	P,C,T,M 1,2-Dichloropropane	0.489	0.472	3.5	100	0.05
49	T,M Methyl Methacrylate	0.309	0.313	-1.3	101	0.05
50	P,T,M Bromodichloromethane	0.451	0.485	-7.5	107	0.05
51	T,M 1,4-Dioxane	0.003	0.004	-33.3#	161	0.03
52	T,M Dibromomethane	0.259	0.265	-2.3	106	0.05
53	T,M 2-Chloroethyl vinyl ether	0.133	0.102	23.3#	73	0.05
54	P,T,M 4-Methyl-2-pentanone	0.511	0.512	-0.2	99	0.05
55	P,T,M cis-1,3-Dichloropropene	0.689	0.687	0.3	103	0.03
56	I CHLOROBENZENE-D5	1.000	1.000	0.0	115	0.03
57	S Toluene-d8	1.457	1.294	11.2	87	0.05
58	P,C,T,M Toluene	1.946	1.811	6.9	107	0.05
59	T,M Ethyl methacrylate	0.684	0.611	10.7	104	0.03
60	P,T,M trans-1,3-Dichloropropene	0.706	0.630	10.8	105	0.05
61	P,T,M 1,1,2-Trichloroethane	0.386	0.360	6.7	107	0.03
62	P,T,M 2-Hexanone	0.422	0.395	6.4	102	0.03
63	T,M 1,3-Dichloropropane	0.772	0.699	9.5	102	0.05
64	P,T,M Tetrachloroethene	0.369	0.368	0.3	115	0.03
65	P,T,M Dibromochloromethane	0.443	0.414	6.5	110	0.05
66	P,T,M 1,2-Dibromoethane	0.386	0.379	1.8	109	0.05
67	T,M 1-Chlorohexane	0.690	0.652	5.5	107	0.05
68	P,T,M Chlorobenzene	1.131	1.069	5.5	106	0.05
69	T,M 1,1,1,2-Tetrachloroethane	0.370	0.368	0.5	112	0.05
70	P,C,T,M Ethylbenzene	2.052	1.856	9.6	103	0.03
71	P,T,M m-Xylene & p-Xylene	1.498	1.395	6.9	102	0.05
72	P,T,M o-Xylene	1.489	1.443	3.1	109	0.05
73	P,T,M Styrene	1.167	1.169	-0.2	113	0.05
74	P,T,M Isopropylbenzene	1.712	1.599	6.6	103	0.05
75	T,M Cis-1,4-Dichloro-2-Butene	0.152	0.132	13.2	100	0.05
76	I 1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	112	0.03
77	P,T,M Bromoform	0.689	0.685	0.6	115	0.03
78	P,T,M 1,1,2,2-Tetrachloroethane	1.553	1.442	7.1	105	0.03
79	S 4-Bromofluorobenzene	1.144	1.083	5.3	94	0.05
80	T,M 1,2,3-Trichloropropane	0.292	0.286	2.1	112	0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	trans-1,4-Dichloro-2-butene	0.342	0.298	12.9	100	0.05
82	T,M	n-Propylbenzene	5.993	5.652	5.7	104	0.05
83	T,M	Bromobenzene	1.201	1.176	2.1	110	0.05
84	T,M	1,3,5-Trimethylbenzene	3.509	3.264	7.0	103	0.05
85	T,M	2-Chlorotoluene	1.093	1.050	3.9	110	0.05
86	T,M	4-Chlorotoluene	0.986	0.957	2.9	108	0.03
87	T,M	tert-Butylbenzene	0.698	0.695	0.4	111	0.03
88	T,M	1,2,4-Trimethylbenzene	3.347	3.262	2.5	107	0.03
89	T,M	sec-Butylbenzene	4.765	4.443	6.8	105	0.05
90	T,M	p-Isopropyltoluene	3.630	3.565	1.8	106	0.05
91	P,T,M	1,3-Dichlorobenzene	1.978	1.925	2.7	108	0.05
92	T,M	1,2,3-Trimethylbenzene	3.254	3.101	4.7	106	0.05
93	P,T,M	1,4-Dichlorobenzene	1.975	1.894	4.1	108	0.05
94	T,M	n-Butylbenzene	3.515	3.323	5.5	105	0.05
95	P,T,M	1,2-Dichlorobenzene	1.798	1.723	4.2	106	0.05
96	P,T,M	1,2-Dibromo-3-chloropropane	0.194	0.189	2.6	115	0.03
97	P,T,M	1,2,4-Trichlorobenzene	0.809	0.832	-2.8	115	0.03
98	T,M	Hexachlorobutadiene	0.411	0.408	0.7	113	0.02
99	T,M	Naphthalene	2.115	1.917	9.4	103	0.03
100	T,M	1,2,3-Trichlorobenzene	0.720	0.731	-1.5	112	0.02

(#) = Out of Range SPCC's out = 1 CCC's out = 0
RGP332.D VO02F29.M Mon Jul 22 13:41:30 2019 Page 3

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 9:30 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.68	114	1493578	50.00	ug/l	0.05
56) CHLOROBENZENE-D5	12.35	117	1273701	50.00	ug/l	0.03
76) 1,2-DICHLOROBENZENE-D4	17.19	152	462281	50.00	ug/l	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	6.45	111	485326	48.28	ug/l	0.03
Spiked Amount 50.000			Recovery =	96.56%		
43) 1,2-Dichloroethane-d4	7.13	65	450772	44.93	ug/l	0.05
Spiked Amount 50.000			Recovery =	89.86%		
57) Toluene-d8	9.93	98	1648257	44.41	ug/l	0.05
Spiked Amount 50.000			Recovery =	88.82%		
79) 4-Bromofluorobenzene	14.45	95	500757	47.34	ug/l	0.05
Spiked Amount 50.000			Recovery =	94.68%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.73	85	437761	51.82	ug/l	100
3) Chloromethane	2.00	50	656136	49.26	ug/l	99
4) Vinyl chloride	2.12	62	604877	52.09	ug/l	98
5) Bromomethane	2.60	94	494408	50.61	ug/l	99
6) Chloroethane	2.68	64	405788	50.96	ug/l	99
7) Dichlorofluoromethane	2.73	67	998143	47.23	ug/l	99
8) Trichlorofluoromethane	2.97	101	540641	56.21	ug/l	99
9) Acrolein	3.44	56	494588	245.20	ug/l	93
10) 1,1,2-Trichloro-1,2,2-trif	3.49	151	323616	50.79	ug/l	99
11) Acetone	3.52	43	920040	270.14	ug/l	98
12) 1,1-Dichloroethene	3.68	61	817099	46.48	ug/l	98
13) tert-Butyl alcohol	3.77	59	408191	310.76	ug/l	95
14) Acetonitrile	3.84	41	798727	587.86	ug/l	98
15) Iodomethane	4.07	142	846872	52.23	ug/l	97
16) Methyl Acetate	4.08	43	551980	48.54	ug/l	97
17) Allyl Chloride	4.11	76	317316	54.16	ug/l	100
18) Methylene chloride	4.28	49	743396	45.96	ug/l	95
19) Carbon disulfide	4.28	76	2140445	52.32	ug/l	100
20) Acrylonitrile	4.41	53	1289573	257.36	ug/l	99
21) tert-Butyl methyl ether (M	4.45	73	1450972	50.64	ug/l	98
22) trans-1,2-Dichloroethene	4.62	61	894852	49.68	ug/l	94
23) Isopropyl ether (DIPE)	5.02	45	2467236	47.05	ug/l	97
24) 1,1-Dichloroethane	5.15	63	1215872	48.87	ug/l	100
25) Vinyl acetate	5.17	43	1525562	49.86	ug/l	98
26) 2-Butanol	5.45	45	362467	263.92	ug/l #	100
27) tert-Butyl ethyl ether (ET	5.56	59	1959820	49.34	ug/l	97
28) 2-Butanone	5.70	72	387653	281.56	ug/l	94

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 9:30 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
29)	Propionitrile	5.81	54	930162	535.19	ug/l	100
30)	2,2-Dichloropropane	5.88	77	443013	52.84	ug/l	99
31)	cis-1,2-Dichloroethene	5.96	96	633686	51.72	ug/l	93
32)	Methylacrynonitrile	6.06	52	978831	498.78	ug/l	97
33)	Isobutyl Alcohol	6.11	43	737370	1032.09	ug/l	95
34)	Chloroform	6.15	83	1027970	49.42	ug/l	99
35)	Bromochloromethane	6.37	49	600351	46.45	ug/l	92
36)	Tetrahydrofuran	6.42	42	200590	47.34	ug/l	98
38)	1,1,1-Trichloroethane	6.69	97	610127	54.95	ug/l	97
39)	Cyclohexane	6.70	84	810371	51.27	ug/l	94
40)	1,1-Dichloropropene	6.91	110	254150	52.01	ug/l	99
41)	Carbon tetrachloride	7.04	119	502658	57.05	ug/l	99
42)	tert-Amyl methyl ether (TA	7.07	87	297324	51.74	ug/l	94
44)	1,2-Dichloroethane	7.25	62	663970	49.52	ug/l	100
45)	Benzene	7.27	78	2626475	50.37	ug/l	99
46)	Trichloroethene	8.14	130	621106	55.11	ug/l	97
47)	Methylcyclohexane	8.22	83	1053160	52.99	ug/l	96
48)	1,2-Dichloropropane	8.40	63	704349	48.18	ug/l	99
49)	Methyl Methacrylate	8.50	69	466863	50.66	ug/l	97
50)	Bromodichloromethane	8.74	83	723959	53.70	ug/l	100
51)	1,4-Dioxane	8.77	88	121401	1291.71	ug/l	92
52)	Dibromomethane	8.81	93	396421	51.26	ug/l	95
53)	2-Chloroethyl vinyl ether	9.22	63	152940	38.60	ug/l	97
54)	4-Methyl-2-pentanone	9.26	43	3821229	250.26	ug/l	98
55)	cis-1,3-Dichloropropene	9.56	75	1025690	49.86	ug/l	99
58)	Toluene	10.05	91	2306193	46.52	ug/l	100
59)	Ethyl methacrylate	10.35	69	777648	44.66	ug/l	98
60)	trans-1,3-Dichloropropene	10.35	75	802037	44.57	ug/l	98
61)	1,1,2-Trichloroethane	10.58	97	458184	46.60	ug/l	99
62)	2-Hexanone	10.61	43	2513356	233.70	ug/l	99
63)	1,3-Dichloropropane	11.00	76	890618	45.28	ug/l	99
64)	Tetrachloroethene	11.07	164	468493	49.79	ug/l	97
65)	Dibromochloromethane	11.40	129	526729	46.68	ug/l	99
66)	1,2-Dibromoethane	11.73	107	482813	49.13	ug/l	100
67)	1-Chlorohexane	12.03	91	830160	47.20	ug/l	95
68)	Chlorobenzene	12.43	112	1361132	47.26	ug/l	98
69)	1,1,1,2-Tetrachloroethane	12.50	131	469355	49.81	ug/l	100
70)	Ethylbenzene	12.52	91	2363516	45.22	ug/l	99
71)	m-Xylene & p-Xylene	12.65	91	3554205	93.15	ug/l	99
72)	o-Xylene	13.40	91	1838236	48.48	ug/l	99
73)	Styrene	13.45	104	1489471	50.12	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 9:30 2019 Quant Results File: VO02F29.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration
DataAcq Meth : VO02F29

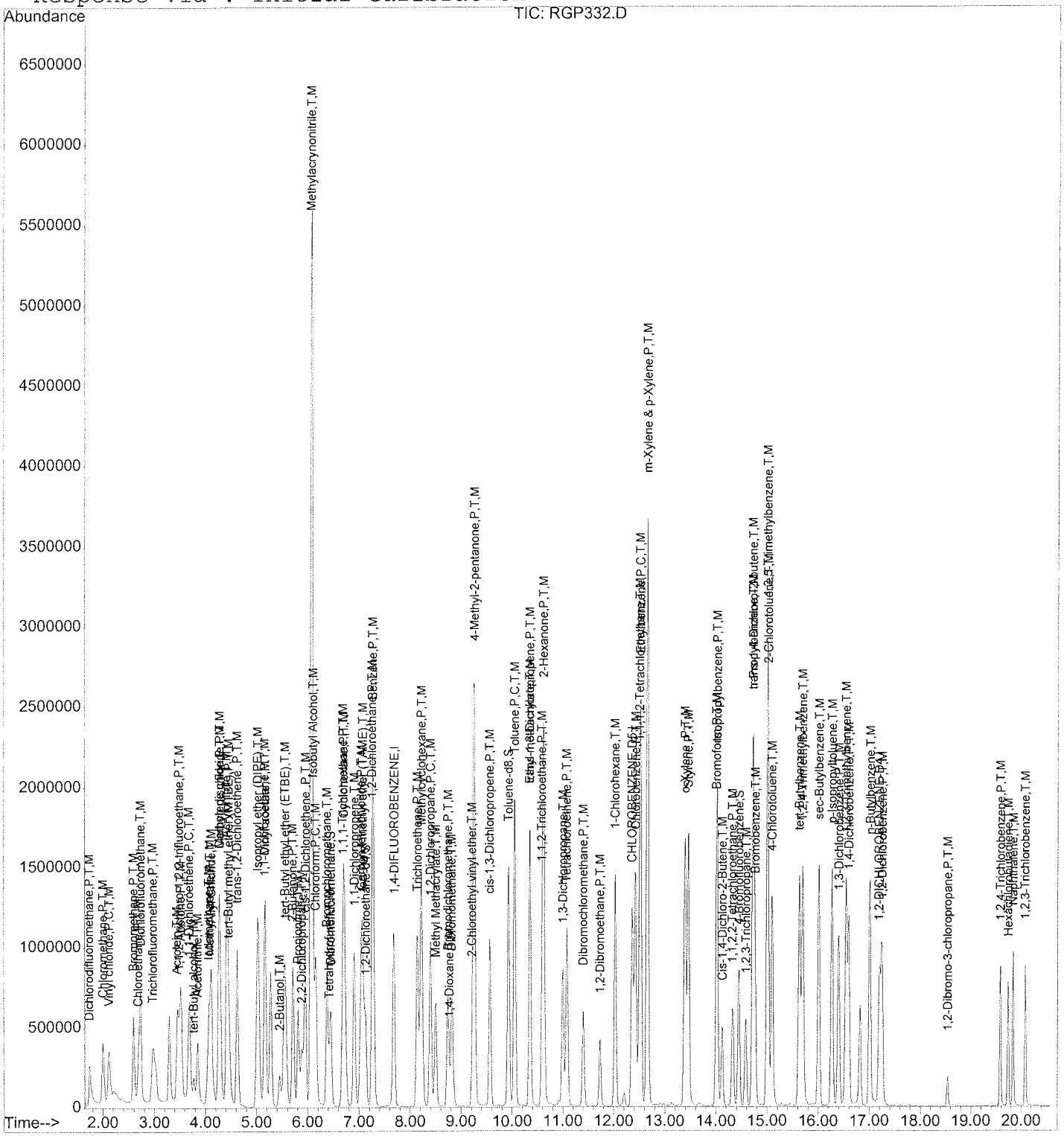
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
74)	Isopropylbenzene	14.02	105	2037095	46.72	ug/l	100
75)	Cis-1,4-Dichloro-2-Butene	14.12	53	168022	43.52	ug/l	97
77)	Bromoform	14.01	173	316578	49.66	ug/l	100
78)	1,1,2,2-Tetrachloroethane	14.32	83	666428	46.42	ug/l	100
80)	1,2,3-Trichloropropane	14.59	110	132241	48.95	ug/l	91
81)	trans-1,4-Dichloro-2-buten	14.72	53	137877	43.55	ug/l	96
82)	n-Propylbenzene	14.72	91	2612837	47.16	ug/l	99
83)	Bromobenzene	14.76	156	543842	48.96	ug/l	94
84)	1,3,5-Trimethylbenzene	15.00	105	1508955	46.51	ug/l	98
85)	2-Chlorotoluene	15.02	126	485296	48.02	ug/l	95
86)	4-Chlorotoluene	15.09	126	442563	48.53	ug/l	96
87)	tert-Butylbenzene	15.63	134	321163	49.76	ug/l	93
88)	1,2,4-Trimethylbenzene	15.69	105	1507947	48.73	ug/l	98
89)	sec-Butylbenzene	16.01	105	2053841	46.62	ug/l	99
90)	p-Isopropyltoluene	16.27	119	1647825	49.10	ug/l	100
91)	1,3-Dichlorobenzene	16.40	146	890003	48.65	ug/l	99
92)	1,2,3-Trimethylbenzene	16.53	105	1433585	47.66	ug/l	100
93)	1,4-Dichlorobenzene	16.59	146	875374	47.94	ug/l	99
94)	n-Butylbenzene	17.01	91	1536200	47.27	ug/l	99
95)	1,2-Dichlorobenzene	17.25	146	796400	47.90	ug/l	99
96)	1,2-Dibromo-3-chloropropan	18.54	157	87319	48.66	ug/l	96
97)	1,2,4-Trichlorobenzene	19.58	180	384611	51.42	ug/l	99
98)	Hexachlorobutadiene	19.73	225	188681	49.62	ug/l	99
99)	Naphthalene	19.84	128	886045	45.30	ug/l	99
100)	1,2,3-Trichlorobenzene	20.07	180	338147	50.76	ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\19G19\RGP332.D Vial: 2
Acq On : 19 Jul 2019 9:09 am Operator: IRagas
Sample : CVO02F2907 Inst : 02
Misc : 50ppt 8260\250ppt KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 19 9:30 2019 Quant Results File: VO02F29.RES

Method : D:\HPCHEM\1\METHODS\VO02F29.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Tue Jul 02 12:10:30 2019
Response via : Initial Calibration



ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 6/29/19 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge **Book #:** A02-050

BATCH VO02F256

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH < 2	Matrix W Cl_2 < 5ppm	Matrix S	Notes
01		RFP 441	BFB02F18						
02		442	VO02F291	A .02µL B .1µL	NA	NA	NA		1.0ppb 5.0ppb
03		443	2	.04 .2					2 10
04		444	3	.08 .4					4 20
05		445	4	.2 1					10 50
06		446	5	.4 2					20 100
07		447	6	1 5					50 250
08		448	7	2 10					100 500
09		449	8	4 20					200 1000
10		450	9	6 30					300 1500
11		451	10	10 50					500 2500
12		452	RINSE						
13		453	RINSE						
14		454	VO02F294						50 250
15		455	RINSE						
16		456	LOD VERF-01						0.5
17		457	-02						1 5
18		458	-03						2.5
19		459	LOD/LOQ						5 25
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									IR 7/02/19

Instrument No. 02

INITIAL CALIBRATION REFERENCE

DATE 6/29/19

ICAL ID VO02F29

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC CS_2	SVI-32-26-02	*	
RET-AA DCC 8260	-45 -01 -41 -02		
DCC GAS	-39 -02		
DCC 4-ADD	-40 -02		
BFB	-44 -03	↓	
IS/SURR. IS SS	-48 -01 -42 -02	*	50/250
ICV/LCS CS_2	-05 -02	1	
RET-AA ICV/LCS 8260	-34 -01 -36 -02	5 5	
ICV/LCS GAS	-15 -03	1	
2 BUTANOL ICV/LCS 3 ADD	-32 -03 SVI-31-95-01	5 5	
Data File Folder	19F29		

	LOT #	Syringe Lot #
pH strip		MSV-01-03-13
Chlorine strip		-02-11
Methanol		-02-10-2
$NaHSO_4$		-04-08
Reagent Water	RW4-17-002	
Sand	SWIB-004-02-4	

Electronic Data Archival Location	Date
HPCHEM_VOA/TO02	

Comments: * Varried Amt.
A: CS_2, GAS, 4-Add'l.
B: RET-AA, 8260

☐ Refer to sample weight log

Analyzed By: IR

Date Disposed: 7/01/19 Disposed By: DN

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 7/19/19 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge

Book #: A02-050

BATCH EVD02F2907

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH<2	Matrix W Cl_2<5ppm	Matrix S	Notes
01		RGP331	BFB02G17						8:34
02		332	CVD02F2907						
03		333	VS02G17L						
04		334	↓ C						
05		335	RINSE						
06		336	VS02G17B	5.0g					
07		337	VPG017SB	*	*			-	
08		338	19G151-01	*	*			-	
09		339	EVD02F2907						12:06
10		340	RINSE						
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									IR 7/22/19
29									
30									

Instrument No. 02

INITIAL CALIBRATION REFERENCE

DATE 6/29/19

ICAL ID VD02F29

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SVI-32-26-02	1	
DCC	-45-01 -41-02	5 5	
DCC	-32-02	1	
DCC	-40-02	1	
BFB	-44-03	1	
IS/SURR.	-49-02	1	50/250
ICV/LCS	-05-02	1	
ICV/LCS	-34-01 -36-02	5 5	
ICV/LCS	-15-03	1	
ICV/LCS	SVI-31 -33-03 -43-01	5 5	
Data File Folder	19G19		

	LOT #	Syringe Lot #
pH strip		MSV-01_04-20
Chlorine strip		↓ -03-06-4
Methanol		NO1-F5046
$NaHSO_4$		
Reagent Water	R404-17-002	
Sand	SW13_004-02-21	

Electronic Data Archival Location	Date
HPCHEM_VOA/TO02	

Comments:

☑ Refer to sample weight log *

Analyzed By: IR

Date Disposed: 7/22/19 Disposed By: IR

EXTRACTION LOGS

EMAX LABORATORIES, INC.

PRESERVATION LOG FOR VOLATILES

19VPG017

PrepBatchID	Lab Sample ID	W1 (g)	DateTime	Wf (g)	DateTime	ExpWs(g)	Ws(g)	Prep Factor	Comments
19VPG01701	VPG017SB	30.10	7/19/19 9:41	35.11	7/19/19 9:42	5	5.01	1	
19VPG01702	VPG017SQ	30.02	7/19/19 9:42	35.08	7/19/19 9:43	5	5.06	0.99	
19VPG01703	19G151-01	30.53	7/19/19 9:43	36.55	7/19/19 9:44	5	6.02	0.83	

☑ EMAX-5035 Rev. 3 ☑ Balance Calibration Check performed prior to use Surrogate ID: Prepared By: RTorra

☐ Encore+$NaHSO_4 \cdot H_2O$ ☑ BalanceID 25451062 ☐ BalanceID 25650797 BlankSoil Lot#: SW1B-004-02-21 Standard Added By: N/A

☐ Frozen Sample ☐ Pre-weighed vial w/ H2O NaHSO4H2O: Witnessed By: N\A

☐ Pre-weighed vial w/ NaHSO4•H2O soln Expected Ws(g): 5 Extract Rcvd By: IRagas

☑ Volumetric dispenser was checked with 5-ml volumetric flask Sample Location: N/A Checked By: IRagas

W1=Weight of Vial + Stirrer+NaHSO4•H2O+Solvent Wf=W1 + Sample

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889

Date: 08-06-2019
EMAX Batch No.: 19G205

Attn: Mark Cichy

JACOBS/CH2M HILL
2525 Airpark Drive
Redding CA 96001

Subject: Laboratory Report
Project: VHA-SLC

Enclosed is the Laboratory report for samples received on 07/22/19.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
OU2-VP11	G205-01	07/11/19	AIR	VOLATILE ORGANICS BY TO15
OU2-SG05-SC	G205-02	07/10/19	AIR	VOLATILE ORGANICS BY TO15
OU2-SG90-SC	G205-03	07/10/19	AIR	VOLATILE ORGANICS BY TO15
OU2-SG52-SC	G205-04	07/09/19	AIR	VOLATILE ORGANICS BY TO15
OU2-VP04	G205-05	07/16/19	AIR	VOLATILE ORGANICS BY TO15
OU2-VP15	G205-06	07/16/19	AIR	VOLATILE ORGANICS BY TO15
OU2-VP17	G205-07	07/16/19	AIR	VOLATILE ORGANICS BY TO15
OU2-VP20	G205-08	07/11/19	AIR	VOLATILE ORGANICS BY TO15
OU2-VP16	G205-09	07/16/19	AIR	VOLATILE ORGANICS BY TO15
OU2-SG54-SC	G205-10	07/10/19	AIR	VOLATILE ORGANICS BY TO15
OU2-SG51-SC	G205-11	07/10/19	AIR	VOLATILE ORGANICS BY TO15

Subcontracted to ALS.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

for

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912018-14
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

LABORATORY REPORT FOR

JACOBS/CH2M HILL

VHA-SLC

VOLATILE ORGANICS BY TO15

SDG#: 19G205

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

August 6, 2019

Raman Singh
Emax Laboratories, Incorporated
1835 W 205th St
Torrance, CA 90501

RE: VHA-SLC / 697796CH.SL.03.0J

Dear Raman:

Enclosed are the results of the samples submitted to our laboratory on July 22, 2019. For your reference, these analyses have been assigned our service request number P1904286.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 1:30 pm, Aug 06, 2019

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: Emax Laboratories, Incorporated
Project: VHA-SLC / 697796CH.SL.03.0J

Service Request No: P1904286

CASE NARRATIVE

The samples were received intact under chain of custody on July 22, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1521096
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-006
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Emax Laboratories, Incorporated Service Request: P1904286
Project ID: VHA-SLC / 697796CH.SL.03.0J

Date Received: 7/22/2019
Time Received: 09:10

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
OU2-VP11	P1904286-001	Air	7/11/2019	11:44	1SS00739	-3.96	5.64	X
OU2-SG05-SC	P1904286-002	Air	7/10/2019	14:49	1SS00784	-4.91	5.41	X
OU2-SG90-SC	P1904286-003	Air	7/10/2019	14:49	1SC01187	-4.12	5.25	X
OU2-SG52-SC	P1904286-004	Air	7/9/2019	15:47	1SS00059	-4.25	5.20	X
OU2-VP04	P1904286-005	Air	7/16/2019	14:14	1SS00103	-4.83	5.45	X
OU2-VP15	P1904286-006	Air	7/16/2019	13:29	1SS00094	-4.73	5.01	X
OU2-VP17	P1904286-007	Air	7/16/2019	12:55	1SS00587	-4.42	6.38	X
OU2-VP20	P1904286-008	Air	7/11/2019	13:06	1SS01003	-3.24	5.30	X
OU2-VP16	P1904286-009	Air	7/16/2019	13:53	1SS00038	-5.15	5.11	X
OU2-SG54-SC	P1904286-010	Air	7/10/2019	15:56	1SS00747	-4.48	5.20	X
OU2-SG51-SC	P1904286-011	Air	7/10/2019	13:22	1SC01276	-4.11	5.54	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle:
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) (10 Day-Standard)

ALS Project No. P1904286

Company Name & Address (Reporting Information)	Jacobs 4246 S. Riverboat Rd, Suite 210 Taylorsville, UT 84123
Project Manager	David Waite
Phone	385-474-8505
Fax	
Email Address for Result Reporting	Mark.Cichy@jacobs.com
Project Name	VHA-SLC
Project Number	697496CH.SL.03.05
P.O. # / Billing Information	
Sampler (Print & Sign)	Dana Bingham

ALS Contact: RAMADA

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
OU2-VP11	1	7-11-19	1144	1550000739	OA01236	-23.63	-4.34	1L	✓		
OU2-SG05-SC	2	7-10-19	1449	1550000734	OA01759	-23.5	-5.3	1L	✓		High Hex
OU2-SG90-SC	3	7-10-19	1449	1SC01187	OA01484	-23.2	-3.8	1L	✓		High Hex
OU2-SG52-SC	4	7-9-19	1547	1550000659	OA0126	-23.96	-0.96	1L	✓		
OU2-VP04	5	7-16-19	1414	1550001103	OA00367	-22.6	-4.96	1L	✓		High Hex ~70000ppbv PCE
OU2-VP15	6	7-16-19	1329	1550000994	OA01913	-22.6	-4.95	1L	✓		High Hex
OU2-VP17	7	7-16-19	1255	1550000587	OA01848	-25.2	-4.4	1L	✓		
OU2-VP20	8	7-11-19	1306	1550001003	OA01272	-22.63	-3.2	1L	✓		
OU2-VP16	9	7-16-19	1353	1550000838	OA01810	-23.1	-7.1	1L	✓		
OU2-SG54-SC	10	7-10-19	1556	1550000747	OA01088	-23.9	-4.67	1L	✓		High Hex
OU2-SG51-SC	11	7-10-19	1322	1SC01276	OA01845	-25.4	-4.05	1L	✓		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge ✓

EDD required (Yes) No
Type: Labspace 7 Units: ug/m3 + ppbv

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 7-18-19	Time: 1100	Received by: (Signature)	Date: 7/22/19	Time: 0910
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: Emax Laboratories, Incorporated Work order: P1904286

Project: VHA-SLC / 697796CH.SL.03.0J

Sample(s) received on: 7/22/19 Date opened: 7/22/19 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☐	☒
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1904286-001.01	1.0 L Source Silonite Canister					
P1904286-002.01	1.0 L Source Silonite Canister					
P1904286-003.01	1.0 L Source Can					
P1904286-004.01	1.0 L Source Silonite Canister					
P1904286-005.01	1.0 L Source Silonite Canister					
P1904286-006.01	1.0 L Source Silonite Canister					
P1904286-007.01	1.0 L Source Silonite Canister					
P1904286-008.01	1.0 L Source Silonite Canister					
P1904286-009.01	1.0 L Source Silonite Canister					
P1904286-010.01	1.0 L Source Silonite Canister					
P1904286-011.01	1.0 L Source Can					
P1904286-012.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP11** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-001

Test Code: EPA TO-15 Date Collected: 7/11/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00739

Initial Pressure (psig): -3.96 Final Pressure (psig): 5.64

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	2.5	0.41	**0.38**	0.50	0.083	**J**
74-87-3	Chloromethane	ND	2.4	0.41	ND	1.1	0.20	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.4	0.40	ND	0.34	0.057	
75-01-4	Vinyl Chloride	ND	2.5	0.27	ND	0.98	0.11	
106-99-0	1,3-Butadiene	ND	2.5	0.42	ND	1.1	0.19	
74-83-9	Bromomethane	ND	2.4	0.35	ND	0.61	0.090	
75-00-3	Chloroethane	ND	2.4	0.31	ND	0.91	0.12	
67-64-1	Acetone	**12**	26	5.7	**5.1**	11	2.4	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	**1.6**	2.5	0.38	**0.29**	0.45	0.068	**J**
75-35-4	1,1-Dichloroethene	ND	2.6	0.35	ND	0.64	0.088	
75-09-2	Methylene Chloride	ND	2.6	0.71	ND	0.73	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.41**	2.5	0.36	**0.053**	0.33	0.047	**J**
75-15-0	Carbon Disulfide	**12**	5.2	0.76	**3.7**	1.7	0.24	**B**
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.35	ND	0.63	0.088	
75-34-3	1,1-Dichloroethane	ND	2.5	0.37	ND	0.61	0.091	
1634-04-4	Methyl tert-Butyl Ether	ND	2.6	0.30	ND	0.71	0.083	
108-05-4	Vinyl Acetate	ND	25	5.7	ND	7.1	1.6	
78-93-3	2-Butanone (MEK)	**2.8**	4.7	0.52	**0.94**	1.6	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.35	ND	0.63	0.089	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP11** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-001

Test Code: EPA TO-15 Date Collected: 7/11/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00739

Initial Pressure (psig): -3.96 Final Pressure (psig): 5.64

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	5.2	1.3	ND	1.4	0.37	
110-54-3	n-Hexane	ND	2.6	0.52	ND	0.72	0.15	
67-66-3	Chloroform	**0.35**	2.6	0.34	**0.072**	0.52	0.069	**J**
109-99-9	Tetrahydrofuran (THF)	**1.2**	2.5	0.32	**0.40**	0.85	0.11	**J**
107-06-2	1,2-Dichloroethane	ND	2.5	0.28	ND	0.62	0.069	
71-55-6	1,1,1-Trichloroethane	ND	2.6	0.31	ND	0.47	0.057	
71-43-2	Benzene	ND	2.5	0.36	ND	0.77	0.11	
56-23-5	Carbon Tetrachloride	ND	2.5	0.35	ND	0.39	0.056	
110-82-7	Cyclohexane	ND	4.7	0.71	ND	1.4	0.21	
78-87-5	1,2-Dichloropropane	ND	2.6	0.31	ND	0.55	0.068	
75-27-4	Bromodichloromethane	ND	2.5	0.36	ND	0.37	0.054	
79-01-6	Trichloroethene	**3.4**	2.5	0.34	**0.64**	0.47	0.063	
123-91-1	1,4-Dioxane	ND	2.5	0.30	ND	0.70	0.083	
142-82-5	n-Heptane	ND	2.6	0.40	ND	0.62	0.098	
10061-01-5	cis-1,3-Dichloropropene	ND	2.6	0.39	ND	0.58	0.086	
108-10-1	4-Methyl-2-pentanone	ND	2.5	0.34	ND	0.61	0.084	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.52	ND	0.55	0.11	
79-00-5	1,1,2-Trichloroethane	ND	2.6	0.26	ND	0.47	0.047	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP11** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-001

Test Code: EPA TO-15 Date Collected: 7/11/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00739

Initial Pressure (psig): -3.96 Final Pressure (psig): 5.64

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**1.3**	2.5	0.31	**0.35**	0.66	0.082	**J**
591-78-6	2-Hexanone	ND	2.6	0.31	ND	0.62	0.076	
124-48-1	Dibromochloromethane	ND	2.6	0.33	ND	0.30	0.039	
106-93-4	1,2-Dibromoethane	ND	2.6	0.29	ND	0.33	0.038	
127-18-4	Tetrachloroethene	**440**	2.5	0.33	**66**	0.37	0.048	
108-90-7	Chlorobenzene	ND	2.5	0.34	ND	0.54	0.073	
100-41-4	Ethylbenzene	**0.54**	2.5	0.35	**0.13**	0.57	0.082	**J**
179601-23-1	m,p-Xylenes	**0.68**	5.2	0.66	**0.16**	1.2	0.15	**J**
75-25-2	Bromoform	ND	2.5	0.52	ND	0.24	0.050	
100-42-5	Styrene	ND	2.5	0.41	ND	0.59	0.095	
95-47-6	o-Xylene	**0.43**	2.5	0.36	**0.10**	0.58	0.084	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.35	ND	0.36	0.051	
622-96-8	4-Ethyltoluene	ND	2.5	0.40	ND	0.51	0.082	
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.36	ND	0.51	0.074	
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.35	ND	0.51	0.071	
541-73-1	1,3-Dichlorobenzene	ND	2.6	0.38	ND	0.42	0.063	
106-46-7	1,4-Dichlorobenzene	ND	2.6	0.39	ND	0.42	0.064	
95-50-1	1,2-Dichlorobenzene	ND	2.6	0.37	ND	0.42	0.062	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG05-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-002

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00784

Initial Pressure (psig): -4.91 Final Pressure (psig): 5.41

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	11	1.8	**0.42**	2.2	0.36	**J**
74-87-3	Chloromethane	ND	10	1.8	ND	5.0	0.85	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	10	1.7	ND	1.5	0.25	
75-01-4	Vinyl Chloride	ND	11	1.2	ND	4.3	0.46	
106-99-0	1,3-Butadiene	ND	11	1.8	ND	4.8	0.82	
74-83-9	Bromomethane	ND	10	1.5	ND	2.6	0.39	
75-00-3	Chloroethane	ND	10	1.4	ND	4.0	0.51	
67-64-1	Acetone	ND	110	25	ND	47	10	
75-69-4	Trichlorofluoromethane (CFC 11)	**3.0**	11	1.7	**0.54**	1.9	0.30	**J**
75-35-4	1,1-Dichloroethene	ND	11	1.5	ND	2.8	0.38	
75-09-2	Methylene Chloride	ND	11	3.1	ND	3.2	0.89	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	11	1.6	ND	1.4	0.20	
75-15-0	Carbon Disulfide	**9.5**	23	3.3	**3.1**	7.2	1.1	**J, B**
156-60-5	trans-1,2-Dichloroethene	ND	11	1.5	ND	2.7	0.38	
75-34-3	1,1-Dichloroethane	ND	11	1.6	ND	2.6	0.40	
1634-04-4	Methyl tert-Butyl Ether	ND	11	1.3	ND	3.1	0.36	
108-05-4	Vinyl Acetate	ND	110	25	ND	31	7.0	
78-93-3	2-Butanone (MEK)	ND	21	2.3	ND	7.0	0.76	
156-59-2	cis-1,2-Dichloroethene	ND	11	1.5	ND	2.7	0.39	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG05-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-002

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00784

Initial Pressure (psig): -4.91 Final Pressure (psig): 5.41

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	23	5.7	ND	6.3	1.6	
110-54-3	n-Hexane	ND	11	2.3	ND	3.1	0.64	
67-66-3	Chloroform	**3.2**	11	1.5	**0.66**	2.3	0.30	**J**
109-99-9	Tetrahydrofuran (THF)	**12**	11	1.4	**4.0**	3.7	0.47	
107-06-2	1,2-Dichloroethane	ND	11	1.2	ND	2.7	0.30	
71-55-6	1,1,1-Trichloroethane	ND	11	1.4	ND	2.0	0.25	
71-43-2	Benzene	ND	11	1.6	ND	3.3	0.49	
56-23-5	Carbon Tetrachloride	ND	11	1.5	ND	1.7	0.24	
110-82-7	Cyclohexane	ND	21	3.1	ND	6.0	0.89	
78-87-5	1,2-Dichloropropane	ND	11	1.4	ND	2.4	0.29	
75-27-4	Bromodichloromethane	ND	11	1.6	ND	1.6	0.24	
79-01-6	Trichloroethene	**19**	11	1.5	**3.6**	2.0	0.27	
123-91-1	1,4-Dioxane	ND	11	1.3	ND	3.0	0.36	
142-82-5	n-Heptane	ND	11	1.7	ND	2.7	0.43	
10061-01-5	cis-1,3-Dichloropropene	ND	11	1.7	ND	2.5	0.37	
108-10-1	4-Methyl-2-pentanone	ND	11	1.5	ND	2.7	0.37	
10061-02-6	trans-1,3-Dichloropropene	ND	11	2.3	ND	2.4	0.50	
79-00-5	1,1,2-Trichloroethane	ND	11	1.1	ND	2.0	0.20	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG05-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-002

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00784

Initial Pressure (psig): -4.91 Final Pressure (psig): 5.41

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**1.8**	11	1.3	**0.48**	2.9	0.35	**J**
591-78-6	2-Hexanone	ND	11	1.4	ND	2.7	0.33	
124-48-1	Dibromochloromethane	ND	11	1.4	ND	1.3	0.17	
106-93-4	1,2-Dibromoethane	ND	11	1.3	ND	1.4	0.17	
127-18-4	Tetrachloroethene	**4,700**	54	7.1	**700**	8.0	1.0	**D**
108-90-7	Chlorobenzene	ND	11	1.5	ND	2.4	0.32	
100-41-4	Ethylbenzene	ND	11	1.5	ND	2.5	0.35	
179601-23-1	m,p-Xylenes	ND	23	2.9	ND	5.2	0.66	
75-25-2	Bromoform	ND	11	2.3	ND	1.1	0.22	
100-42-5	Styrene	ND	11	1.8	ND	2.6	0.41	
95-47-6	o-Xylene	ND	11	1.6	ND	2.5	0.36	
79-34-5	1,1,2,2-Tetrachloroethane	ND	11	1.5	ND	1.6	0.22	
622-96-8	4-Ethyltoluene	ND	11	1.7	ND	2.2	0.35	
108-67-8	1,3,5-Trimethylbenzene	ND	11	1.6	ND	2.2	0.32	
95-63-6	1,2,4-Trimethylbenzene	**2.1**	11	1.5	**0.43**	2.2	0.31	**J**
541-73-1	1,3-Dichlorobenzene	ND	11	1.6	ND	1.8	0.27	
106-46-7	1,4-Dichlorobenzene	ND	11	1.7	ND	1.8	0.28	
95-50-1	1,2-Dichlorobenzene	ND	11	1.6	ND	1.8	0.27	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG90-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-003

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SC01187

Initial Pressure (psig): -4.12 Final Pressure (psig): 5.25

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	9.8	1.6	**0.41**	2.0	0.33	**J**
74-87-3	Chloromethane	ND	9.5	1.6	ND	4.6	0.79	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	9.6	1.6	ND	1.4	0.23	
75-01-4	Vinyl Chloride	ND	10	1.1	ND	3.9	0.42	
106-99-0	1,3-Butadiene	ND	9.8	1.7	ND	4.4	0.75	
74-83-9	Bromomethane	ND	9.5	1.4	ND	2.4	0.36	
75-00-3	Chloroethane	ND	9.6	1.2	ND	3.7	0.47	
67-64-1	Acetone	ND	100	23	ND	43	9.6	
75-69-4	Trichlorofluoromethane (CFC 11)	**2.9**	10	1.5	**0.52**	1.8	0.27	**J**
75-35-4	1,1-Dichloroethene	ND	10	1.4	ND	2.6	0.35	
75-09-2	Methylene Chloride	ND	10	2.8	ND	2.9	0.82	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	10	1.4	ND	1.3	0.19	
75-15-0	Carbon Disulfide	**3.4**	21	3.0	**1.1**	6.7	0.97	**J, B**
156-60-5	trans-1,2-Dichloroethene	ND	10	1.4	ND	2.5	0.35	
75-34-3	1,1-Dichloroethane	ND	9.8	1.5	ND	2.4	0.36	
1634-04-4	Methyl tert-Butyl Ether	ND	10	1.2	ND	2.8	0.33	
108-05-4	Vinyl Acetate	ND	100	23	ND	28	6.4	
78-93-3	2-Butanone (MEK)	ND	19	2.1	ND	6.4	0.71	
156-59-2	cis-1,2-Dichloroethene	ND	10	1.4	ND	2.5	0.36	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG90-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-003

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SC01187

Initial Pressure (psig): -4.12 Final Pressure (psig): 5.25

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	21	5.3	ND	5.8	1.5	
110-54-3	n-Hexane	ND	10	2.1	ND	2.9	0.59	
67-66-3	Chloroform	**3.1**	10	1.3	**0.64**	2.1	0.27	**J**
109-99-9	Tetrahydrofuran (THF)	ND	10	1.3	ND	3.4	0.43	
107-06-2	1,2-Dichloroethane	ND	10	1.1	ND	2.5	0.28	
71-55-6	1,1,1-Trichloroethane	ND	10	1.2	ND	1.9	0.23	
71-43-2	Benzene	ND	9.8	1.5	ND	3.1	0.46	
56-23-5	Carbon Tetrachloride	ND	9.8	1.4	ND	1.6	0.22	
110-82-7	Cyclohexane	ND	19	2.8	ND	5.5	0.82	
78-87-5	1,2-Dichloropropane	ND	10	1.2	ND	2.2	0.27	
75-27-4	Bromodichloromethane	ND	10	1.5	ND	1.5	0.22	
79-01-6	Trichloroethene	**18**	10	1.4	**3.4**	1.9	0.25	
123-91-1	1,4-Dioxane	ND	10	1.2	ND	2.8	0.33	
142-82-5	n-Heptane	ND	10	1.6	ND	2.5	0.39	
10061-01-5	cis-1,3-Dichloropropene	ND	11	1.6	ND	2.3	0.35	
108-10-1	4-Methyl-2-pentanone	ND	10	1.4	ND	2.4	0.34	
10061-02-6	trans-1,3-Dichloropropene	ND	10	2.1	ND	2.2	0.46	
79-00-5	1,1,2-Trichloroethane	ND	10	1.0	ND	1.9	0.19	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG90-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-003

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SC01187

Initial Pressure (psig): -4.12 Final Pressure (psig): 5.25

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	ND	10	1.2	ND	2.7	0.33	
591-78-6	2-Hexanone	ND	10	1.2	ND	2.5	0.30	
124-48-1	Dibromochloromethane	ND	10	1.3	ND	1.2	0.16	
106-93-4	1,2-Dibromoethane	ND	10	1.2	ND	1.3	0.15	
127-18-4	Tetrachloroethene	**4,400**	50	6.5	**650**	7.4	0.96	**D**
108-90-7	Chlorobenzene	ND	10	1.3	ND	2.2	0.29	
100-41-4	Ethylbenzene	ND	9.8	1.4	ND	2.3	0.33	
179601-23-1	m,p-Xylenes	ND	21	2.6	ND	4.8	0.61	
75-25-2	Bromoform	ND	10	2.1	ND	0.97	0.20	
100-42-5	Styrene	ND	10	1.6	ND	2.4	0.38	
95-47-6	o-Xylene	ND	10	1.5	ND	2.3	0.34	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	1.4	ND	1.5	0.20	
622-96-8	4-Ethyltoluene	ND	10	1.6	ND	2.0	0.33	
108-67-8	1,3,5-Trimethylbenzene	ND	10	1.5	ND	2.0	0.30	
95-63-6	1,2,4-Trimethylbenzene	**1.9**	10	1.4	**0.39**	2.0	0.28	**J**
541-73-1	1,3-Dichlorobenzene	ND	10	1.5	ND	1.7	0.25	
106-46-7	1,4-Dichlorobenzene	ND	10	1.5	ND	1.7	0.26	
95-50-1	1,2-Dichlorobenzene	ND	10	1.5	ND	1.7	0.25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG52-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-004

Test Code: EPA TO-15 Date Collected: 7/9/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00059

Initial Pressure (psig): -4.25 Final Pressure (psig): 5.20

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	2.5	0.41	**0.41**	0.50	0.084	**J**
74-87-3	Chloromethane	ND	2.4	0.41	ND	1.2	0.20	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.4	0.40	ND	0.35	0.057	
75-01-4	Vinyl Chloride	ND	2.5	0.27	ND	0.99	0.11	
106-99-0	1,3-Butadiene	ND	2.5	0.42	ND	1.1	0.19	
74-83-9	Bromomethane	ND	2.4	0.35	ND	0.61	0.091	
75-00-3	Chloroethane	ND	2.4	0.31	ND	0.92	0.12	
67-64-1	Acetone	**150**	26	5.7	**64**	11	2.4	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	2.5	0.38	**0.22**	0.45	0.068	**J**
75-35-4	1,1-Dichloroethene	ND	2.6	0.35	ND	0.65	0.089	
75-09-2	Methylene Chloride	ND	2.6	0.71	ND	0.74	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	2.5	0.36	ND	0.33	0.047	
75-15-0	Carbon Disulfide	**6.9**	5.2	0.76	**2.2**	1.7	0.24	**B**
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.35	ND	0.64	0.089	
75-34-3	1,1-Dichloroethane	ND	2.5	0.37	ND	0.61	0.092	
1634-04-4	Methyl tert-Butyl Ether	ND	2.6	0.30	ND	0.71	0.083	
108-05-4	Vinyl Acetate	**6.8**	25	5.7	**1.9**	7.2	1.6	**J**
78-93-3	2-Butanone (MEK)	**10**	4.8	0.52	**3.4**	1.6	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.36	ND	0.64	0.090	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG52-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-004

Test Code: EPA TO-15 Date Collected: 7/9/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00059

Initial Pressure (psig): -4.25 Final Pressure (psig): 5.20

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	5.2	1.3	ND	1.5	0.37	
110-54-3	n-Hexane	**1.8**	2.6	0.52	**0.50**	0.73	0.15	**J**
67-66-3	Chloroform	**320**	2.6	0.34	**65**	0.53	0.069	
109-99-9	Tetrahydrofuran (THF)	**2.6**	2.5	0.32	**0.90**	0.85	0.11	
107-06-2	1,2-Dichloroethane	ND	2.5	0.28	ND	0.62	0.069	
71-55-6	1,1,1-Trichloroethane	ND	2.6	0.31	ND	0.47	0.057	
71-43-2	Benzene	**0.67**	2.5	0.37	**0.21**	0.77	0.11	**J**
56-23-5	Carbon Tetrachloride	ND	2.5	0.35	ND	0.39	0.056	
110-82-7	Cyclohexane	ND	4.8	0.71	ND	1.4	0.21	
78-87-5	1,2-Dichloropropane	ND	2.6	0.31	ND	0.56	0.068	
75-27-4	Bromodichloromethane	**15**	2.5	0.37	**2.3**	0.38	0.055	
79-01-6	Trichloroethene	ND	2.5	0.34	ND	0.47	0.064	
123-91-1	1,4-Dioxane	ND	2.5	0.30	ND	0.70	0.083	
142-82-5	n-Heptane	**2.2**	2.6	0.40	**0.53**	0.63	0.099	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.7	0.39	ND	0.59	0.087	
108-10-1	4-Methyl-2-pentanone	**0.63**	2.5	0.35	**0.15**	0.61	0.085	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.52	ND	0.55	0.12	
79-00-5	1,1,2-Trichloroethane	ND	2.6	0.26	ND	0.47	0.047	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG52-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-004

Test Code: EPA TO-15 Date Collected: 7/9/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00059

Initial Pressure (psig): -4.25 Final Pressure (psig): 5.20

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**8.7**	2.5	0.31	**2.3**	0.67	0.082	
591-78-6	2-Hexanone	**3.2**	2.6	0.31	**0.79**	0.63	0.077	
124-48-1	Dibromochloromethane	ND	2.6	0.33	ND	0.30	0.039	
106-93-4	1,2-Dibromoethane	ND	2.6	0.29	ND	0.33	0.038	
127-18-4	Tetrachloroethene	**11**	2.5	0.33	**1.7**	0.37	0.048	
108-90-7	Chlorobenzene	ND	2.5	0.34	ND	0.55	0.073	
100-41-4	Ethylbenzene	**2.9**	2.5	0.36	**0.67**	0.57	0.082	
179601-23-1	m,p-Xylenes	**7.3**	5.2	0.67	**1.7**	1.2	0.15	
75-25-2	Bromoform	ND	2.5	0.52	ND	0.24	0.051	
100-42-5	Styrene	ND	2.5	0.41	ND	0.59	0.096	
95-47-6	o-Xylene	**4.6**	2.5	0.37	**1.1**	0.58	0.084	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.35	ND	0.37	0.051	
622-96-8	4-Ethyltoluene	**0.90**	2.5	0.40	**0.18**	0.51	0.082	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.5**	2.5	0.37	**0.31**	0.51	0.074	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.3**	2.5	0.35	**0.88**	0.51	0.072	
541-73-1	1,3-Dichlorobenzene	ND	2.6	0.38	ND	0.43	0.063	
106-46-7	1,4-Dichlorobenzene	ND	2.6	0.39	ND	0.43	0.065	
95-50-1	1,2-Dichlorobenzene	ND	2.6	0.38	ND	0.43	0.062	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP04** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-005

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SS00103

Initial Pressure (psig): -4.83 Final Pressure (psig): 5.45

Container Dilution Factor: 2.04

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	110	18	ND	21	3.6	
74-87-3	Chloromethane	ND	100	18	ND	49	8.5	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	100	17	ND	15	2.5	
75-01-4	Vinyl Chloride	ND	110	12	ND	42	4.6	
106-99-0	1,3-Butadiene	ND	110	18	ND	48	8.1	
74-83-9	Bromomethane	ND	100	15	ND	26	3.9	
75-00-3	Chloroethane	ND	100	13	ND	39	5.1	
67-64-1	Acetone	ND	1,100	240	ND	460	100	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	110	17	ND	19	2.9	
75-35-4	1,1-Dichloroethene	ND	110	15	ND	28	3.8	
75-09-2	Methylene Chloride	ND	110	31	ND	32	8.8	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	110	16	ND	14	2.0	
75-15-0	Carbon Disulfide	**82**	220	33	**26**	72	10	**J, B**
156-60-5	trans-1,2-Dichloroethene	ND	110	15	ND	27	3.8	
75-34-3	1,1-Dichloroethane	ND	110	16	ND	26	3.9	
1634-04-4	Methyl tert-Butyl Ether	ND	110	13	ND	31	3.6	
108-05-4	Vinyl Acetate	ND	1,100	240	ND	310	70	
78-93-3	2-Butanone (MEK)	ND	200	22	ND	69	7.6	
156-59-2	cis-1,2-Dichloroethene	ND	110	15	ND	27	3.9	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP04** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-005

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SS00103

Initial Pressure (psig): -4.83 Final Pressure (psig): 5.45

Container Dilution Factor: 2.04

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	220	57	ND	62	16	
110-54-3	n-Hexane	ND	110	22	ND	31	6.4	
67-66-3	Chloroform	**15**	110	14	**3.0**	23	3.0	**J**
109-99-9	Tetrahydrofuran (THF)	ND	110	14	ND	37	4.6	
107-06-2	1,2-Dichloroethane	ND	110	12	ND	27	3.0	
71-55-6	1,1,1-Trichloroethane	ND	110	13	ND	20	2.5	
71-43-2	Benzene	ND	110	16	ND	33	4.9	
56-23-5	Carbon Tetrachloride	ND	110	15	ND	17	2.4	
110-82-7	Cyclohexane	ND	200	31	ND	59	8.9	
78-87-5	1,2-Dichloropropane	ND	110	13	ND	24	2.9	
75-27-4	Bromodichloromethane	ND	110	16	ND	16	2.3	
79-01-6	Trichloroethene	**35**	110	15	**6.5**	20	2.7	**J**
123-91-1	1,4-Dioxane	ND	110	13	ND	30	3.6	
142-82-5	n-Heptane	ND	110	17	ND	27	4.2	
10061-01-5	cis-1,3-Dichloropropene	ND	110	17	ND	25	3.7	
108-10-1	4-Methyl-2-pentanone	ND	110	15	ND	26	3.6	
10061-02-6	trans-1,3-Dichloropropene	ND	110	22	ND	24	4.9	
79-00-5	1,1,2-Trichloroethane	ND	110	11	ND	20	2.0	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP04** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-005

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SS00103

Initial Pressure (psig): -4.83 Final Pressure (psig): 5.45

Container Dilution Factor: 2.04

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	ND	110	13	ND	29	3.5	
591-78-6	2-Hexanone	ND	110	13	ND	27	3.3	
124-48-1	Dibromochloromethane	ND	110	14	ND	13	1.7	
106-93-4	1,2-Dibromoethane	ND	110	13	ND	14	1.6	
127-18-4	Tetrachloroethene	**20,000**	110	14	**3,000**	16	2.1	
108-90-7	Chlorobenzene	ND	110	14	ND	23	3.1	
100-41-4	Ethylbenzene	ND	110	15	ND	24	3.5	
179601-23-1	m,p-Xylenes	ND	220	29	ND	52	6.6	
75-25-2	Bromoform	ND	110	22	ND	10	2.2	
100-42-5	Styrene	ND	110	18	ND	25	4.1	
95-47-6	o-Xylene	ND	110	16	ND	25	3.6	
79-34-5	1,1,2,2-Tetrachloroethane	ND	110	15	ND	16	2.2	
622-96-8	4-Ethyltoluene	ND	110	17	ND	22	3.5	
108-67-8	1,3,5-Trimethylbenzene	ND	110	16	ND	22	3.2	
95-63-6	1,2,4-Trimethylbenzene	ND	110	15	ND	22	3.1	
541-73-1	1,3-Dichlorobenzene	ND	110	16	ND	18	2.7	
106-46-7	1,4-Dichlorobenzene	ND	110	17	ND	18	2.8	
95-50-1	1,2-Dichlorobenzene	ND	110	16	ND	18	2.7	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP15** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-006

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SS00094

Initial Pressure (psig): -4.73 Final Pressure (psig): 5.01

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	100	17	ND	21	3.5	
74-87-3	Chloromethane	ND	99	17	ND	48	8.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	100	17	ND	14	2.4	
75-01-4	Vinyl Chloride	ND	100	11	ND	41	4.4	
106-99-0	1,3-Butadiene	ND	100	17	ND	47	7.9	
74-83-9	Bromomethane	ND	99	15	ND	26	3.8	
75-00-3	Chloroethane	ND	100	13	ND	38	5.0	
67-64-1	Acetone	ND	1,100	240	ND	450	100	
75-69-4	Trichlorofluoromethane (CFC 11)	**21**	100	16	**3.7**	19	2.9	**J**
75-35-4	1,1-Dichloroethene	ND	110	15	ND	27	3.7	
75-09-2	Methylene Chloride	ND	110	30	ND	31	8.6	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	100	15	ND	14	2.0	
75-15-0	Carbon Disulfide	**80**	220	32	**26**	70	10	**J, B**
156-60-5	trans-1,2-Dichloroethene	ND	100	15	ND	26	3.7	
75-34-3	1,1-Dichloroethane	ND	100	15	ND	25	3.8	
1634-04-4	Methyl tert-Butyl Ether	ND	110	12	ND	30	3.5	
108-05-4	Vinyl Acetate	ND	1,000	240	ND	300	68	
78-93-3	2-Butanone (MEK)	ND	200	22	ND	67	7.4	
156-59-2	cis-1,2-Dichloroethene	ND	100	15	ND	26	3.7	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP15** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-006

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SS00094

Initial Pressure (psig): -4.73 Final Pressure (psig): 5.01

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	220	55	ND	60	15	
110-54-3	n-Hexane	ND	110	22	ND	30	6.2	
67-66-3	Chloroform	**47**	110	14	**9.6**	22	2.9	**J**
109-99-9	Tetrahydrofuran (THF)	ND	100	13	ND	36	4.5	
107-06-2	1,2-Dichloroethane	ND	100	12	ND	26	2.9	
71-55-6	1,1,1-Trichloroethane	ND	110	13	ND	20	2.4	
71-43-2	Benzene	ND	100	15	ND	32	4.8	
56-23-5	Carbon Tetrachloride	ND	100	15	ND	16	2.3	
110-82-7	Cyclohexane	ND	200	30	ND	58	8.6	
78-87-5	1,2-Dichloropropane	ND	110	13	ND	23	2.8	
75-27-4	Bromodichloromethane	ND	100	15	ND	16	2.3	
79-01-6	Trichloroethene	**160**	100	14	**30**	20	2.7	
123-91-1	1,4-Dioxane	ND	100	12	ND	29	3.5	
142-82-5	n-Heptane	ND	110	17	ND	26	4.1	
10061-01-5	cis-1,3-Dichloropropene	ND	110	16	ND	24	3.6	
108-10-1	4-Methyl-2-pentanone	ND	100	14	ND	26	3.5	
10061-02-6	trans-1,3-Dichloropropene	ND	100	22	ND	23	4.8	
79-00-5	1,1,2-Trichloroethane	ND	110	11	ND	20	2.0	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP15** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-006

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SS00094

Initial Pressure (psig): -4.73 Final Pressure (psig): 5.01

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**14**	100	13	**3.7**	28	3.4	**J**
591-78-6	2-Hexanone	ND	110	13	ND	26	3.2	
124-48-1	Dibromochloromethane	ND	110	14	ND	13	1.6	
106-93-4	1,2-Dibromoethane	ND	110	12	ND	14	1.6	
127-18-4	Tetrachloroethene	**21,000**	100	14	**3,100**	15	2.0	
108-90-7	Chlorobenzene	ND	100	14	ND	23	3.1	
100-41-4	Ethylbenzene	ND	100	15	ND	24	3.4	
179601-23-1	m,p-Xylenes	ND	220	28	ND	50	6.4	
75-25-2	Bromoform	ND	100	22	ND	10	2.1	
100-42-5	Styrene	ND	100	17	ND	25	4.0	
95-47-6	o-Xylene	ND	100	15	ND	24	3.5	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	15	ND	15	2.1	
622-96-8	4-Ethyltoluene	ND	100	17	ND	21	3.4	
108-67-8	1,3,5-Trimethylbenzene	ND	100	15	ND	21	3.1	
95-63-6	1,2,4-Trimethylbenzene	ND	100	15	ND	21	3.0	
541-73-1	1,3-Dichlorobenzene	ND	110	16	ND	18	2.6	
106-46-7	1,4-Dichlorobenzene	ND	110	16	ND	18	2.7	
95-50-1	1,2-Dichlorobenzene	ND	110	16	ND	18	2.6	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP17** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-007

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00587

Initial Pressure (psig): -4.42 Final Pressure (psig): 6.38

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	2.7	0.45	**0.47**	0.54	0.090	**J**
74-87-3	Chloromethane	ND	2.6	0.44	ND	1.2	0.21	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.6	0.43	ND	0.37	0.062	
75-01-4	Vinyl Chloride	ND	2.7	0.29	ND	1.1	0.11	
106-99-0	1,3-Butadiene	ND	2.7	0.45	ND	1.2	0.20	
74-83-9	Bromomethane	ND	2.6	0.38	ND	0.66	0.098	
75-00-3	Chloroethane	ND	2.6	0.34	ND	0.99	0.13	
67-64-1	Acetone	**43**	28	6.2	**18**	12	2.6	
75-69-4	Trichlorofluoromethane (CFC 11)	**10**	2.7	0.42	**1.8**	0.48	0.074	
75-35-4	1,1-Dichloroethene	ND	2.8	0.38	ND	0.70	0.096	
75-09-2	Methylene Chloride	ND	2.8	0.77	ND	0.80	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**1.8**	2.7	0.39	**0.23**	0.35	0.051	**J**
75-15-0	Carbon Disulfide	**5.3**	5.6	0.82	**1.7**	1.8	0.26	**J, B**
156-60-5	trans-1,2-Dichloroethene	ND	2.7	0.38	ND	0.69	0.096	
75-34-3	1,1-Dichloroethane	ND	2.7	0.40	ND	0.66	0.099	
1634-04-4	Methyl tert-Butyl Ether	ND	2.8	0.32	ND	0.77	0.090	
108-05-4	Vinyl Acetate	ND	27	6.2	ND	7.7	1.7	
78-93-3	2-Butanone (MEK)	**1.1**	5.1	0.56	**0.38**	1.7	0.19	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.7	0.38	ND	0.69	0.097	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP17** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-007

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00587

Initial Pressure (psig): -4.42 Final Pressure (psig): 6.38

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	5.6	1.4	ND	1.6	0.40	
110-54-3	n-Hexane	ND	2.8	0.56	ND	0.79	0.16	
67-66-3	Chloroform	**260**	2.8	0.36	**53**	0.57	0.075	
109-99-9	Tetrahydrofuran (THF)	**0.74**	2.7	0.34	**0.25**	0.92	0.12	**J**
107-06-2	1,2-Dichloroethane	ND	2.7	0.30	ND	0.67	0.075	
71-55-6	1,1,1-Trichloroethane	**1.8**	2.8	0.34	**0.33**	0.51	0.062	**J**
71-43-2	Benzene	ND	2.7	0.39	ND	0.83	0.12	
56-23-5	Carbon Tetrachloride	**1.1**	2.7	0.38	**0.18**	0.42	0.060	**J**
110-82-7	Cyclohexane	ND	5.1	0.77	ND	1.5	0.22	
78-87-5	1,2-Dichloropropane	ND	2.8	0.34	ND	0.60	0.073	
75-27-4	Bromodichloromethane	**14**	2.7	0.39	**2.1**	0.41	0.059	
79-01-6	Trichloroethene	**2.0**	2.7	0.37	**0.37**	0.51	0.069	**J**
123-91-1	1,4-Dioxane	ND	2.7	0.32	ND	0.75	0.090	
142-82-5	n-Heptane	**2.2**	2.8	0.44	**0.55**	0.68	0.11	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	2.9	0.43	ND	0.63	0.094	
108-10-1	4-Methyl-2-pentanone	**0.48**	2.7	0.37	**0.12**	0.66	0.091	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	2.7	0.56	ND	0.60	0.12	
79-00-5	1,1,2-Trichloroethane	ND	2.8	0.28	ND	0.51	0.051	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP17** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-007

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00587

Initial Pressure (psig): -4.42 Final Pressure (psig): 6.38

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**4.2**	2.7	0.33	**1.1**	0.72	0.088	
591-78-6	2-Hexanone	ND	2.8	0.34	ND	0.68	0.083	
124-48-1	Dibromochloromethane	ND	2.8	0.36	ND	0.32	0.042	
106-93-4	1,2-Dibromoethane	ND	2.8	0.32	ND	0.36	0.041	
127-18-4	Tetrachloroethene	**1,400**	27	3.5	**200**	4.0	0.52	**D**
108-90-7	Chlorobenzene	ND	2.7	0.36	ND	0.59	0.079	
100-41-4	Ethylbenzene	**3.4**	2.7	0.38	**0.77**	0.61	0.089	
179601-23-1	m,p-Xylenes	**9.3**	5.6	0.72	**2.1**	1.3	0.17	
75-25-2	Bromoform	ND	2.7	0.56	ND	0.26	0.055	
100-42-5	Styrene	ND	2.7	0.44	ND	0.64	0.10	
95-47-6	o-Xylene	**4.1**	2.7	0.39	**0.94**	0.63	0.091	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.7	0.38	ND	0.40	0.055	
622-96-8	4-Ethyltoluene	ND	2.7	0.44	ND	0.55	0.089	
108-67-8	1,3,5-Trimethylbenzene	**0.43**	2.7	0.39	**0.087**	0.55	0.080	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.4**	2.7	0.38	**0.28**	0.55	0.077	**J**
541-73-1	1,3-Dichlorobenzene	ND	2.8	0.41	ND	0.46	0.068	
106-46-7	1,4-Dichlorobenzene	ND	2.8	0.42	ND	0.46	0.070	
95-50-1	1,2-Dichlorobenzene	ND	2.8	0.40	ND	0.46	0.067	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP20** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-008

Test Code: EPA TO-15 Date Collected: 7/11/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01003

Initial Pressure (psig): -3.24 Final Pressure (psig): 5.30

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	2.3	0.38	**0.40**	0.46	0.077	**J**
74-87-3	Chloromethane	ND	2.2	0.38	ND	1.1	0.18	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.2	0.37	ND	0.32	0.053	
75-01-4	Vinyl Chloride	ND	2.3	0.25	ND	0.91	0.098	
106-99-0	1,3-Butadiene	ND	2.3	0.39	ND	1.0	0.17	
74-83-9	Bromomethane	ND	2.2	0.32	ND	0.56	0.083	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.85	0.11	
67-64-1	Acetone	**11**	24	5.3	**4.7**	9.9	2.2	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	**2.0**	2.3	0.35	**0.35**	0.41	0.063	**J**
75-35-4	1,1-Dichloroethene	ND	2.4	0.32	ND	0.60	0.082	
75-09-2	Methylene Chloride	ND	2.4	0.66	ND	0.68	0.19	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.39**	2.3	0.33	**0.050**	0.30	0.043	**J**
75-15-0	Carbon Disulfide	**4.1**	4.8	0.70	**1.3**	1.5	0.22	**J, B**
156-60-5	trans-1,2-Dichloroethene	ND	2.3	0.32	ND	0.59	0.082	
75-34-3	1,1-Dichloroethane	ND	2.3	0.34	ND	0.56	0.084	
1634-04-4	Methyl tert-Butyl Ether	ND	2.4	0.28	ND	0.66	0.076	
108-05-4	Vinyl Acetate	ND	23	5.3	ND	6.6	1.5	
78-93-3	2-Butanone (MEK)	**0.85**	4.4	0.48	**0.29**	1.5	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.3	0.33	ND	0.59	0.083	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP20** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-008

Test Code: EPA TO-15 Date Collected: 7/11/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01003

Initial Pressure (psig): -3.24 Final Pressure (psig): 5.30

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	4.8	1.2	ND	1.3	0.34	
110-54-3	n-Hexane	ND	2.4	0.48	ND	0.67	0.14	
67-66-3	Chloroform	**0.57**	2.4	0.31	**0.12**	0.48	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**0.63**	2.3	0.29	**0.22**	0.79	0.099	**J**
107-06-2	1,2-Dichloroethane	ND	2.3	0.26	ND	0.57	0.064	
71-55-6	1,1,1-Trichloroethane	ND	2.4	0.29	ND	0.43	0.053	
71-43-2	Benzene	ND	2.3	0.34	ND	0.71	0.11	
56-23-5	Carbon Tetrachloride	ND	2.3	0.32	ND	0.36	0.051	
110-82-7	Cyclohexane	ND	4.4	0.66	ND	1.3	0.19	
78-87-5	1,2-Dichloropropane	ND	2.4	0.29	ND	0.51	0.063	
75-27-4	Bromodichloromethane	ND	2.3	0.34	ND	0.35	0.050	
79-01-6	Trichloroethene	**0.33**	2.3	0.32	**0.062**	0.43	0.059	**J**
123-91-1	1,4-Dioxane	ND	2.3	0.28	ND	0.64	0.077	
142-82-5	n-Heptane	ND	2.4	0.37	ND	0.58	0.091	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	0.36	ND	0.54	0.080	
108-10-1	4-Methyl-2-pentanone	ND	2.3	0.32	ND	0.57	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.48	ND	0.51	0.11	
79-00-5	1,1,2-Trichloroethane	ND	2.4	0.24	ND	0.43	0.043	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP20** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-008

Test Code: EPA TO-15 Date Collected: 7/11/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01003

Initial Pressure (psig): -3.24 Final Pressure (psig): 5.30

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**2.0**	2.3	0.28	**0.54**	0.62	0.075	**J**
591-78-6	2-Hexanone	**0.35**	2.4	0.29	**0.087**	0.58	0.071	**J**
124-48-1	Dibromochloromethane	ND	2.4	0.31	ND	0.28	0.036	
106-93-4	1,2-Dibromoethane	ND	2.4	0.27	ND	0.31	0.035	
127-18-4	Tetrachloroethene	**17**	2.3	0.30	**2.6**	0.34	0.045	
108-90-7	Chlorobenzene	ND	2.3	0.31	ND	0.50	0.067	
100-41-4	Ethylbenzene	**0.35**	2.3	0.33	**0.082**	0.52	0.076	**J**
179601-23-1	m,p-Xylenes	ND	4.8	0.61	ND	1.1	0.14	
75-25-2	Bromoform	ND	2.3	0.48	ND	0.22	0.047	
100-42-5	Styrene	ND	2.3	0.38	ND	0.54	0.088	
95-47-6	o-Xylene	**0.36**	2.3	0.34	**0.083**	0.53	0.078	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.32	ND	0.34	0.047	
622-96-8	4-Ethyltoluene	ND	2.3	0.37	ND	0.47	0.076	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.34	ND	0.47	0.069	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.32	ND	0.47	0.066	
541-73-1	1,3-Dichlorobenzene	ND	2.4	0.35	ND	0.39	0.058	
106-46-7	1,4-Dichlorobenzene	ND	2.4	0.36	ND	0.39	0.060	
95-50-1	1,2-Dichlorobenzene	ND	2.4	0.35	ND	0.39	0.058	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP16** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-009

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00038

Initial Pressure (psig): -5.15 Final Pressure (psig): 5.11

Container Dilution Factor: 2.07

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	7.2	1.2	**0.40**	1.5	0.24	**J**
74-87-3	Chloromethane	ND	6.9	1.2	ND	3.3	0.57	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	7.0	1.2	ND	1.0	0.17	
75-01-4	Vinyl Chloride	ND	7.3	0.79	ND	2.9	0.31	
106-99-0	1,3-Butadiene	ND	7.2	1.2	ND	3.2	0.55	
74-83-9	Bromomethane	ND	6.9	1.0	ND	1.8	0.26	
75-00-3	Chloroethane	ND	7.0	0.91	ND	2.7	0.35	
67-64-1	Acetone	**21**	75	17	**8.8**	31	7.0	**J**
75-69-4	Trichlorofluoromethane (CFC 11)	**5.4**	7.3	1.1	**0.95**	1.3	0.20	**J**
75-35-4	1,1-Dichloroethene	ND	7.5	1.0	ND	1.9	0.26	
75-09-2	Methylene Chloride	ND	7.5	2.1	ND	2.1	0.60	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	7.3	1.0	ND	0.95	0.14	
75-15-0	Carbon Disulfide	**23**	15	2.2	**7.2**	4.9	0.71	**B**
156-60-5	trans-1,2-Dichloroethene	ND	7.3	1.0	ND	1.8	0.26	
75-34-3	1,1-Dichloroethane	ND	7.2	1.1	ND	1.8	0.27	
1634-04-4	Methyl tert-Butyl Ether	ND	7.5	0.87	ND	2.1	0.24	
108-05-4	Vinyl Acetate	ND	73	17	ND	21	4.7	
78-93-3	2-Butanone (MEK)	**1.7**	14	1.5	**0.59**	4.7	0.51	**J**
156-59-2	cis-1,2-Dichloroethene	ND	7.3	1.0	ND	1.8	0.26	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP16** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-009

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00038

Initial Pressure (psig): -5.15 Final Pressure (psig): 5.11

Container Dilution Factor: 2.07

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	15	3.9	ND	4.2	1.1	
110-54-3	n-Hexane	ND	7.5	1.5	ND	2.1	0.43	
67-66-3	Chloroform	**4.9**	7.5	0.98	**1.0**	1.5	0.20	**J**
109-99-9	Tetrahydrofuran (THF)	ND	7.3	0.92	ND	2.5	0.31	
107-06-2	1,2-Dichloroethane	ND	7.3	0.81	ND	1.8	0.20	
71-55-6	1,1,1-Trichloroethane	ND	7.5	0.91	ND	1.4	0.17	
71-43-2	Benzene	ND	7.2	1.1	ND	2.2	0.33	
56-23-5	Carbon Tetrachloride	ND	7.2	1.0	ND	1.1	0.16	
110-82-7	Cyclohexane	ND	14	2.1	ND	4.0	0.60	
78-87-5	1,2-Dichloropropane	ND	7.5	0.91	ND	1.6	0.20	
75-27-4	Bromodichloromethane	ND	7.3	1.1	ND	1.1	0.16	
79-01-6	Trichloroethene	**5.7**	7.3	0.99	**1.1**	1.4	0.18	**J**
123-91-1	1,4-Dioxane	ND	7.3	0.87	ND	2.0	0.24	
142-82-5	n-Heptane	ND	7.5	1.2	ND	1.8	0.29	
10061-01-5	cis-1,3-Dichloropropene	ND	7.7	1.1	ND	1.7	0.25	
108-10-1	4-Methyl-2-pentanone	ND	7.3	1.0	ND	1.8	0.25	
10061-02-6	trans-1,3-Dichloropropene	ND	7.3	1.5	ND	1.6	0.33	
79-00-5	1,1,2-Trichloroethane	ND	7.5	0.75	ND	1.4	0.14	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-VP16** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-009

Test Code: EPA TO-15 Date Collected: 7/16/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00038

Initial Pressure (psig): -5.15 Final Pressure (psig): 5.11

Container Dilution Factor: 2.07

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**2.5**	7.3	0.90	**0.66**	1.9	0.24	**J**
591-78-6	2-Hexanone	ND	7.5	0.91	ND	1.8	0.22	
124-48-1	Dibromochloromethane	ND	7.5	0.97	ND	0.88	0.11	
106-93-4	1,2-Dibromoethane	ND	7.5	0.86	ND	0.97	0.11	
127-18-4	Tetrachloroethene	**3,600**	22	2.9	**530**	3.2	0.42	**D**
108-90-7	Chlorobenzene	ND	7.3	0.98	ND	1.6	0.21	
100-41-4	Ethylbenzene	**3.9**	7.2	1.0	**0.90**	1.7	0.24	**J**
179601-23-1	m,p-Xylenes	**14**	15	1.9	**3.2**	3.5	0.44	**J**
75-25-2	Bromoform	ND	7.3	1.5	ND	0.71	0.15	
100-42-5	Styrene	ND	7.3	1.2	ND	1.7	0.28	
95-47-6	o-Xylene	**6.2**	7.3	1.1	**1.4**	1.7	0.24	**J**
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.3	1.0	ND	1.1	0.15	
622-96-8	4-Ethyltoluene	ND	7.3	1.2	ND	1.5	0.24	
108-67-8	1,3,5-Trimethylbenzene	ND	7.3	1.1	ND	1.5	0.22	
95-63-6	1,2,4-Trimethylbenzene	**3.5**	7.3	1.0	**0.71**	1.5	0.21	**J**
541-73-1	1,3-Dichlorobenzene	ND	7.5	1.1	ND	1.2	0.18	
106-46-7	1,4-Dichlorobenzene	ND	7.5	1.1	ND	1.2	0.19	
95-50-1	1,2-Dichlorobenzene	ND	7.5	1.1	ND	1.2	0.18	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG54-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-010

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -4.48 Final Pressure (psig): 5.20

Container Dilution Factor: 1.95

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	2.5	0.42	**0.38**	0.51	0.086	**J**
74-87-3	Chloromethane	ND	2.4	0.42	ND	1.2	0.20	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.5	0.41	ND	0.36	0.059	
75-01-4	Vinyl Chloride	ND	2.6	0.28	ND	1.0	0.11	
106-99-0	1,3-Butadiene	ND	2.5	0.43	ND	1.1	0.19	
74-83-9	Bromomethane	ND	2.4	0.36	ND	0.63	0.093	
75-00-3	Chloroethane	ND	2.5	0.32	ND	0.94	0.12	
67-64-1	Acetone	**35**	26	5.9	**15**	11	2.5	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.2**	2.6	0.39	**0.21**	0.46	0.070	**J**
75-35-4	1,1-Dichloroethene	ND	2.6	0.36	ND	0.66	0.091	
75-09-2	Methylene Chloride	ND	2.6	0.73	ND	0.76	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.43**	2.6	0.37	**0.057**	0.34	0.048	**J**
75-15-0	Carbon Disulfide	**5.2**	5.4	0.78	**1.7**	1.7	0.25	**J, B**
156-60-5	trans-1,2-Dichloroethene	ND	2.6	0.36	ND	0.65	0.091	
75-34-3	1,1-Dichloroethane	ND	2.5	0.38	ND	0.63	0.094	
1634-04-4	Methyl tert-Butyl Ether	ND	2.6	0.31	ND	0.73	0.085	
108-05-4	Vinyl Acetate	ND	26	5.9	ND	7.3	1.7	
78-93-3	2-Butanone (MEK)	**7.4**	4.9	0.54	**2.5**	1.7	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.6	0.37	ND	0.65	0.092	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG54-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-010

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -4.48 Final Pressure (psig): 5.20

Container Dilution Factor: 1.95

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	**2.1**	5.4	1.4	**0.59**	1.5	0.38	**J**
110-54-3	n-Hexane	ND	2.6	0.54	ND	0.75	0.15	
67-66-3	Chloroform	**0.70**	2.6	0.35	**0.14**	0.54	0.071	**J**
109-99-9	Tetrahydrofuran (THF)	**2.4**	2.6	0.33	**0.80**	0.88	0.11	**J**
107-06-2	1,2-Dichloroethane	ND	2.6	0.29	ND	0.64	0.071	
71-55-6	1,1,1-Trichloroethane	ND	2.6	0.32	ND	0.48	0.059	
71-43-2	Benzene	ND	2.5	0.38	ND	0.79	0.12	
56-23-5	Carbon Tetrachloride	ND	2.5	0.36	ND	0.40	0.057	
110-82-7	Cyclohexane	ND	4.9	0.73	ND	1.4	0.21	
78-87-5	1,2-Dichloropropane	ND	2.6	0.32	ND	0.57	0.070	
75-27-4	Bromodichloromethane	ND	2.6	0.38	ND	0.39	0.056	
79-01-6	Trichloroethene	ND	2.6	0.35	ND	0.48	0.065	
123-91-1	1,4-Dioxane	ND	2.6	0.31	ND	0.72	0.085	
142-82-5	n-Heptane	ND	2.6	0.41	ND	0.64	0.10	
10061-01-5	cis-1,3-Dichloropropene	ND	2.7	0.40	ND	0.60	0.089	
108-10-1	4-Methyl-2-pentanone	ND	2.6	0.36	ND	0.63	0.087	
10061-02-6	trans-1,3-Dichloropropene	ND	2.6	0.54	ND	0.57	0.12	
79-00-5	1,1,2-Trichloroethane	ND	2.6	0.26	ND	0.48	0.048	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG54-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-010

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -4.48 Final Pressure (psig): 5.20

Container Dilution Factor: 1.95

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**0.57**	2.6	0.32	**0.15**	0.69	0.084	**J**
591-78-6	2-Hexanone	**0.39**	2.6	0.32	**0.096**	0.64	0.079	**J**
124-48-1	Dibromochloromethane	ND	2.6	0.34	ND	0.31	0.040	
106-93-4	1,2-Dibromoethane	ND	2.6	0.30	ND	0.34	0.039	
127-18-4	Tetrachloroethene	**25**	2.6	0.34	**3.6**	0.38	0.050	
108-90-7	Chlorobenzene	ND	2.6	0.35	ND	0.56	0.075	
100-41-4	Ethylbenzene	ND	2.5	0.37	ND	0.58	0.084	
179601-23-1	m,p-Xylenes	ND	5.4	0.68	ND	1.2	0.16	
75-25-2	Bromoform	ND	2.6	0.54	ND	0.25	0.052	
100-42-5	Styrene	ND	2.6	0.42	ND	0.61	0.099	
95-47-6	o-Xylene	ND	2.6	0.38	ND	0.60	0.086	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.6	0.36	ND	0.38	0.053	
622-96-8	4-Ethyltoluene	ND	2.6	0.41	ND	0.53	0.084	
108-67-8	1,3,5-Trimethylbenzene	ND	2.6	0.38	ND	0.53	0.076	
95-63-6	1,2,4-Trimethylbenzene	ND	2.6	0.36	ND	0.53	0.073	
541-73-1	1,3-Dichlorobenzene	ND	2.6	0.39	ND	0.44	0.065	
106-46-7	1,4-Dichlorobenzene	ND	2.6	0.40	ND	0.44	0.067	
95-50-1	1,2-Dichlorobenzene	ND	2.6	0.39	ND	0.44	0.064	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG51-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-011

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01276

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.54

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	2.5	0.42	**0.45**	0.50	0.084	**J**
74-87-3	Chloromethane	ND	2.4	0.41	ND	1.2	0.20	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.4	0.40	ND	0.35	0.057	
75-01-4	Vinyl Chloride	ND	2.5	0.27	ND	0.99	0.11	
106-99-0	1,3-Butadiene	ND	2.5	0.42	ND	1.1	0.19	
74-83-9	Bromomethane	ND	2.4	0.35	ND	0.62	0.091	
75-00-3	Chloroethane	**0.96**	2.4	0.32	**0.36**	0.92	0.12	**J**
67-64-1	Acetone	**29**	26	5.7	**12**	11	2.4	
75-69-4	Trichlorofluoromethane (CFC 11)	**3.9**	2.5	0.39	**0.70**	0.45	0.069	
75-35-4	1,1-Dichloroethene	ND	2.6	0.35	ND	0.65	0.089	
75-09-2	Methylene Chloride	**0.76**	2.6	0.72	**0.22**	0.74	0.21	**J**
76-13-1	Trichlorotrifluoroethane (CFC 113)	**1.0**	2.5	0.36	**0.13**	0.33	0.047	**J**
75-15-0	Carbon Disulfide	**36**	5.3	0.76	**12**	1.7	0.25	**B**
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.35	ND	0.64	0.089	
75-34-3	1,1-Dichloroethane	ND	2.5	0.37	ND	0.61	0.092	
1634-04-4	Methyl tert-Butyl Ether	ND	2.6	0.30	ND	0.72	0.083	
108-05-4	Vinyl Acetate	ND	25	5.7	ND	7.2	1.6	
78-93-3	2-Butanone (MEK)	**8.8**	4.8	0.53	**3.0**	1.6	0.18	
156-59-2	cis-1,2-Dichloroethene	**0.88**	2.5	0.36	**0.22**	0.64	0.090	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG51-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-011

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01276

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.54

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	**2.1**	5.3	1.3	**0.59**	1.5	0.37	**J**
110-54-3	n-Hexane	**29**	2.6	0.53	**8.3**	0.73	0.15	
67-66-3	Chloroform	**5.7**	2.6	0.34	**1.2**	0.53	0.069	
109-99-9	Tetrahydrofuran (THF)	**24**	2.5	0.32	**8.0**	0.86	0.11	
107-06-2	1,2-Dichloroethane	ND	2.5	0.28	ND	0.63	0.070	
71-55-6	1,1,1-Trichloroethane	ND	2.6	0.32	ND	0.47	0.058	
71-43-2	Benzene	**6.1**	2.5	0.37	**1.9**	0.78	0.12	
56-23-5	Carbon Tetrachloride	**0.92**	2.5	0.35	**0.15**	0.39	0.056	**J**
110-82-7	Cyclohexane	**21**	4.8	0.72	**6.0**	1.4	0.21	
78-87-5	1,2-Dichloropropane	ND	2.6	0.32	ND	0.56	0.068	
75-27-4	Bromodichloromethane	ND	2.5	0.37	ND	0.38	0.055	
79-01-6	Trichloroethene	**1.4**	2.5	0.34	**0.26**	0.47	0.064	**J**
123-91-1	1,4-Dioxane	ND	2.5	0.30	ND	0.70	0.084	
142-82-5	n-Heptane	**5.1**	2.6	0.41	**1.2**	0.63	0.099	
10061-01-5	cis-1,3-Dichloropropene	ND	2.7	0.40	ND	0.59	0.087	
108-10-1	4-Methyl-2-pentanone	ND	2.5	0.35	ND	0.62	0.085	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.53	ND	0.56	0.12	
79-00-5	1,1,2-Trichloroethane	ND	2.6	0.26	ND	0.47	0.047	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **OU2-SG51-SC** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P1904286-011

Test Code: EPA TO-15 Date Collected: 7/10/19
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 7/22/19
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01276

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.54

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	**58**	2.5	0.31	**15**	0.67	0.082	
591-78-6	2-Hexanone	ND	2.6	0.32	ND	0.63	0.077	
124-48-1	Dibromochloromethane	ND	2.6	0.33	ND	0.30	0.039	
106-93-4	1,2-Dibromoethane	ND	2.6	0.30	ND	0.34	0.039	
127-18-4	Tetrachloroethene	**33**	2.5	0.33	**4.8**	0.37	0.049	
108-90-7	Chlorobenzene	ND	2.5	0.34	ND	0.55	0.074	
100-41-4	Ethylbenzene	**7.3**	2.5	0.36	**1.7**	0.57	0.082	
179601-23-1	m,p-Xylenes	**23**	5.3	0.67	**5.4**	1.2	0.15	
75-25-2	Bromoform	ND	2.5	0.53	ND	0.24	0.051	
100-42-5	Styrene	**0.63**	2.5	0.41	**0.15**	0.59	0.096	**J**
95-47-6	o-Xylene	**8.3**	2.5	0.37	**1.9**	0.58	0.085	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.35	ND	0.37	0.051	
622-96-8	4-Ethyltoluene	**1.9**	2.5	0.41	**0.39**	0.51	0.083	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.1**	2.5	0.37	**0.43**	0.51	0.075	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.8**	2.5	0.35	**1.2**	0.51	0.072	
541-73-1	1,3-Dichlorobenzene	ND	2.6	0.38	ND	0.43	0.064	
106-46-7	1,4-Dichlorobenzene	ND	2.6	0.39	ND	0.43	0.065	
95-50-1	1,2-Dichlorobenzene	ND	2.6	0.38	ND	0.43	0.063	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **Method Blank** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190725-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	**0.32**	1.1	0.16	**0.10**	0.35	0.051	**J**
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**

Client Sample ID: **Method Blank** ALS Project ID: P1904286

Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190725-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Raneem Sahtah Date Analyzed: 7/25/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Emax Laboratories, Incorporated**

Client Sample ID: **Method Blank** ALS Project ID: P1904286

Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190725-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Raneem Sahtah Date Analyzed: 7/25/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **Method Blank** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190726-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	0.087	ND	0.11	0.018	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	0.084	ND	0.073	0.012	
75-01-4	Vinyl Chloride	ND	0.53	0.057	ND	0.21	0.022	
106-99-0	1,3-Butadiene	ND	0.52	0.088	ND	0.24	0.040	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-00-3	Chloroethane	ND	0.51	0.066	ND	0.19	0.025	
67-64-1	Acetone	ND	5.4	1.2	ND	2.3	0.51	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	0.081	ND	0.094	0.014	
75-35-4	1,1-Dichloroethene	ND	0.54	0.074	ND	0.14	0.019	
75-09-2	Methylene Chloride	ND	0.54	0.15	ND	0.16	0.043	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	0.076	ND	0.069	0.0099	
75-15-0	Carbon Disulfide	**0.43**	1.1	0.16	**0.14**	0.35	0.051	**J**
156-60-5	trans-1,2-Dichloroethene	ND	0.53	0.074	ND	0.13	0.019	
75-34-3	1,1-Dichloroethane	ND	0.52	0.078	ND	0.13	0.019	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	0.063	ND	0.15	0.017	
108-05-4	Vinyl Acetate	ND	5.3	1.2	ND	1.5	0.34	
78-93-3	2-Butanone (MEK)	ND	1.0	0.11	ND	0.34	0.037	
156-59-2	cis-1,2-Dichloroethene	ND	0.53	0.075	ND	0.13	0.019	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **Emax Laboratories, Incorporated**

Client Sample ID: **Method Blank** ALS Project ID: P1904286

Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190726-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Raneem Sahtah Date Analyzed: 7/26/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	1.1	0.28	ND	0.31	0.078	
110-54-3	n-Hexane	ND	0.54	0.11	ND	0.15	0.031	
67-66-3	Chloroform	ND	0.54	0.071	ND	0.11	0.015	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	0.067	ND	0.18	0.023	
107-06-2	1,2-Dichloroethane	ND	0.53	0.059	ND	0.13	0.015	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.066	ND	0.099	0.012	
71-43-2	Benzene	ND	0.52	0.077	ND	0.16	0.024	
56-23-5	Carbon Tetrachloride	ND	0.52	0.074	ND	0.083	0.012	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
78-87-5	1,2-Dichloropropane	ND	0.54	0.066	ND	0.12	0.014	
75-27-4	Bromodichloromethane	ND	0.53	0.077	ND	0.079	0.011	
79-01-6	Trichloroethene	ND	0.53	0.072	ND	0.099	0.013	
123-91-1	1,4-Dioxane	ND	0.53	0.063	ND	0.15	0.017	
142-82-5	n-Heptane	ND	0.54	0.085	ND	0.13	0.021	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	0.083	ND	0.12	0.018	
108-10-1	4-Methyl-2-pentanone	ND	0.53	0.073	ND	0.13	0.018	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	0.11	ND	0.12	0.024	
79-00-5	1,1,2-Trichloroethane	ND	0.54	0.054	ND	0.099	0.0099	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Emax Laboratories, Incorporated**

Client Sample ID: **Method Blank** ALS Project ID: P1904286

Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190726-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Raneem Sahtah Date Analyzed: 7/26/19

Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-88-3	Toluene	ND	0.53	0.065	ND	0.14	0.017	
591-78-6	2-Hexanone	ND	0.54	0.066	ND	0.13	0.016	
124-48-1	Dibromochloromethane	ND	0.54	0.070	ND	0.063	0.0082	
106-93-4	1,2-Dibromoethane	ND	0.54	0.062	ND	0.070	0.0081	
127-18-4	Tetrachloroethene	ND	0.53	0.069	ND	0.078	0.010	
108-90-7	Chlorobenzene	ND	0.53	0.071	ND	0.12	0.015	
100-41-4	Ethylbenzene	ND	0.52	0.075	ND	0.12	0.017	
179601-23-1	m,p-Xylenes	ND	1.1	0.14	ND	0.25	0.032	
75-25-2	Bromoform	ND	0.53	0.11	ND	0.051	0.011	
100-42-5	Styrene	ND	0.53	0.086	ND	0.12	0.020	
95-47-6	o-Xylene	ND	0.53	0.077	ND	0.12	0.018	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	0.074	ND	0.077	0.011	
622-96-8	4-Ethyltoluene	ND	0.53	0.085	ND	0.11	0.017	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	0.077	ND	0.11	0.016	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	0.074	ND	0.11	0.015	
541-73-1	1,3-Dichlorobenzene	ND	0.54	0.080	ND	0.090	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.54	0.082	ND	0.090	0.014	
95-50-1	1,2-Dichlorobenzene	ND	0.54	0.079	ND	0.090	0.013	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Emax Laboratories, Incorporated**
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Project ID: P1904286

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date(s) Collected: 7/9 - 7/16/19
Analyst: Raneem Sahtah Date(s) Received: 7/22/19
Sample Type: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 7/25 - 7/26/19
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P190725-MB	**95**	**95**	**109**	70-130	
Method Blank	P190726-MB	**94**	**94**	**108**	70-130	
Lab Control Sample	P190725-LCS	**92**	**95**	**110**	70-130	
Lab Control Sample	P190726-LCS	**94**	**95**	**109**	70-130	
OU2-VP11	P1904286-001	**94**	**97**	**104**	70-130	
OU2-SG05-SC	P1904286-002	**94**	**96**	**104**	70-130	
OU2-SG90-SC	P1904286-003	**95**	**96**	**105**	70-130	
OU2-SG52-SC	P1904286-004	**95**	**96**	**105**	70-130	
OU2-VP04	P1904286-005	**95**	**96**	**106**	70-130	
OU2-VP15	P1904286-006	**95**	**97**	**104**	70-130	
OU2-VP17	P1904286-007	**95**	**96**	**104**	70-130	
OU2-VP20	P1904286-008	**95**	**95**	**106**	70-130	
OU2-VP16	P1904286-009	**95**	**93**	**110**	70-130	
OU2-SG54-SC	P1904286-010	**95**	**90**	**105**	70-130	
OU2-SG51-SC	P1904286-011	**95**	**91**	**106**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190725-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**159**	**76**	62-103	
74-87-3	Chloromethane	211	**164**	**78**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**174**	**82**	56-111	
75-01-4	Vinyl Chloride	214	**188**	**88**	57-117	
106-99-0	1,3-Butadiene	210	**191**	**91**	53-134	
74-83-9	Bromomethane	212	**174**	**82**	65-110	
75-00-3	Chloroethane	214	**171**	**80**	64-111	
67-64-1	Acetone	1,060	**887**	**84**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**159**	**75**	63-104	
75-35-4	1,1-Dichloroethene	218	**173**	**79**	68-107	
75-09-2	Methylene Chloride	217	**177**	**82**	66-105	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**168**	**78**	59-109	
75-15-0	Carbon Disulfide	218	**183**	**84**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**181**	**85**	70-115	
75-34-3	1,1-Dichloroethane	216	**168**	**78**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**170**	**79**	67-109	
108-05-4	Vinyl Acetate	1,060	**1060**	**100**	68-136	
78-93-3	2-Butanone (MEK)	208	**209**	**100**	71-116	
156-59-2	cis-1,2-Dichloroethene	211	**168**	**80**	67-110	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190725-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
141-78-6	Ethyl Acetate	436	**412**	**94**	64-127	
110-54-3	n-Hexane	216	**180**	**83**	60-115	
67-66-3	Chloroform	217	**165**	**76**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**176**	**81**	65-110	
107-06-2	1,2-Dichloroethane	215	**160**	**74**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**166**	**77**	64-108	
71-43-2	Benzene	211	**169**	**80**	67-106	
56-23-5	Carbon Tetrachloride	212	**167**	**79**	64-112	
110-82-7	Cyclohexane	416	**332**	**80**	67-110	
78-87-5	1,2-Dichloropropane	216	**178**	**82**	66-112	
75-27-4	Bromodichloromethane	215	**181**	**84**	67-113	
79-01-6	Trichloroethene	213	**177**	**83**	66-108	
123-91-1	1,4-Dioxane	214	**200**	**93**	70-116	
142-82-5	n-Heptane	215	**180**	**84**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**198**	**93**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**215**	**103**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**207**	**97**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**182**	**85**	68-112	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190725-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
108-88-3	Toluene	212	**163**	**77**	62-111	
591-78-6	2-Hexanone	214	**209**	**98**	59-128	
124-48-1	Dibromochloromethane	213	**178**	**84**	67-123	
106-93-4	1,2-Dibromoethane	216	**177**	**82**	66-122	
127-18-4	Tetrachloroethene	213	**157**	**74**	55-120	
108-90-7	Chlorobenzene	215	**159**	**74**	61-114	
100-41-4	Ethylbenzene	212	**153**	**72**	64-113	
179601-23-1	m,p-Xylenes	426	**312**	**73**	64-114	
75-25-2	Bromoform	213	**182**	**85**	65-132	
100-42-5	Styrene	212	**177**	**83**	67-124	
95-47-6	o-Xylene	214	**154**	**72**	65-114	
79-34-5	1,1,2,2-Tetrachloroethane	214	**164**	**77**	66-119	
622-96-8	4-Ethyltoluene	214	**172**	**80**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**157**	**73**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**162**	**75**	61-122	
541-73-1	1,3-Dichlorobenzene	216	**171**	**79**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**174**	**81**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**182**	**84**	61-126	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190726-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	210	**158**	**75**	62-103	
74-87-3	Chloromethane	211	**160**	**76**	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	**171**	**81**	56-111	
75-01-4	Vinyl Chloride	214	**185**	**86**	57-117	
106-99-0	1,3-Butadiene	210	**187**	**89**	53-134	
74-83-9	Bromomethane	212	**172**	**81**	65-110	
75-00-3	Chloroethane	214	**172**	**80**	64-111	
67-64-1	Acetone	1,060	**877**	**83**	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	**158**	**75**	63-104	
75-35-4	1,1-Dichloroethene	218	**170**	**78**	68-107	
75-09-2	Methylene Chloride	217	**175**	**81**	66-105	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	**165**	**76**	59-109	
75-15-0	Carbon Disulfide	218	**182**	**83**	67-109	
156-60-5	trans-1,2-Dichloroethene	214	**179**	**84**	70-115	
75-34-3	1,1-Dichloroethane	216	**168**	**78**	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	**168**	**79**	67-109	
108-05-4	Vinyl Acetate	1,060	**1050**	**99**	68-136	
78-93-3	2-Butanone (MEK)	208	**207**	**100**	71-116	
156-59-2	cis-1,2-Dichloroethene	211	**167**	**79**	67-110	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190726-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
141-78-6	Ethyl Acetate	436	**411**	**94**	64-127	
110-54-3	n-Hexane	216	**178**	**82**	60-115	
67-66-3	Chloroform	217	**163**	**75**	66-105	
109-99-9	Tetrahydrofuran (THF)	216	**174**	**81**	65-110	
107-06-2	1,2-Dichloroethane	215	**158**	**73**	60-110	
71-55-6	1,1,1-Trichloroethane	215	**162**	**75**	64-108	
71-43-2	Benzene	211	**164**	**78**	67-106	
56-23-5	Carbon Tetrachloride	212	**163**	**77**	64-112	
110-82-7	Cyclohexane	416	**322**	**77**	67-110	
78-87-5	1,2-Dichloropropane	216	**174**	**81**	66-112	
75-27-4	Bromodichloromethane	215	**176**	**82**	67-113	
79-01-6	Trichloroethene	213	**172**	**81**	66-108	
123-91-1	1,4-Dioxane	214	**195**	**91**	70-116	
142-82-5	n-Heptane	215	**175**	**81**	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	**193**	**90**	75-120	
108-10-1	4-Methyl-2-pentanone	209	**210**	**100**	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	**199**	**93**	77-123	
79-00-5	1,1,2-Trichloroethane	215	**176**	**82**	68-112	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Emax Laboratories, Incorporated**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J** ALS Sample ID: P190726-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
108-88-3	Toluene	212	**159**	**75**	62-111	
591-78-6	2-Hexanone	214	**205**	**96**	59-128	
124-48-1	Dibromochloromethane	213	**173**	**81**	67-123	
106-93-4	1,2-Dibromoethane	216	**174**	**81**	66-122	
127-18-4	Tetrachloroethene	213	**154**	**72**	55-120	
108-90-7	Chlorobenzene	215	**155**	**72**	61-114	
100-41-4	Ethylbenzene	212	**150**	**71**	64-113	
179601-23-1	m,p-Xylenes	426	**299**	**70**	64-114	
75-25-2	Bromoform	213	**178**	**84**	65-132	
100-42-5	Styrene	212	**173**	**82**	67-124	
95-47-6	o-Xylene	214	**151**	**71**	65-114	
79-34-5	1,1,2,2-Tetrachloroethane	214	**161**	**75**	66-119	
622-96-8	4-Ethyltoluene	214	**169**	**79**	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	**154**	**72**	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	**159**	**74**	61-122	
541-73-1	1,3-Dichlorobenzene	216	**168**	**78**	61-125	
106-46-7	1,4-Dichlorobenzene	216	**172**	**80**	59-123	
95-50-1	1,2-Dichlorobenzene	216	**178**	**82**	61-126	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Emax Laboratories, Incorporated** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Lab File ID: 07251902.D
Analyst: Raneem Sahtah Date Analyzed: 7/25/19
Sample Type: 1.0 L Silonite Summa Canister(s) Time Analyzed: 05:03
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	150540	11.25	657631	13.36	296764	17.67
	Upper Limit	210756	11.58	920683	13.69	415470	18.00
	Lower Limit	90324	10.92	394579	13.03	178058	17.34
	Client Sample ID						
01	Method Blank	142645	11.23	640749	13.35	285048	17.67
02	Lab Control Sample	154359	11.24	670090	13.36	299060	17.67
03	OU2-VP11	150674	11.23	675777	13.35	294006	17.67
04	OU2-SG05-SC	155284	11.23	687944	13.35	300770	17.67
05	OU2-SG05-SC (Dilution)	135548	11.23	600831	13.35	260259	17.67
06	OU2-SG90-SC	150667	11.23	675044	13.35	293404	17.67
07	OU2-SG90-SC (Dilution)	133726	11.23	596780	13.35	259111	17.67
08	OU2-SG52-SC	150164	11.23	669870	13.36	290586	17.67
09	OU2-VP17	154080	11.23	693219	13.35	303047	17.67
10	OU2-VP17 (Dilution)	131731	11.23	592178	13.35	259742	17.67
11	OU2-VP20	152148	11.23	680079	13.36	301595	17.67
12	OU2-VP16	150764	11.23	671759	13.36	302961	17.67
13	OU2-VP16 (Dilution)	138705	11.23	614109	13.35	278827	17.67
14	OU2-SG54-SC	152564	11.23	675137	13.36	318078	17.67
15	OU2-SG51-SC	148887	11.23	668909	13.36	309758	17.67
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Client: **Emax Laboratories, Incorporated** ALS Project ID: P1904286
Client Project ID: **VHA-SLC / 697796CH.SL.03.0J**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Lab File ID: 07261902.D
Analyst: Raneem Sahtah Date Analyzed: 7/26/19
Sample Type: 1.0 L Silonite Summa Canister(s) Time Analyzed: 04:03
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	153801	11.24	673106	13.36	301937	17.67
	Upper Limit	215321	11.57	942348	13.69	422712	18.00
	Lower Limit	92281	10.91	403864	13.03	181162	17.34
	Client Sample ID						
01	Method Blank	148641	11.23	656067	13.35	293943	17.67
02	Lab Control Sample	156539	11.24	690057	13.36	305155	17.67
03	OU2-VP04	155093	11.23	689101	13.35	302114	17.67
04	OU2-VP15	149603	11.22	666441	13.35	288800	17.67
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251917.D
Sample : P1904286-001 (400mL) Inst : MS08
Acq On : 25 Jul 2019 14:39 Operator: RS
Misc : S31-07111901
ALS Vial : 5 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:14:02 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	150674	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	675777	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	294006	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	176436	11.781	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	15.81	98	729639	12.067	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	19.05	174	258819	13.031	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
Target Compounds							Qvalue
2) Propene	4.18	42	6353	0.515	ng		97
3) Dichlorodifluoromethan...	4.33	85	7639	0.397	ng		98
4) Chloromethane	4.62	50	616	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.43	45	12383	1.419	ng		99
11) Acetonitrile	6.71	41	3969	0.179	ng		99
12) Acrolein	6.92	56	830	0.129	ng		99
13) Acetone	7.11	58	22263	2.559	ng		85
14) Trichlorofluoromethane	7.33	101	5743	0.348	ng		98
15) 2-Propanol (Isopropanol)	7.59	45	69772	2.339	ng		99
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.94	151	937	0.086	ng		88
22) Carbon Disulfide	8.78	76	93903	2.470	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.16	73	483	N.D.			
26) Vinyl Acetate	10.28	86	1081	0.375	ng	#	60
27) 2-Butanone (MEK)	10.57	72	4344	0.584	ng	#	82
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.35	57	503	N.D.			
32) Chloroform	11.40	83	1295	0.074	ng		97
34) Tetrahydrofuran (THF)	11.85	72	2073	0.251	ng	#	75
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.97	78	2215	N.D.			
42) Carbon Tetrachloride	13.12	117	576	N.D.			
43) Cyclohexane	13.26	84	216	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.06	130	9462	0.724	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.13	57	639	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File: I:\MS08\Data\2019 07\25\07251917.D
Sample : P1904286-001 (400mL) Inst : MS08
Acq On : 25 Jul 2019 14:39 Operator: RS
Misc : S31-07111901
ALS Vial : 5 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:14:02 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

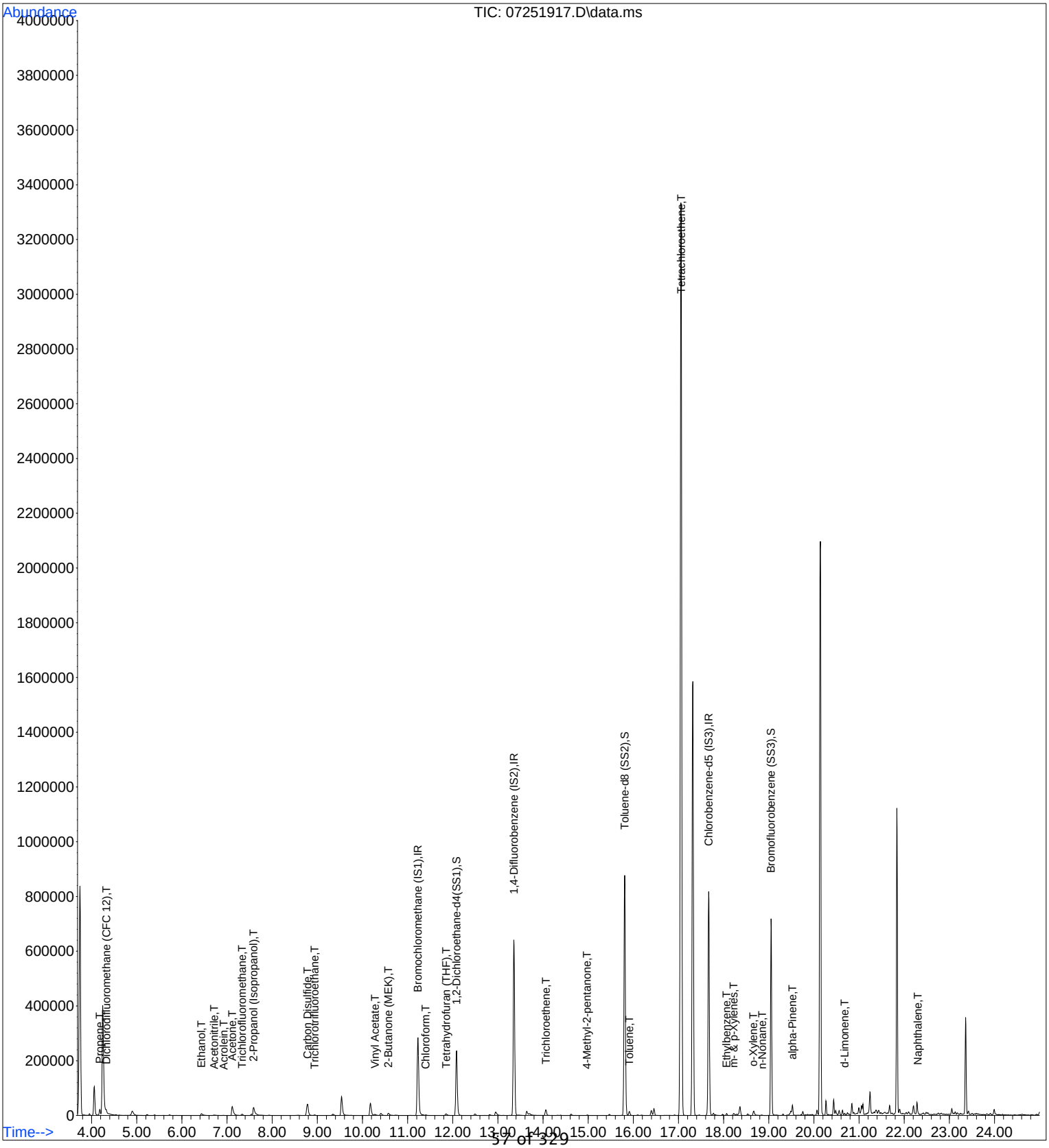
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.38	71	305	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.97	58	614	0.062 ng	#	32
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.91	91	14323	0.280 ng		99
59) 2-Hexanone	16.17	43	974	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.82	43	735	N.D.		
63) n-Octane	16.91	57	486	N.D.		
64) Tetrachloroethene	17.06	166	1469797	94.128 ng		99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.07	91	7056	0.115 ng		99
67) m- & p-Xylenes	18.22	91	6605	0.144 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.56	104	869	N.D.		
70) o-Xylene	18.66	91	4269	0.092 ng		95
71) n-Nonane	18.85	43	1411	0.054 ng	#	83
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.18	105	880	N.D.		
75) alpha-Pinene	19.52	93	15189	0.507 ng		61
76) n-Propylbenzene	19.63	91	670	N.D.		
77) 3-Ethyltoluene	19.72	105	1671	N.D.		
78) 4-Ethyltoluene	19.75	105	1079	N.D.		
79) 1,3,5-Trimethylbenzene	19.82	105	871	N.D.		
80) alpha-Methylstyrene	19.95	118	1169	N.D.		
81) 2-Ethyltoluene	19.99	105	1003	N.D.		
82) 1,2,4-Trimethylbenzene	20.18	105	2288	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.31	91	183	N.D.		
85) 1,3-Dichlorobenzene	20.38	146	554	N.D.		
86) 1,4-Dichlorobenzene	20.38	146	554	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	20.56	105	1260	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.68	68	1743	0.097 ng		91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.30	128	3782	0.072 ng		92
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.91	91	287	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251917.D
Sample : P1904286-001 (400mL) Inst : MS08
Acq On : 25 Jul 2019 14:39 Operator: RS
Misc : S31-07111901
ALS Vial : 5 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:14:02 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251917.D
Sample : P1904286-001 (400mL) Inst : MS08
Acq On : 25 Jul 2019 14:39 Operator: RS
Misc : S31-07111901
ALS Vial : 5 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:14:02 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

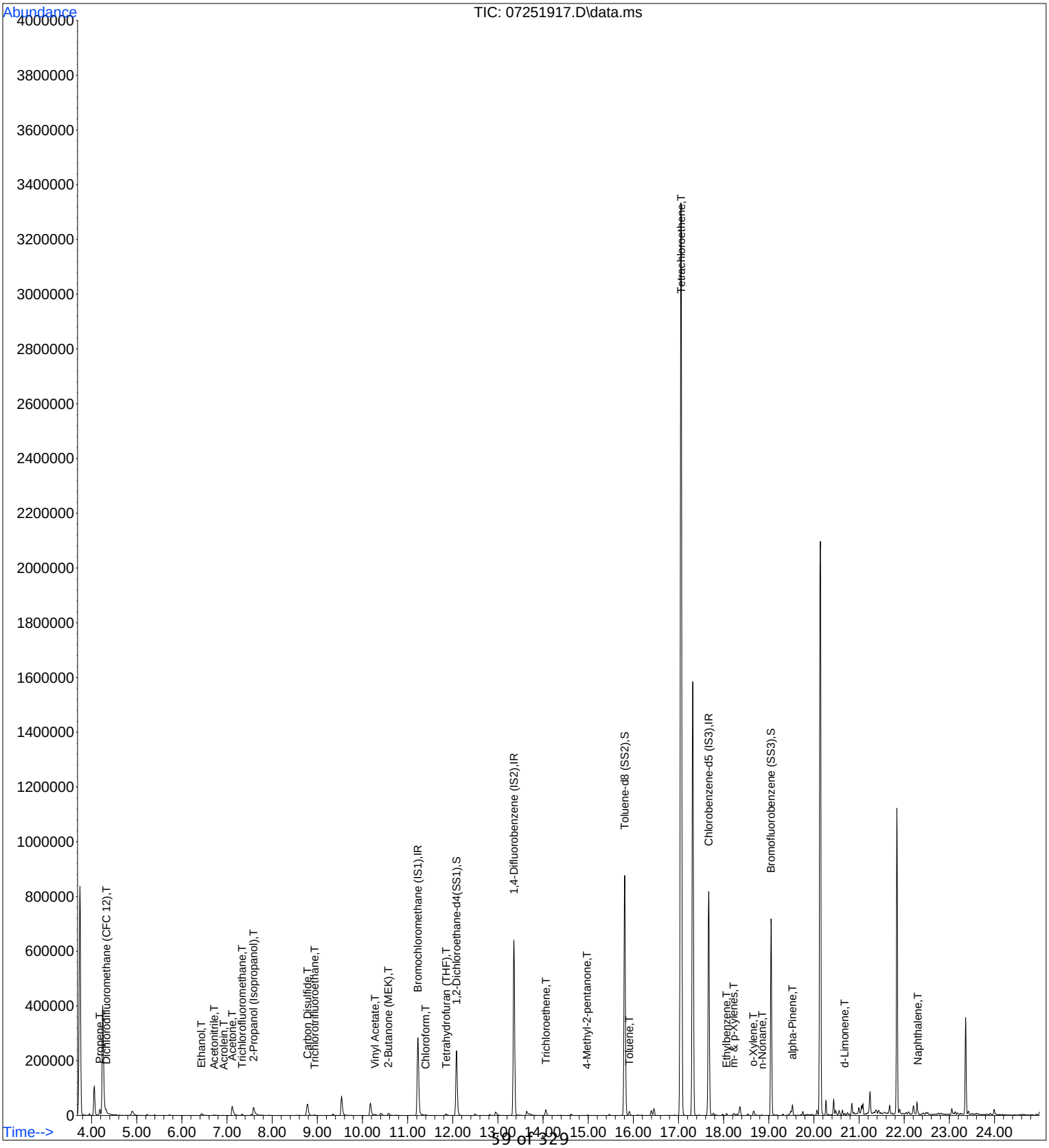
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	150674	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	675777	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	294006	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	176436	11.781	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	15.81	98	729639	12.067	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	19.05	174	258819	13.031	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
Target Compounds							Qvalue
2) Propene	4.18	42	6353	0.515	ng		97
3) Dichlorodifluoromethan...	4.33	85	7639	0.397	ng		98
10) Ethanol	6.43	45	12383	1.419	ng		99
11) Acetonitrile	6.71	41	3969	0.179	ng		99
12) Acrolein	6.92	56	830	0.129	ng		99
13) Acetone	7.11	58	22263	2.559	ng		85
14) Trichlorofluoromethane	7.33	101	5743	0.348	ng		98
15) 2-Propanol (Isopropanol)	7.59	45	69772	2.339	ng		99
21) Trichlorotrifluoroethane	8.94	151	937	0.086	ng		88
22) Carbon Disulfide	8.78	76	93903	2.470	ng		99
26) Vinyl Acetate	10.28	86	1081	0.375	ng	#	60
27) 2-Butanone (MEK)	10.57	72	4344	0.584	ng	#	82
32) Chloroform	11.40	83	1295	0.074	ng		97
34) Tetrahydrofuran (THF)	11.85	72	2073	0.251	ng	#	75
47) Trichloroethene	14.06	130	9462	0.724	ng		100
53) 4-Methyl-2-pentanone	14.97	58	614	0.062	ng	#	32
58) Toluene	15.91	91	14323	0.280	ng		99
64) Tetrachloroethene	17.06	166	1469797	94.128	ng		99
66) Ethylbenzene	18.07	91	7056	0.115	ng		99
67) m- & p-Xylenes	18.22	91	6605	0.144	ng		99
70) o-Xylene	18.66	91	4269	0.092	ng		95
71) n-Nonane	18.85	43	1411	0.054	ng	#	83
75) alpha-Pinene	19.52	93	15189	0.507	ng		61
91) d-Limonene	20.68	68	1743	0.097	ng		91
95) Naphthalene	22.30	128	3782	0.072	ng		92

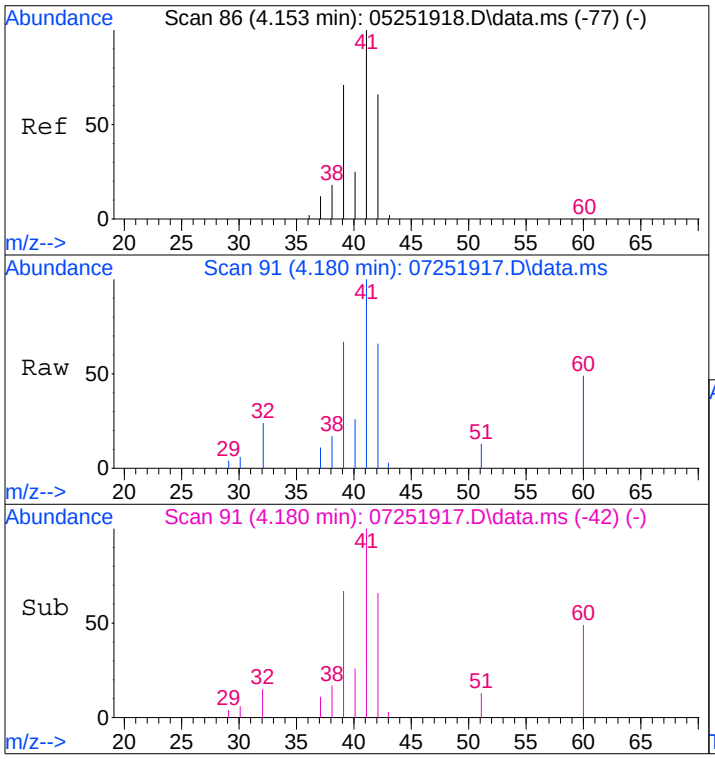
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251917.D
Sample : P1904286-001 (400mL) Inst : MS08
Acq On : 25 Jul 2019 14:39 Operator: RS
Misc : S31-07111901
ALS Vial : 5 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:14:02 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

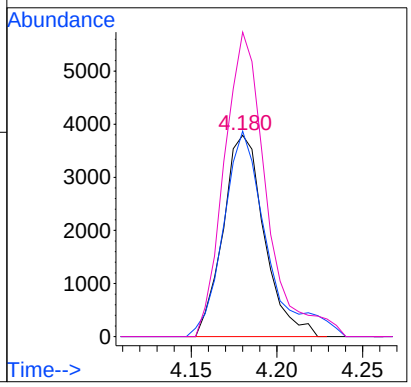


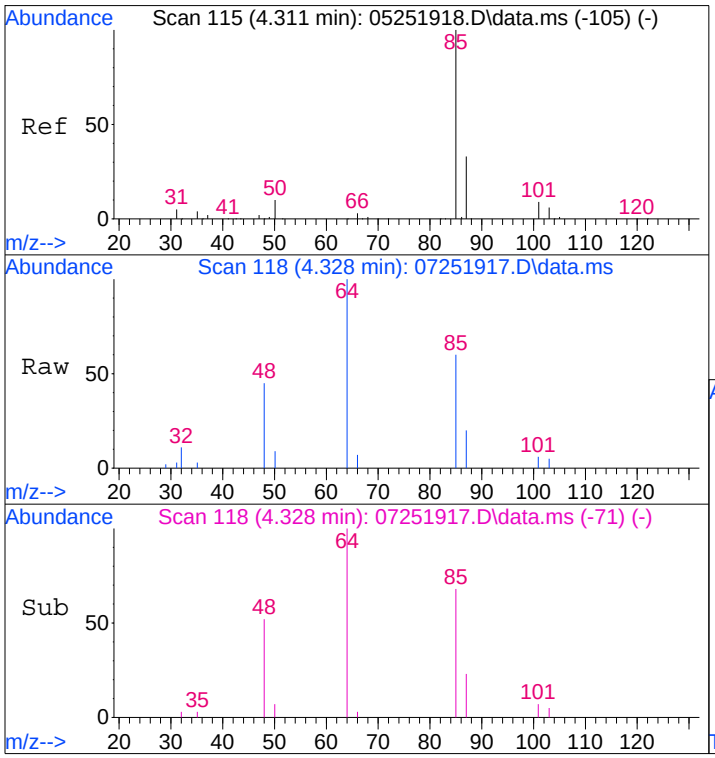


#2
Propene
Concen: 0.51 ng
RT: 4.18 min Scan# 91
Delta R.T. 0.016 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 42 Resp: 6353

Ion	Ratio	Lower	Upper
42	100		
39	107.3	85.8	125.8
41	154.4	130.2	170.2

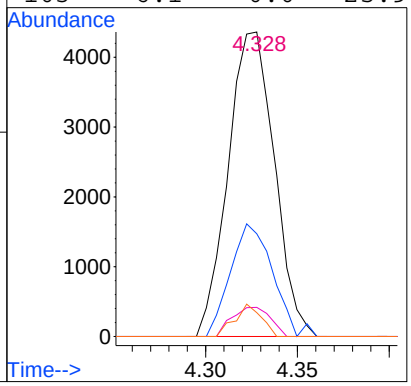


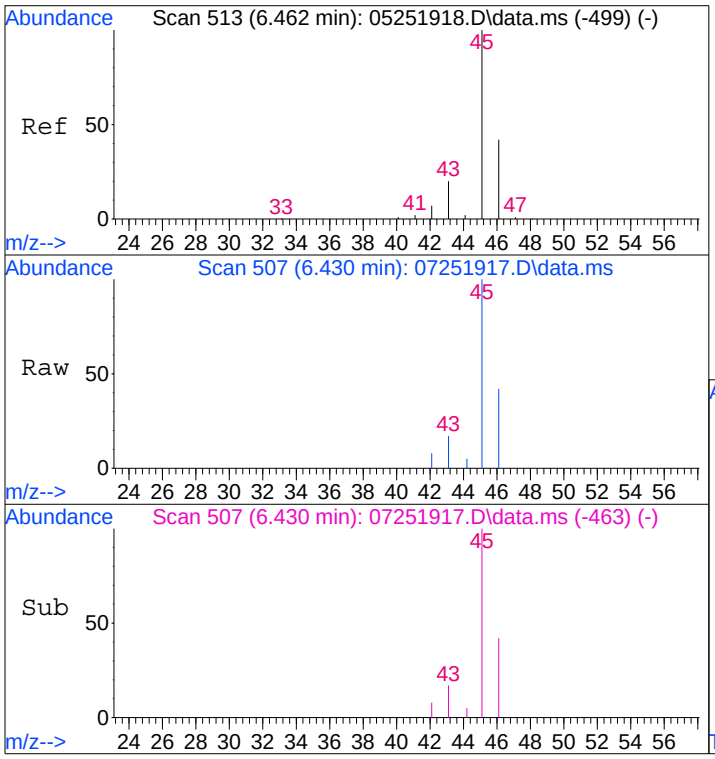


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.40 ng
RT: 4.33 min Scan# 118
Delta R.T. 0.005 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 85 Resp: 7639

Ion	Ratio	Lower	Upper
85	100		
87	33.9	12.5	52.5
101	8.0	0.0	29.0
103	6.1	0.0	25.9

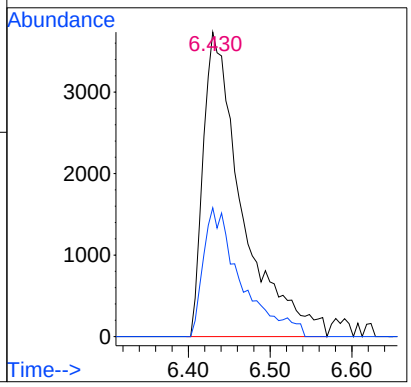


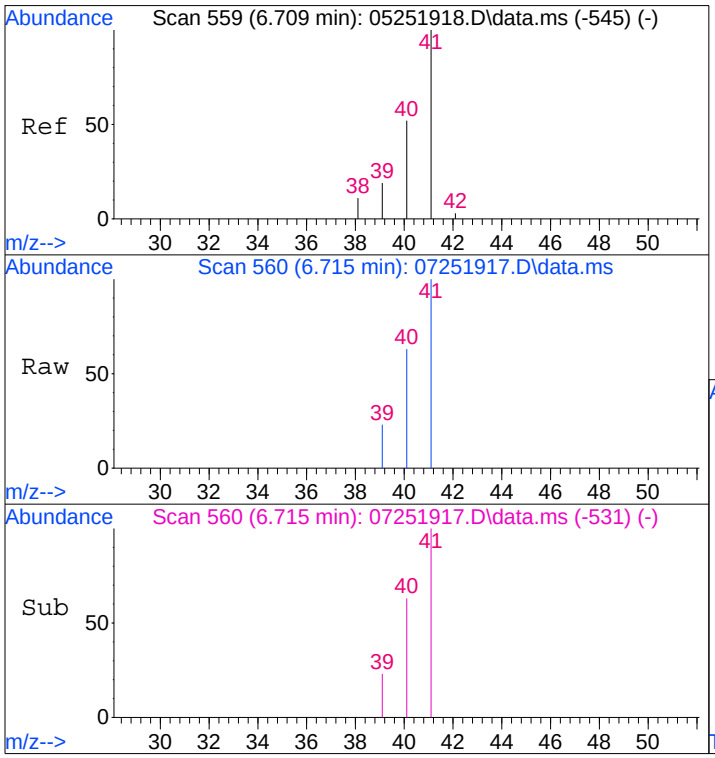


#10
Ethanol
Concen: 1.42 ng
RT: 6.43 min Scan# 507
Delta R.T. -0.013 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 45 Resp: 12383

Ion	Ratio	Lower	Upper
45	100		
46	40.8	21.7	61.7

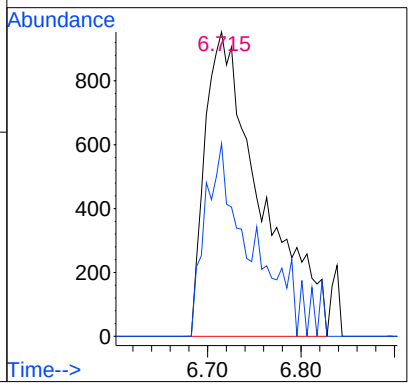


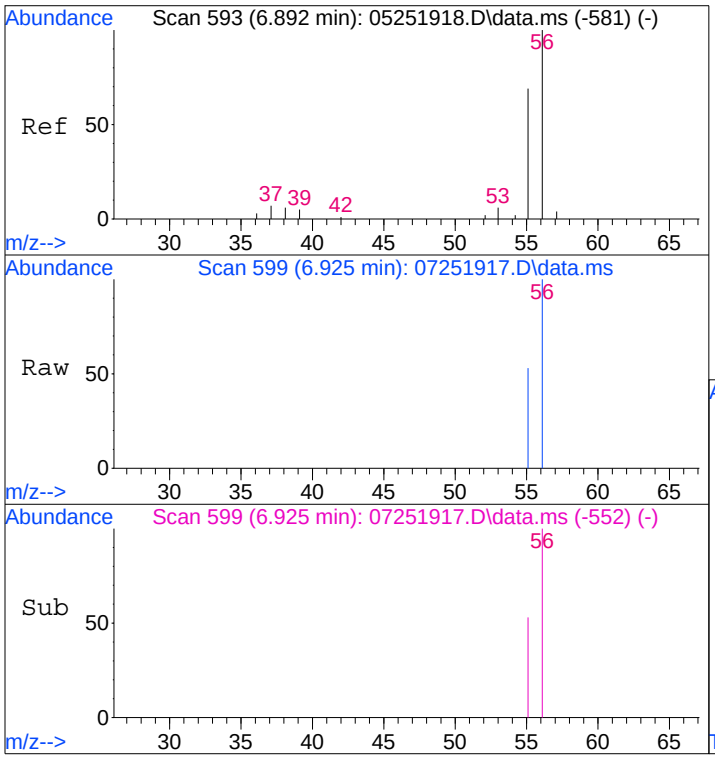


#11
Acetonitrile
Concen: 0.18 ng
RT: 6.71 min Scan# 560
Delta R.T. -0.043 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 41 Resp: 3969

Ion	Ratio	Lower	Upper
41	100		
40	51.8	32.5	72.5

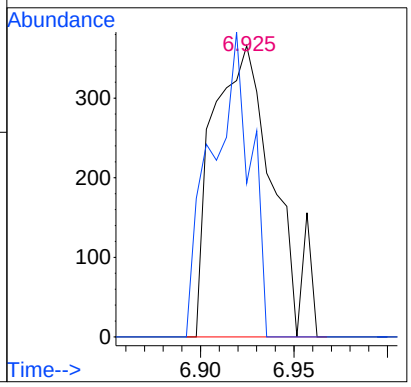


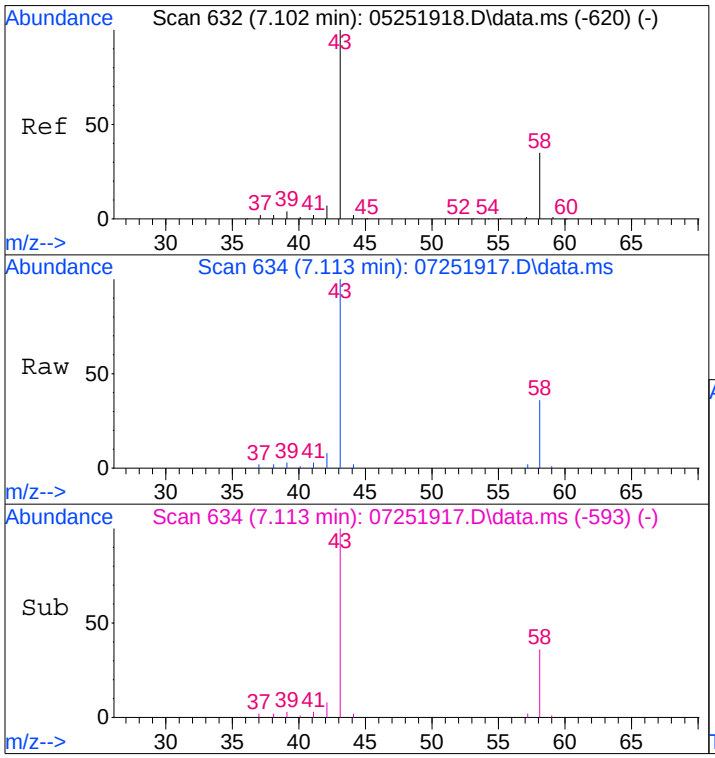


#12
Acrolein
Concen: 0.13 ng
RT: 6.92 min Scan# 599
Delta R.T. 0.005 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 56 Resp: 830

Ion	Ratio	Lower	Upper
56	100		
55	67.1	48.1	88.1

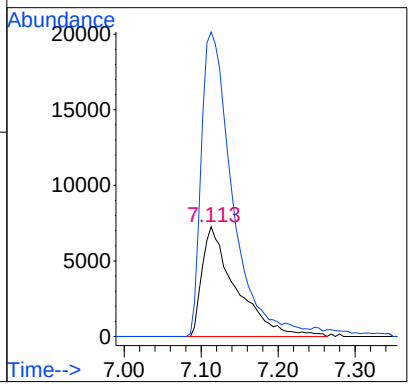


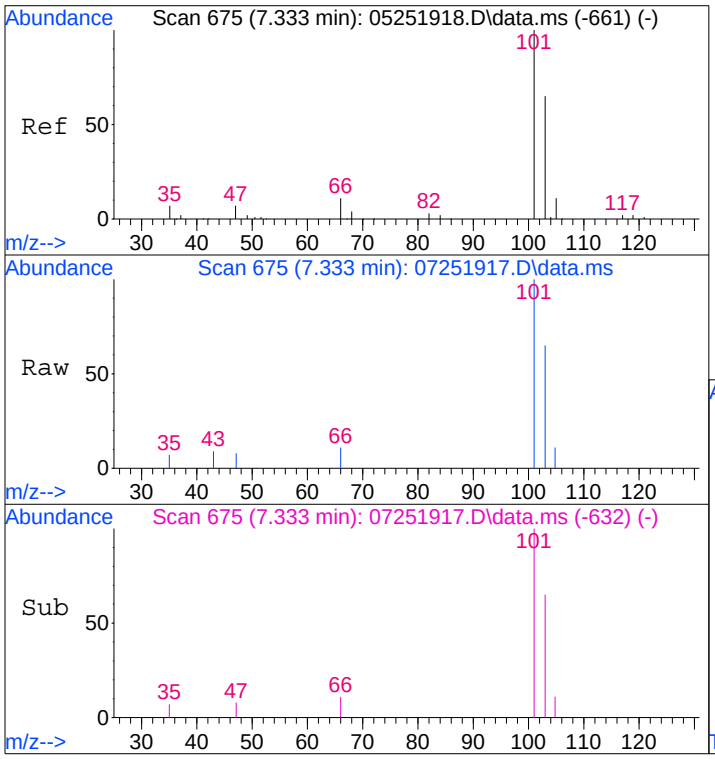


#13
Acetone
Concen: 2.56 ng
RT: 7.11 min Scan# 634
Delta R.T. -0.032 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 58 Resp: 22263

Ion	Ratio	Lower	Upper
58	100		
43	262.5	260.9	320.9

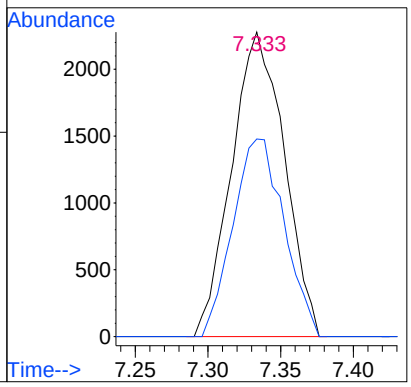


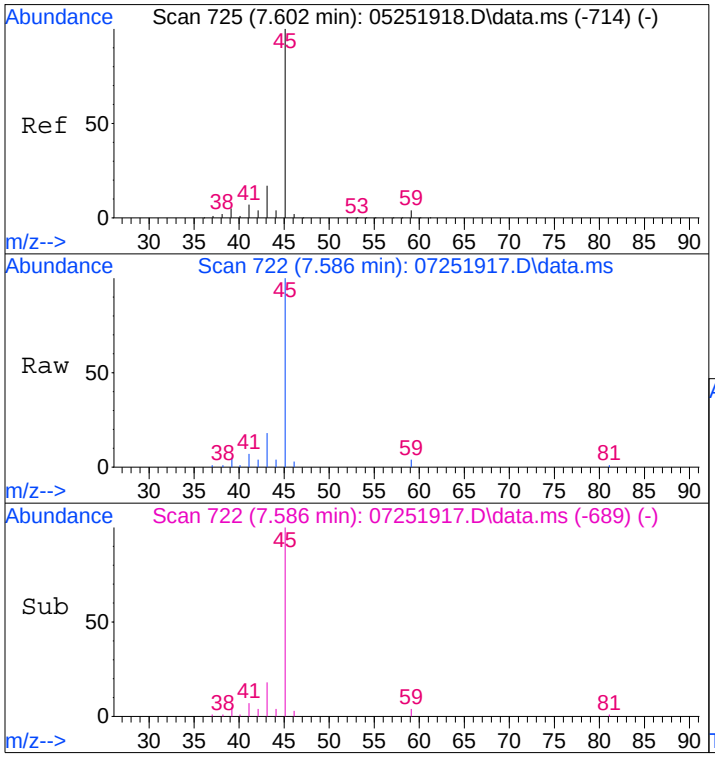


#14
Trichlorofluoromethane
Concen: 0.35 ng
RT: 7.33 min Scan# 675
Delta R.T. -0.016 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion:101 Resp: 5743

Ion	Ratio	Lower	Upper
101	100		
103	63.0	44.7	84.7

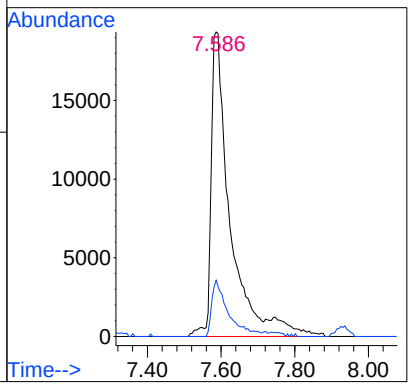


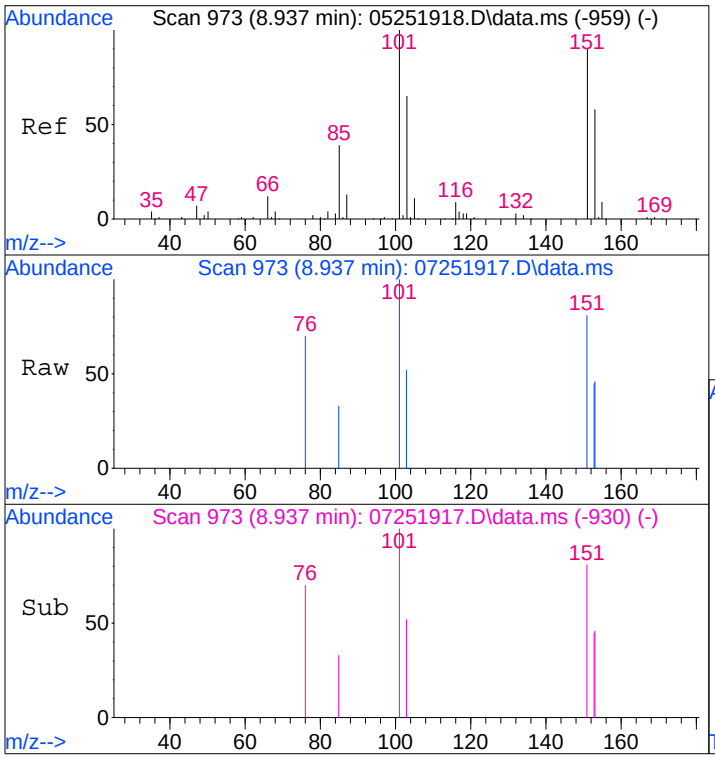


#15
2-Propanol (Isopropanol)
Concen: 2.34 ng
RT: 7.59 min Scan# 722
Delta R.T. -0.070 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 45 Resp: 69772

Ion	Ratio	Lower	Upper
45	100		
43	17.2	0.0	37.6

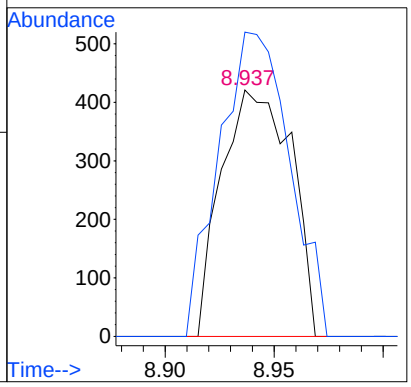


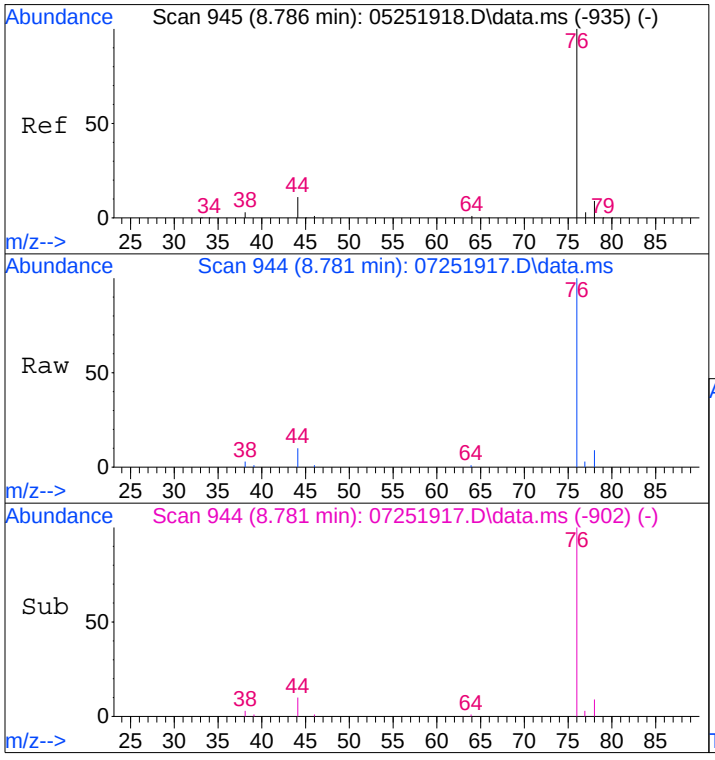


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.94 min Scan# 973
Delta R.T. -0.016 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion:151 Resp: 937

Ion	Ratio	Lower	Upper
151	100		
101	125.2	92.2	132.2

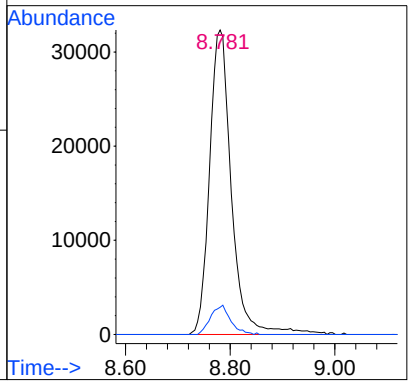


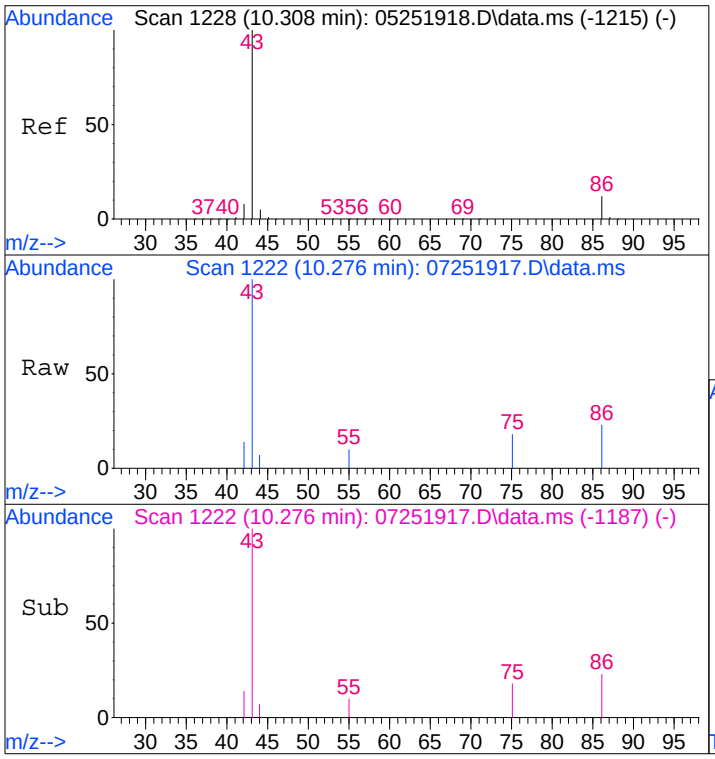


#22
Carbon Disulfide
Concen: 2.47 ng
RT: 8.78 min Scan# 944
Delta R.T. -0.021 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 76 Resp: 93903

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

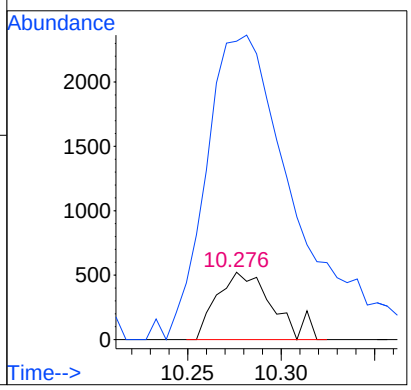


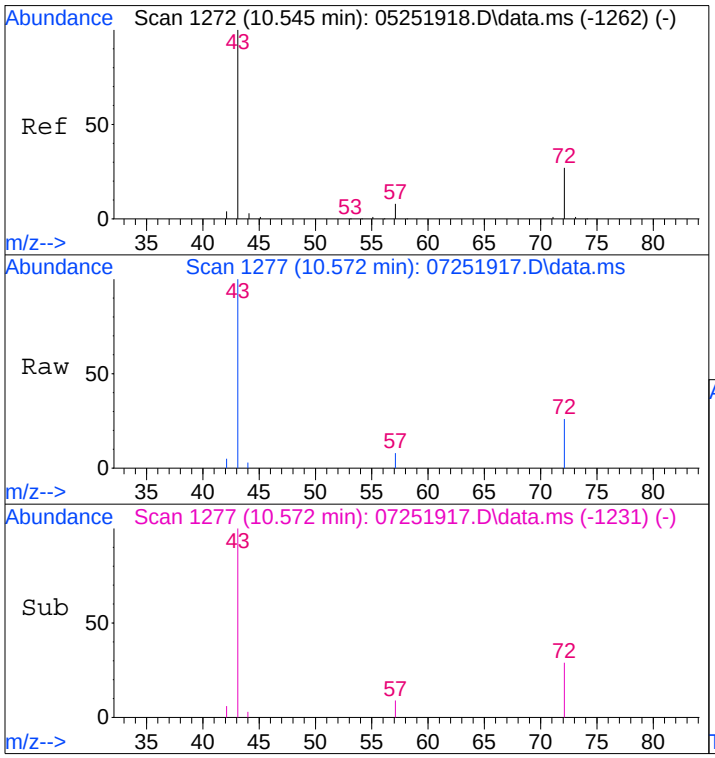


#26
Vinyl Acetate
Concen: 0.38 ng
RT: 10.28 min Scan# 1222
Delta R.T. -0.059 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 86 Resp: 1081

Ion	Ratio	Lower	Upper
86	100		
43	719.6	864.9	904.9#

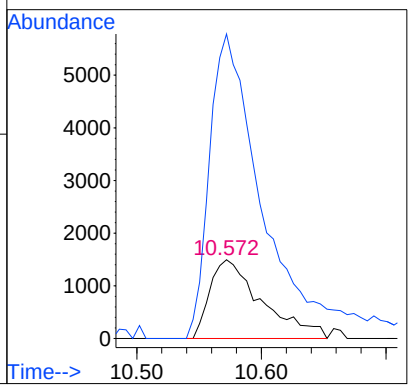


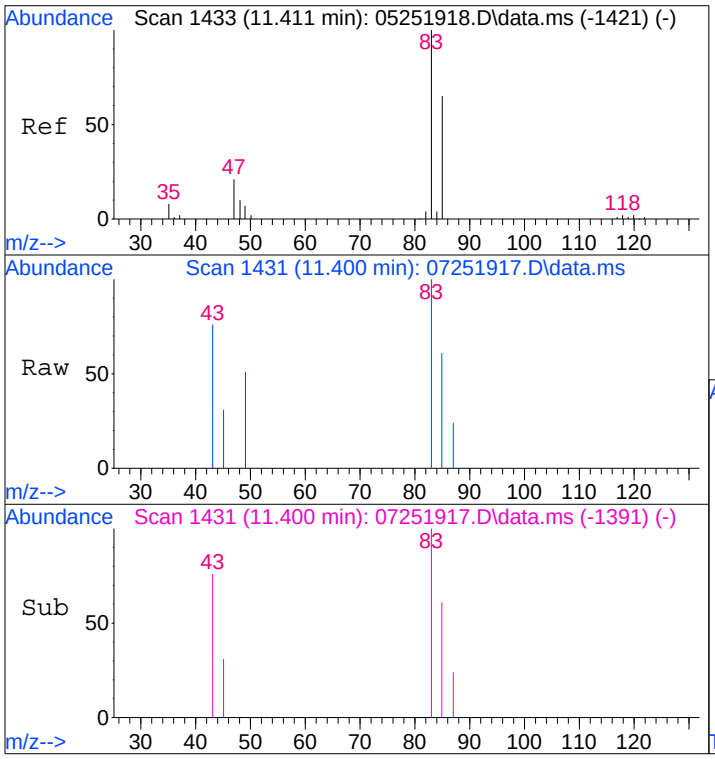


#27
2-Butanone (MEK)
Concen: 0.58 ng
RT: 10.57 min Scan# 1277
Delta R.T. -0.000 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 72 Resp: 4344

Ion	Ratio	Lower	Upper
72	100		
43	408.0	346.9	386.9#

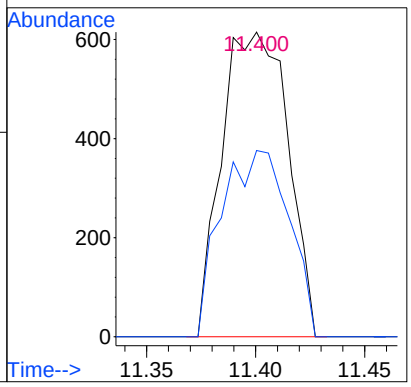


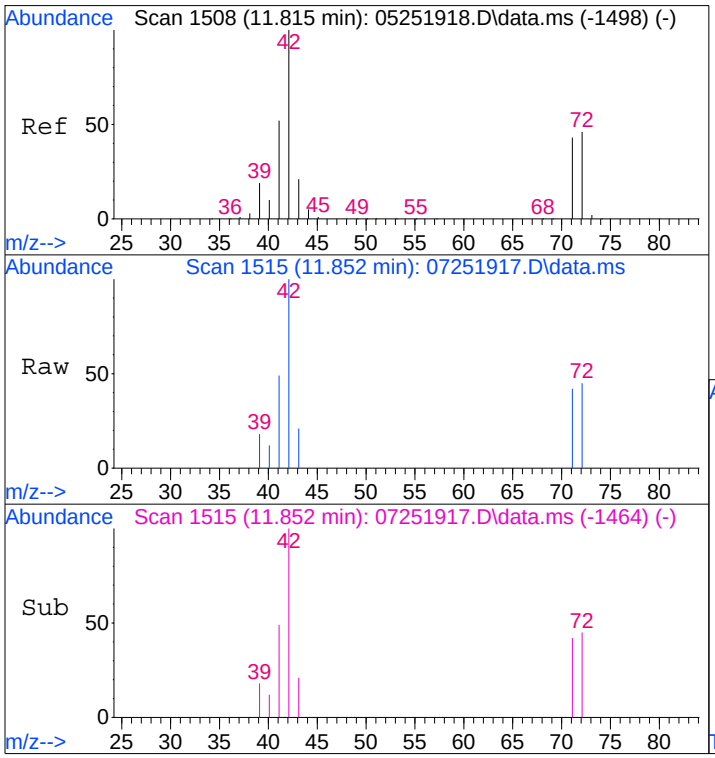


#32
Chloroform
Concen: 0.07 ng
RT: 11.40 min Scan# 1431
Delta R.T. -0.032 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 83 Resp: 1295

Ion	Ratio	Lower	Upper
83	100		
85	62.7	45.3	85.3

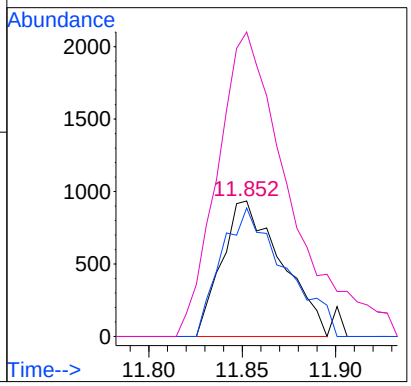


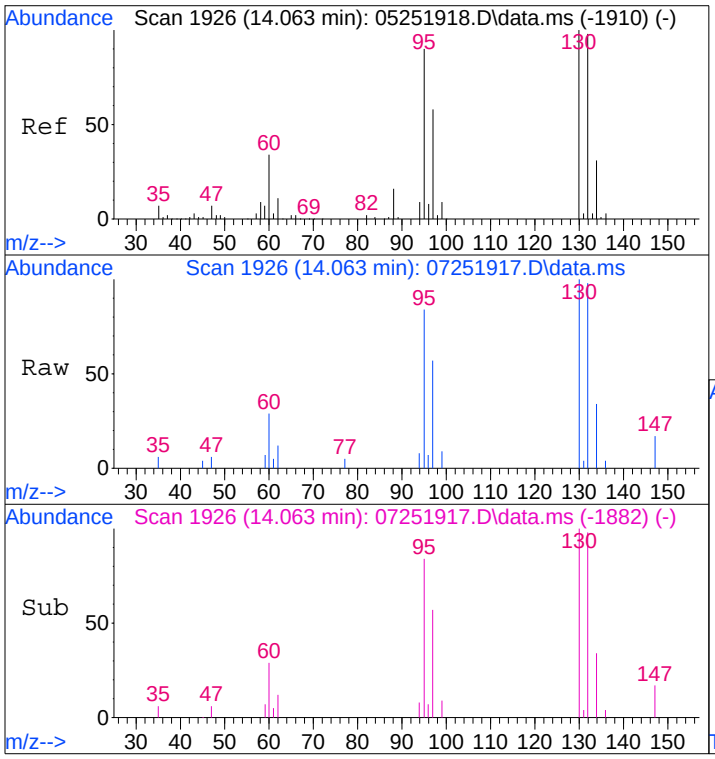


#34
Tetrahydrofuran (THF)
Concen: 0.25 ng
RT: 11.85 min Scan# 1515
Delta R.T. 0.027 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 72 Resp: 2073

Ion	Ratio	Lower	Upper
72	100		
71	101.4	73.9	113.9
42	273.0	201.9	241.9#

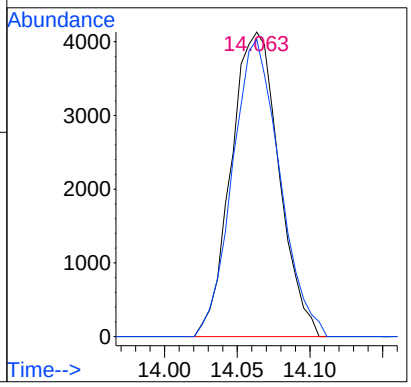


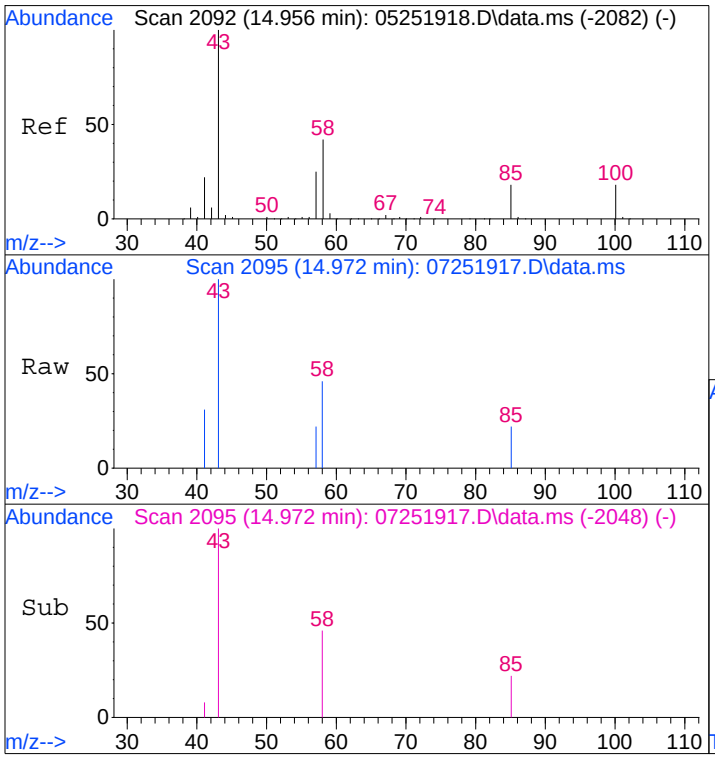


#47
Trichloroethene
Concen: 0.72 ng
RT: 14.06 min Scan# 1926
Delta R.T. -0.011 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion:130 Resp: 9462

Ion	Ratio	Lower	Upper
130	100		
132	96.2	76.1	116.1

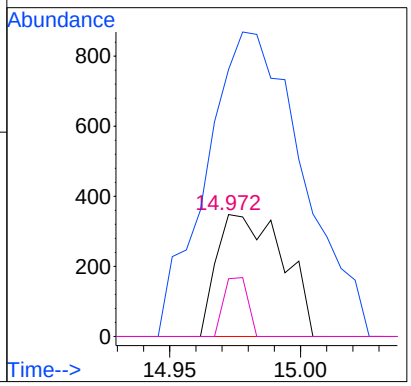


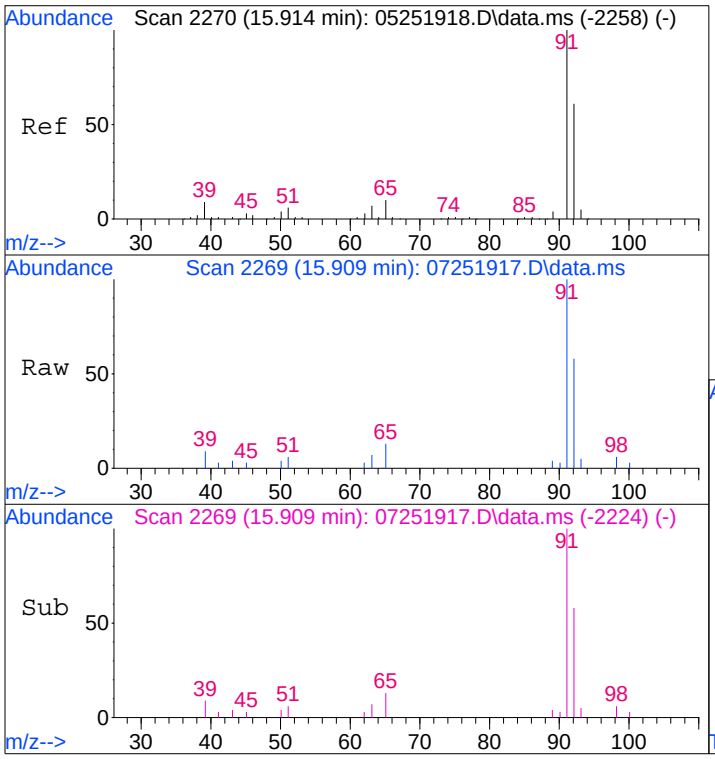


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.97 min Scan# 2095
Delta R.T. 0.005 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 58 Resp: 614

Ion	Ratio	Lower	Upper
58	100		
43	363.0	191.3	286.9#
85	17.4	37.8	56.8#

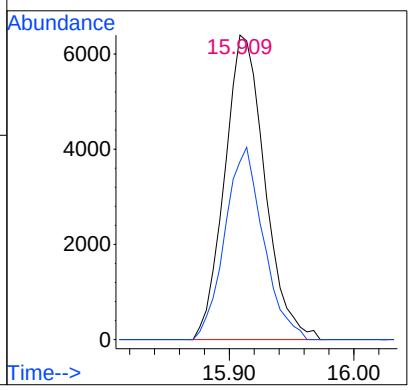


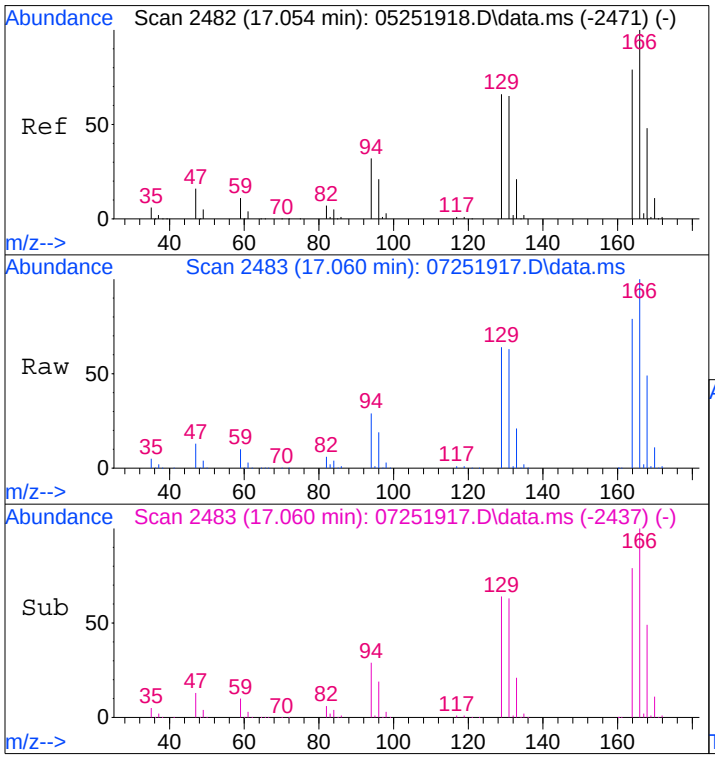


#58
Toluene
Concen: 0.28 ng
RT: 15.91 min Scan# 2269
Delta R.T. -0.010 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 91 Resp: 14323

Ion	Ratio	Lower	Upper
91	100		
92	60.5	41.2	81.2

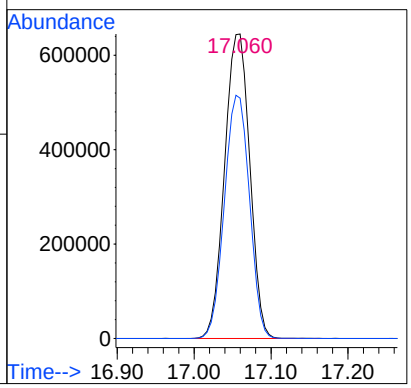


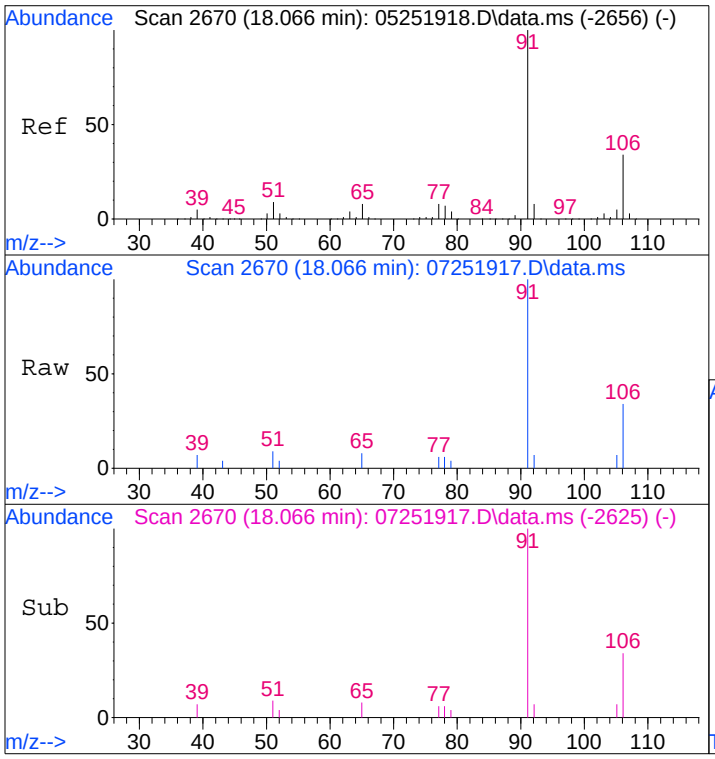


#64
Tetrachloroethene
Concen: 94.13 ng
RT: 17.06 min Scan# 2483
Delta R.T. -0.000 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion:166 Resp: 1469797

Ion	Ratio	Lower	Upper
166	100		
164	79.3	58.4	98.4

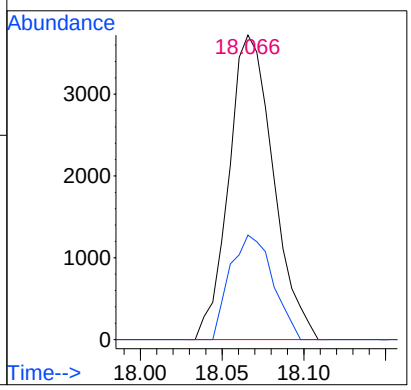


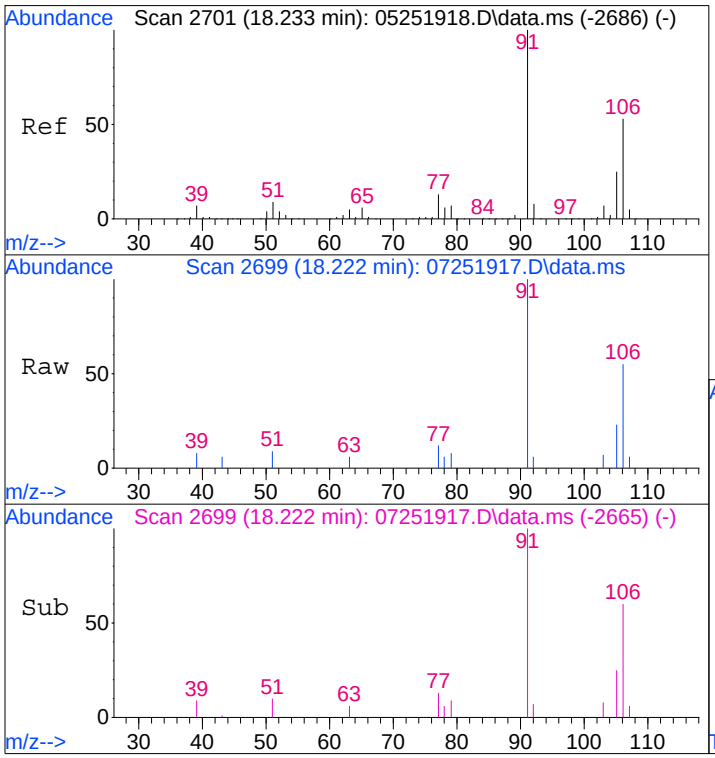


#66
Ethylbenzene
Concen: 0.12 ng
RT: 18.07 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 91 Resp: 7056

Ion	Ratio	Lower	Upper
91	100		
106	33.0	13.4	53.4

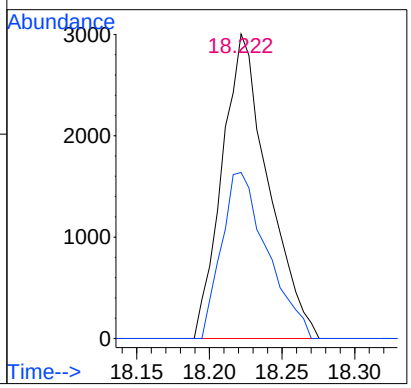


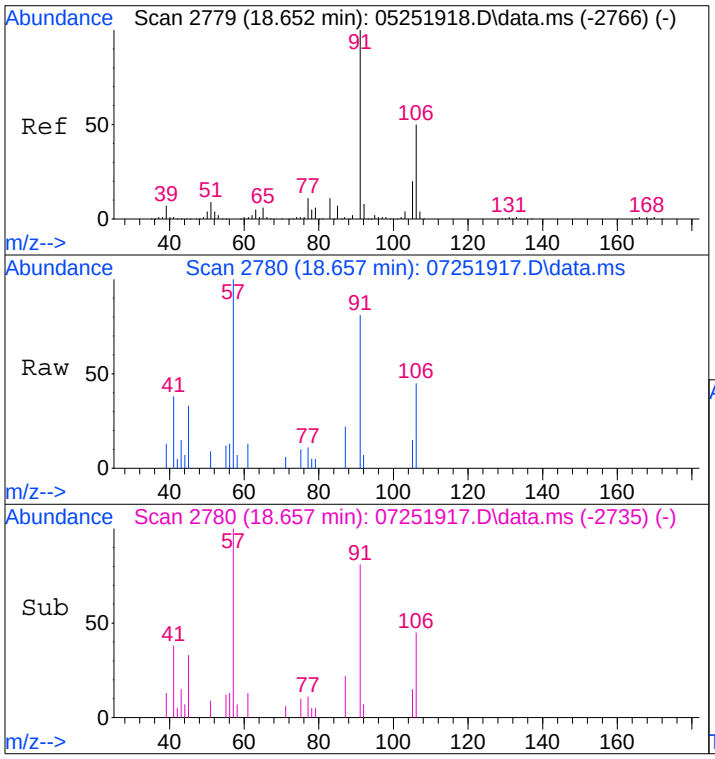


#67
m- & p-Xylenes
Concen: 0.14 ng
RT: 18.22 min Scan# 2699
Delta R.T. -0.016 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 91 Resp: 6605

Ion	Ratio	Lower	Upper
91	100		
106	54.3	33.4	73.4

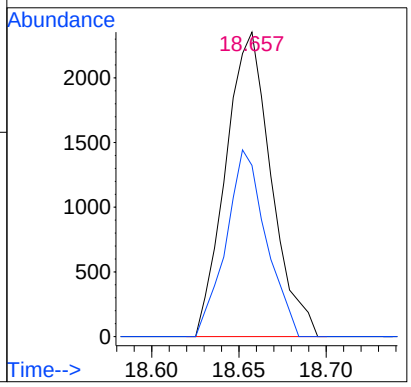


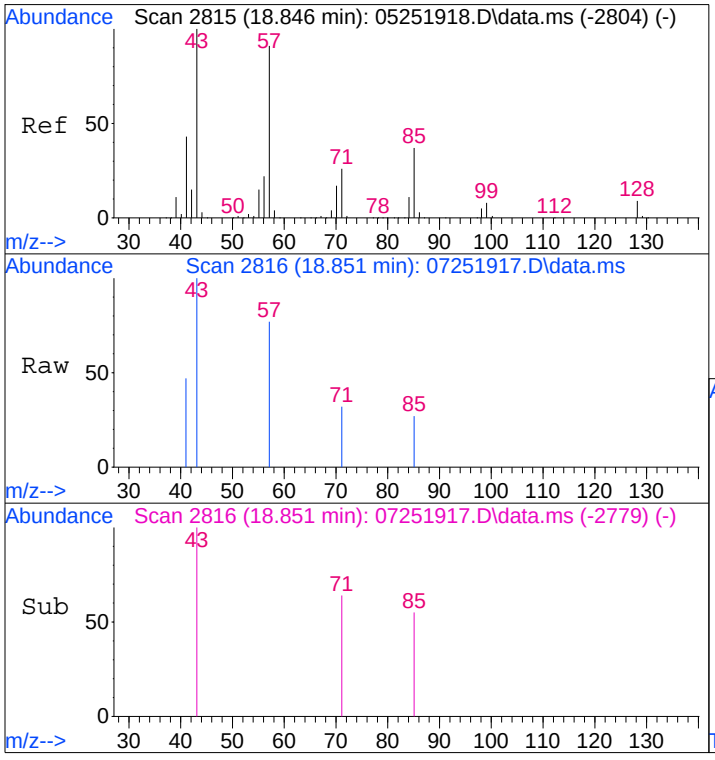


#70
o-Xylene
Concen: 0.09 ng
RT: 18.66 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 91 Resp: 4269

Ion	Ratio	Lower	Upper
91	100		
106	54.0	30.6	70.6

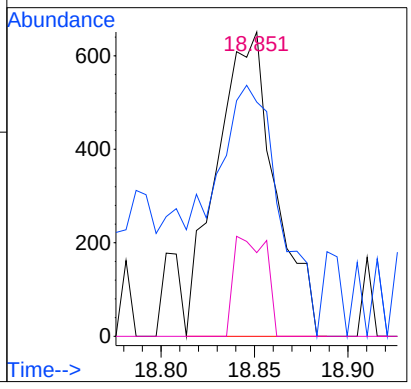


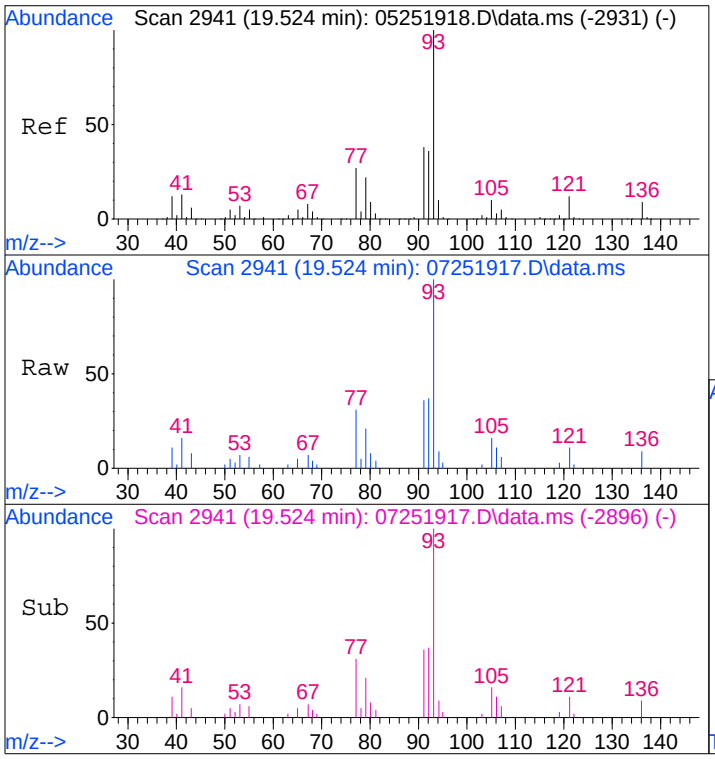


#71
n-Nonane
Concen: 0.05 ng
RT: 18.85 min Scan# 2816
Delta R.T. -0.000 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 43 Resp: 1411

Ion	Ratio	Lower	Upper
43	100		
57	81.5	71.7	111.7
85	18.3	18.7	58.7#

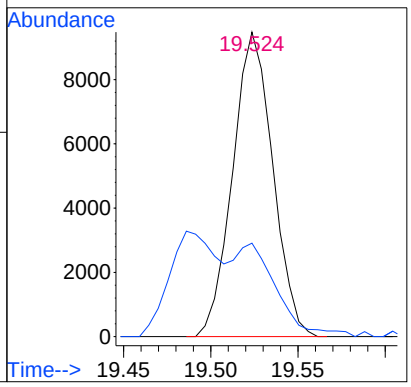


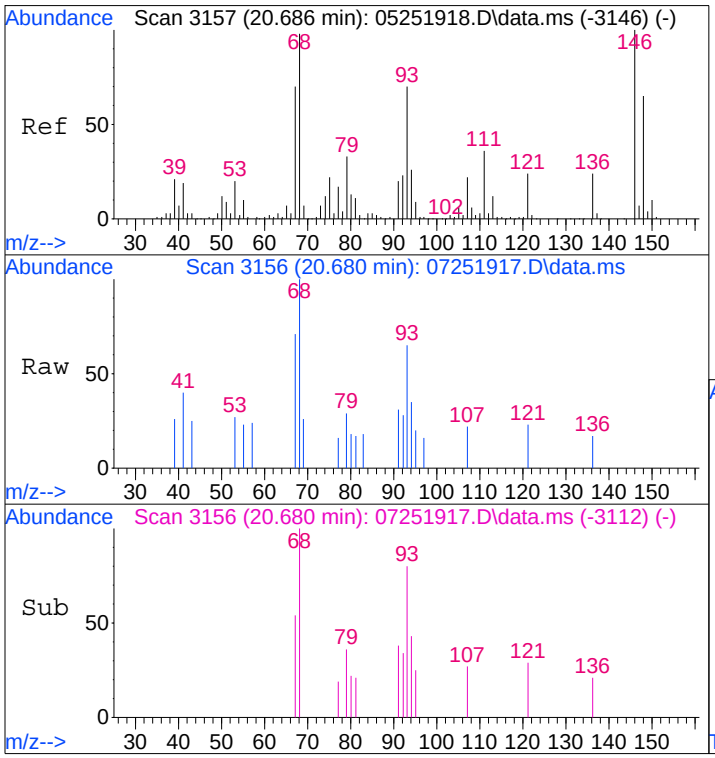


#75
alpha-Pinene
Concen: 0.51 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 93 Resp: 15189

Ion	Ratio	Lower	Upper
93	100		
77	47.0	7.0	47.0

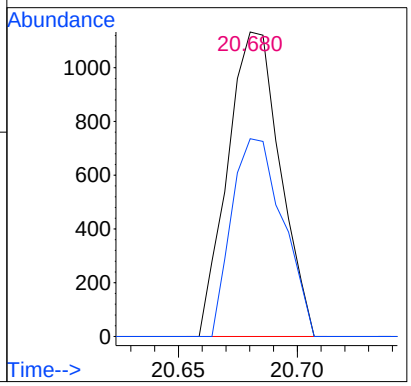


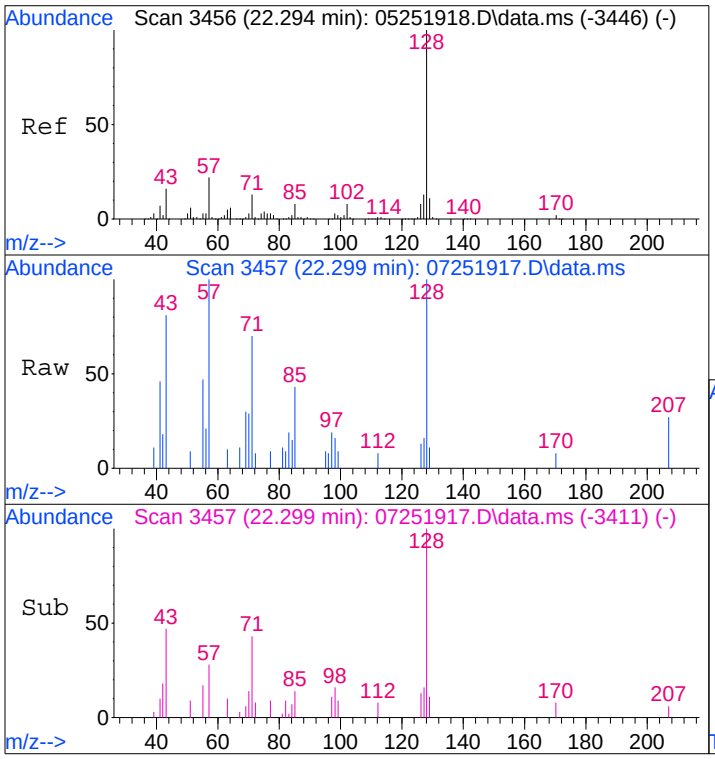


#91
d-Limonene
Concen: 0.10 ng
RT: 20.68 min Scan# 3156
Delta R.T. -0.011 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion: 68 Resp: 1743

Ion	Ratio	Lower	Upper
68	100		
93	63.6	50.9	90.9

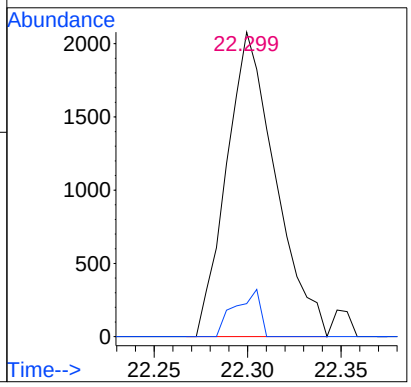




#95
Naphthalene
Concen: 0.07 ng
RT: 22.30 min Scan# 3457
Delta R.T. -0.000 min
Lab File: 07251917.D
Acq: 25 Jul 2019 14:39

Tgt Ion:128 Resp: 3782

Ion	Ratio	Lower	Upper
128	100		
129	8.0	0.0	31.1



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251919.D
Sample : P1904286-002 (100mL) Inst : MS08
Acq On : 25 Jul 2019 15:52 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

RS 8/2/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:22:27 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	155284	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	687944	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	300770	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	181287	11.746	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	15.81	98	739882	11.961	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	19.06	174	264554	13.020	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
2) Propene	4.19	42	250	N.D.			
3) Dichlorodifluoromethan...	4.34	85	1994	0.101	ng	#	87
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.44	45	7861	0.874	ng		93
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.14	58	6466	0.721	ng	#	81
14) Trichlorofluoromethane	7.34	101	2526	0.148	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	3548	0.115	ng		79
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.94	151	106	N.D.			
22) Carbon Disulfide	8.79	76	18223	0.465	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.60	72	607	0.079	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.35	57	318	N.D.			
32) Chloroform	11.40	83	2851	0.158	ng		99
34) Tetrahydrofuran (THF)	11.85	72	4856	0.570	ng	#	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	12.49	97	130	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.98	78	1455	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.06	130	12536	0.942	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.13	57	717	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251919.D
Sample : P1904286-002 (100mL) Inst : MS08
Acq On : 25 Jul 2019 15:52 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:22:27 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

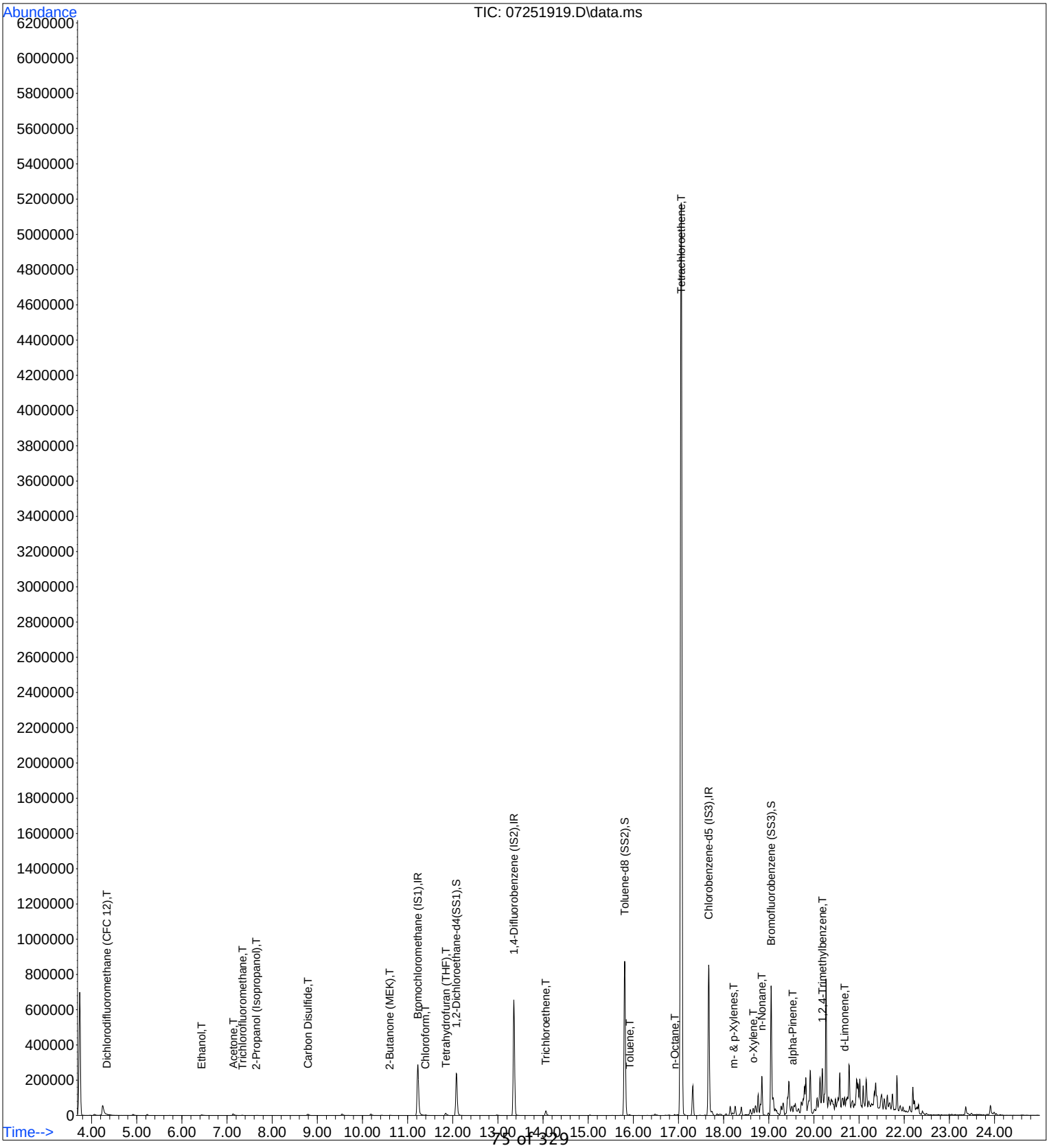
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.92	91	4676	0.089 ng		98
59) 2-Hexanone	16.16	43	196	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	16.91	57	1089	0.094 ng		95
64) Tetrachloroethene	17.06	166	2488446	155.780 ng		99
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	18.08	91	1720	N.D.		
67) m- & p-Xylenes	18.22	91	4635	0.099 ng		93
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.66	91	2423	0.051 ng		95
71) n-Nonane	18.85	43	75087	2.806 ng		97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.19	105	285	N.D.		
75) alpha-Pinene	19.53	93	4055	0.132 ng	#	45
76) n-Propylbenzene	19.63	91	1068	N.D.		
77) 3-Ethyltoluene	19.72	105	2644	N.D.		
78) 4-Ethyltoluene	19.76	105	1139	N.D.		
79) 1,3,5-Trimethylbenzene	19.82	105	2339	N.D.		
80) alpha-Methylstyrene	19.96	118	256	N.D.		
81) 2-Ethyltoluene	19.99	105	1366	N.D.		
82) 1,2,4-Trimethylbenzene	20.19	105	4940	0.103 ng		90
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.32	91	444	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.42	105	515	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	20.56	105	1832	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.68	68	4314	0.234 ng	#	75
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.31	128	1045	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.18	119	637	N.D.		
100) n-Butylbenzene	20.97	91	1275	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251919.D
Sample : P1904286-002 (100mL) Inst : MS08
Acq On : 25 Jul 2019 15:52 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:22:27 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251919.D
Sample : P1904286-002 (100mL) Inst : MS08
Acq On : 25 Jul 2019 15:52 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

RS 8/2/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:22:27 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

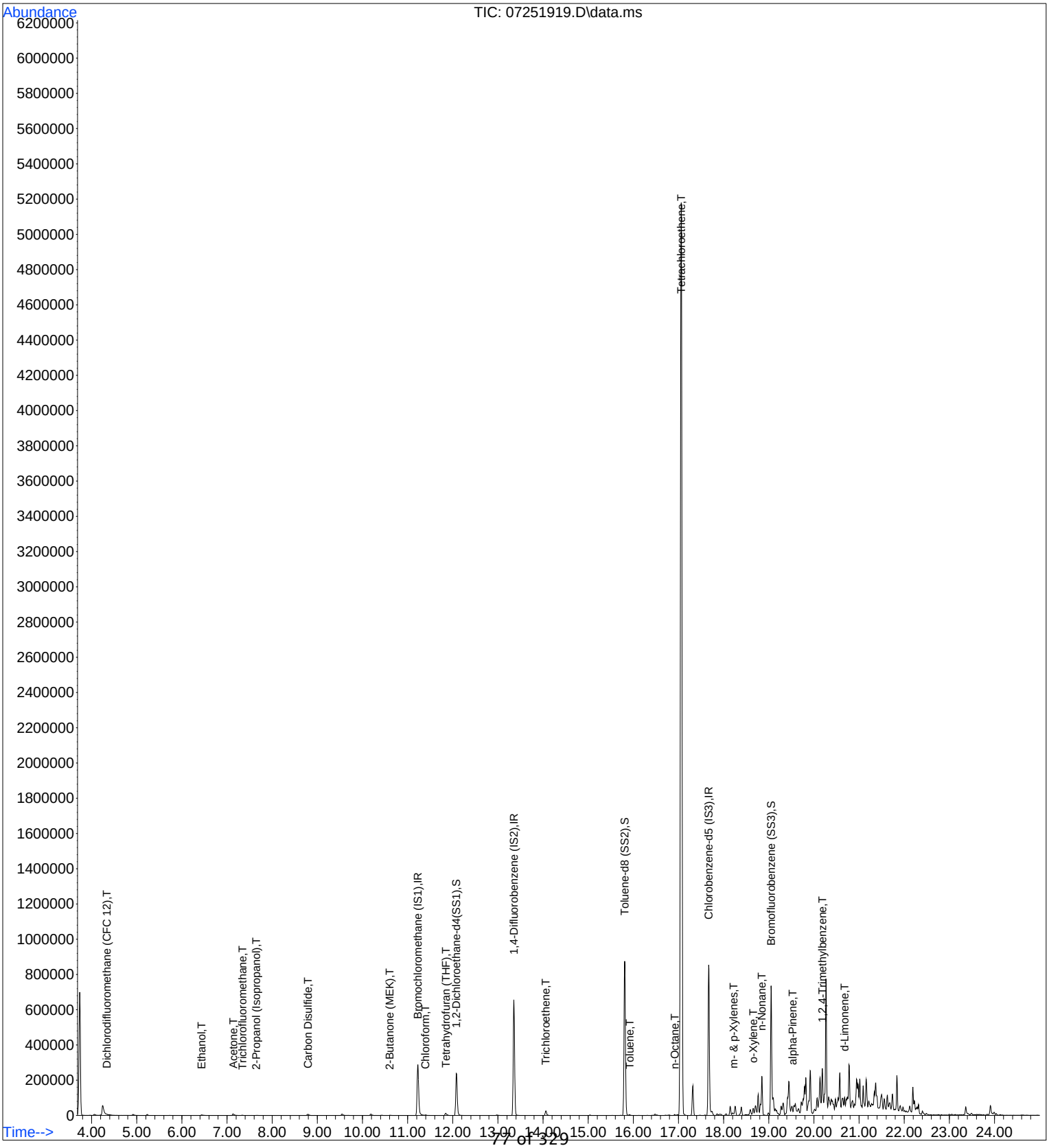
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	155284	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	687944	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	300770	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	181287	11.746	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	15.81	98	739882	11.961	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	19.06	174	264554	13.020	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.34	85	1994	0.101	ng	#	87
10) Ethanol	6.44	45	7861	0.874	ng		93
13) Acetone	7.14	58	6466	0.721	ng	#	81
14) Trichlorofluoromethane	7.34	101	2526	0.148	ng		100
15) 2-Propanol (Isopropanol)	7.65	45	3548	0.115	ng		79
22) Carbon Disulfide	8.79	76	18223	0.465	ng		95
27) 2-Butanone (MEK)	10.60	72	607	0.079	ng	#	1
32) Chloroform	11.40	83	2851	0.158	ng		99
34) Tetrahydrofuran (THF)	11.85	72	4856	0.570	ng	#	87
47) Trichloroethene	14.06	130	12536	0.942	ng		99
58) Toluene	15.92	91	4676	0.089	ng		98
63) n-Octane	16.91	57	1089	0.094	ng		95
64) Tetrachloroethene	17.06	166	2488446	155.780	ng		99
67) m- & p-Xylenes	18.22	91	4635	0.099	ng		93
70) o-Xylene	18.66	91	2423	0.051	ng		95
71) n-Nonane	18.85	43	75087	2.806	ng		97
75) alpha-Pinene	19.53	93	4055	0.132	ng	#	45
82) 1,2,4-Trimethylbenzene	20.19	105	4940	0.103	ng		90
91) d-Limonene	20.68	68	4314	0.234	ng	#	75

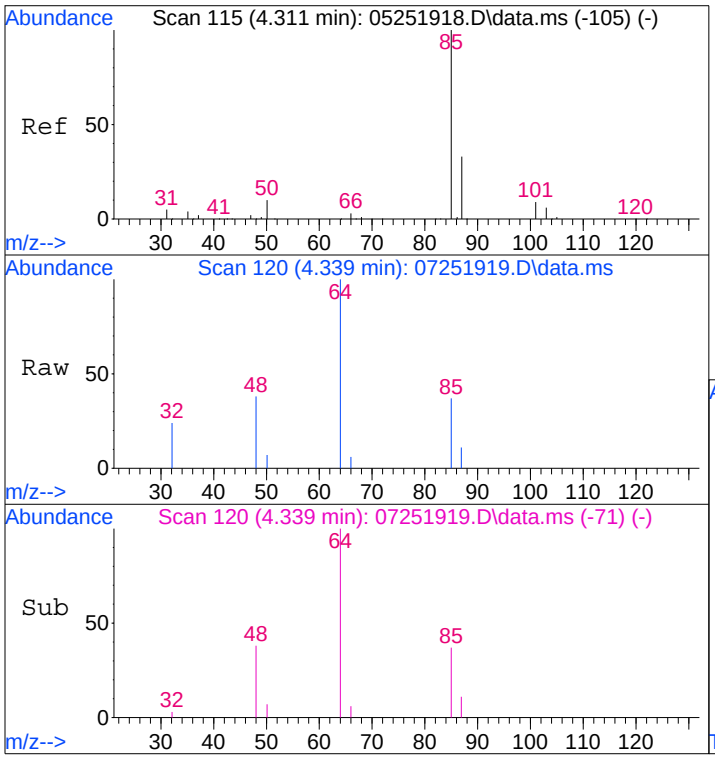
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251919.D
Sample : P1904286-002 (100mL) Inst : MS08
Acq On : 25 Jul 2019 15:52 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:22:27 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

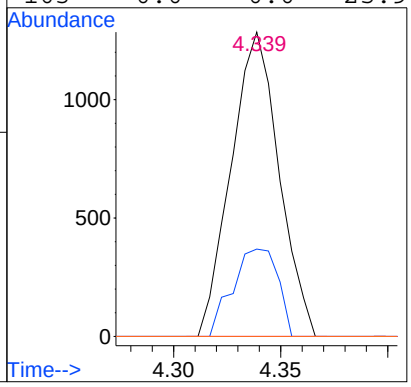


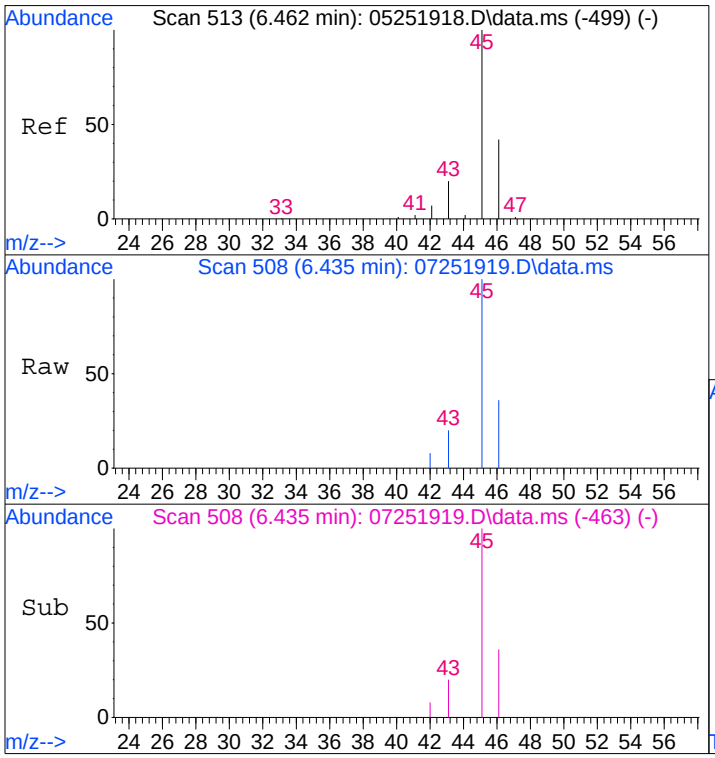


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.10 ng
RT: 4.34 min Scan# 120
Delta R.T. 0.016 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 85 Resp: 1994

Ion	Ratio	Lower	Upper
85	100		
87	27.3	12.5	52.5
101	0.0	0.0	29.0
103	0.0	0.0	25.9

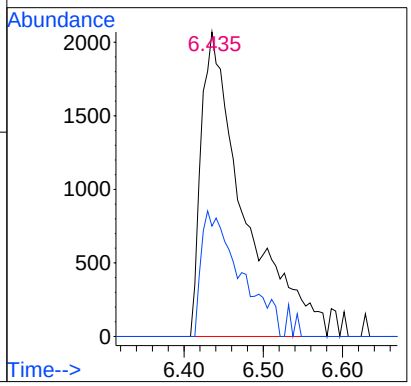


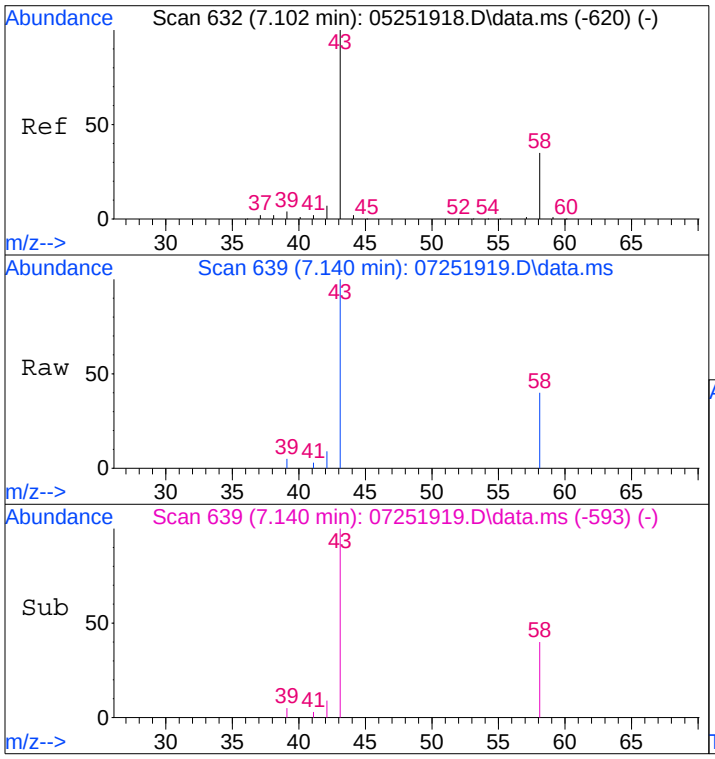


#10
Ethanol
Concen: 0.87 ng
RT: 6.44 min Scan# 508
Delta R.T. -0.008 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 45 Resp: 7861

Ion	Ratio	Lower	Upper
45	100		
46	37.0	21.7	61.7

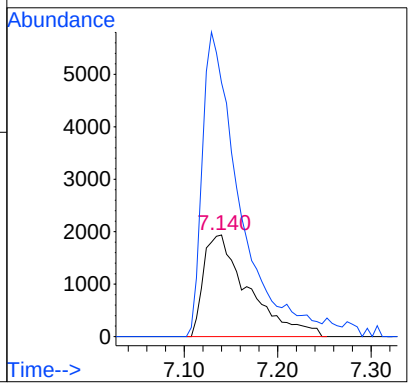


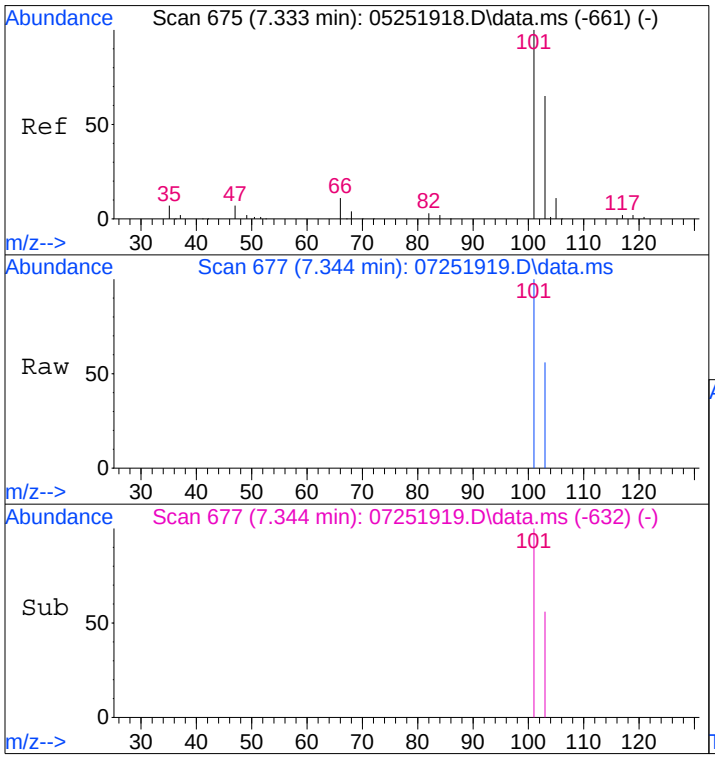


#13
Acetone
Concen: 0.72 ng
RT: 7.14 min Scan# 639
Delta R.T. -0.005 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 58 Resp: 6466

Ion	Ratio	Lower	Upper
58	100		
43	254.7	260.9	320.9#

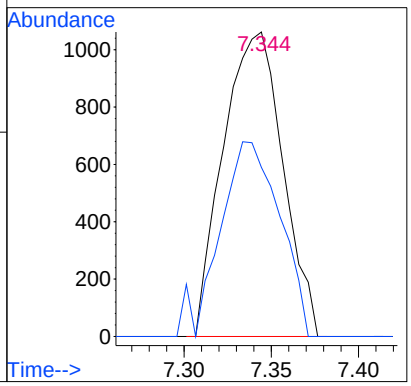


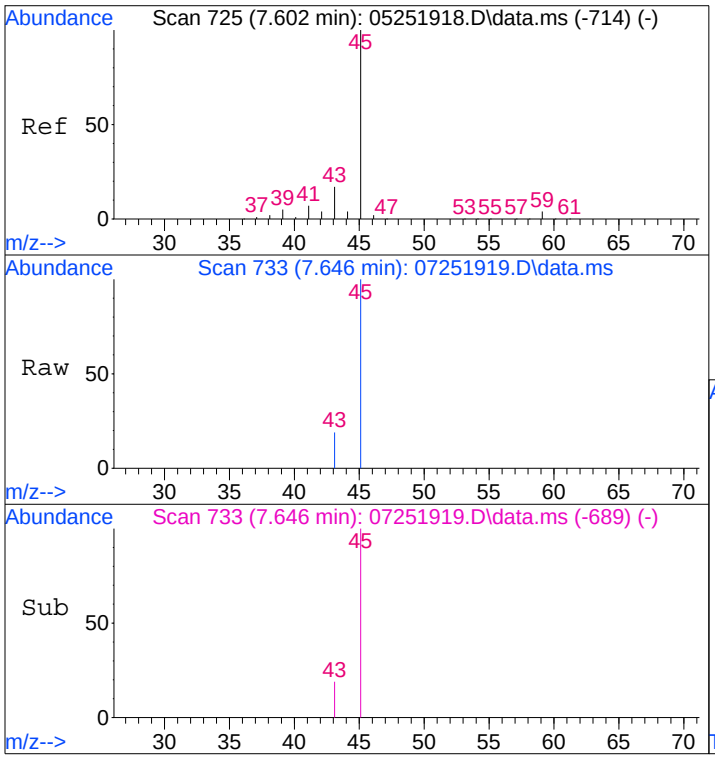


#14
Trichlorofluoromethane
Concen: 0.15 ng
RT: 7.34 min Scan# 677
Delta R.T. -0.005 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion:101 Resp: 2526

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.7	84.7

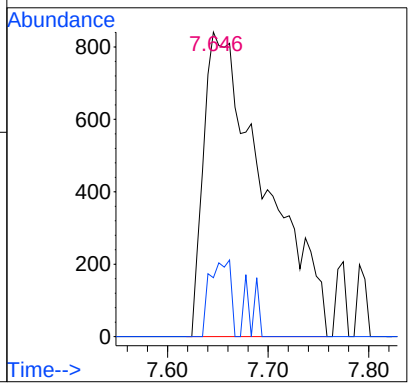


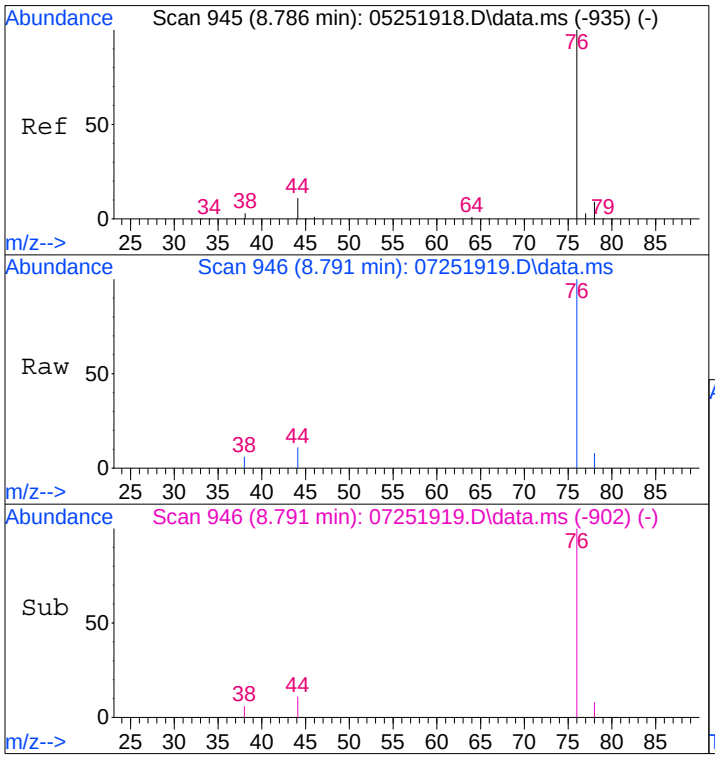


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 7.65 min Scan# 733
Delta R.T. -0.011 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 45 Resp: 3548

Ion	Ratio	Lower	Upper
45	100		
43	8.6	0.0	37.6

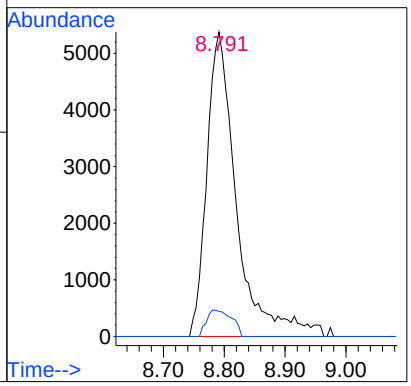


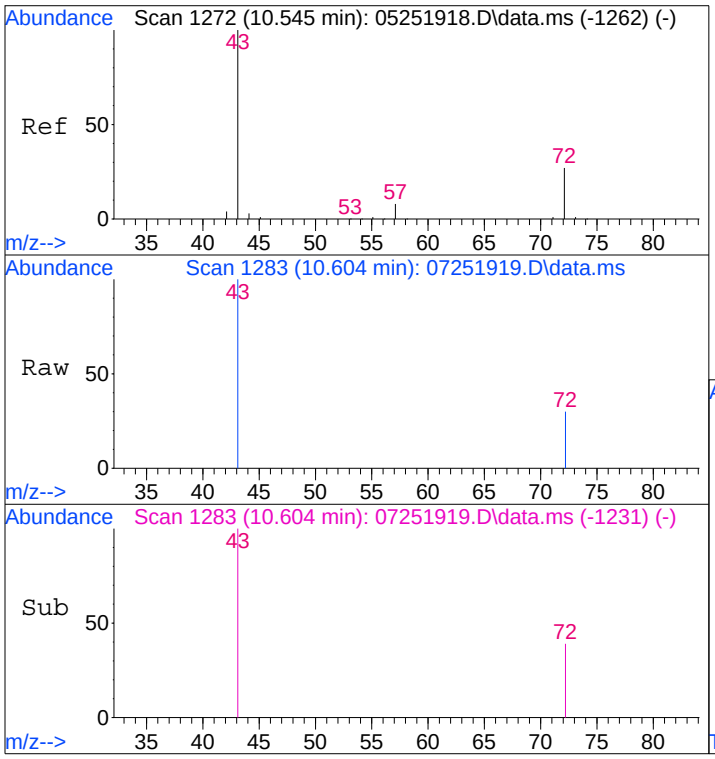


#22
Carbon Disulfide
Concen: 0.47 ng
RT: 8.79 min Scan# 946
Delta R.T. -0.011 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 76 Resp: 18223

Ion	Ratio	Lower	Upper
76	100		
78	7.3	0.0	29.2

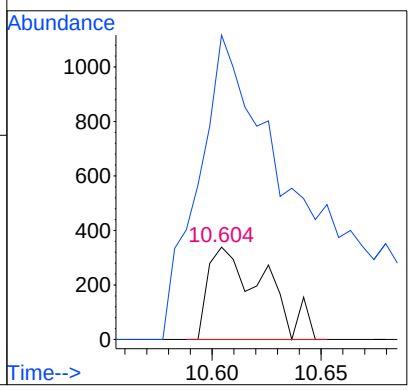


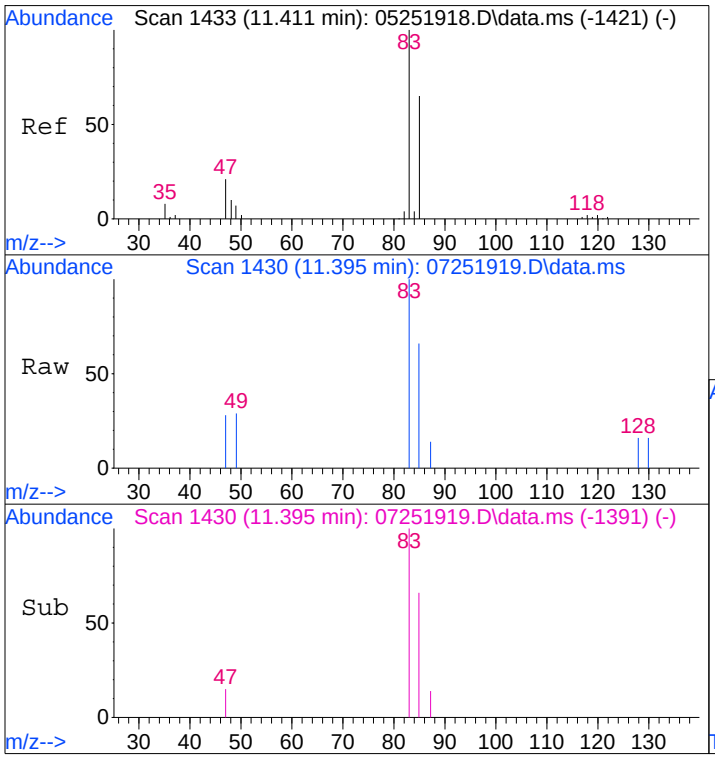


#27
2-Butanone (MEK)
Concen: 0.08 ng
RT: 10.60 min Scan# 1283
Delta R.T. 0.032 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 72 Resp: 607

Ion	Ratio	Lower	Upper
72	100		
43	709.1	346.9	386.9#

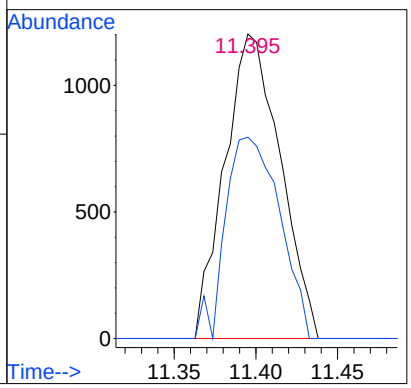


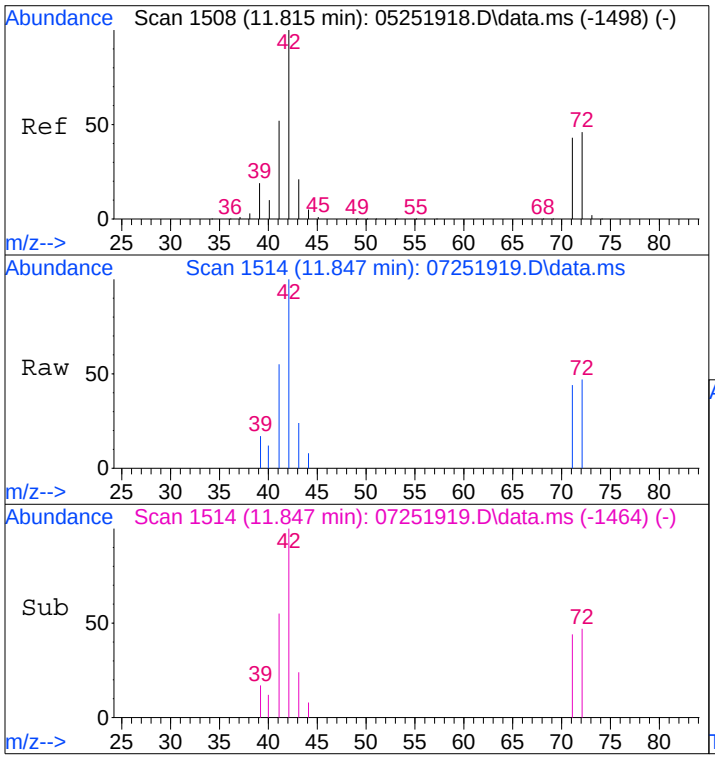


#32
Chloroform
Concen: 0.16 ng
RT: 11.40 min Scan# 1430
Delta R.T. -0.038 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 83 Resp: 2851

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.3	85.3

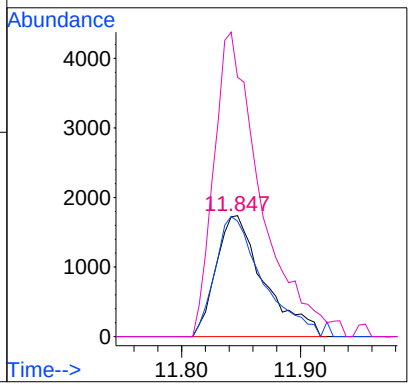


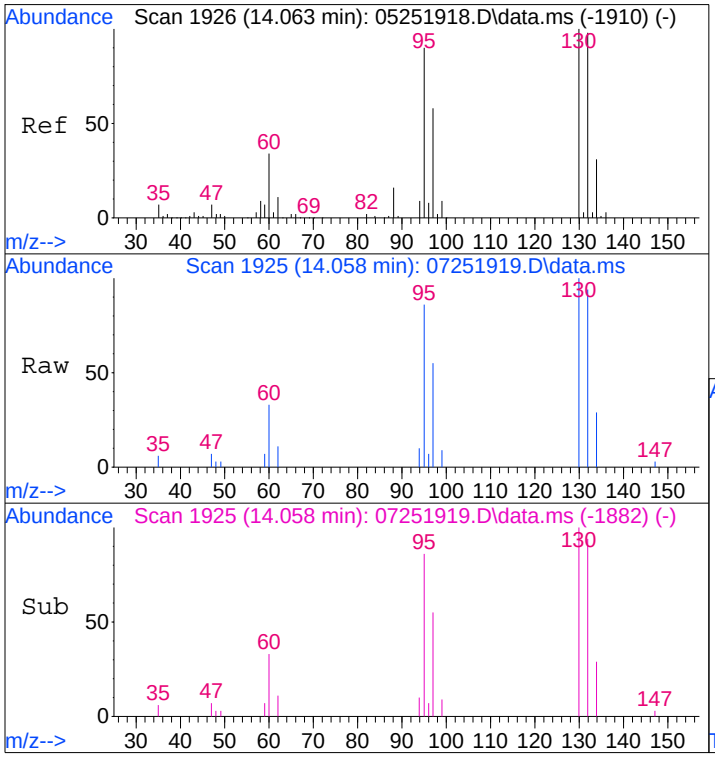


#34
Tetrahydrofuran (THF)
Concen: 0.57 ng
RT: 11.85 min Scan# 1514
Delta R.T. 0.022 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 72 Resp: 4856

Ion	Ratio	Lower	Upper
72	100		
71	98.5	73.9	113.9
42	248.0	201.9	241.9#

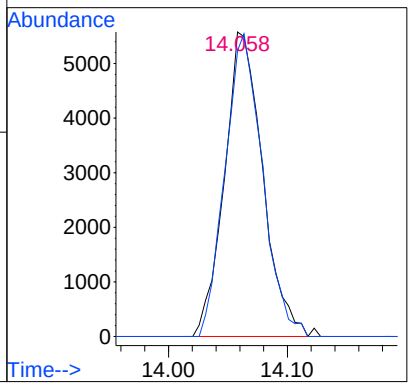


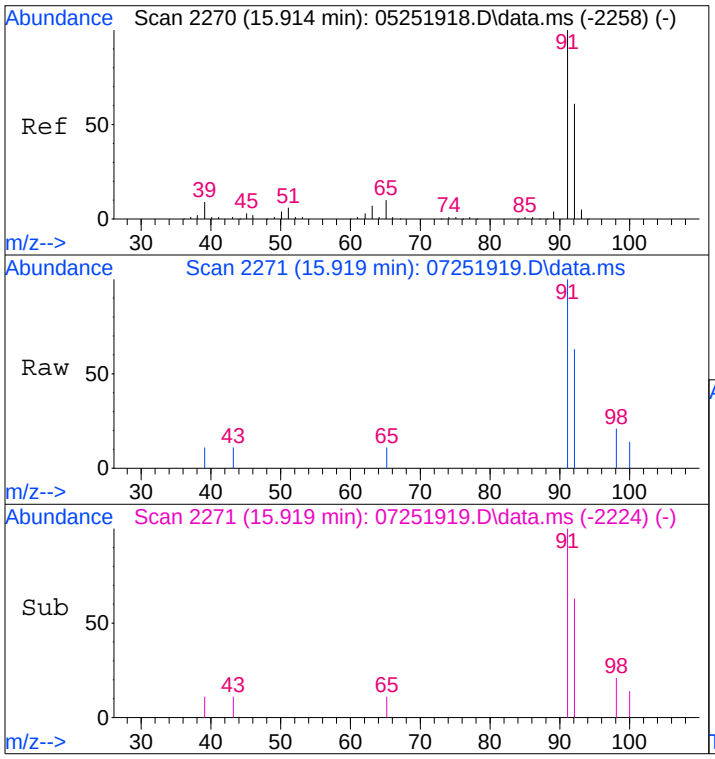


#47
Trichloroethene
Concen: 0.94 ng
RT: 14.06 min Scan# 1925
Delta R.T. -0.016 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion:130 Resp: 12536

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.1	116.1

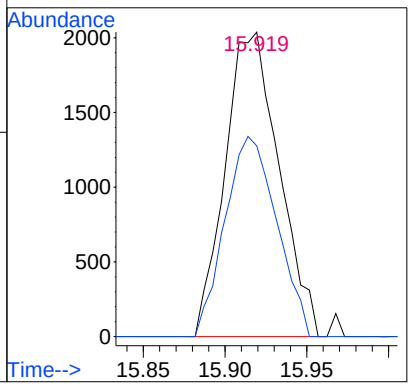


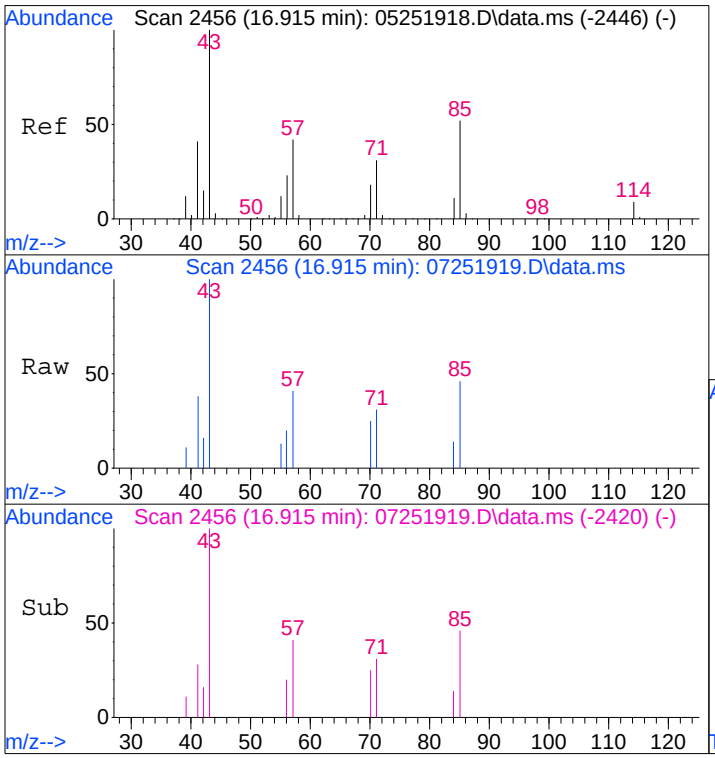


#58
Toluene
Concen: 0.09 ng
RT: 15.92 min Scan# 2271
Delta R.T. 0.000 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 91 Resp: 4676

Ion	Ratio	Lower	Upper
91	100		
92	63.0	41.2	81.2

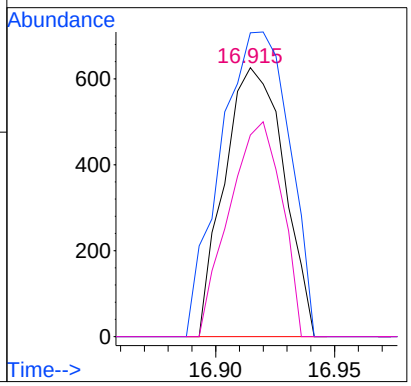


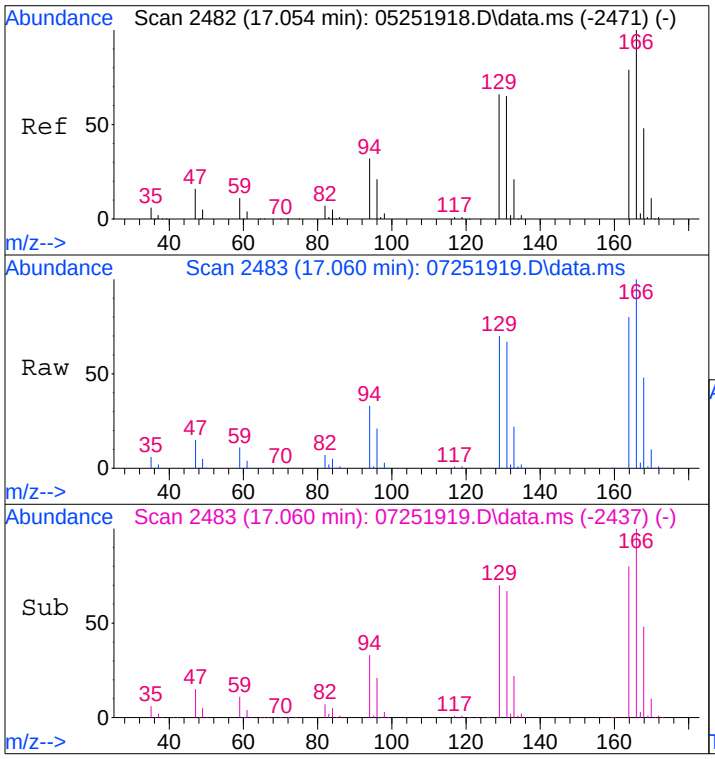


#63
n-Octane
Concen: 0.09 ng
RT: 16.91 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 57 Resp: 1089

Ion	Ratio	Lower	Upper
57	100		
85	130.9	100.3	150.5
71	70.6	59.8	89.6

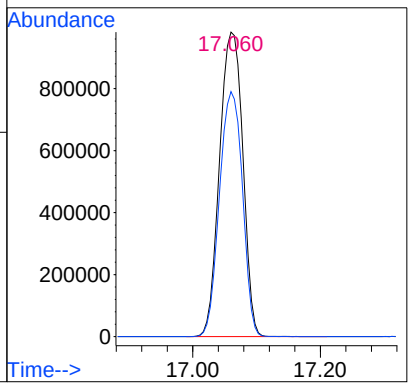


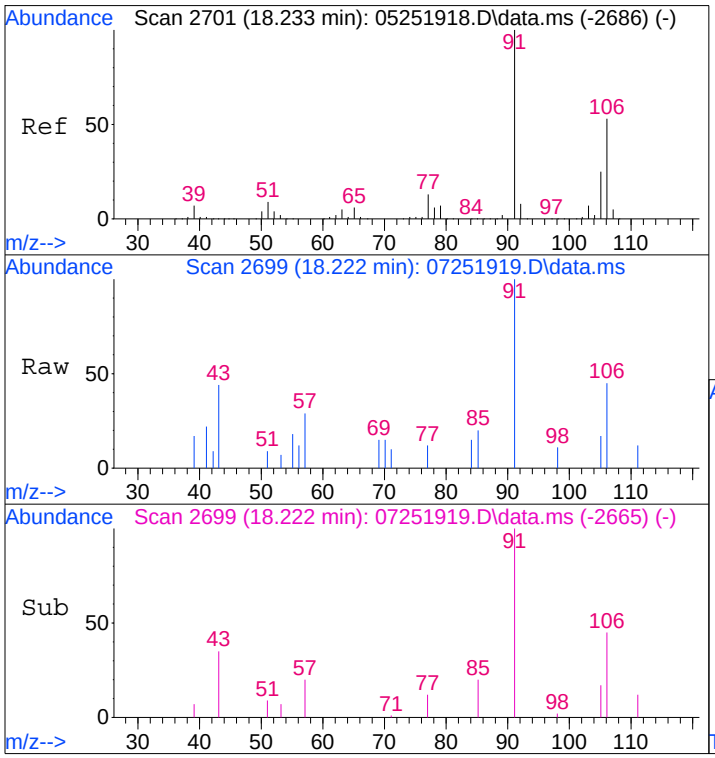


#64
Tetrachloroethene
Concen: 155.78 ng
RT: 17.06 min Scan# 2483
Delta R.T. 0.000 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion:166 Resp: 2488446

Ion	Ratio	Lower	Upper
166	100		
164	79.5	58.4	98.4

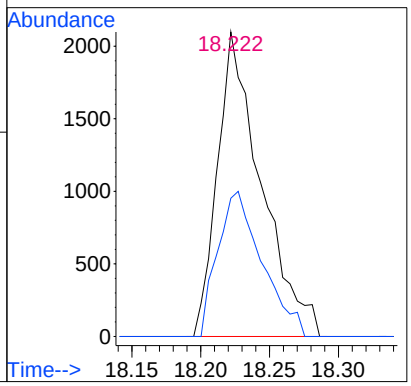


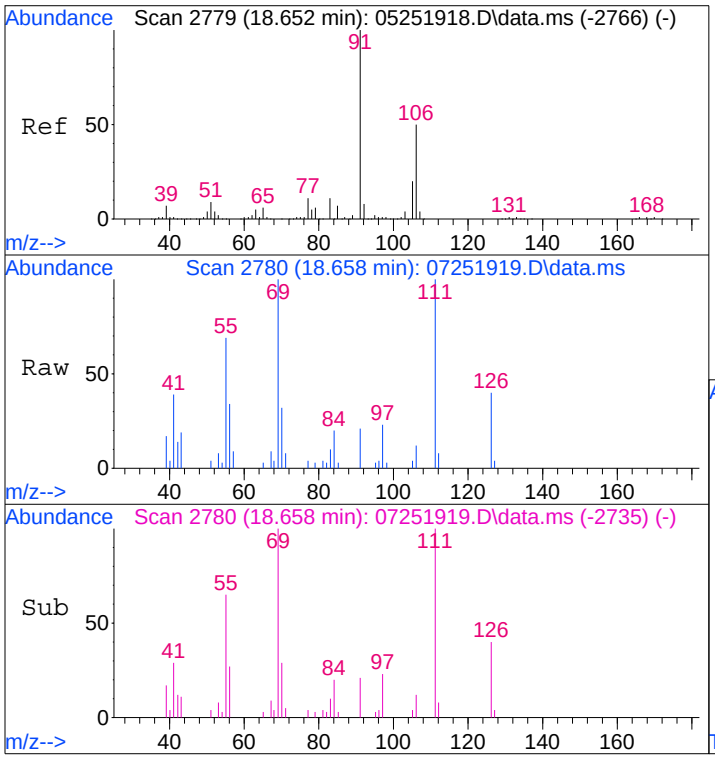


#67
m- & p-Xylenes
Concen: 0.10 ng
RT: 18.22 min Scan# 2699
Delta R.T. -0.016 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 91 Resp: 4635

Ion	Ratio	Lower	Upper
91	100		
106	48.2	33.4	73.4

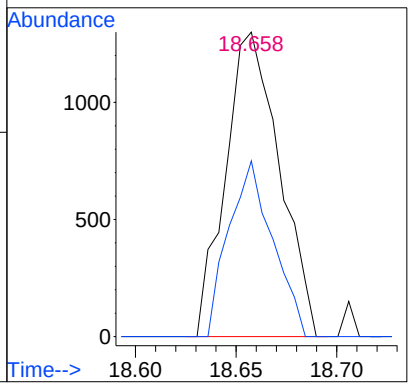


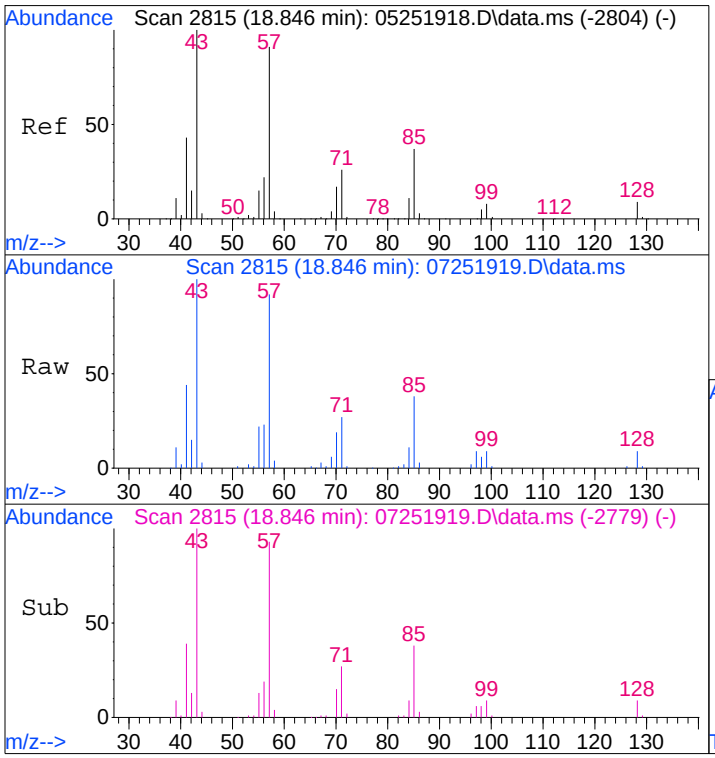


#70
o-Xylene
Concen: 0.05 ng
RT: 18.66 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 91 Resp: 2423

Ion	Ratio	Lower	Upper
91	100		
106	46.9	30.6	70.6

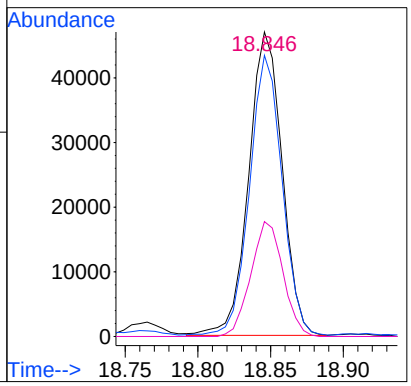


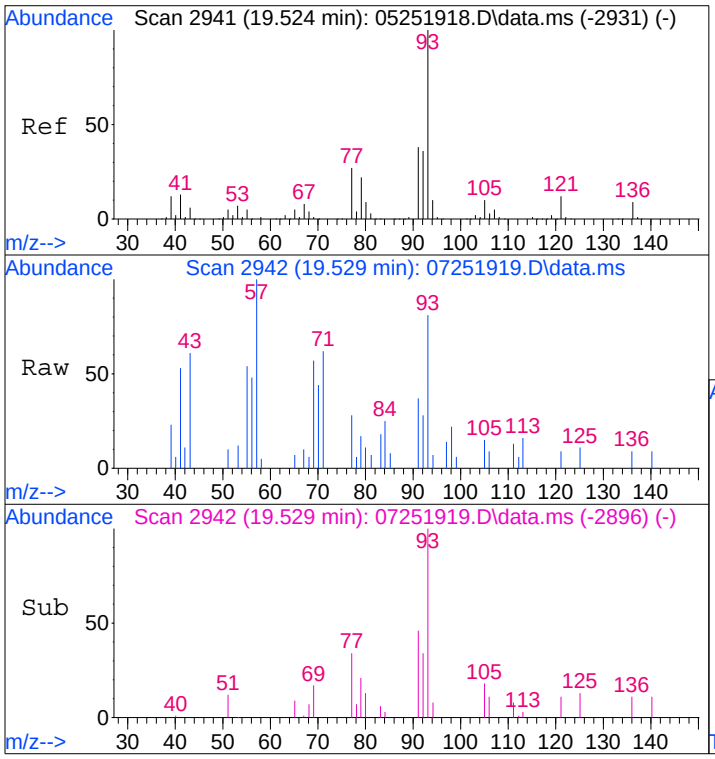


#71
n-Nonane
Concen: 2.81 ng
RT: 18.85 min Scan# 2815
Delta R.T. -0.005 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 43 Resp: 75087

Ion	Ratio	Lower	Upper
43	100		
57	89.6	71.7	111.7
85	36.4	18.7	58.7

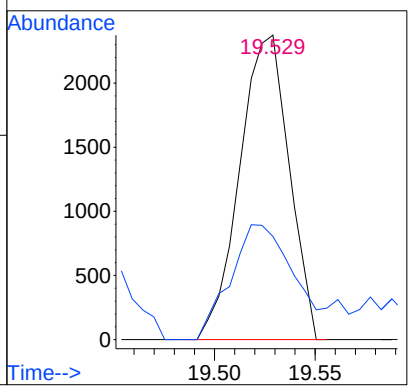


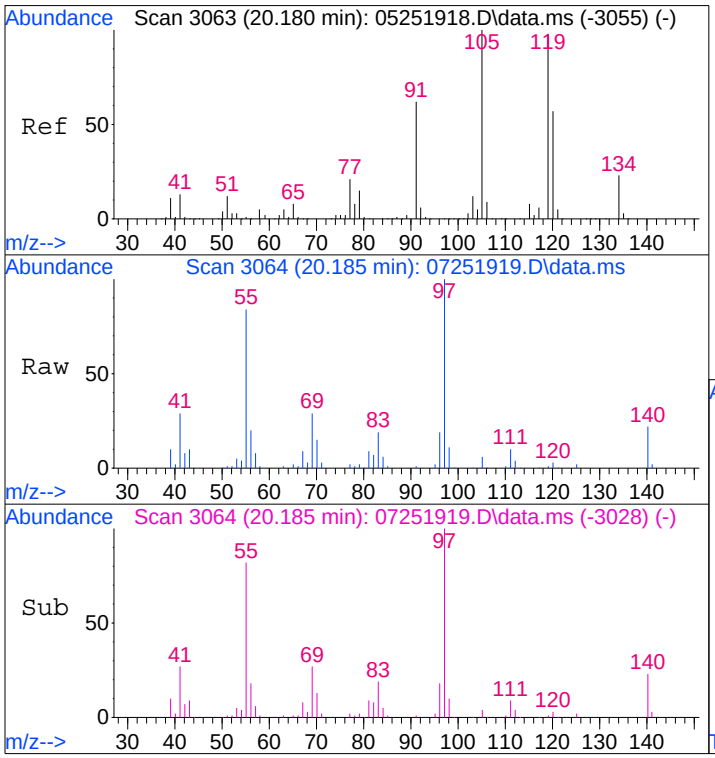


#75
alpha-Pinene
Concen: 0.13 ng
RT: 19.53 min Scan# 2942
Delta R.T. -0.000 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 93 Resp: 4055

Ion	Ratio	Lower	Upper
93	100		
77	55.5	7.0	47.0#

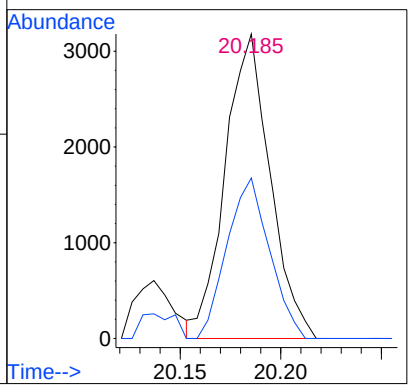


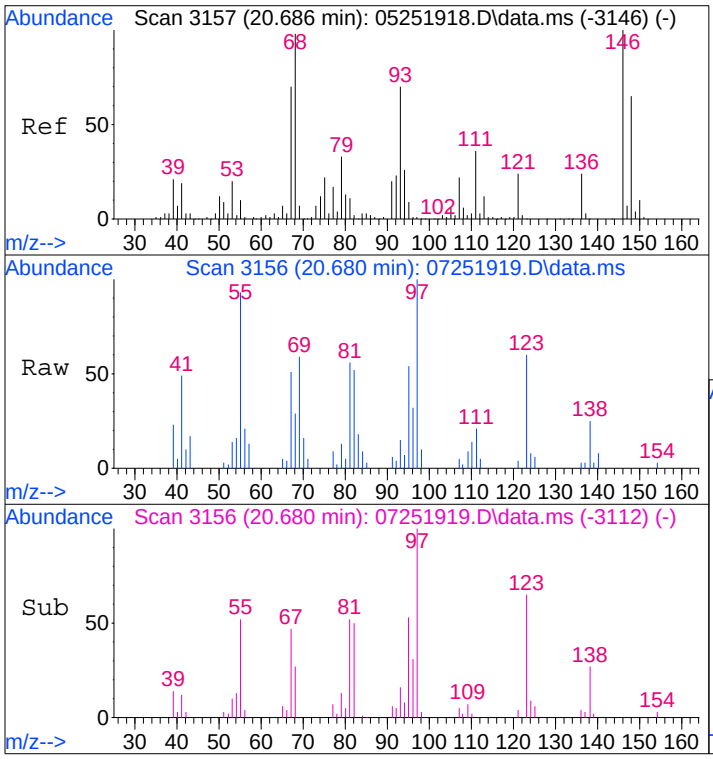


#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 20.19 min Scan# 3064
Delta R.T. -0.006 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion:105 Resp: 4940

Ion	Ratio	Lower	Upper
105	100		
120	49.9	37.4	77.4

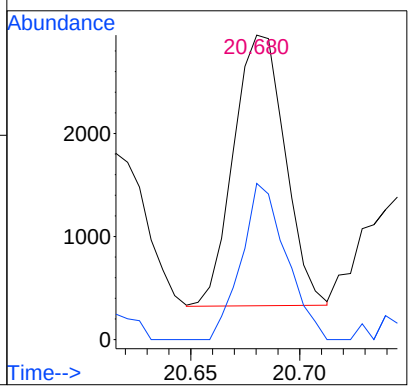




#91
d-Limonene
Concen: 0.23 ng
RT: 20.68 min Scan# 3156
Delta R.T. -0.011 min
Lab File: 07251919.D
Acq: 25 Jul 2019 15:52

Tgt Ion: 68 Resp: 4314

Ion	Ratio	Lower	Upper
68	100		
93	50.1	50.9	90.9#



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251920.D
Sample : P1904286-002dil (20mL) Inst : MS08
Acq On : 25 Jul 2019 16:25 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 11:10:17 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	135548	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	600831	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	260259	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.08	65	158033	11.730	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%			
57) Toluene-d8 (SS2)	15.81	98	649148	12.128	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
73) Bromofluorobenzene (SS3)	19.05	174	228863	13.017	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	4.35	85	426	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.48	45	1406	0.179	ng #	61
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.17	58	1575	0.201	ng	95
14) Trichlorofluoromethane	7.36	101	314	N.D.		
15) 2-Propanol (Isopropanol)	7.72	45	49	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.81	76	7371	0.216	ng	89
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	11.41	83	359	N.D.		
34) Tetrahydrofuran (THF)	11.87	72	682	0.092	ng #	70
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	12.98	78	320	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.06	130	2177	0.187	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251920.D
Sample : P1904286-002dil (20mL) Inst : MS08
Acq On : 25 Jul 2019 16:25 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 11:10:17 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

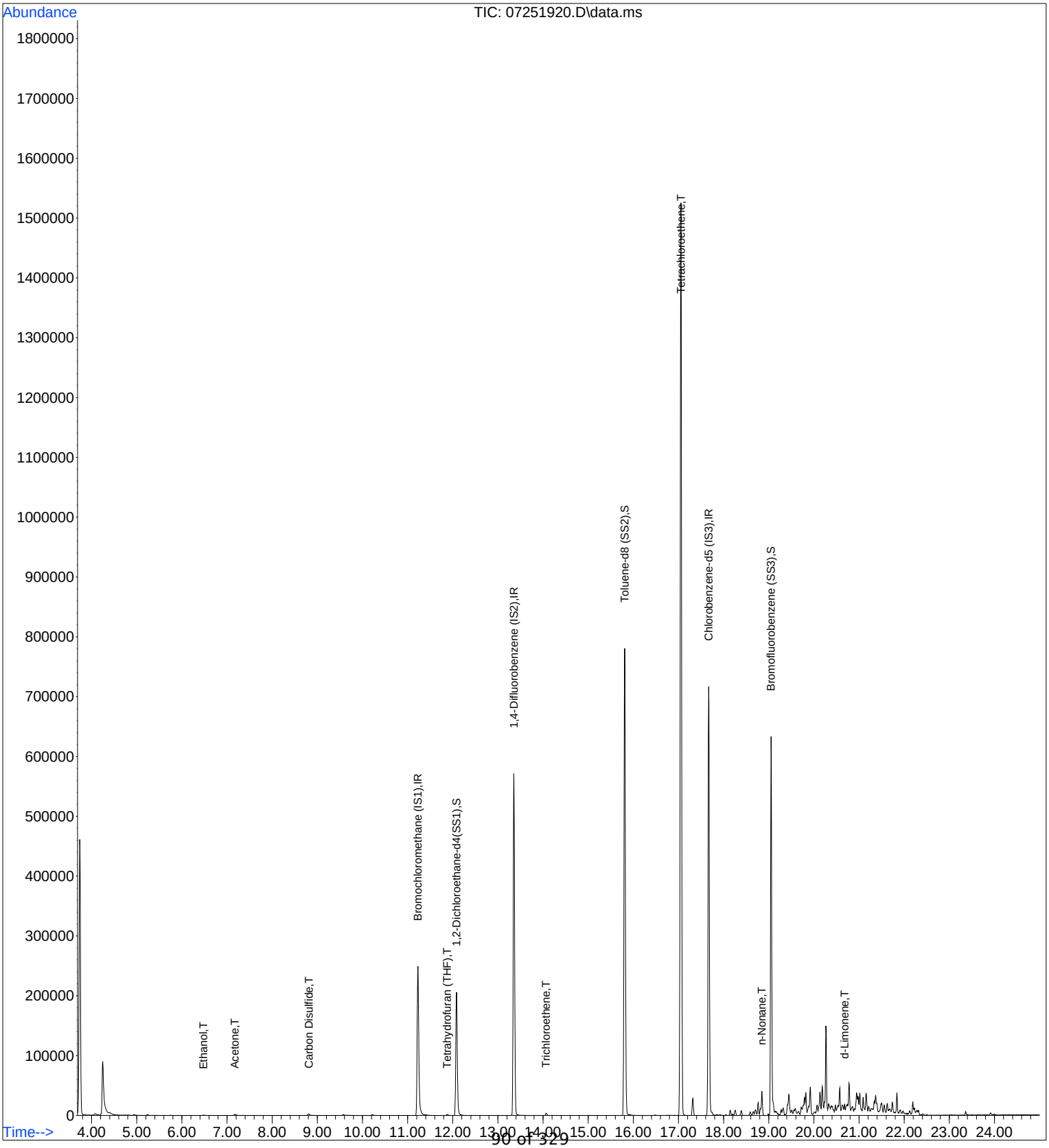
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.91	91	1180	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.05	166	639580	46.271 ng	100
65) Chlorobenzene	17.74	112	420	N.D.	
66) Ethylbenzene	18.09	91	188	N.D.	
67) m- & p-Xylenes	18.23	91	912	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.66	91	448	N.D.	
71) n-Nonane	18.85	43	13601	0.587 ng	99
72) 1,1,2,2-Tetrachloroethane	18.59	83	210	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	19.52	93	447	N.D.	
76) n-Propylbenzene	19.63	91	105	N.D.	
77) 3-Ethyltoluene	19.73	105	411	N.D.	
78) 4-Ethyltoluene	19.77	105	377	N.D.	
79) 1,3,5-Trimethylbenzene	19.83	105	374	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.00	105	183	N.D.	
82) 1,2,4-Trimethylbenzene	20.19	105	909	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.56	119	1049	N.D.	
89) 1,2,3-Trimethylbenzene	20.57	105	376	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.68	68	959	0.060 ng #	58
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.13	119	554	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251920.D
Sample : P1904286-002dil (20mL) Inst : MS08
Acq On : 25 Jul 2019 16:25 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

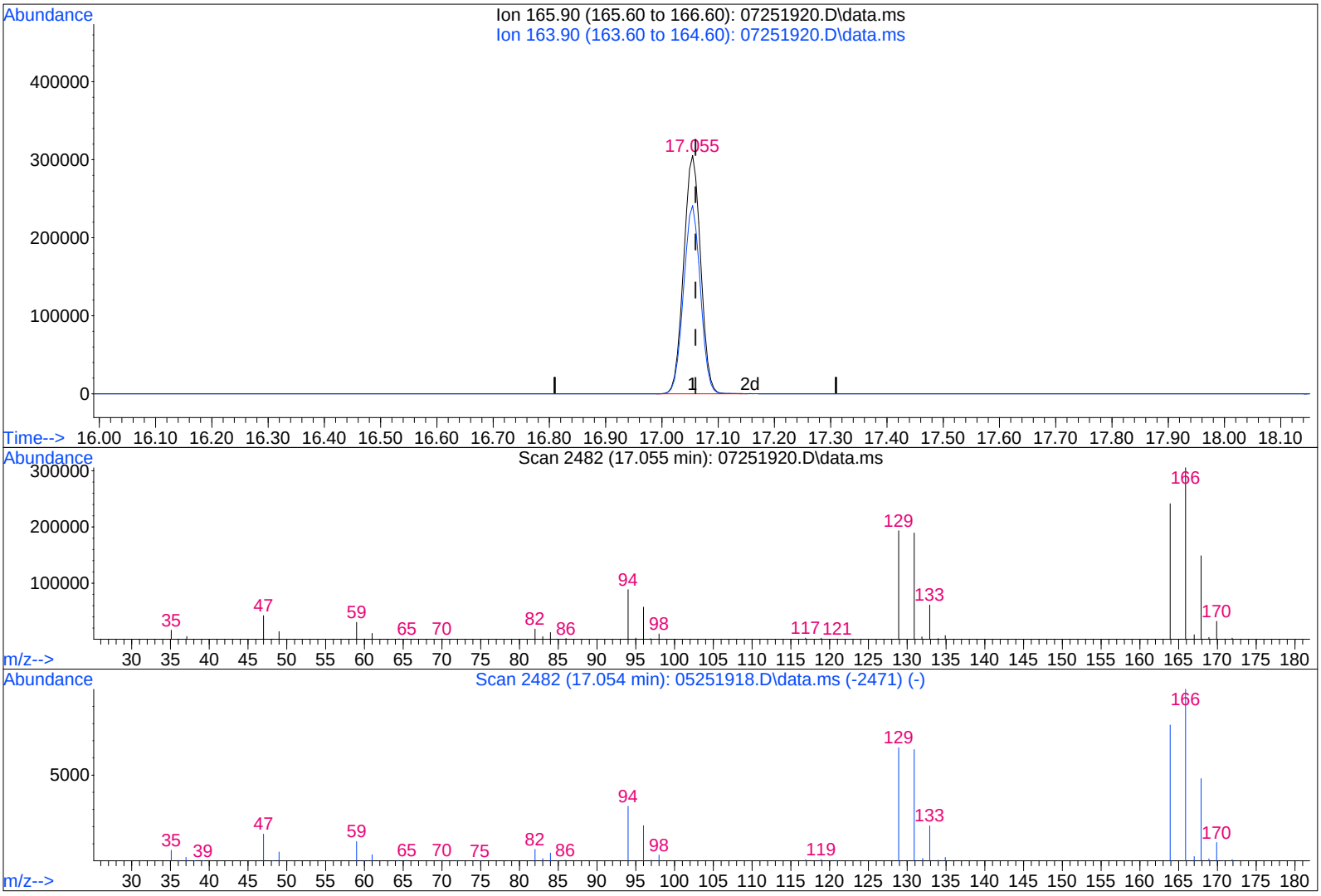
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 11:10:17 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251920.D
Sample : P1904286-002dil (20mL) Inst : MS08
Acq On : 25 Jul 2019 16:25 Operator: RS
Misc : S31-07111901
ALS Vial : 9 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:21 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251920.D\data.ms

(64) Tetrachloroethene (T)

17.055min (-0.005) 46.27ng

response 639580

Ion	Exp%	Act%
165.90	100	100
163.90	78.40	78.40
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251921.D
Sample : P1904286-003 (100mL) Inst : MS08
Acq On : 25 Jul 2019 16:58 Operator: RS
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

RS 8/2/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:53:33 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	150667	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	675044	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	293404	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	177015	11.820	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
57) Toluene-d8 (SS2)	15.81	98	726763	12.044	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
73) Bromofluorobenzene (SS3)	19.06	174	259188	13.076	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.34	85	2051	0.107	ng	#	87
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D. d			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.15	58	3690	0.424	ng		89
14) Trichlorofluoromethane	7.34	101	2580	0.156	ng		99
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D. d			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.81	76	6916	0.182	ng		87
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.35	57	309	N.D.			
32) Chloroform	11.41	83	2896	0.165	ng		96
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.98	78	855	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.06	130	12633	0.967	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.13	57	449	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251921.D
Sample : P1904286-003 (100mL) Inst : MS08
Acq On : 25 Jul 2019 16:58 Operator: RS
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:53:33 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

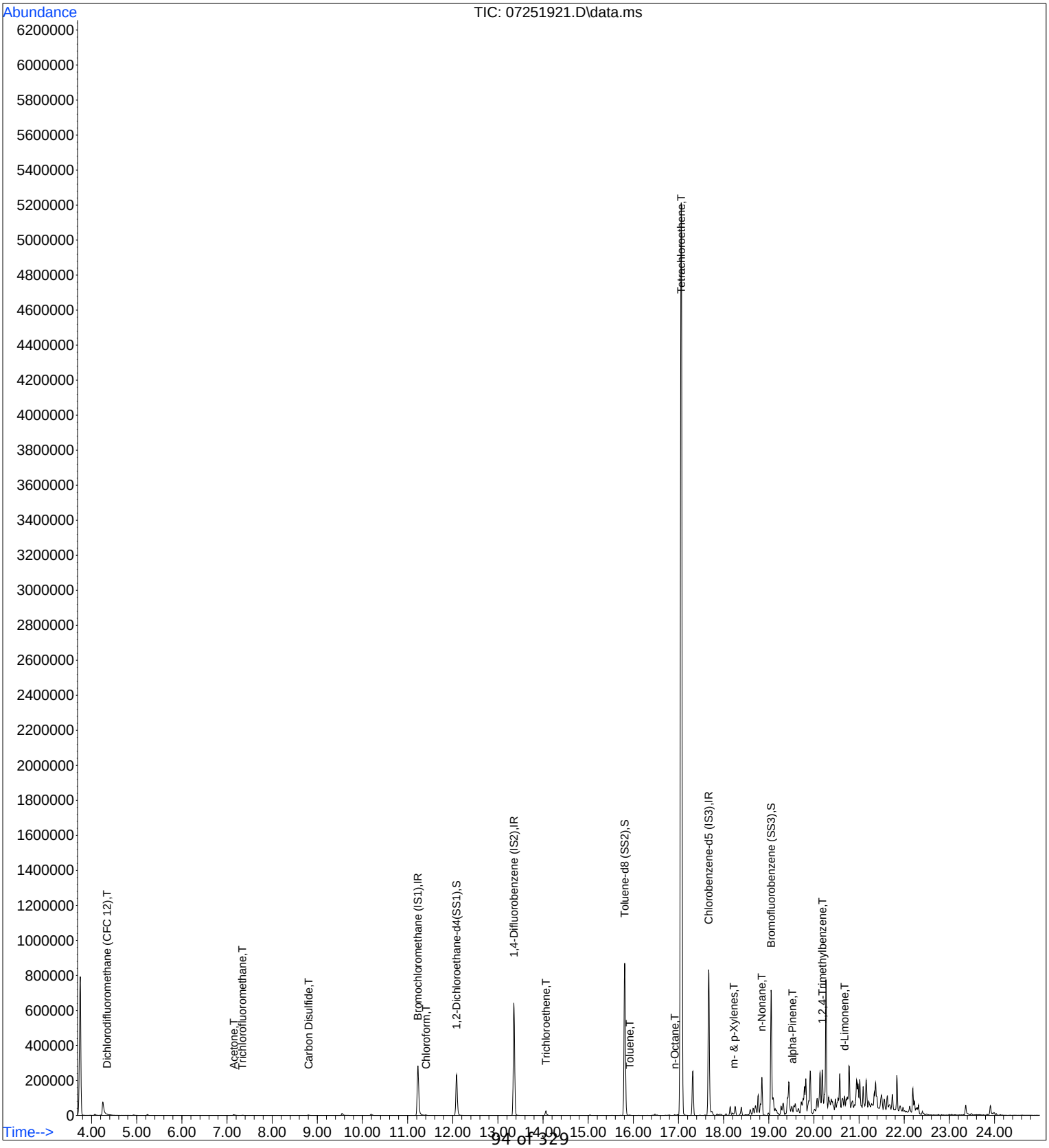
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.92	91	2744	0.054 ng	94
59) 2-Hexanone	16.16	43	280	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	16.91	57	1002	0.088 ng	97
64) Tetrachloroethene	17.06	166	2484679	159.449 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.08	91	1485	N.D.	
67) m- & p-Xylenes	18.23	91	3730	0.082 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.66	91	2150	N.D.	
71) n-Nonane	18.85	43	73763	2.826 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.18	105	191	N.D.	
75) alpha-Pinene	19.52	93	3714	0.124 ng	64
76) n-Propylbenzene	19.63	91	870	N.D.	
77) 3-Ethyltoluene	19.72	105	2382	N.D.	
78) 4-Ethyltoluene	19.76	105	1049	N.D.	
79) 1,3,5-Trimethylbenzene	19.82	105	1969	N.D.	
80) alpha-Methylstyrene	19.96	118	174	N.D.	
81) 2-Ethyltoluene	19.99	105	1323	N.D.	
82) 1,2,4-Trimethylbenzene	20.19	105	4742	0.102 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.33	91	532	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.43	105	372	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	20.56	105	1828	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.68	68	6286	0.350 ng	85
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.31	128	925	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.19	119	574	N.D.	
100) n-Butylbenzene	20.92	91	618	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251921.D
Sample : P1904286-003 (100mL) Inst : MS08
Acq On : 25 Jul 2019 16:58 Operator: RS
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:53:33 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251921.D
Sample : P1904286-003 (100mL) Inst : MS08
Acq On : 25 Jul 2019 16:58 Operator: RS
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:53:33 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

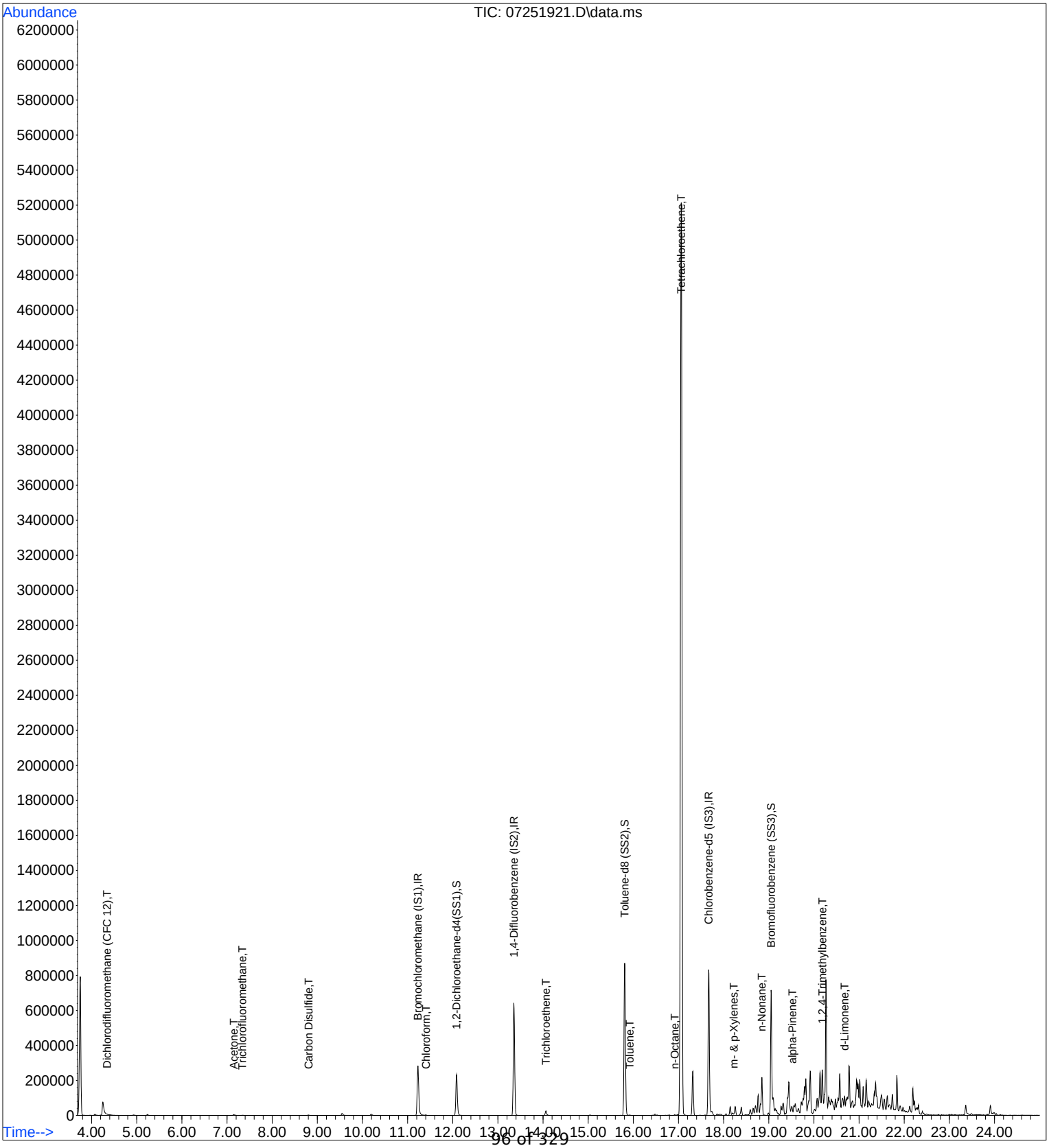
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	150667	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	675044	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	293404	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	177015	11.820	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
57) Toluene-d8 (SS2)	15.81	98	726763	12.044	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
73) Bromofluorobenzene (SS3)	19.06	174	259188	13.076	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.34	85	2051	0.107	ng	#	87
13) Acetone	7.15	58	3690	0.424	ng		89
14) Trichlorofluoromethane	7.34	101	2580	0.156	ng		99
22) Carbon Disulfide	8.81	76	6916	0.182	ng		87
32) Chloroform	11.41	83	2896	0.165	ng		96
47) Trichloroethene	14.06	130	12633	0.967	ng		100
58) Toluene	15.92	91	2744	0.054	ng		94
63) n-Octane	16.91	57	1002	0.088	ng		97
64) Tetrachloroethene	17.06	166	2484679	159.449	ng		99
67) m- & p-Xylenes	18.23	91	3730	0.082	ng		100
71) n-Nonane	18.85	43	73763	2.826	ng		99
75) alpha-Pinene	19.52	93	3714	0.124	ng		64
82) 1,2,4-Trimethylbenzene	20.19	105	4742	0.102	ng		86
91) d-Limonene	20.68	68	6286	0.350	ng		85

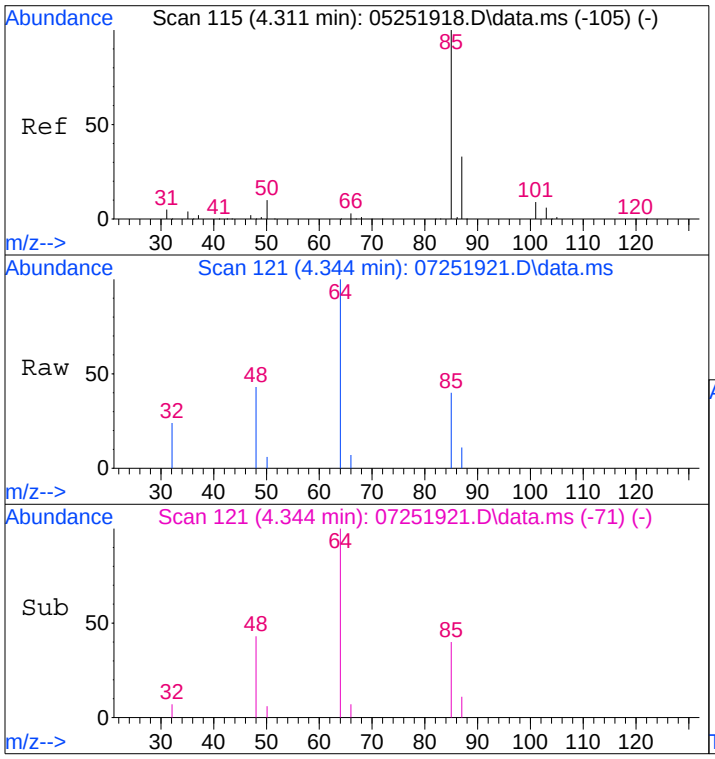
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251921.D
Sample : P1904286-003 (100mL) Inst : MS08
Acq On : 25 Jul 2019 16:58 Operator: RS
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:53:33 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

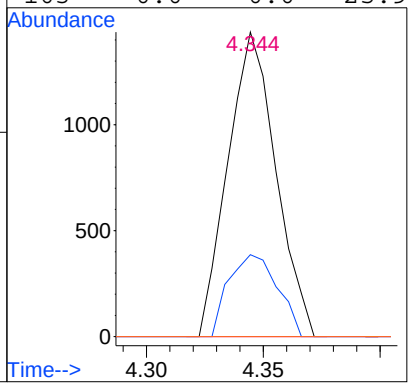


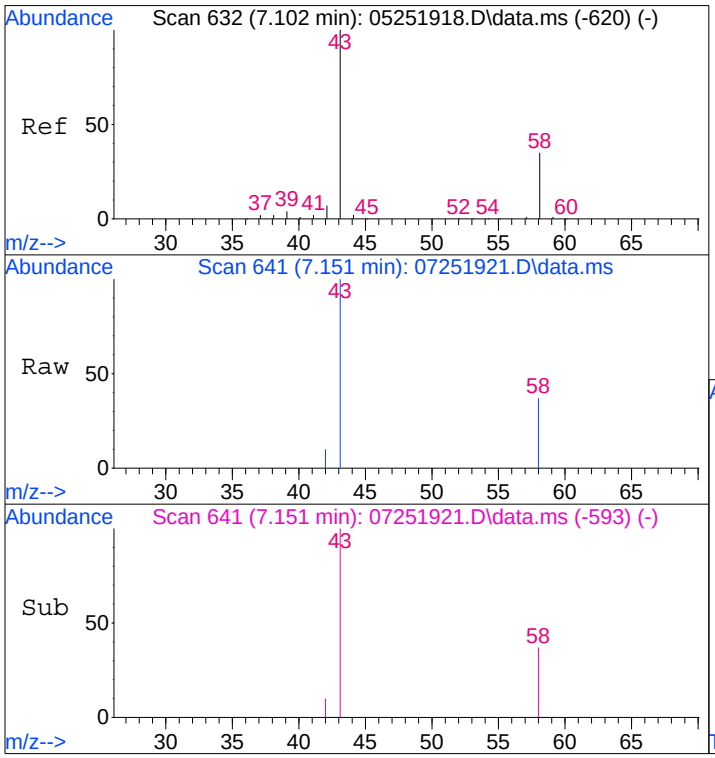


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.11 ng
RT: 4.34 min Scan# 121
Delta R.T. 0.022 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 85 Resp: 2051

Ion	Ratio	Lower	Upper
85	100		
87	27.5	12.5	52.5
101	0.0	0.0	29.0
103	0.0	0.0	25.9

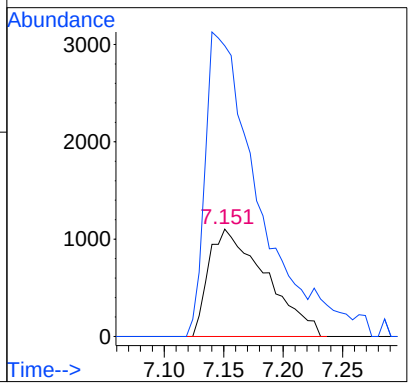


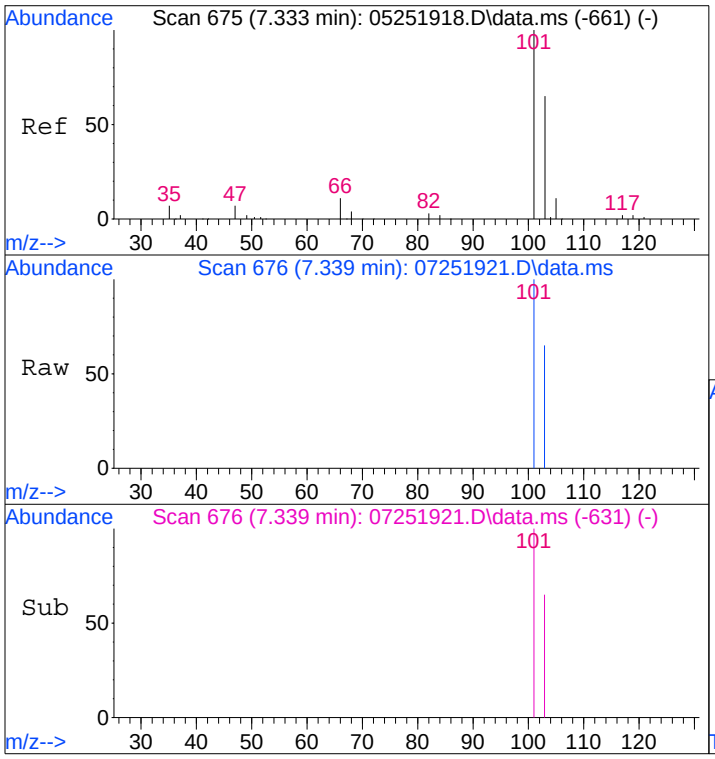


#13
Acetone
Concen: 0.42 ng
RT: 7.15 min Scan# 641
Delta R.T. 0.006 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 58 Resp: 3690

Ion	Ratio	Lower	Upper
58	100		
43	269.4	260.9	320.9

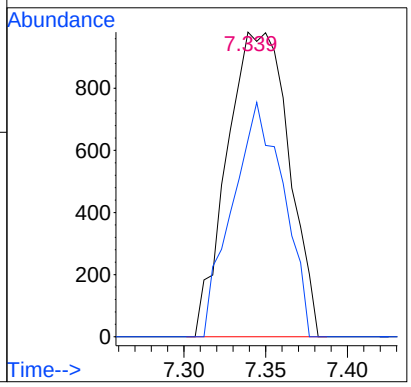


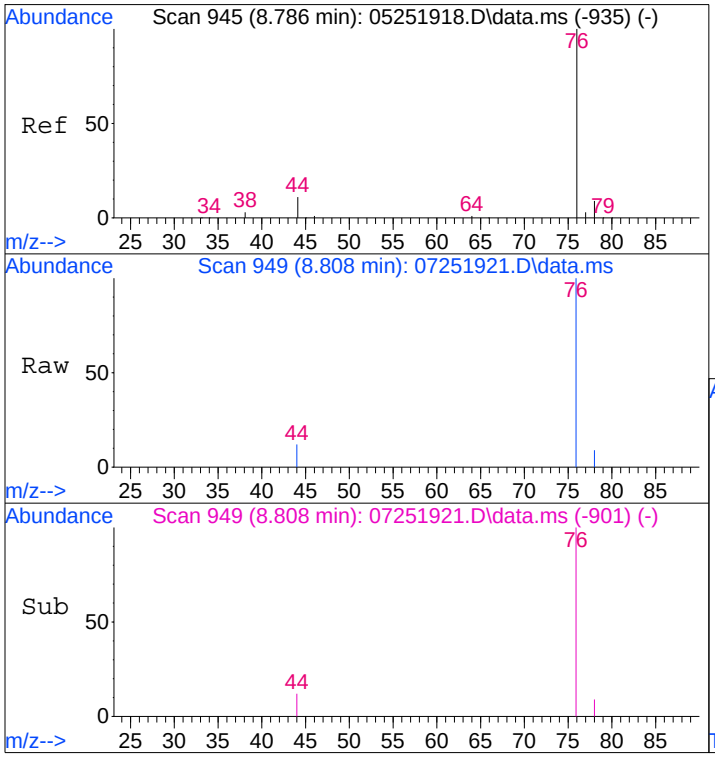


#14
Trichlorofluoromethane
Concen: 0.16 ng
RT: 7.34 min Scan# 676
Delta R.T. -0.011 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion:101 Resp: 2580

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.7	84.7

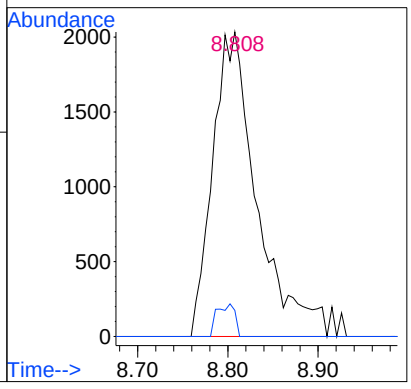


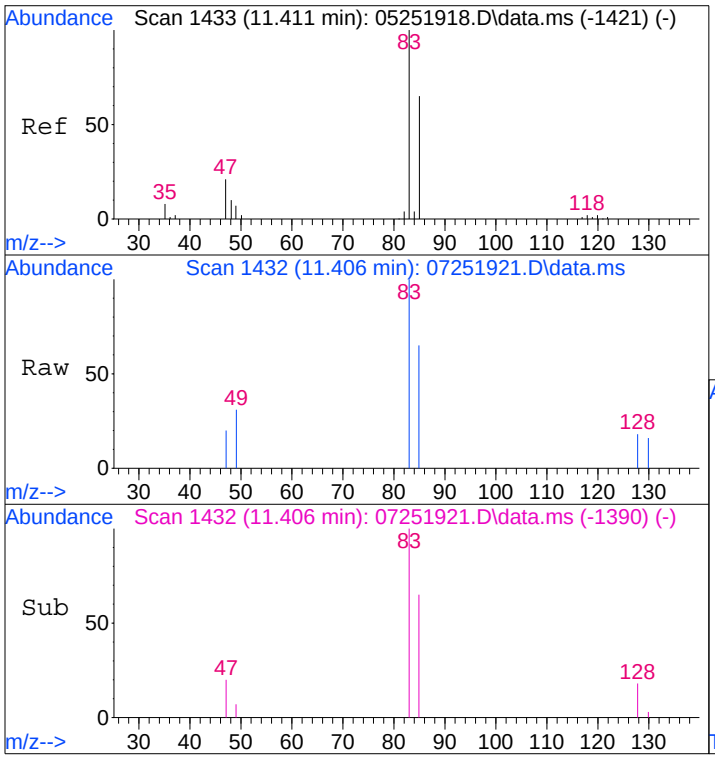


#22
Carbon Disulfide
Concen: 0.18 ng
RT: 8.81 min Scan# 949
Delta R.T. 0.006 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 76 Resp: 6916

Ion	Ratio	Lower	Upper
76	100		
78	4.3	0.0	29.2

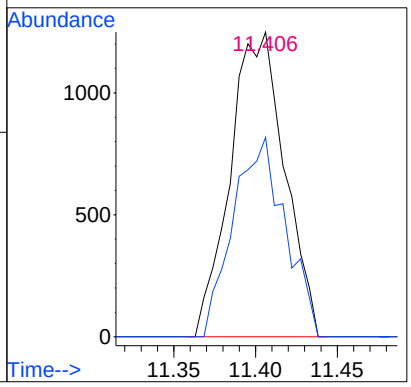


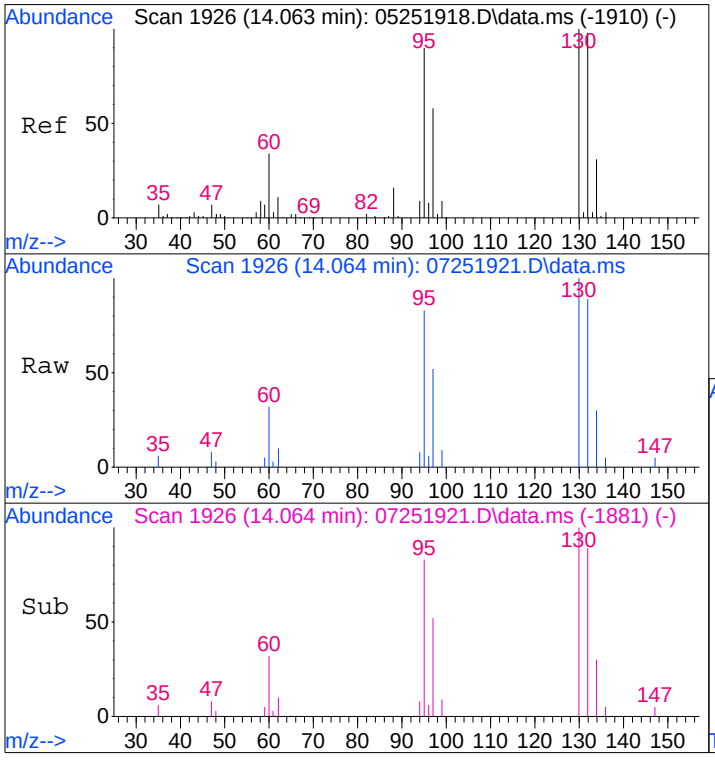


#32
Chloroform
Concen: 0.17 ng
RT: 11.41 min Scan# 1432
Delta R.T. -0.027 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 83 Resp: 2896

Ion	Ratio	Lower	Upper
83	100		
85	62.3	45.3	85.3

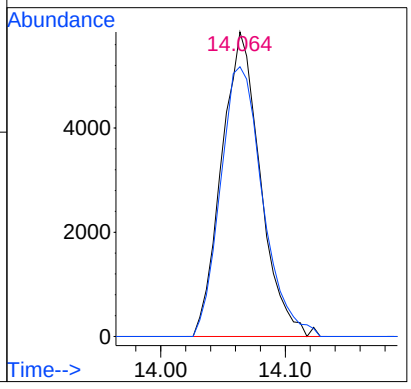


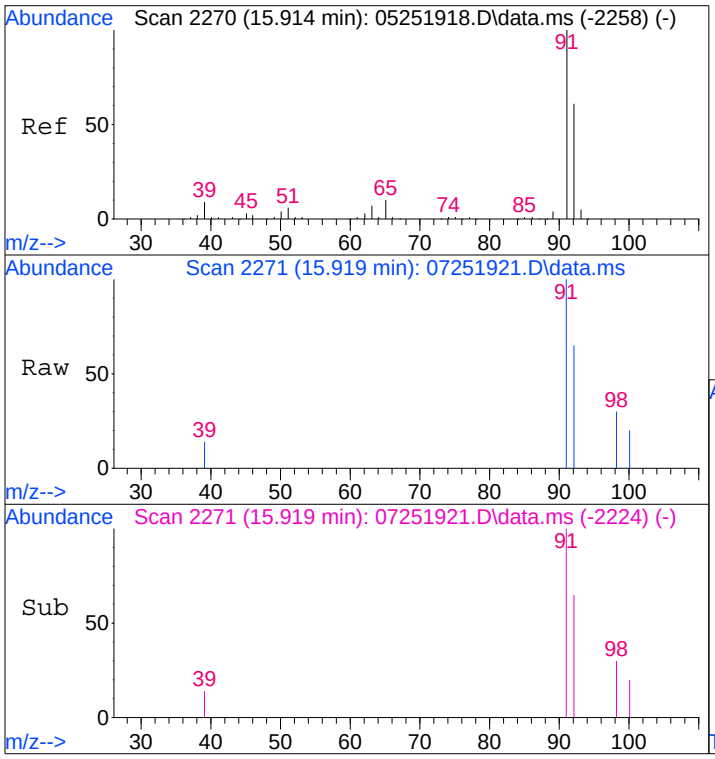


#47
Trichloroethene
Concen: 0.97 ng
RT: 14.06 min Scan# 1926
Delta R.T. -0.011 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion:130 Resp: 12633

Ion	Ratio	Lower	Upper
130	100		
132	96.4	76.1	116.1

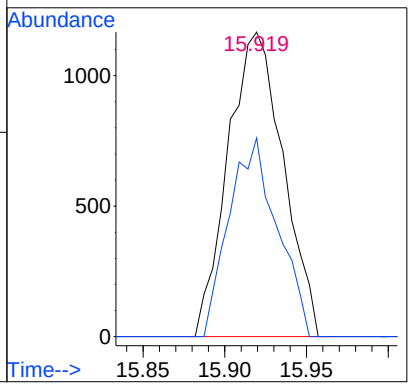


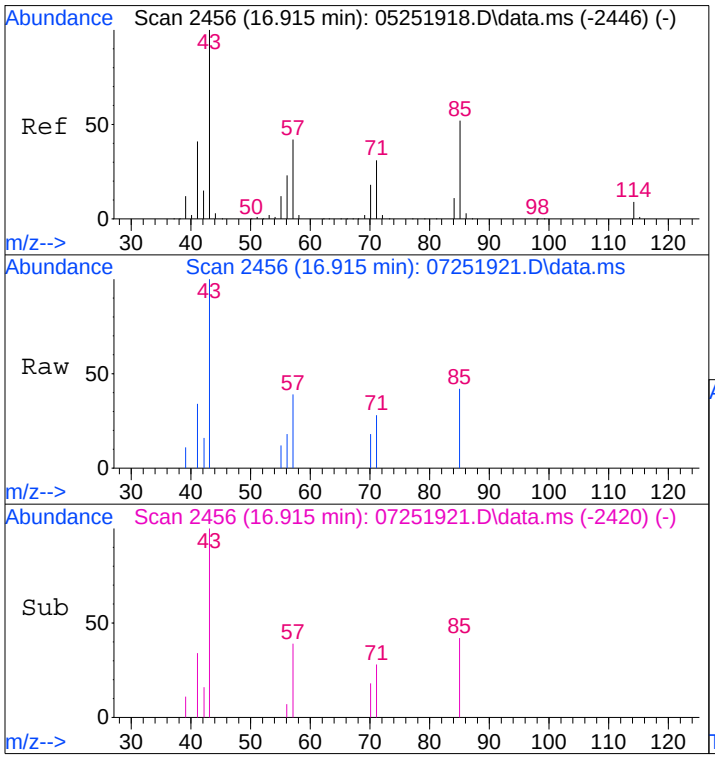


#58
Toluene
Concen: 0.05 ng
RT: 15.92 min Scan# 2271
Delta R.T. 0.000 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 91 Resp: 2744

Ion	Ratio	Lower	Upper
91	100		
92	57.0	41.2	81.2

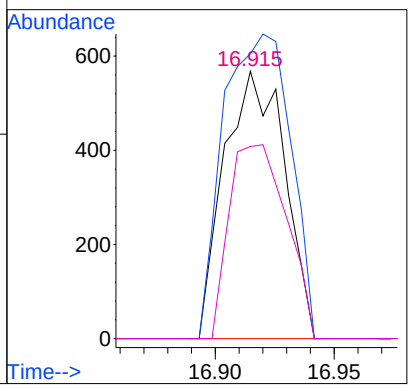


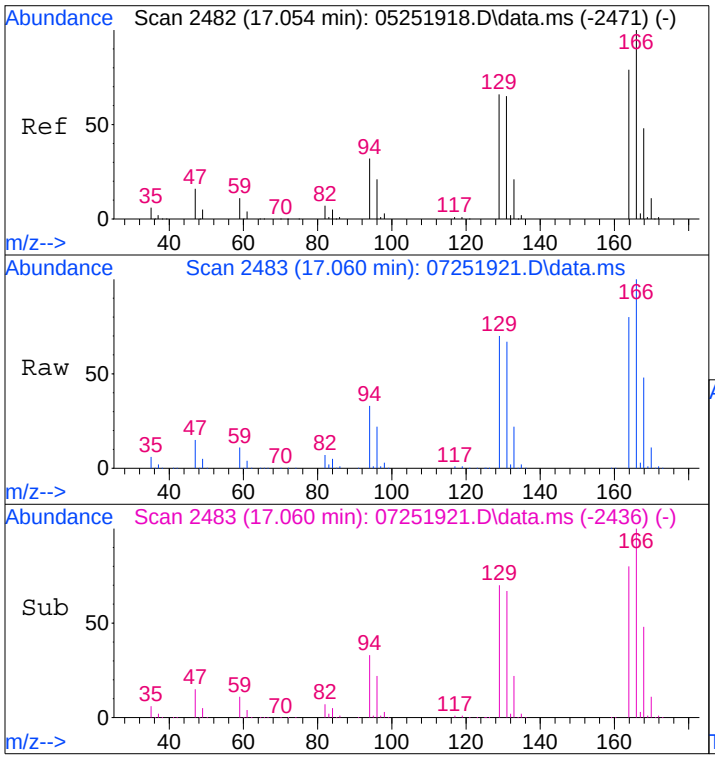


#63
n-Octane
Concen: 0.09 ng
RT: 16.91 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 57 Resp: 1002

Ion	Ratio	Lower	Upper
57	100		
85	126.9	100.3	150.5
71	69.2	59.8	89.6

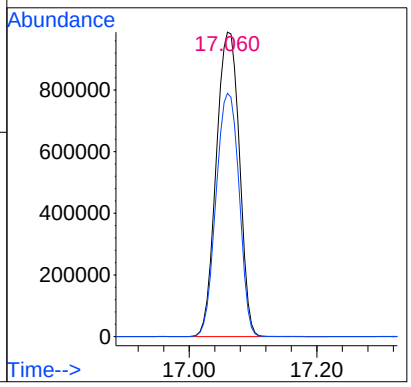


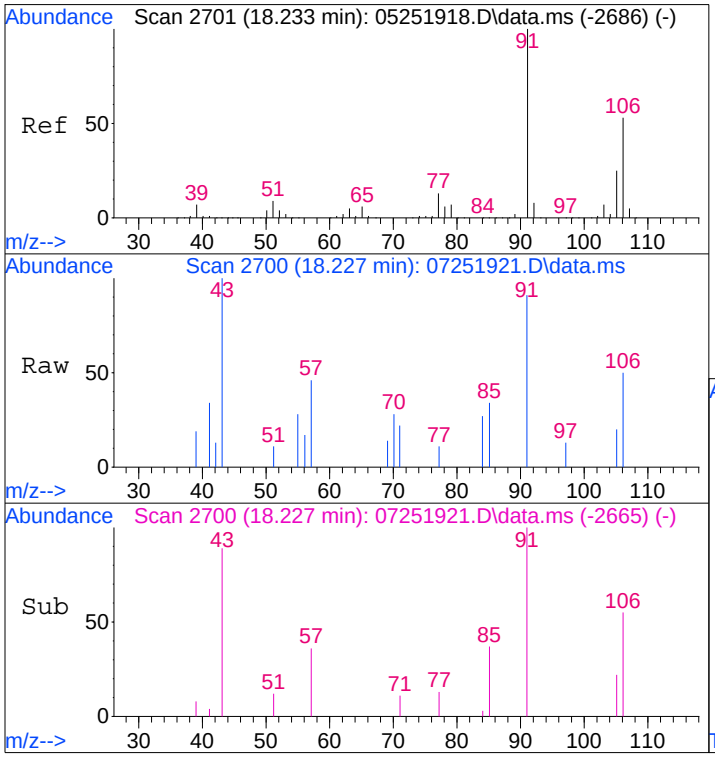


#64
Tetrachloroethene
Concen: 159.45 ng
RT: 17.06 min Scan# 2483
Delta R.T. 0.000 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion:166 Resp: 2484679

Ion	Ratio	Lower	Upper
166	100		
164	79.6	58.4	98.4

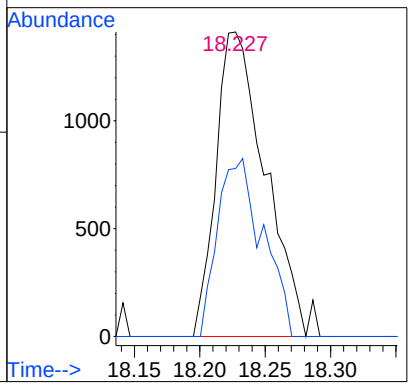


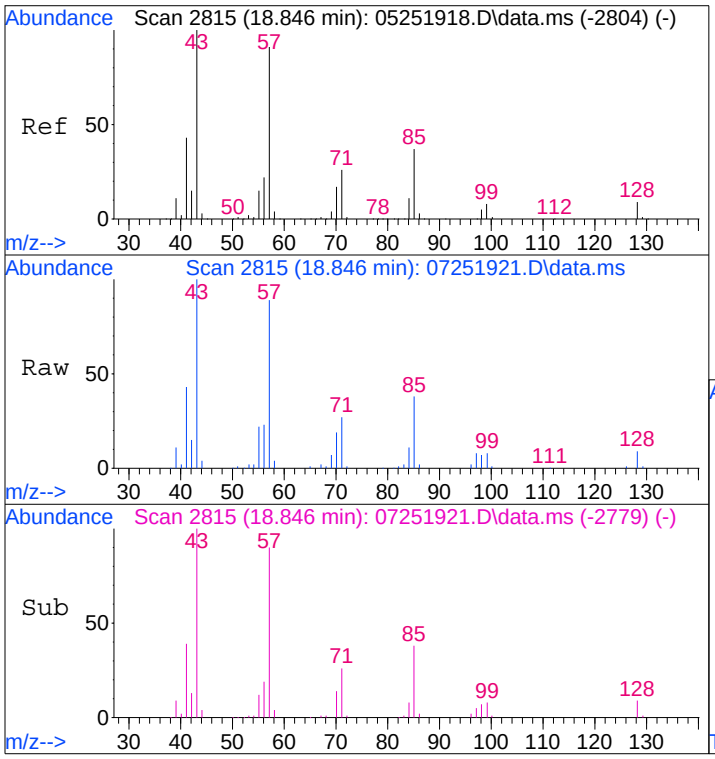


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 18.23 min Scan# 2700
Delta R.T. -0.011 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 91 Resp: 3730

Ion	Ratio	Lower	Upper
91	100		
106	53.1	33.4	73.4

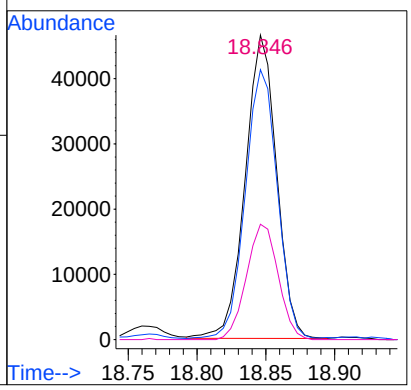


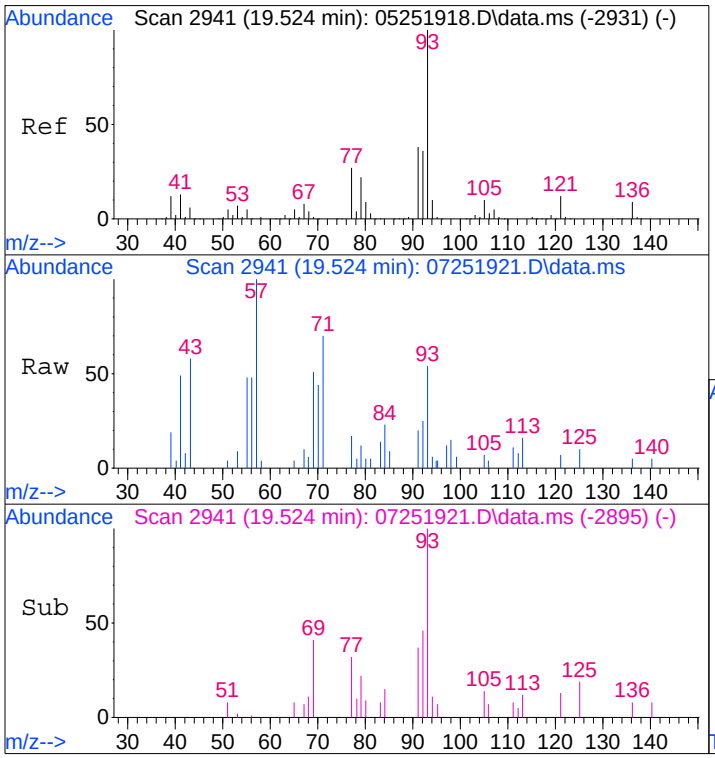


#71
n-Nonane
Concen: 2.83 ng
RT: 18.85 min Scan# 2815
Delta R.T. -0.005 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 43 Resp: 73763

Ion	Ratio	Lower	Upper
43	100		
57	90.0	71.7	111.7
85	38.3	18.7	58.7

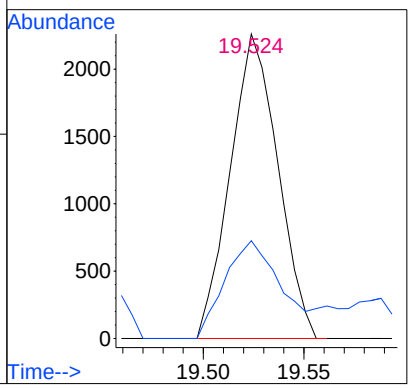


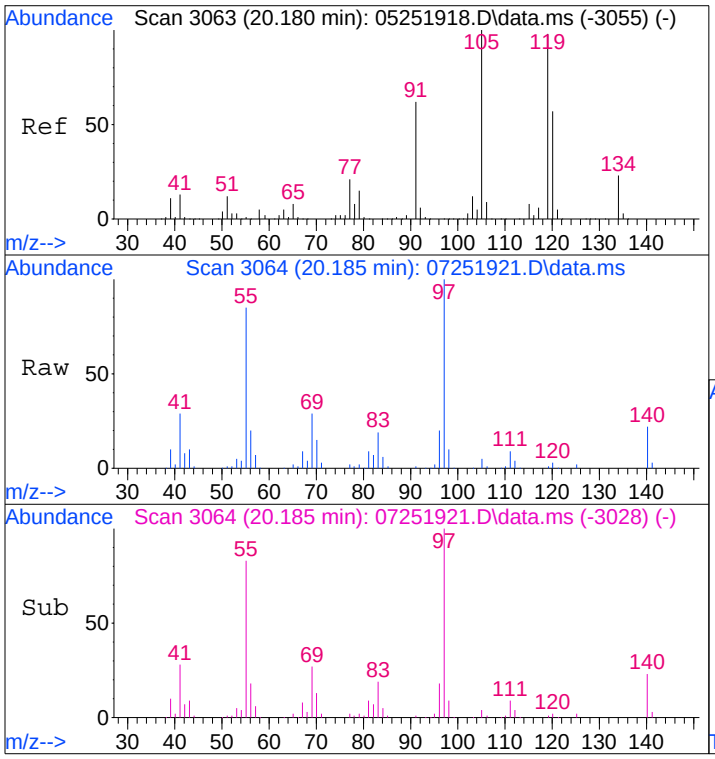


#75
alpha-Pinene
Concen: 0.12 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 93 Resp: 3714

Ion	Ratio	Lower	Upper
93	100		
77	45.4	7.0	47.0

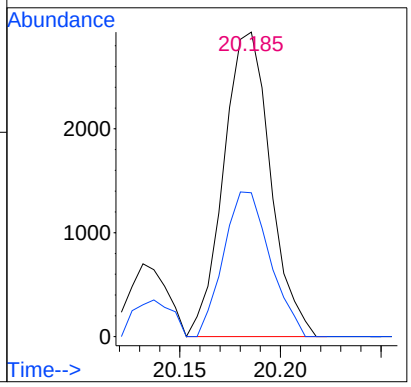


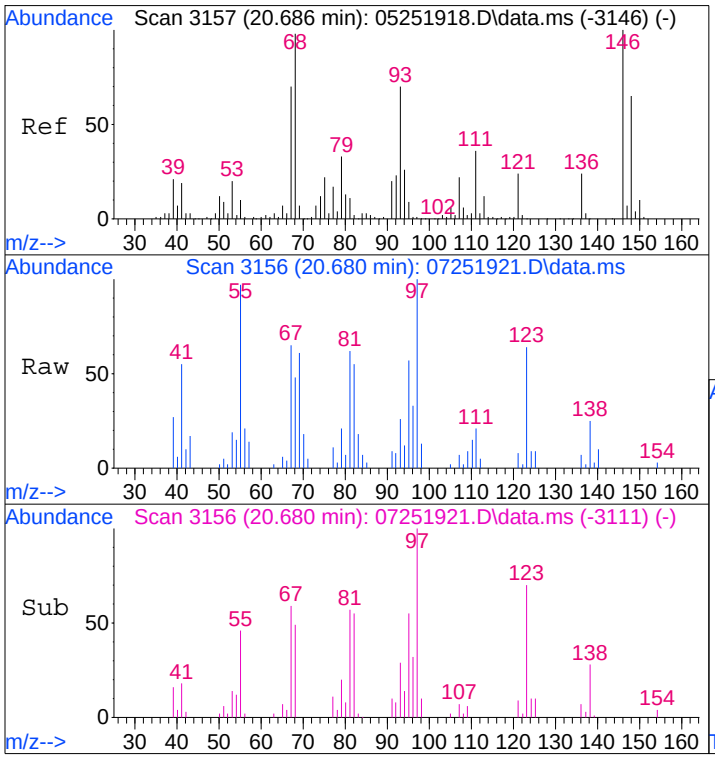


#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 20.19 min Scan# 3064
Delta R.T. -0.006 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion:105 Resp: 4742

Ion	Ratio	Lower	Upper
105	100		
120	47.2	37.4	77.4

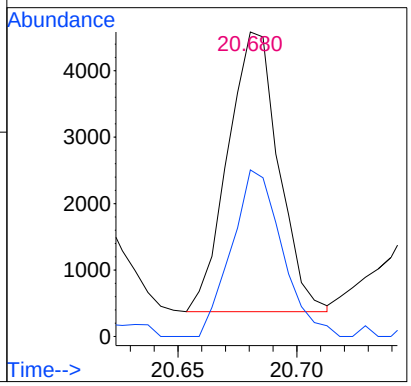




#91
d-Limonene
Concen: 0.35 ng
RT: 20.68 min Scan# 3156
Delta R.T. -0.011 min
Lab File: 07251921.D
Acq: 25 Jul 2019 16:58

Tgt Ion: 68 Resp: 6286

Ion	Ratio	Lower	Upper
68	100		
93	58.9	50.9	90.9



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251922.D
Sample : P1904286-003dil (20mL) Inst : MS08
Acq On : 25 Jul 2019 17:31 Operator: RS RS 8/1/19
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:56:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	133726	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	596780	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	259111	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	158110	11.895	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.81	98	642351	12.054	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	19.06	174	226961	12.966	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.34	85	362	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.18	58	1162	0.150	ng		95
14) Trichlorofluoromethane	7.36	101	368	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.81	76	5655	0.168	ng	#	75
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	11.41	83	377	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.00	78	267	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.07	130	2328	0.202	ng		95
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251922.D
Sample : P1904286-003dil (20mL) Inst : MS08
Acq On : 25 Jul 2019 17:31 Operator: RS
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:56:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

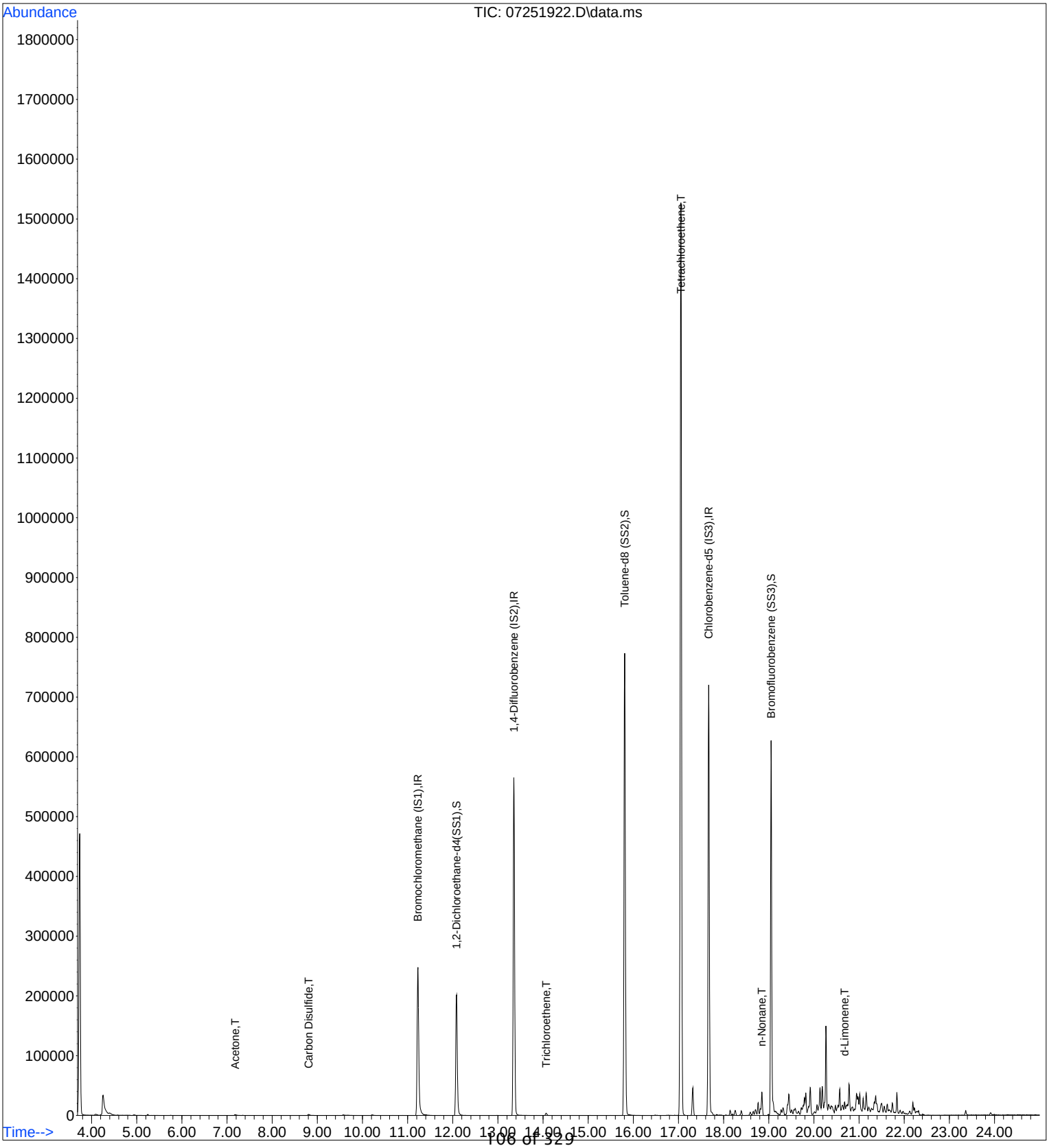
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.92	91	604	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.05	166	640385	46.534 ng	100
65) Chlorobenzene	17.74	112	426	N.D.	
66) Ethylbenzene	18.09	91	128	N.D.	
67) m- & p-Xylenes	18.24	91	677	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.66	91	330	N.D.	
71) n-Nonane	18.85	43	13961	0.606 ng	96
72) 1,1,2,2-Tetrachloroethane	18.59	83	302	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	19.53	93	479	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	19.72	105	387	N.D.	
78) 4-Ethyltoluene	19.76	105	182	N.D.	
79) 1,3,5-Trimethylbenzene	19.83	105	304	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.00	105	266	N.D.	
82) 1,2,4-Trimethylbenzene	20.19	105	790	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.56	119	1298	N.D.	
89) 1,2,3-Trimethylbenzene	20.56	105	270	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.68	68	2269	0.143 ng	78
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.14	119	739	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251922.D
Sample : P1904286-003dil (20mL) Inst : MS08
Acq On : 25 Jul 2019 17:31 Operator: RS
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

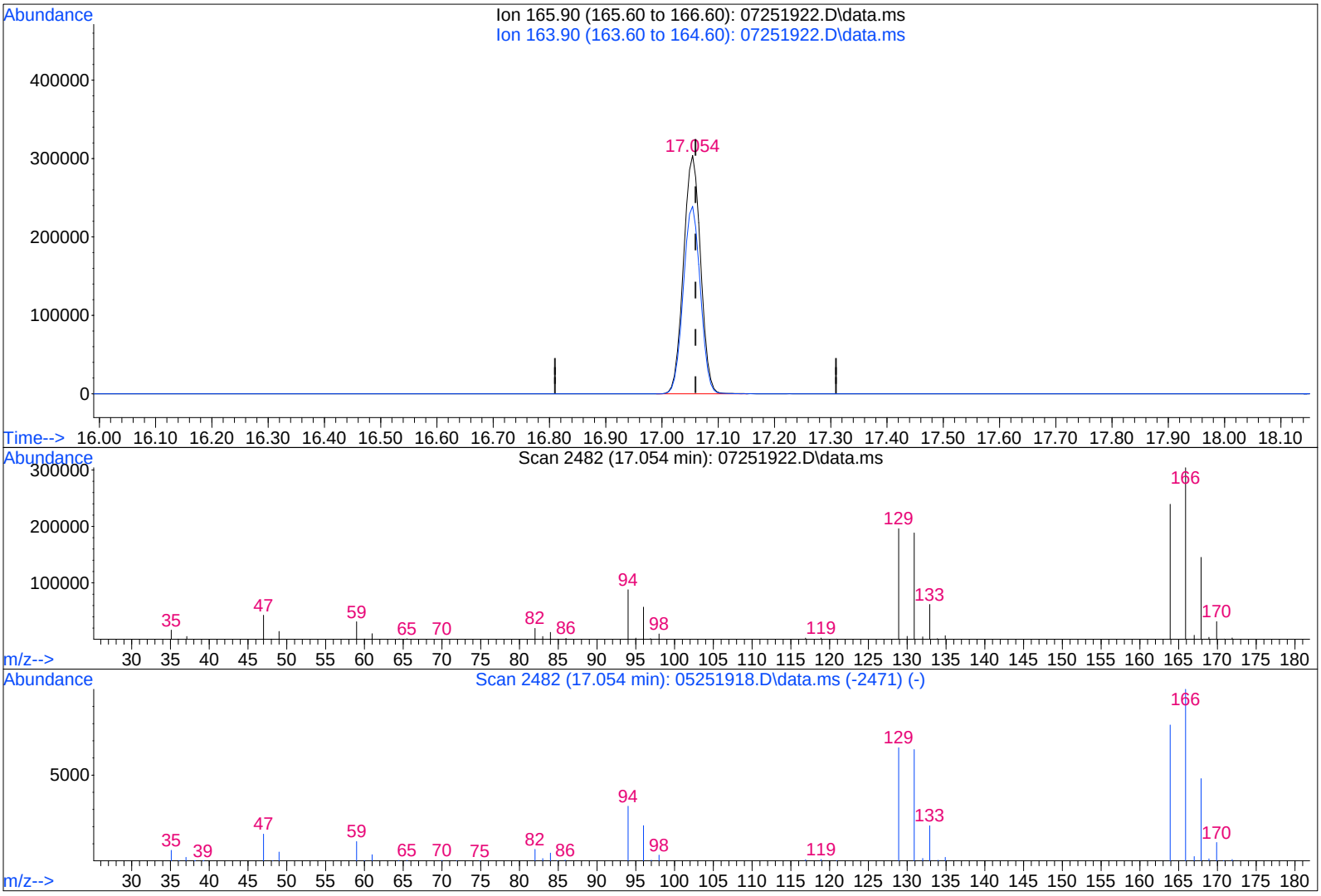
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 09:56:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251922.D
Sample : P1904286-003dil (20mL) Inst : MS08
Acq On : 25 Jul 2019 17:31 Operator: RS
Misc : S31-07111901
ALS Vial : 10 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:25 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251922.D\data.ms

(64) Tetrachloroethene (T)

17.054min (-0.005) 46.53ng

response 640385

Ion	Exp%	Act%
165.90	100	100
163.90	78.40	78.72
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251923.D
Sample : P1904286-004 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:04 Operator: RS
Misc : S31-07111901
ALS Vial : 11 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:01:53 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	150164	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	669870	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	290586	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	177505	11.893	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	15.81	98	719395	12.037	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
73) Bromofluorobenzene (SS3)	19.05	174	258619	13.174	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.19	42	7504	0.610	ng		88
3) Dichlorodifluoromethan...	4.33	85	8107	0.423	ng		99
4) Chloromethane	4.61	50	263	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.43	45	12755	1.467	ng		98
11) Acetonitrile	6.72	41	704	N.D.			
12) Acrolein	6.92	56	1398	0.218	ng		98
13) Acetone	7.10	58	276483	31.884	ng		91
14) Trichlorofluoromethane	7.33	101	4331	0.263	ng		95
15) 2-Propanol (Isopropanol)	7.62	45	8283	0.279	ng		55
16) Acrylonitrile	7.79	53	455	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.51	84	1312	0.119	ng		96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.93	151	814	0.075	ng	#	81
22) Carbon Disulfide	8.78	76	55130	1.455	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.17	73	825	N.D.			
26) Vinyl Acetate	10.27	86	4102	1.429	ng	#	60
27) 2-Butanone (MEK)	10.56	72	15827	2.134	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.34	57	7053	0.373	ng	#	1
32) Chloroform	11.40	83	1165317	66.636	ng		100
34) Tetrahydrofuran (THF)	11.85	72	4576	0.556	ng	#	83
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.97	78	6803	0.141	ng		96
42) Carbon Tetrachloride	13.12	117	970	0.071	ng		89
43) Cyclohexane	13.26	84	1793	0.086	ng		88
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.01	83	43057	3.253	ng		97
47) Trichloroethene	14.06	130	248	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Data File: I:\MS08\Data\2019 07\25\07251923.D
Sample : P1904286-004 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:04 Operator: RS
Misc : S31-07111901
ALS Vial : 11 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:01:53 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

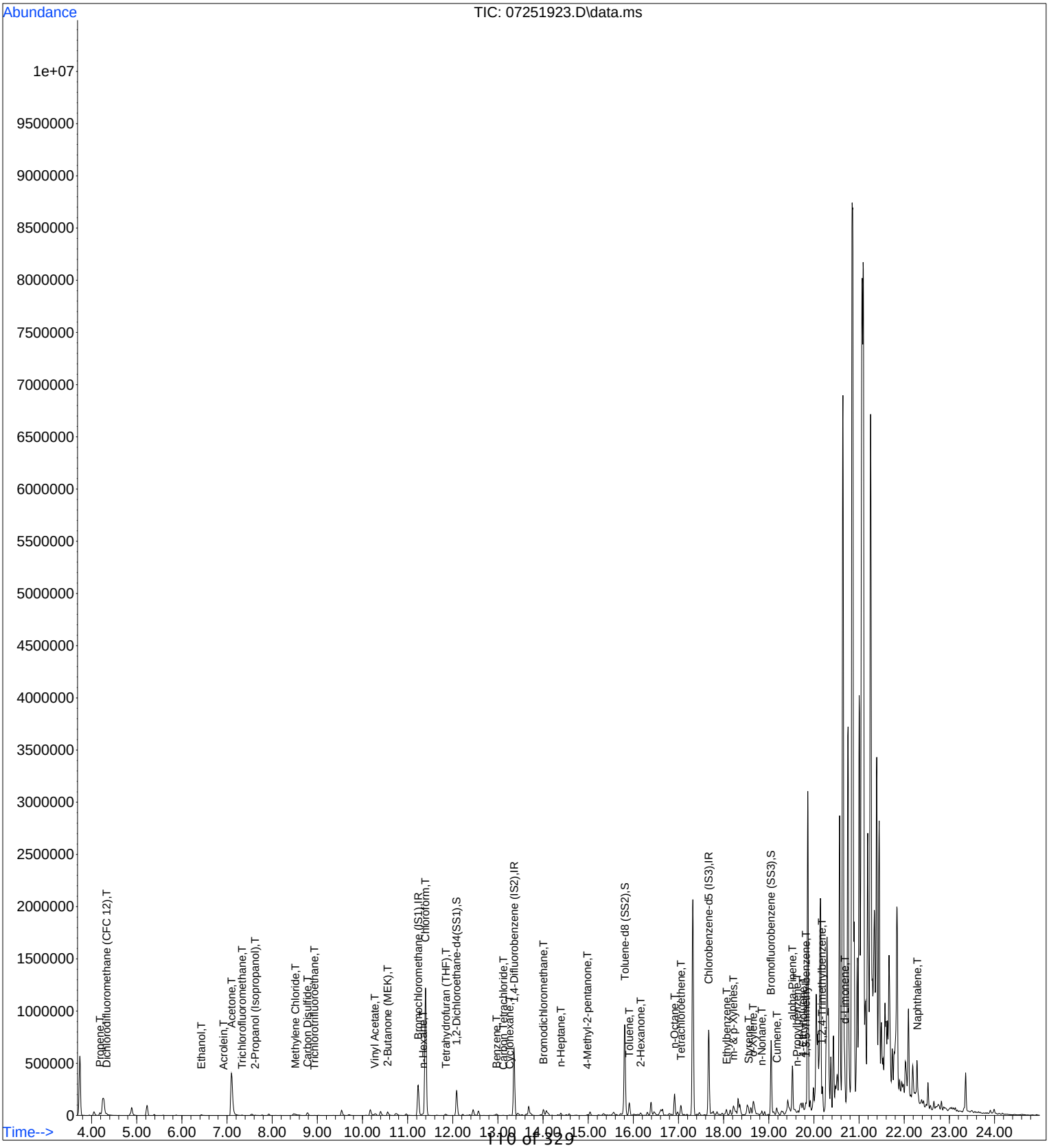
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.39	71	6070	0.461 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.98	58	1300	0.133 ng	#	44
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.53	97	377	N.D.		
58) Toluene	15.91	91	92837	1.836 ng		99
59) 2-Hexanone	16.16	43	16262	0.679 ng		98
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.91	57	41985	3.742 ng		99
64) Tetrachloroethene	17.05	166	36872	2.389 ng		99
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	18.07	91	36941	0.610 ng		98
67) m- & p-Xylenes	18.22	91	69243	1.531 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.56	104	2819	0.080 ng		88
70) o-Xylene	18.65	91	44183	0.962 ng		99
71) n-Nonane	18.85	43	15109	0.584 ng		90
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.18	105	26578	0.428 ng		99
75) alpha-Pinene	19.52	93	196093	6.621 ng		99
76) n-Propylbenzene	19.63	91	7671	0.111 ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.75	105	10209	0.189 ng		98
79) 1,3,5-Trimethylbenzene	19.82	105	15529	0.317 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.18	105	42250	0.915 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	20.38	146	215	N.D.		
86) 1,4-Dichlorobenzene	20.38	146	215	N.D.		
87) sec-Butylbenzene	20.42	105	1790	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.67	146	156	N.D.		
91) d-Limonene	20.69	68	54366	3.053 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D. d		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.19	180	109	N.D.		
95) Naphthalene	22.29	128	37927	0.735 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251923.D
Sample : P1904286-004 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:04 Operator: RS
Misc : S31-07111901
ALS Vial : 11 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:01:53 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251923.D
Sample : P1904286-004 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:04 Operator: RS
Misc : S31-07111901
ALS Vial : 11 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:01:53 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

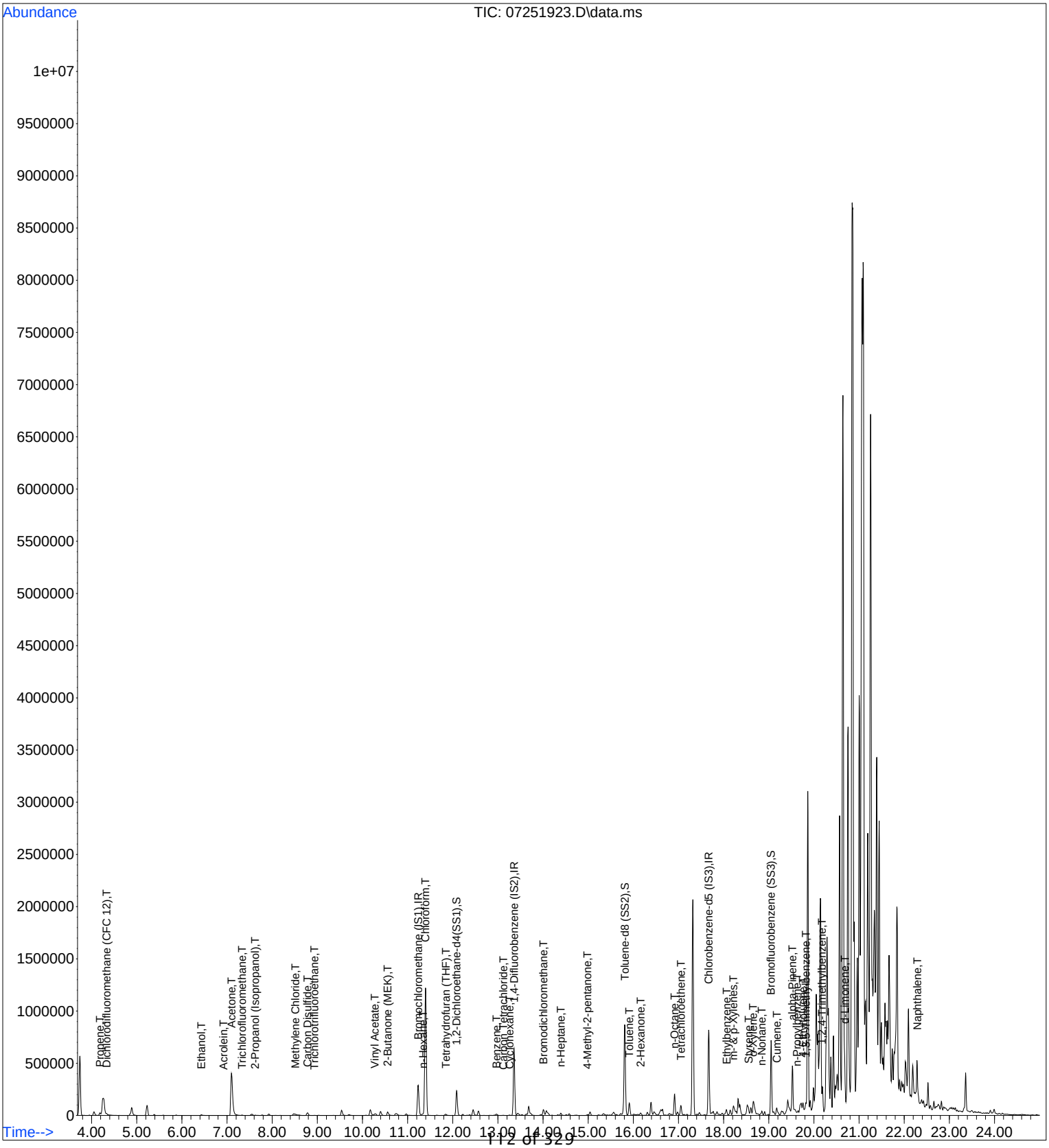
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	150164	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	669870	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	290586	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	177505	11.893	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	15.81	98	719395	12.037	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
73) Bromofluorobenzene (SS3)	19.05	174	258619	13.174	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.19	42	7504	0.610	ng		88
3) Dichlorodifluoromethan...	4.33	85	8107	0.423	ng		99
10) Ethanol	6.43	45	12755	1.467	ng		98
12) Acrolein	6.92	56	1398	0.218	ng		98
13) Acetone	7.10	58	276483	31.884	ng		91
14) Trichlorofluoromethane	7.33	101	4331	0.263	ng		95
15) 2-Propanol (Isopropanol)	7.62	45	8283	0.279	ng		55
19) Methylene Chloride	8.51	84	1312	0.119	ng		96
21) Trichlorotrifluoroethane	8.93	151	814	0.075	ng	#	81
22) Carbon Disulfide	8.78	76	55130	1.455	ng		97
26) Vinyl Acetate	10.27	86	4102	1.429	ng	#	60
27) 2-Butanone (MEK)	10.56	72	15827	2.134	ng		99
31) n-Hexane	11.34	57	7053	0.373	ng	#	1
32) Chloroform	11.40	83	1165317	66.636	ng		100
34) Tetrahydrofuran (THF)	11.85	72	4576	0.556	ng	#	83
41) Benzene	12.97	78	6803	0.141	ng		96
42) Carbon Tetrachloride	13.12	117	970	0.071	ng		89
43) Cyclohexane	13.26	84	1793	0.086	ng		88
46) Bromodichloromethane	14.01	83	43057	3.253	ng		97
51) n-Heptane	14.39	71	6070	0.461	ng		94
53) 4-Methyl-2-pentanone	14.98	58	1300	0.133	ng	#	44
58) Toluene	15.91	91	92837	1.836	ng		99
59) 2-Hexanone	16.16	43	16262	0.679	ng		98
63) n-Octane	16.91	57	41985	3.742	ng		99
64) Tetrachloroethene	17.05	166	36872	2.389	ng		99
66) Ethylbenzene	18.07	91	36941	0.610	ng		98
67) m- & p-Xylenes	18.22	91	69243	1.531	ng		98
69) Styrene	18.56	104	2819	0.080	ng		88
70) o-Xylene	18.65	91	44183	0.962	ng		99
71) n-Nonane	18.85	43	15109	0.584	ng		90
74) Cumene	19.18	105	26578	0.428	ng		99
75) alpha-Pinene	19.52	93	196093	6.621	ng		99
76) n-Propylbenzene	19.63	91	7671	0.111	ng		97
78) 4-Ethyltoluene	19.75	105	10209	0.189	ng		98
79) 1,3,5-Trimethylbenzene	19.82	105	15529	0.317	ng		98
82) 1,2,4-Trimethylbenzene	20.18	105	42250	0.915	ng		92
91) d-Limonene	20.69	68	54366	3.053	ng		93
95) Naphthalene	22.29	128	37927	0.735	ng		99

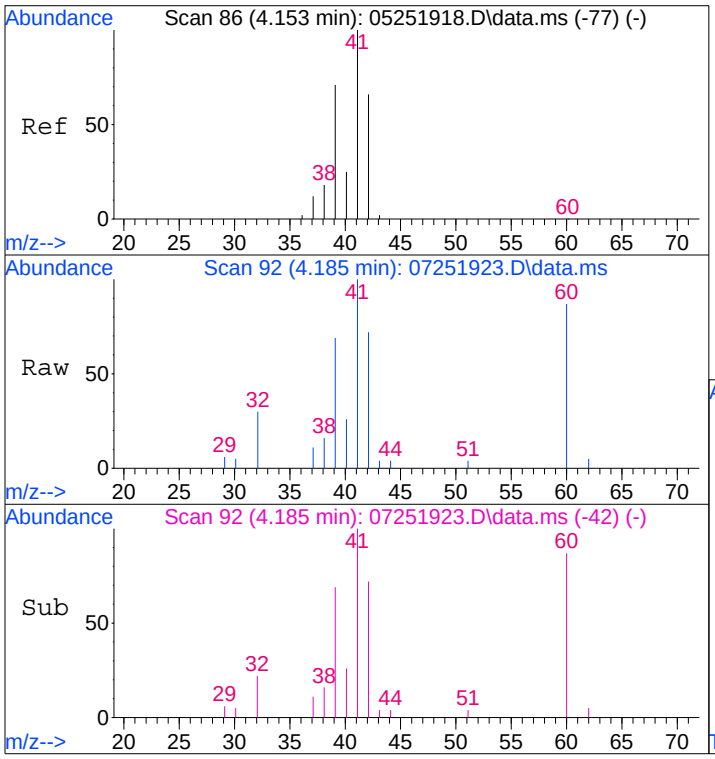
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251923.D
Sample : P1904286-004 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:04 Operator: RS
Misc : S31-07111901
ALS Vial : 11 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:01:53 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

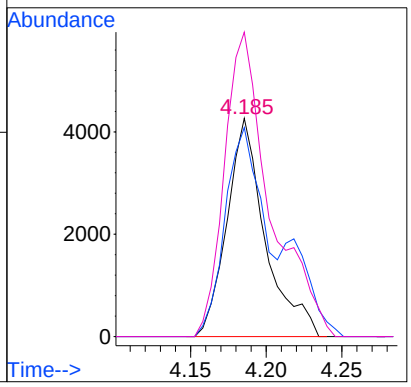


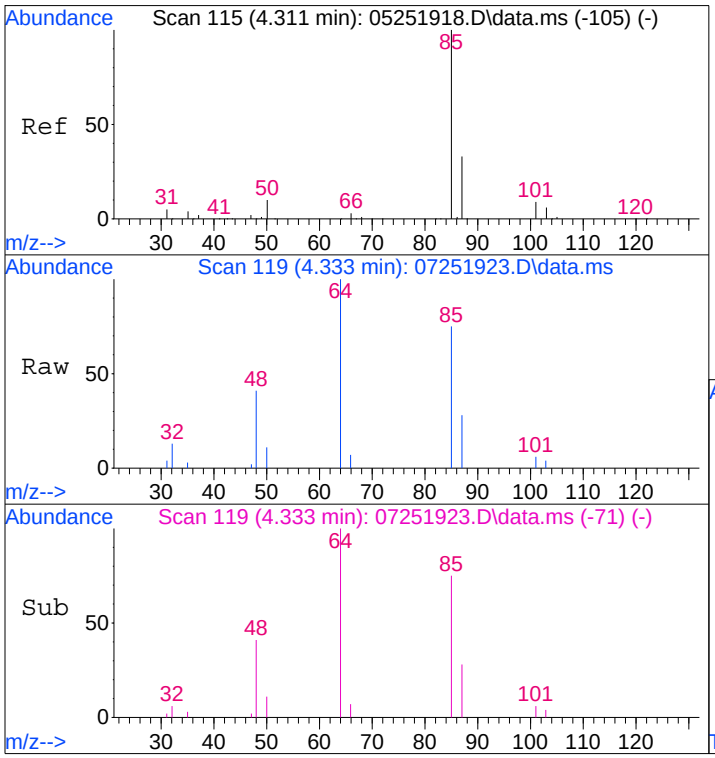


#2
Propene
Concen: 0.61 ng
RT: 4.19 min Scan# 92
Delta R.T. 0.021 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 42 Resp: 7504

Ion	Ratio	Lower	Upper
42	100		
39	95.9	85.8	125.8
41	166.6	130.2	170.2

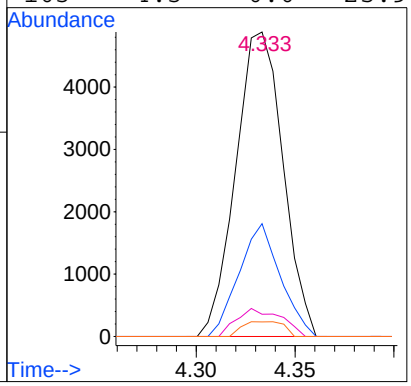


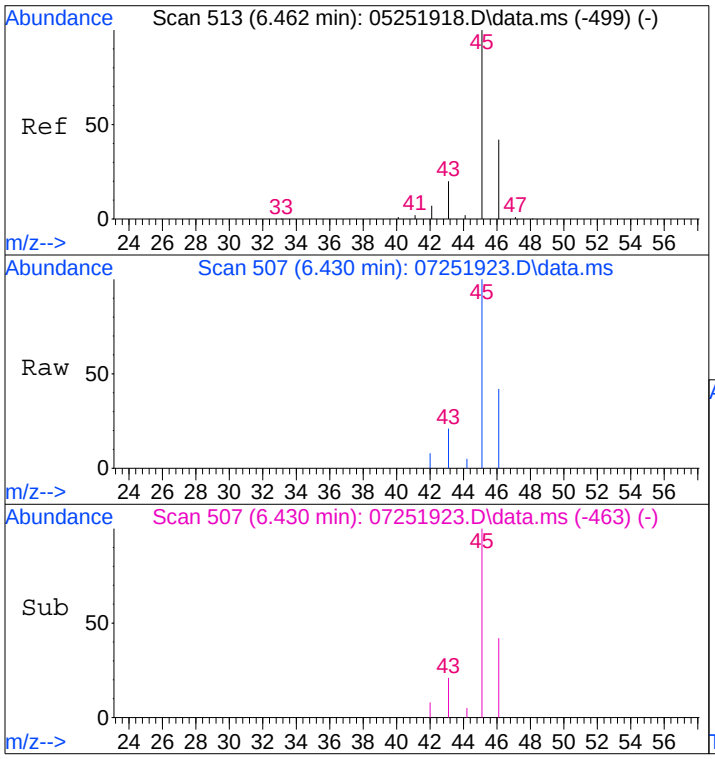


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.42 ng
RT: 4.33 min Scan# 119
Delta R.T. 0.011 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 85 Resp: 8107

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.5	52.5
101	8.7	0.0	29.0
103	4.3	0.0	25.9

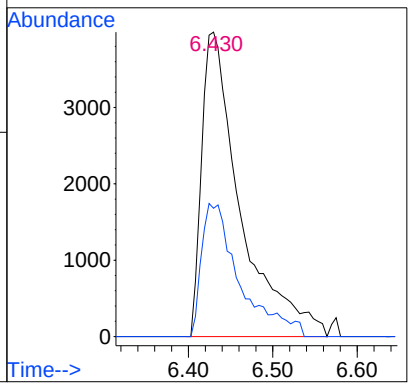


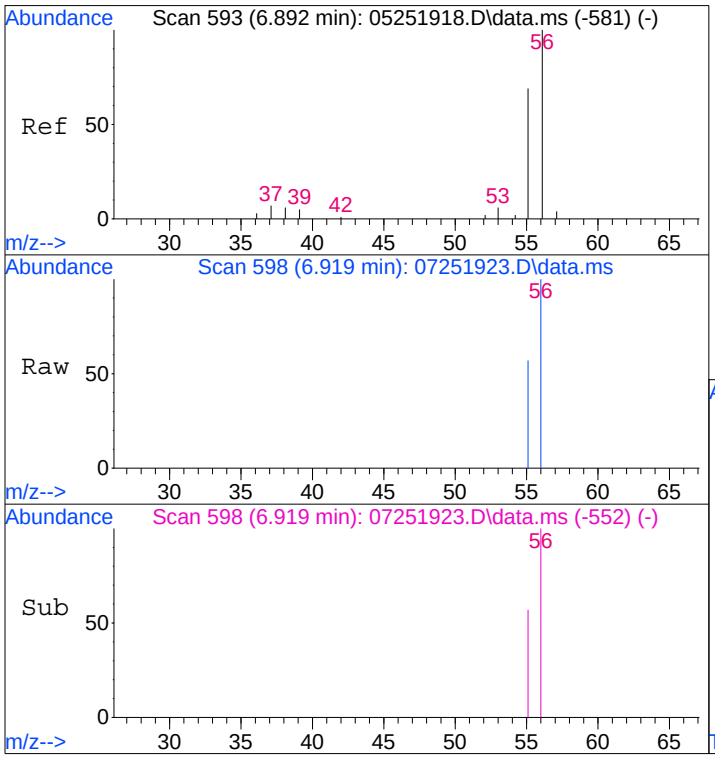


#10
Ethanol
Concen: 1.47 ng
RT: 6.43 min Scan# 507
Delta R.T. -0.013 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 45 Resp: 12755

Ion	Ratio	Lower	Upper
45	100		
46	42.9	21.7	61.7

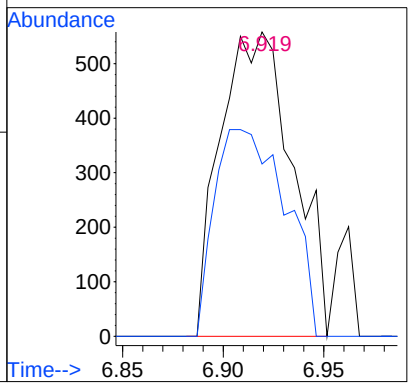


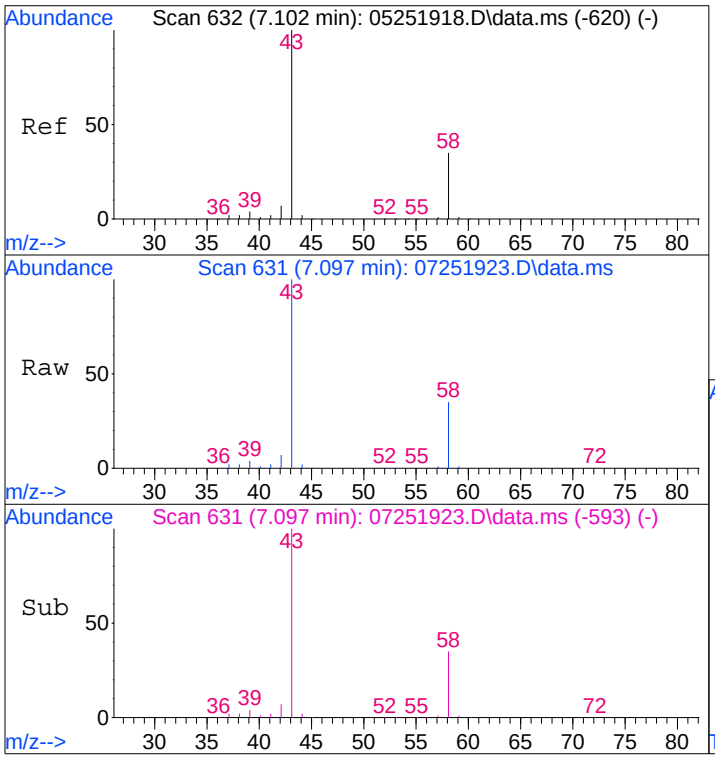


#12
Acrolein
Concen: 0.22 ng
RT: 6.92 min Scan# 598
Delta R.T. 0.000 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 56 Resp: 1398

Ion	Ratio	Lower	Upper
56	100		
55	66.9	48.1	88.1

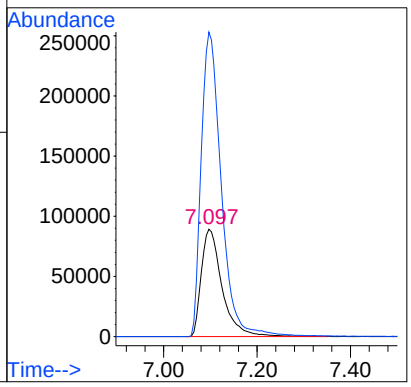


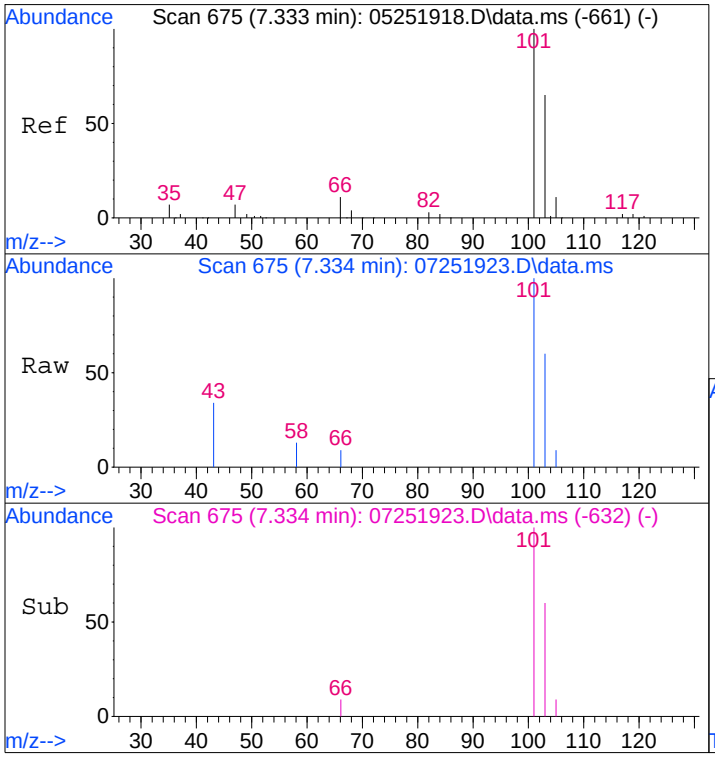


#13
Acetone
Concen: 31.88 ng
RT: 7.10 min Scan# 631
Delta R.T. -0.048 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 58 Resp: 276483

Ion	Ratio	Lower	Upper
58	100		
43	273.6	260.9	320.9

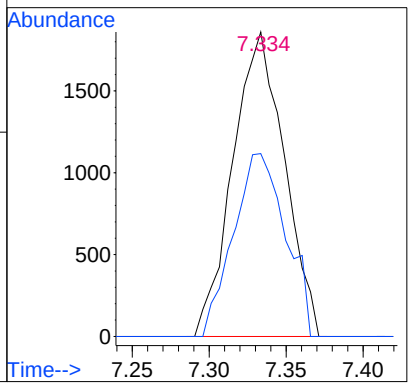


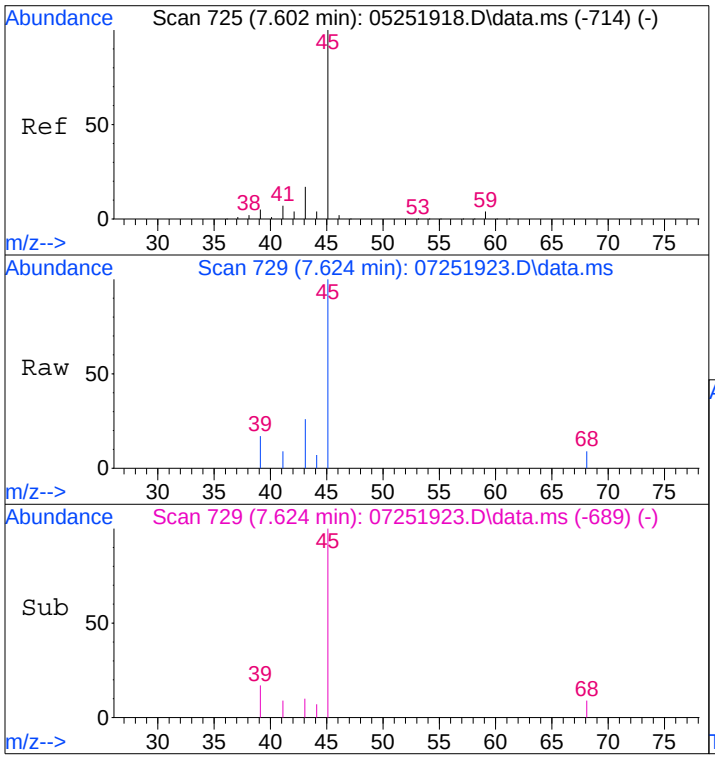


#14
Trichlorofluoromethane
Concen: 0.26 ng
RT: 7.33 min Scan# 675
Delta R.T. -0.016 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:101 Resp: 4331

Ion	Ratio	Lower	Upper
101	100		
103	61.0	44.7	84.7

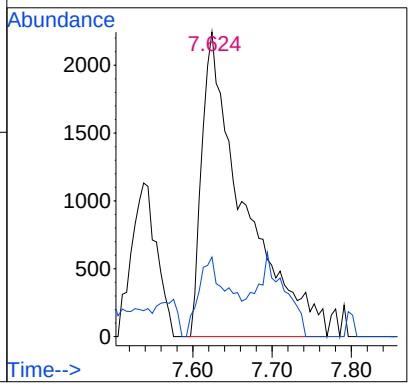


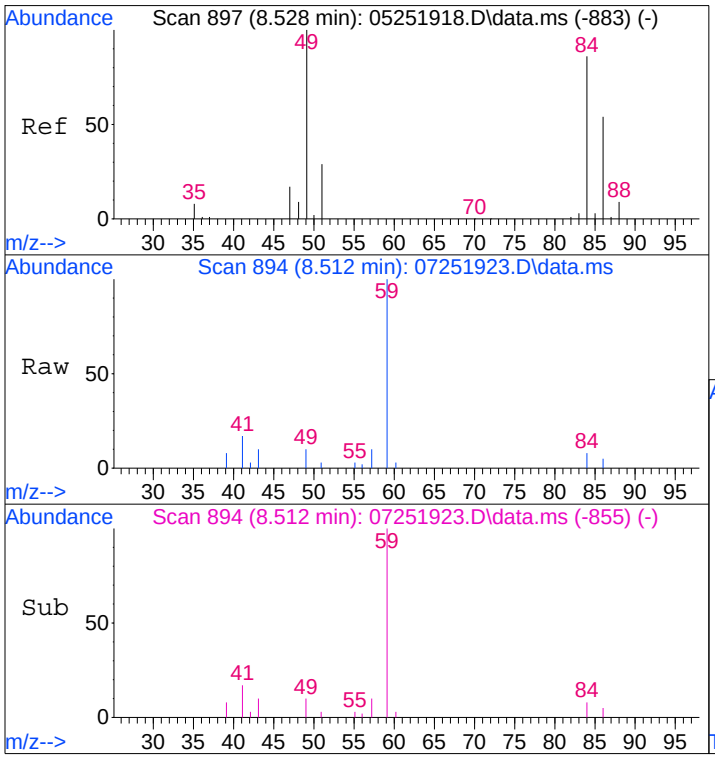


#15
2-Propanol (Isopropanol)
Concen: 0.28 ng
RT: 7.62 min Scan# 729
Delta R.T. -0.032 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 45 Resp: 8283

Ion	Ratio	Lower	Upper
45	100		
43	37.3	0.0	37.6

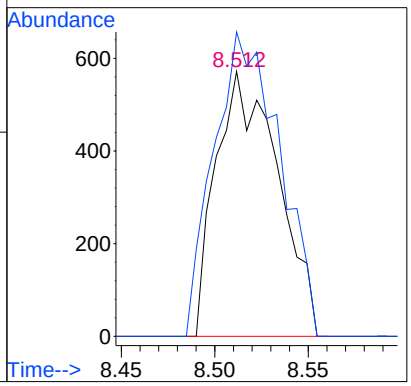


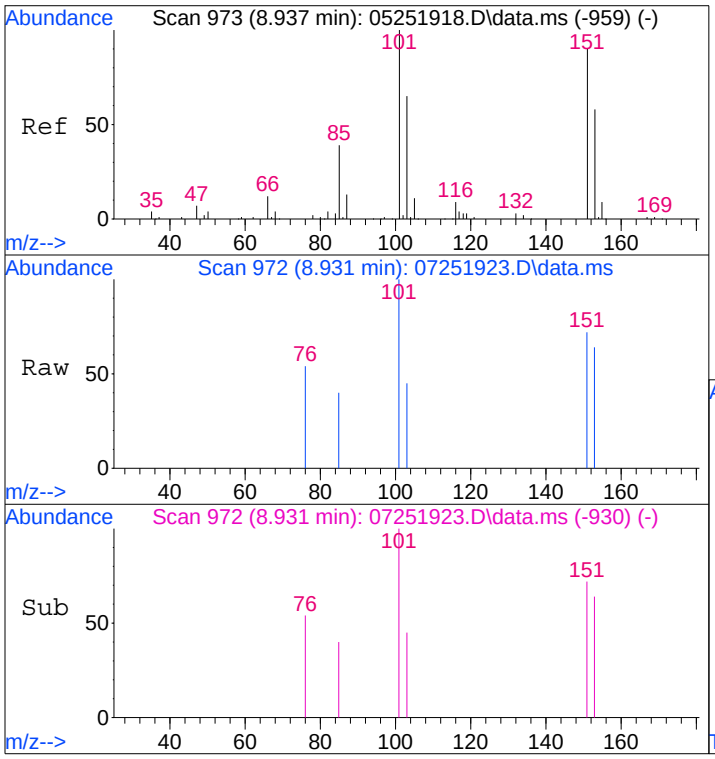


#19
Methylene Chloride
Concen: 0.12 ng
RT: 8.51 min Scan# 894
Delta R.T. -0.038 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 84 Resp: 1312

Ion	Ratio	Lower	Upper
84	100		
49	122.0	92.3	142.3

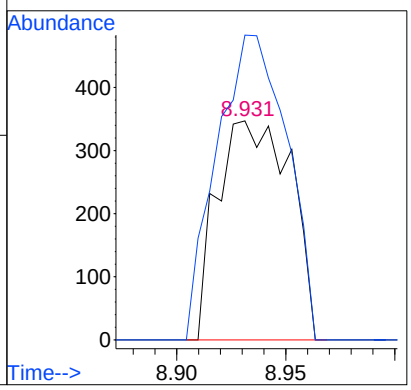


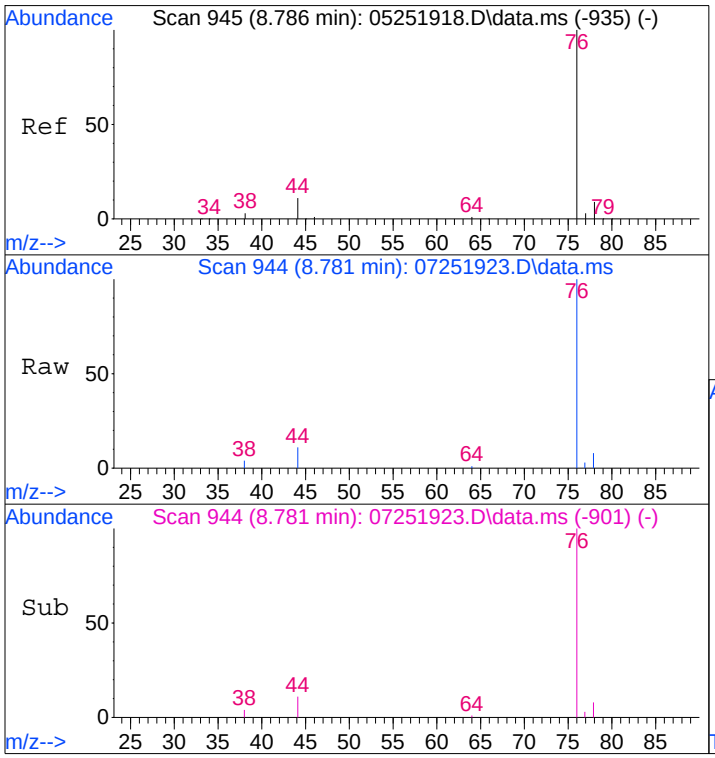


#21
Trichlorotrifluoroethane
Concen: 0.08 ng
RT: 8.93 min Scan# 972
Delta R.T. -0.022 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:151 Resp: 814

Ion	Ratio	Lower	Upper
151	100		
101	132.9	92.2	132.2#

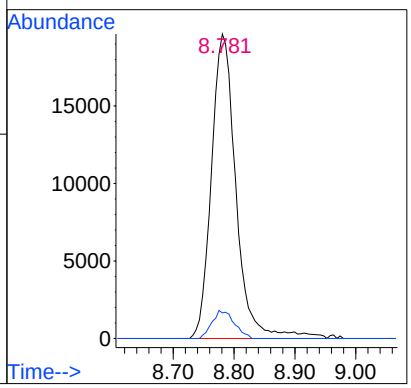


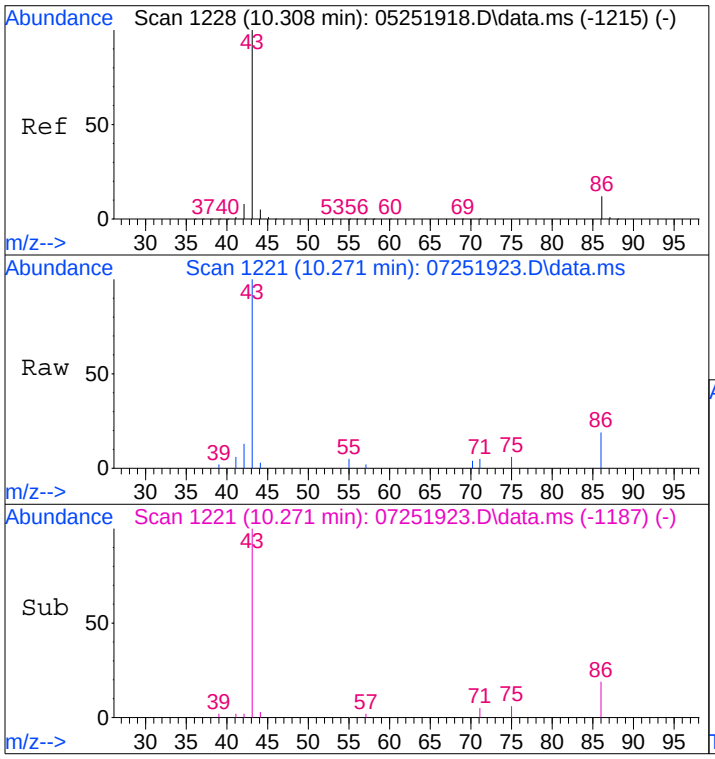


#22
Carbon Disulfide
Concen: 1.46 ng
RT: 8.78 min Scan# 944
Delta R.T. -0.021 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 76 Resp: 55130

Ion	Ratio	Lower	Upper
76	100		
78	8.3	0.0	29.2

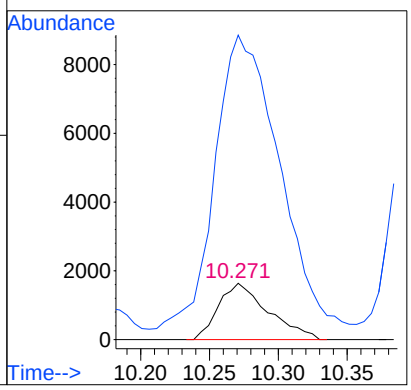


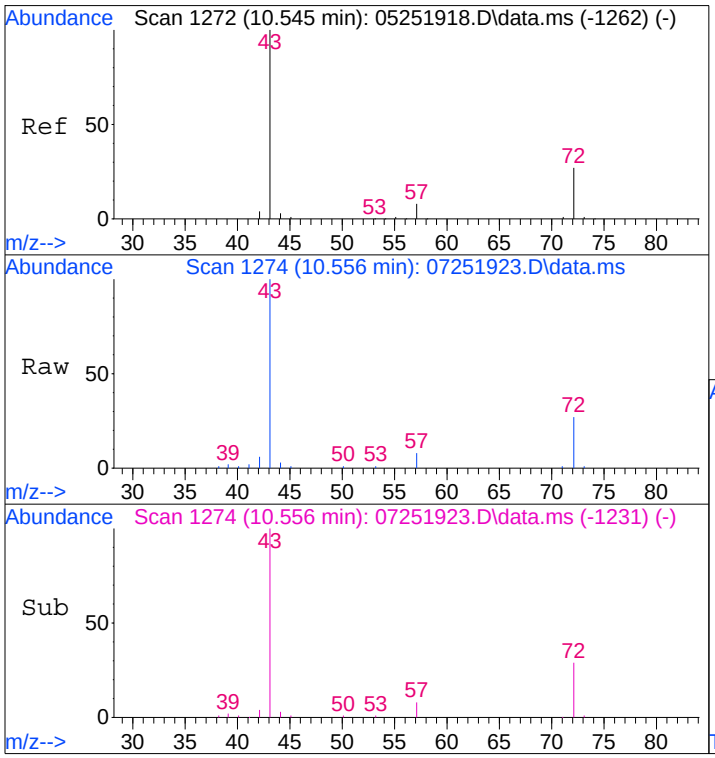


#26
Vinyl Acetate
Concen: 1.43 ng
RT: 10.27 min Scan# 1221
Delta R.T. -0.065 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 86 Resp: 4102

Ion	Ratio	Lower	Upper
86	100		
43	723.1	864.9	904.9#

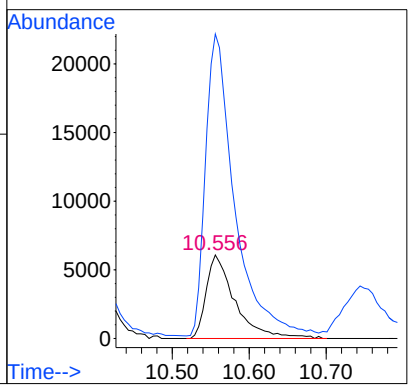


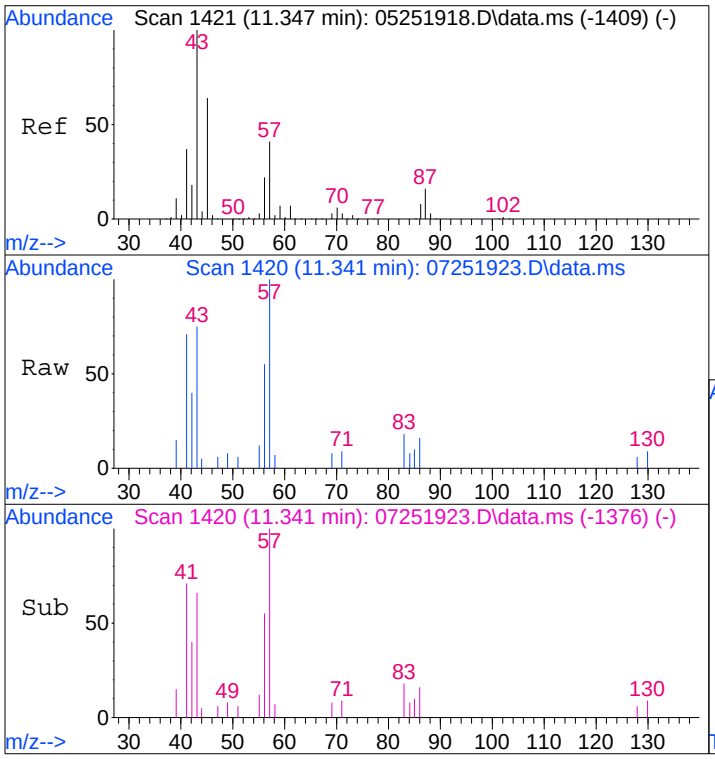


#27
2-Butanone (MEK)
Concen: 2.13 ng
RT: 10.56 min Scan# 1274
Delta R.T. -0.016 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 72 Resp: 15827

Ion	Ratio	Lower	Upper
72	100		
43	364.1	346.9	386.9

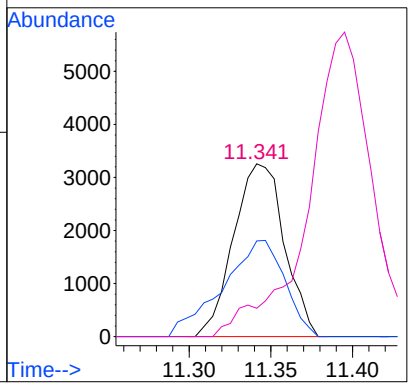


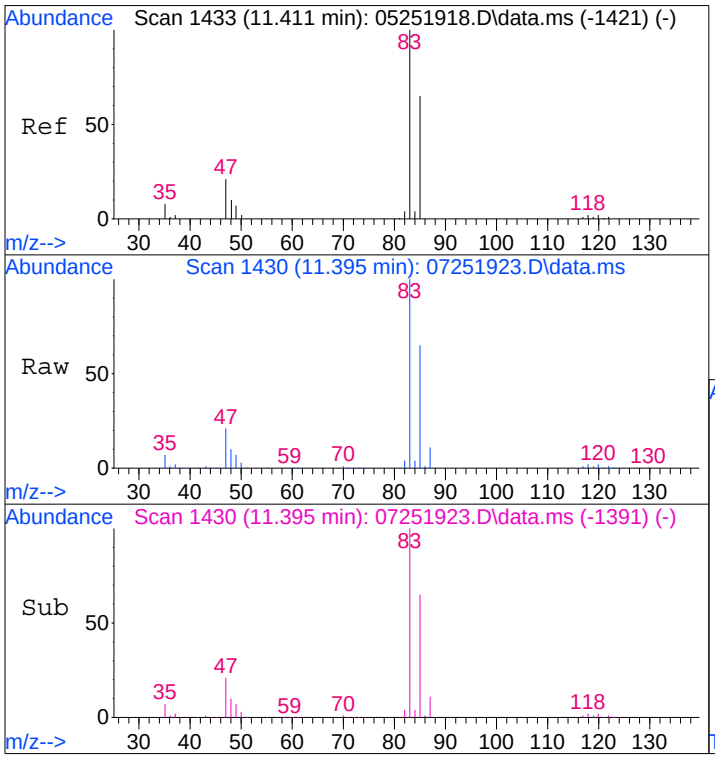


#31
n-Hexane
Concen: 0.37 ng
RT: 11.34 min Scan# 1420
Delta R.T. -0.011 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 57 Resp: 7053

Ion	Ratio	Lower	Upper
57	100		
56	67.7	41.1	61.7#
86	213.3	16.4	24.6#

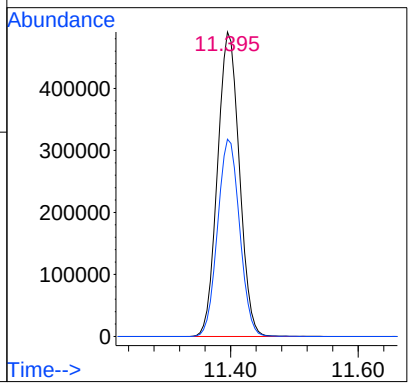


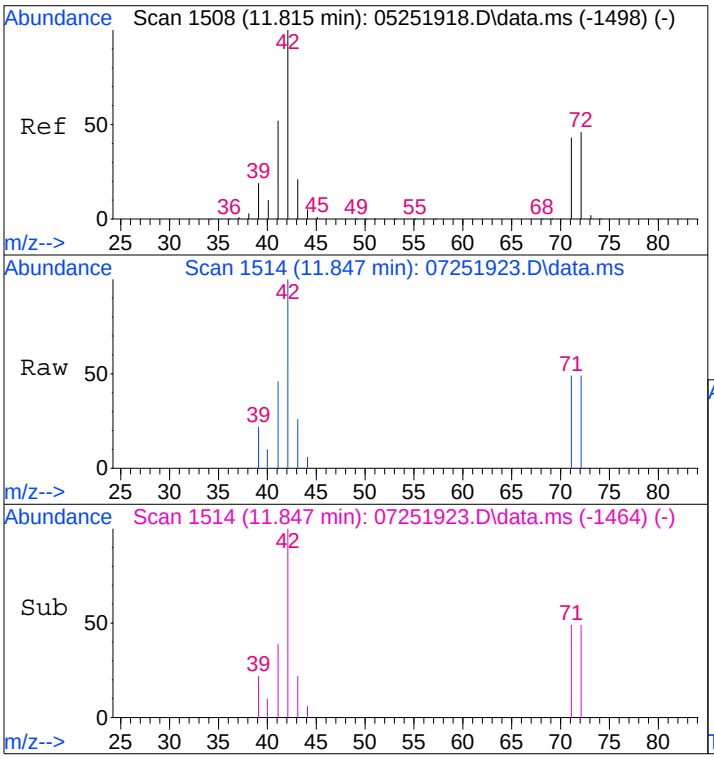


#32
Chloroform
Concen: 66.64 ng
RT: 11.40 min Scan# 1430
Delta R.T. -0.038 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 83 Resp: 1165317

Ion	Ratio	Lower	Upper
83	100		
85	65.4	45.3	85.3

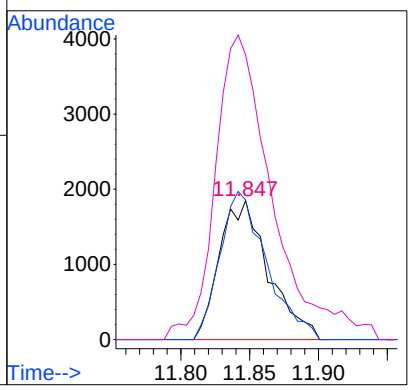


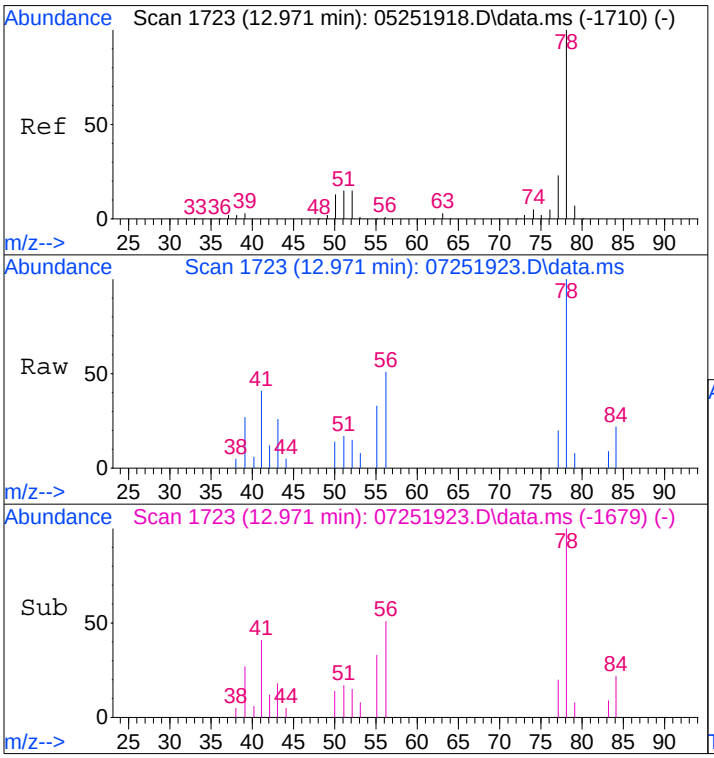


#34
Tetrahydrofuran (THF)
Concen: 0.56 ng
RT: 11.85 min Scan# 1514
Delta R.T. 0.022 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 72 Resp: 4576

Ion	Ratio	Lower	Upper
72	100		
71	101.5	73.9	113.9
42	255.7	201.9	241.9#

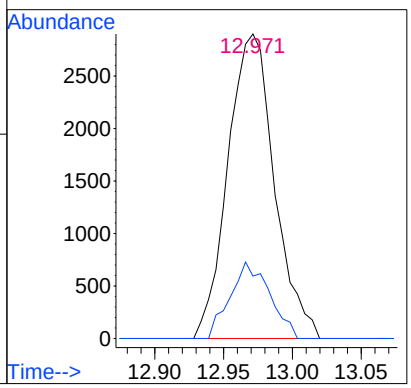


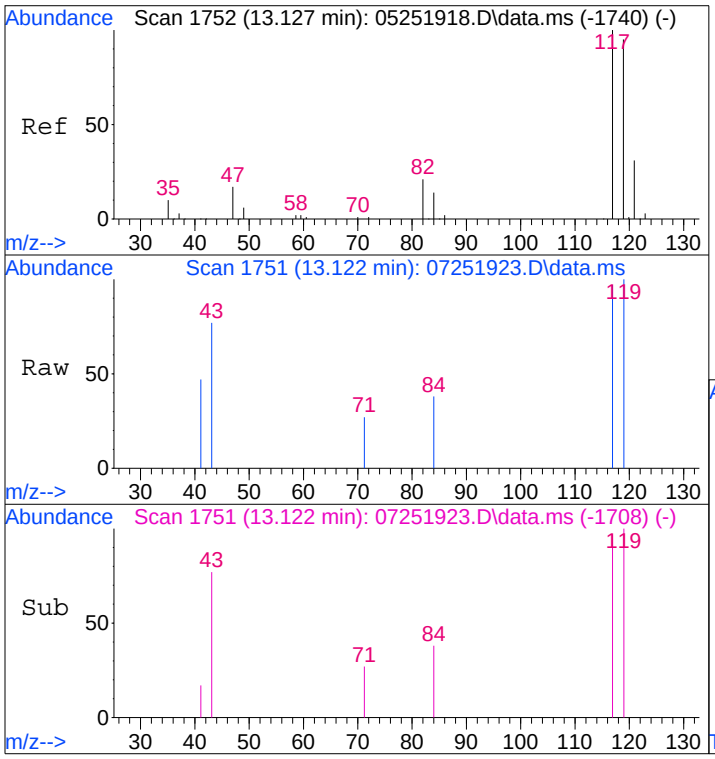


#41
Benzene
Concen: 0.14 ng
RT: 12.97 min Scan# 1723
Delta R.T. -0.011 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 78 Resp: 6803

Ion	Ratio	Lower	Upper
78	100		
77	21.3	3.2	43.2

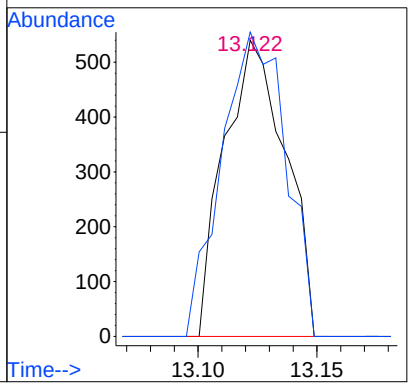


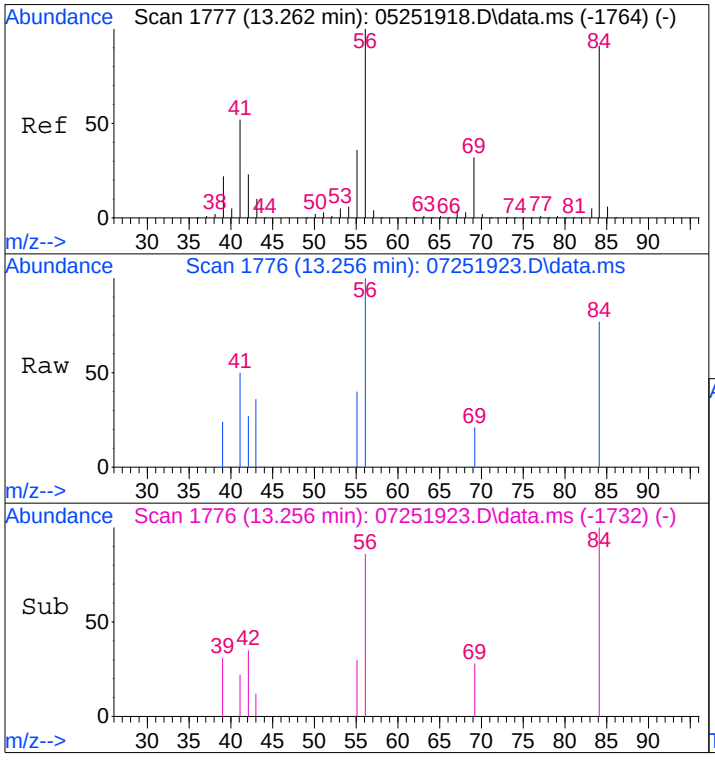


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 13.12 min Scan# 1751
Delta R.T. -0.016 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:117 Resp: 970

Ion	Ratio	Lower	Upper
117	100		
119	107.4	76.4	116.4

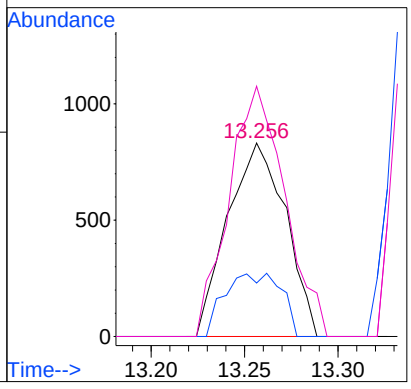


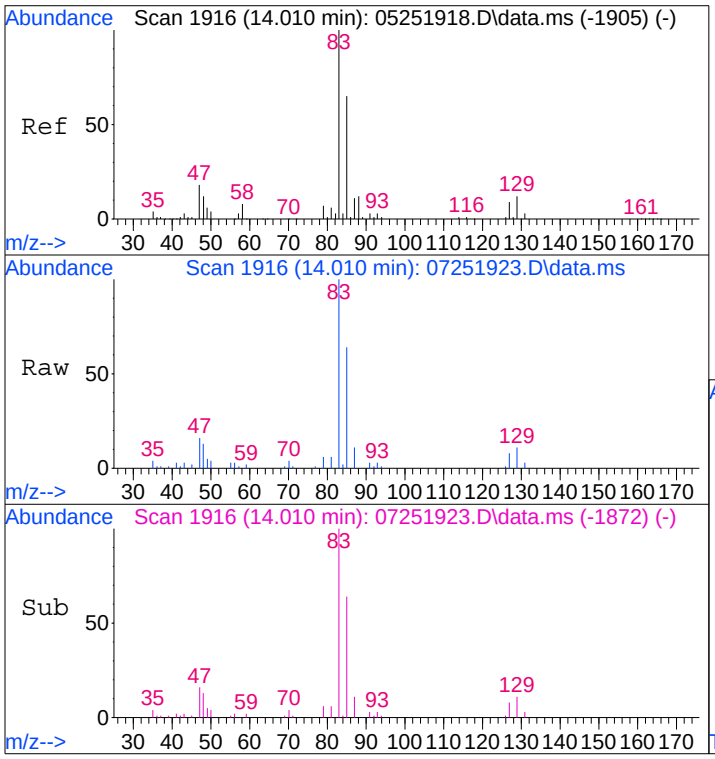


#43
Cyclohexane
Concen: 0.09 ng
RT: 13.26 min Scan# 1776
Delta R.T. -0.011 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 84 Resp: 1793

Ion	Ratio	Lower	Upper
84	100		
69	31.8	14.8	54.8
56	124.8	90.2	130.2

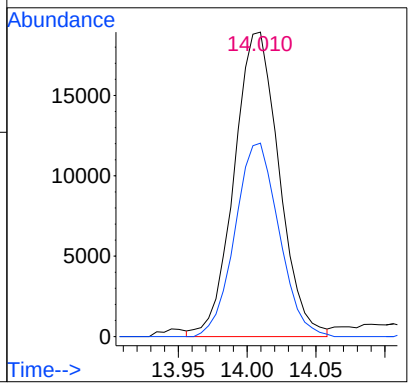


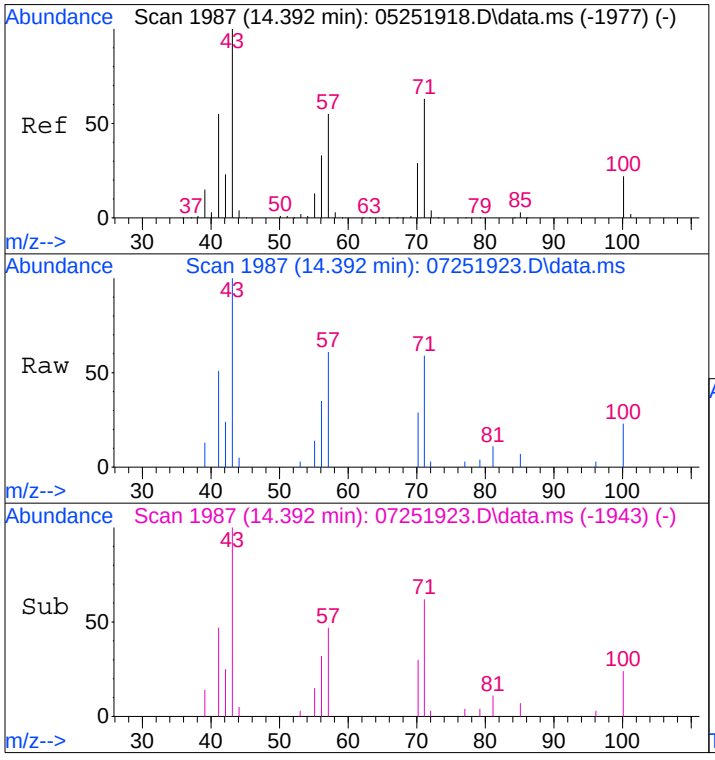


#46
Bromodichloromethane
Concen: 3.25 ng
RT: 14.01 min Scan# 1916
Delta R.T. -0.011 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 83 Resp: 43057

Ion	Ratio	Lower	Upper
83	100		
85	62.2	44.3	84.3

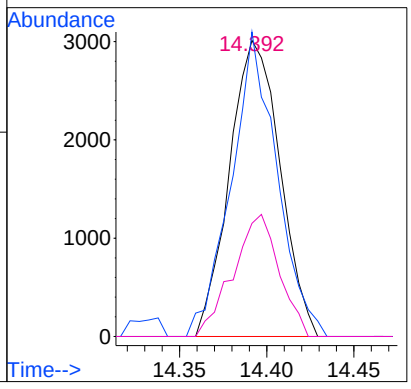


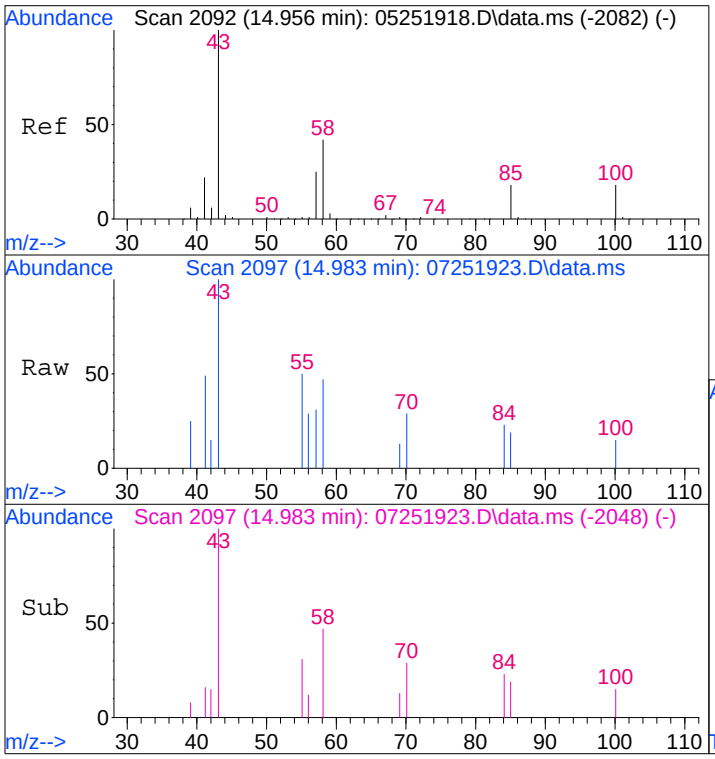


#51
n-Heptane
Concen: 0.46 ng
RT: 14.39 min Scan# 1987
Delta R.T. -0.011 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 71 Resp: 6070

Ion	Ratio	Lower	Upper
71	100		
57	92.9	66.0	106.0
100	37.6	16.3	56.3

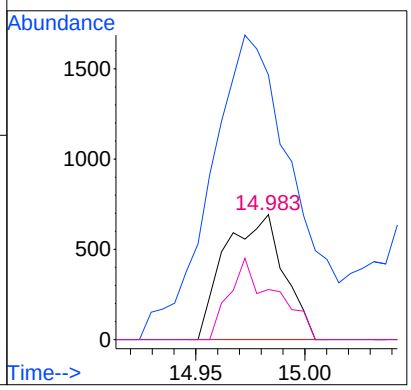


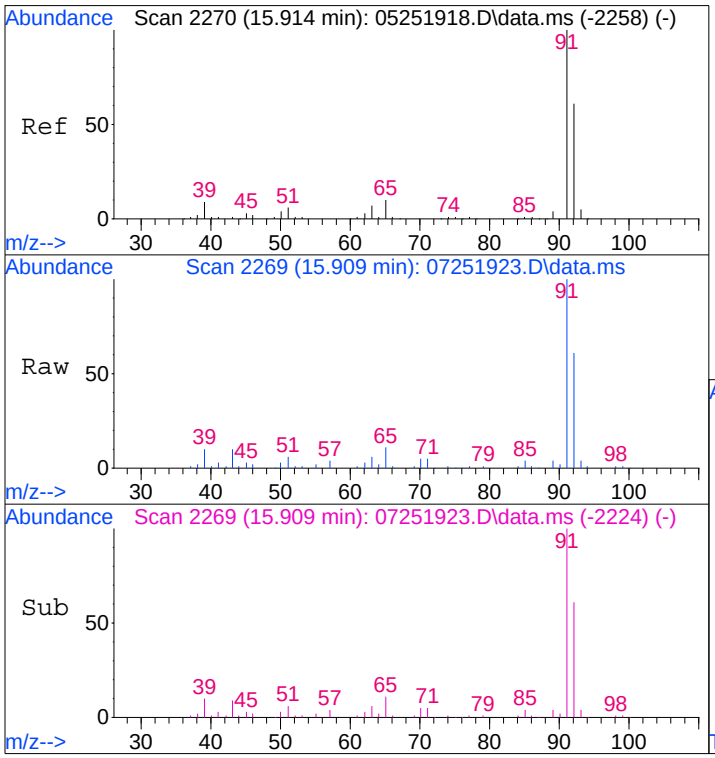


#53
4-Methyl-2-pentanone
Concen: 0.13 ng
RT: 14.98 min Scan# 2097
Delta R.T. 0.016 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 58 Resp: 1300

Ion	Ratio	Lower	Upper
58	100		
43	350.9	191.3	286.9#
85	50.8	37.8	56.8

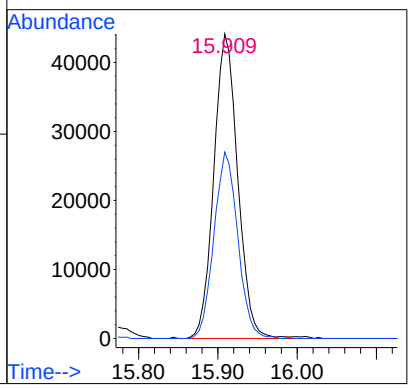


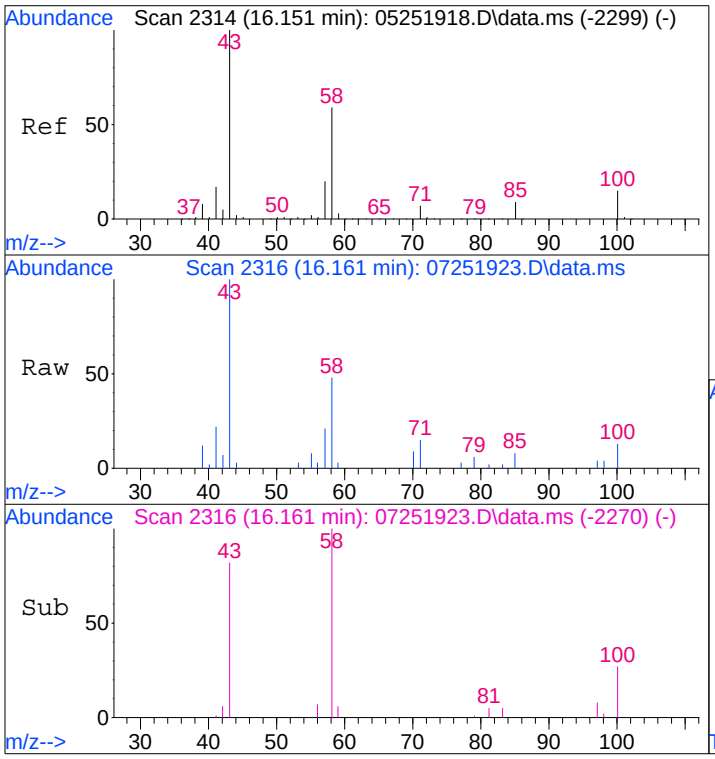


#58
Toluene
Concen: 1.84 ng
RT: 15.91 min Scan# 2269
Delta R.T. -0.010 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 91 Resp: 92837

Ion	Ratio	Lower	Upper
91	100		
92	60.7	41.2	81.2

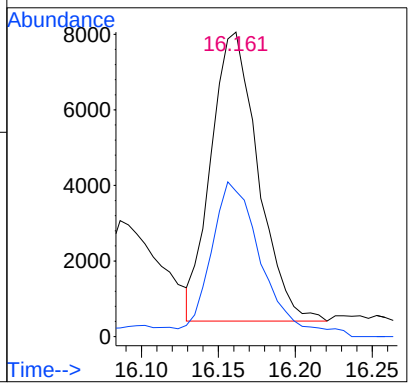


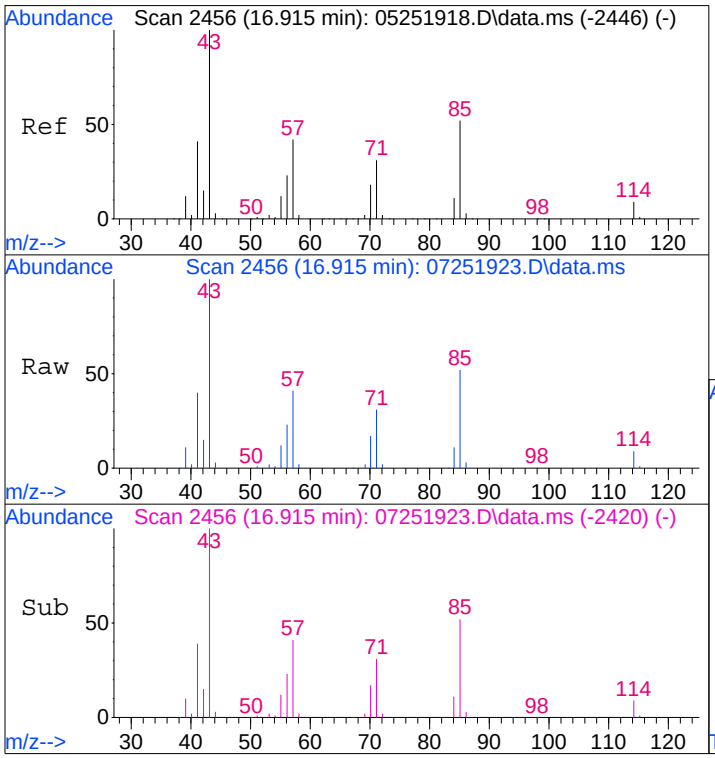


#59
2-Hexanone
Concen: 0.68 ng
RT: 16.16 min Scan# 2316
Delta R.T. 0.000 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 43 Resp: 16262

Ion	Ratio	Lower	Upper
43	100		
58	57.3	38.8	78.8

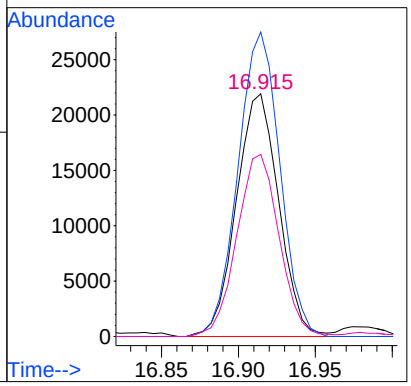


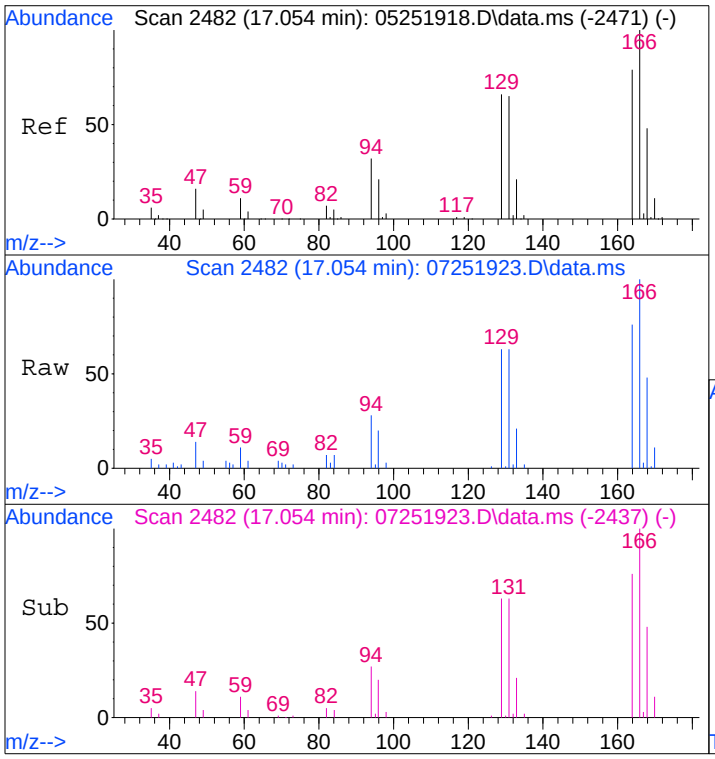


#63
n-Octane
Concen: 3.74 ng
RT: 16.91 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 57 Resp: 41985

Ion	Ratio	Lower	Upper
57	100		
85	124.2	100.3	150.5
71	74.9	59.8	89.6

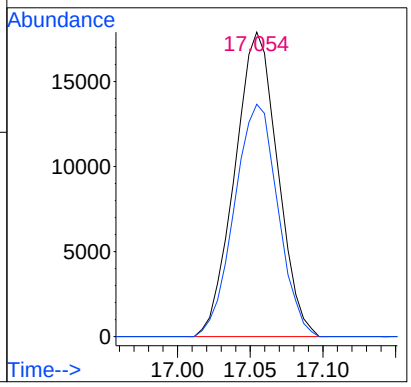


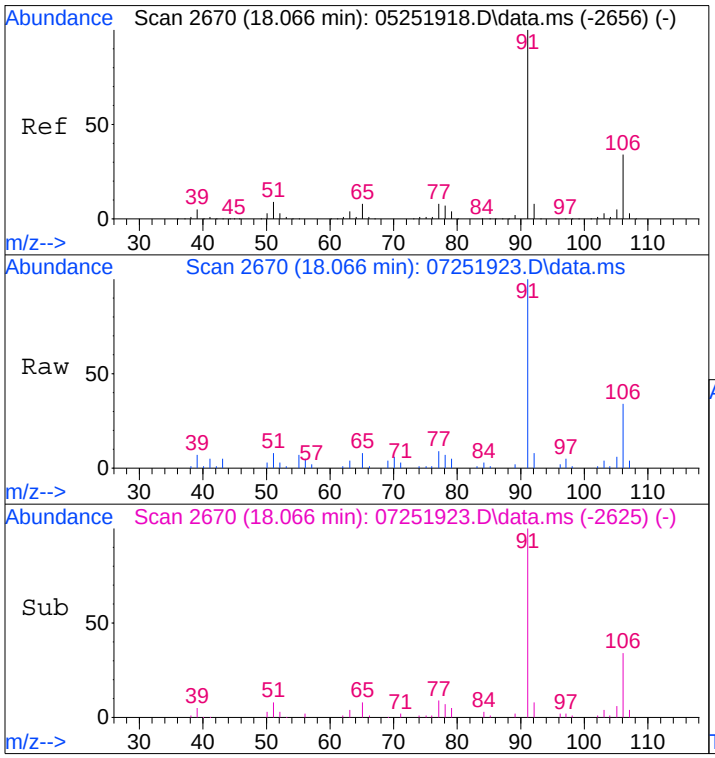


#64
Tetrachloroethene
Concen: 2.39 ng
RT: 17.05 min Scan# 2482
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:166 Resp: 36872

Ion	Ratio	Lower	Upper
166	100		
164	77.3	58.4	98.4

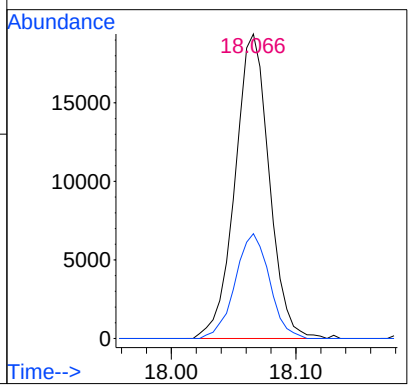


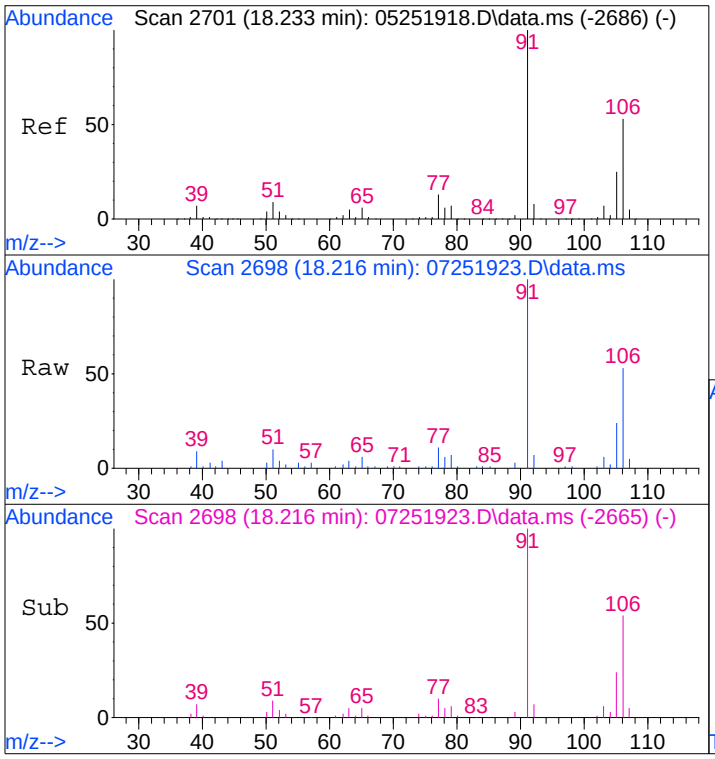


#66
Ethylbenzene
Concen: 0.61 ng
RT: 18.07 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 91 Resp: 36941

Ion	Ratio	Lower	Upper
91	100		
106	34.6	13.4	53.4

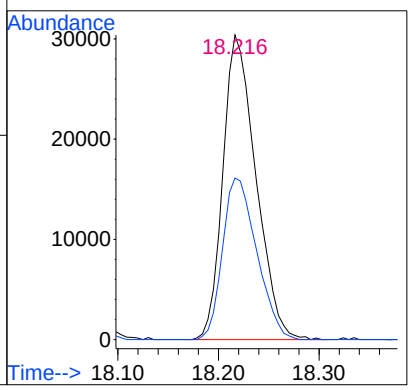


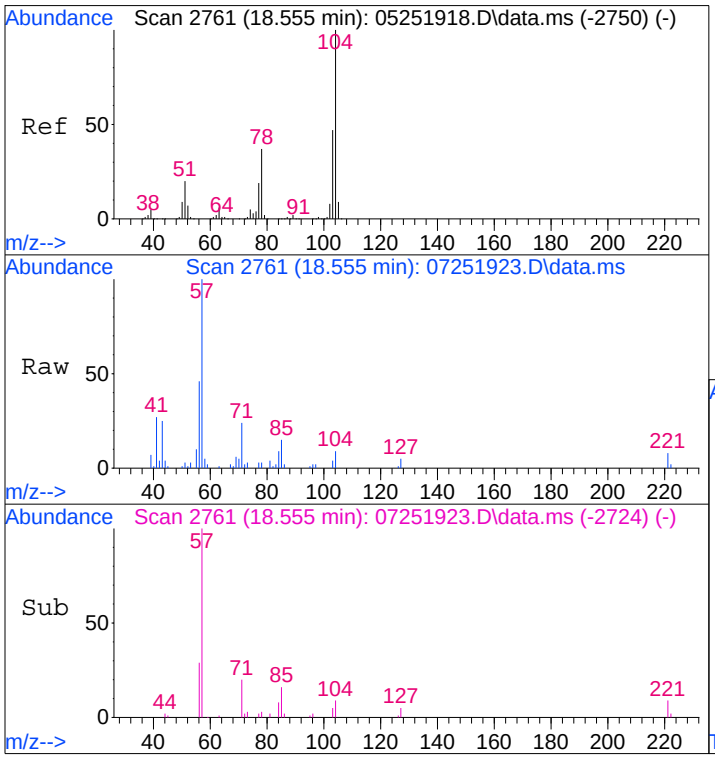


#67
m- & p-Xylenes
Concen: 1.53 ng
RT: 18.22 min Scan# 2698
Delta R.T. -0.022 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 91 Resp: 69243

Ion	Ratio	Lower	Upper
91	100		
106	54.9	33.4	73.4

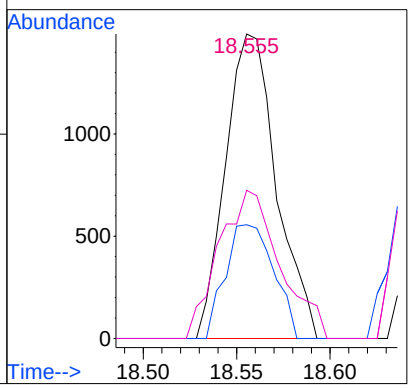


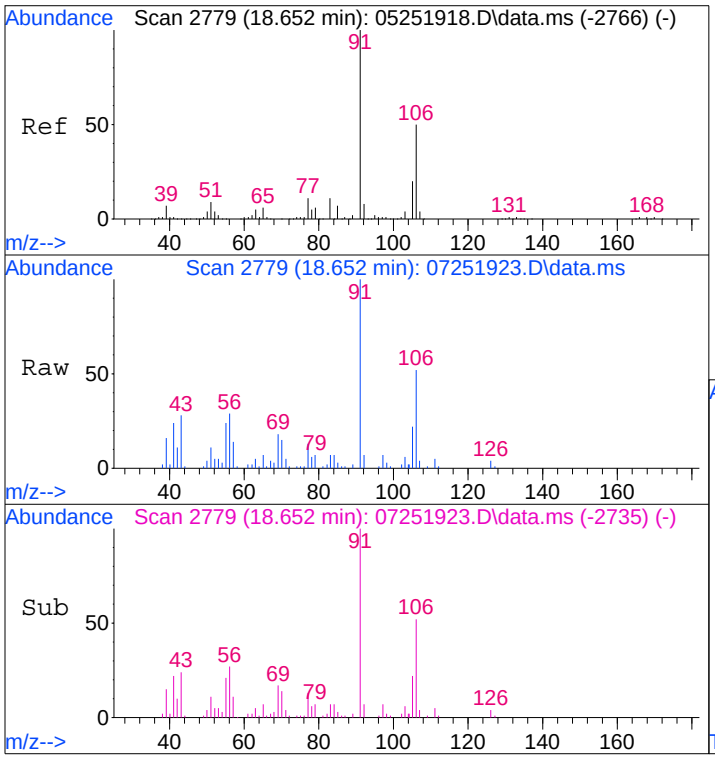


#69
Styrene
Concen: 0.08 ng
RT: 18.56 min Scan# 2761
Delta R.T. 0.000 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:104 Resp: 2819

Ion	Ratio	Lower	Upper
104	100		
78	35.5	18.1	58.1
103	58.4	26.6	66.6

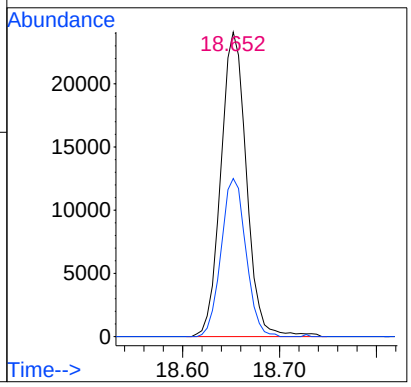


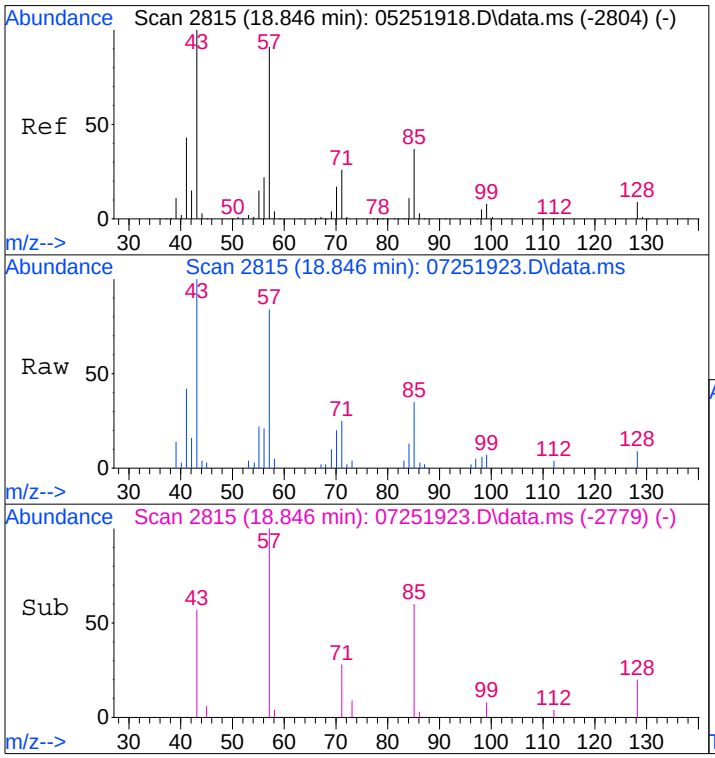


#70
o-Xylene
Concen: 0.96 ng
RT: 18.65 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 91 Resp: 44183

Ion	Ratio	Lower	Upper
91	100		
106	50.2	30.6	70.6

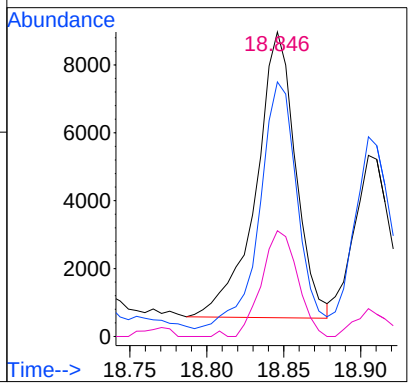


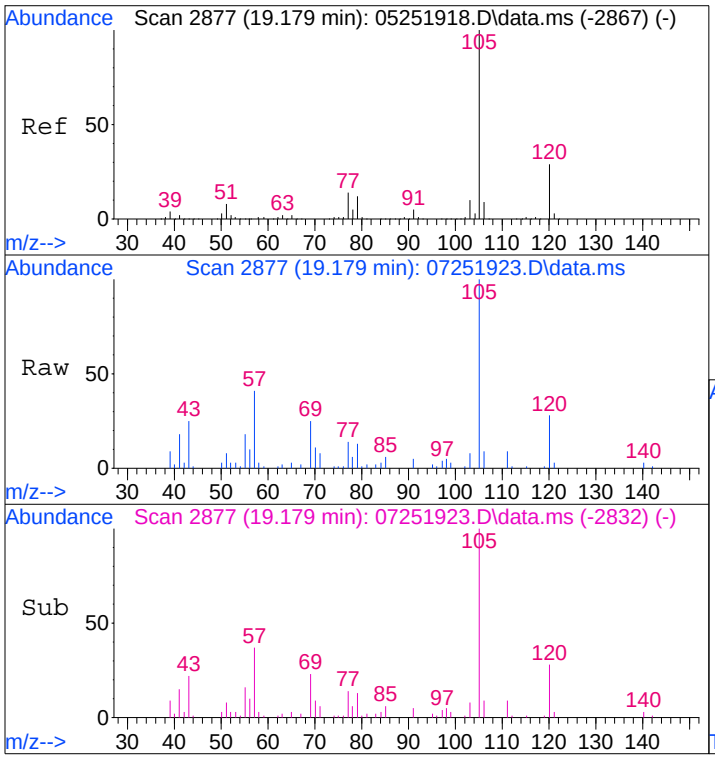


#71
n-Nonane
Concen: 0.58 ng
RT: 18.85 min Scan# 2815
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 43 Resp: 15109

Ion	Ratio	Lower	Upper
43	100		
57	81.2	71.7	111.7
85	33.1	18.7	58.7

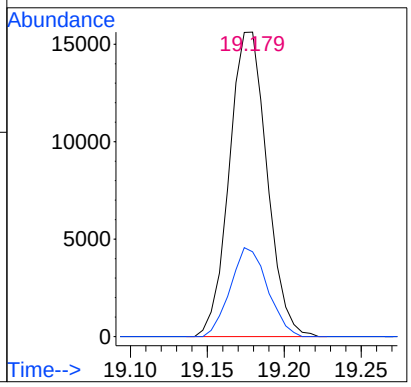


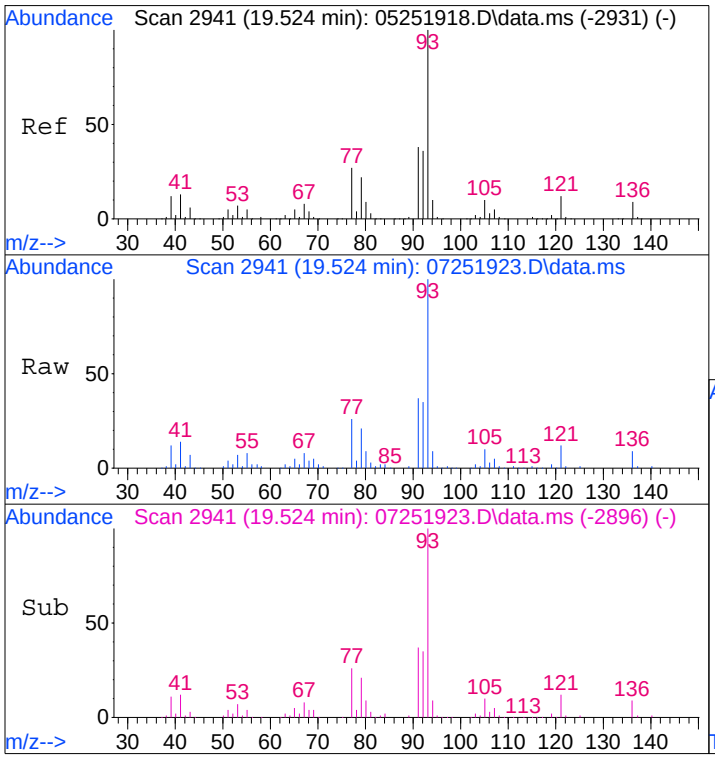


#74
Cumene
Concen: 0.43 ng
RT: 19.18 min Scan# 2877
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:105 Resp: 26578

Ion	Ratio	Lower	Upper
105	100		
120	28.8	8.5	48.5

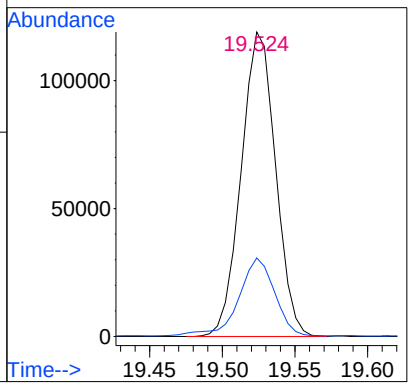


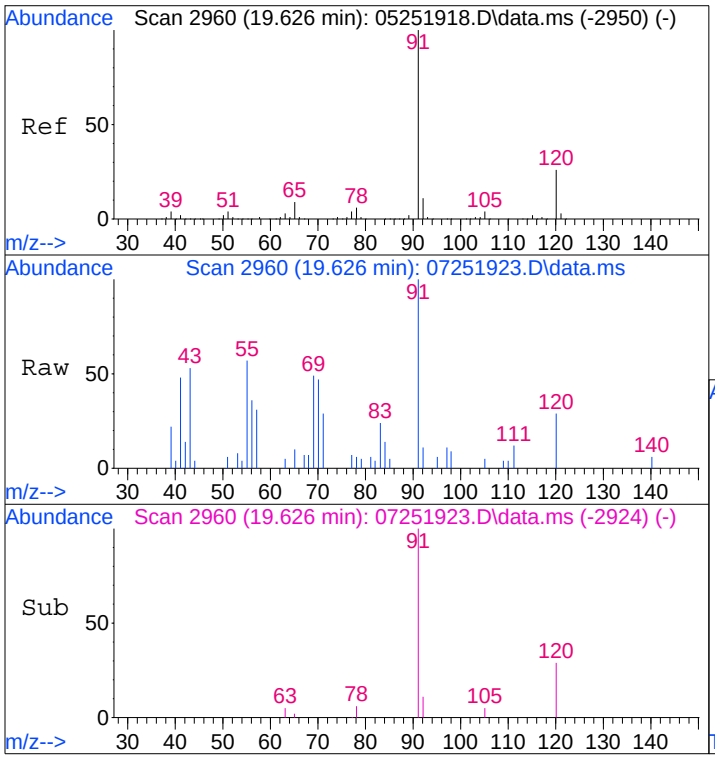


#75
alpha-Pinene
Concen: 6.62 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 93 Resp: 196093

Ion	Ratio	Lower	Upper
93	100		
77	27.4	7.0	47.0

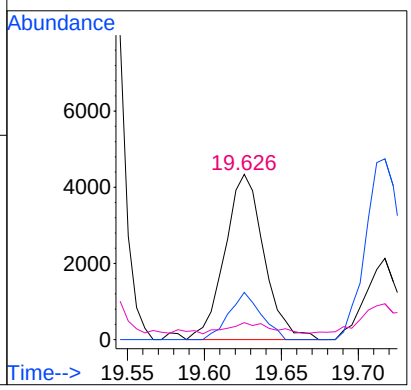


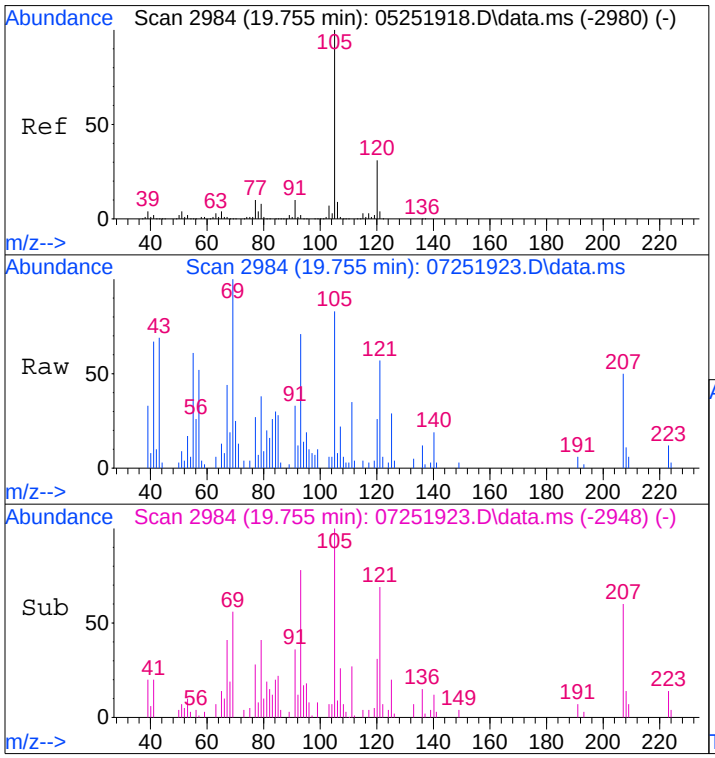


#76
n-Propylbenzene
Concen: 0.11 ng
RT: 19.63 min Scan# 2960
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 91 Resp: 7671

Ion	Ratio	Lower	Upper
91	100		
120	23.5	5.3	45.3
65	9.6	0.0	29.3

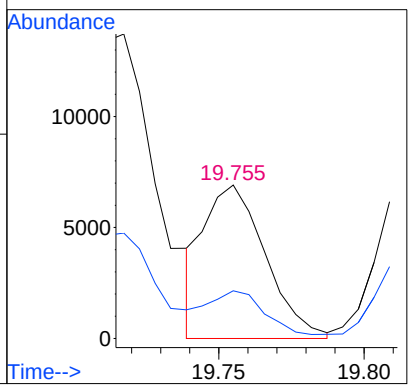


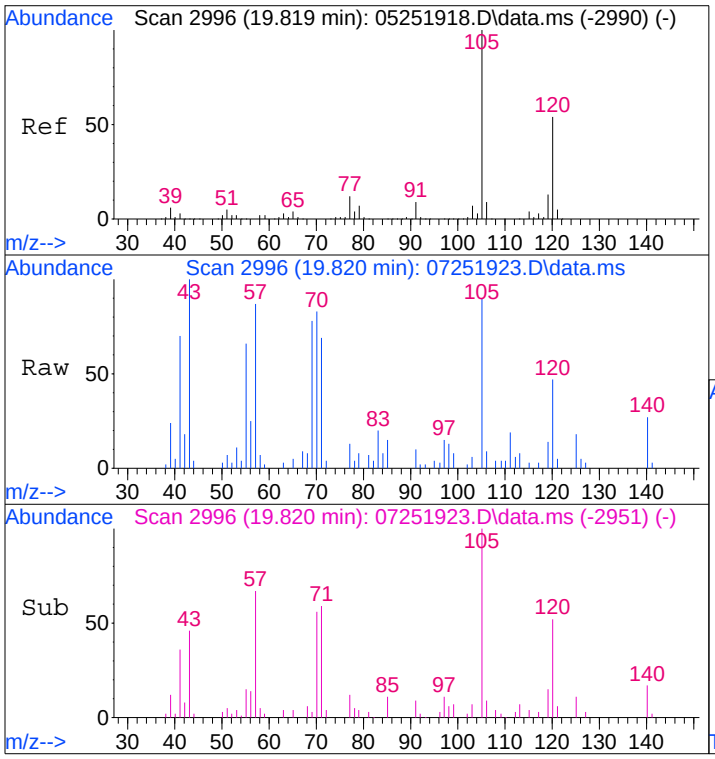


#78
4-Ethyltoluene
Concen: 0.19 ng
RT: 19.75 min Scan# 2984
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:105 Resp: 10209

Ion	Ratio	Lower	Upper
105	100		
120	30.5	11.7	51.7

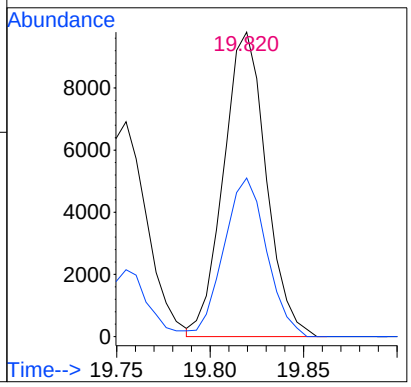


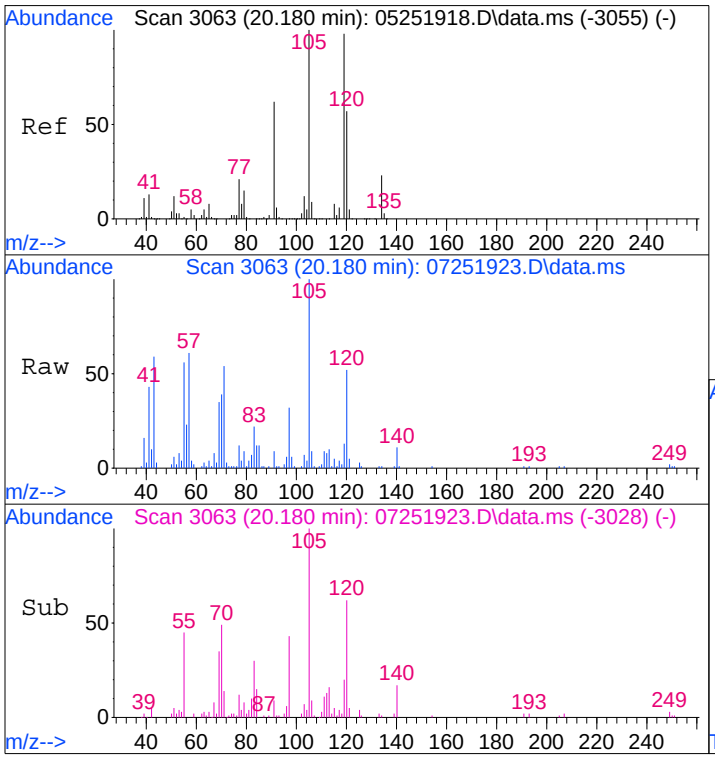


#79
1,3,5-Trimethylbenzene
Concen: 0.32 ng
RT: 19.82 min Scan# 2996
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:105 Resp: 15529

Ion	Ratio	Lower	Upper
105	100		
120	52.7	34.0	74.0

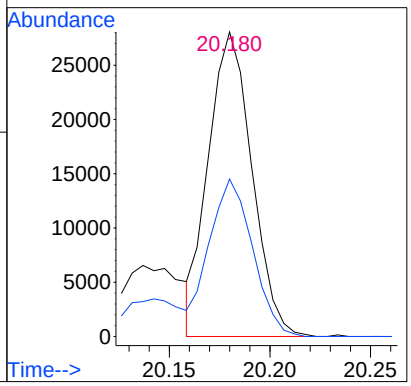


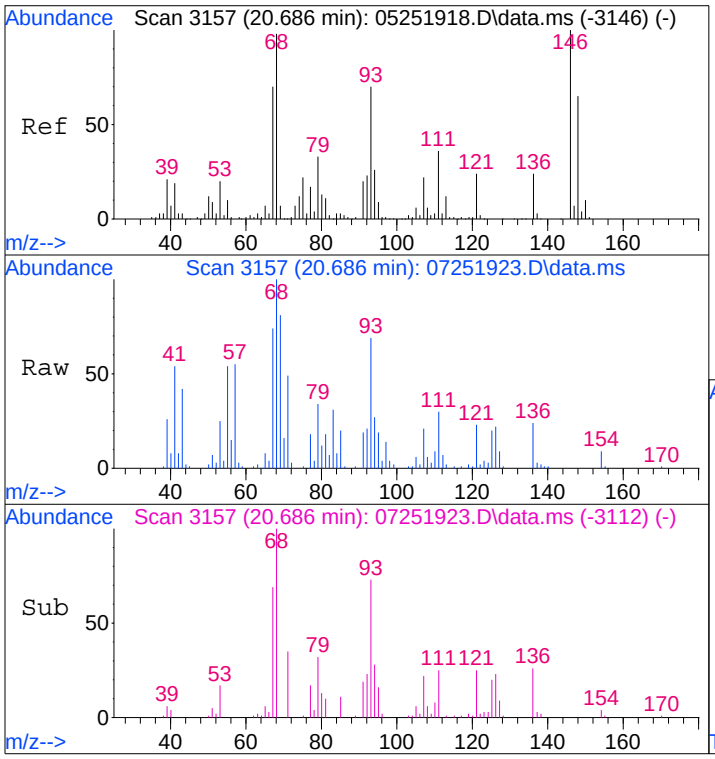


#82
1,2,4-Trimethylbenzene
Concen: 0.92 ng
RT: 20.18 min Scan# 3063
Delta R.T. -0.011 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:105 Resp: 42250

Ion	Ratio	Lower	Upper
105	100		
120	51.5	37.4	77.4

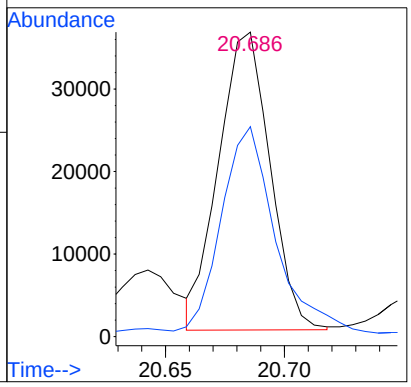


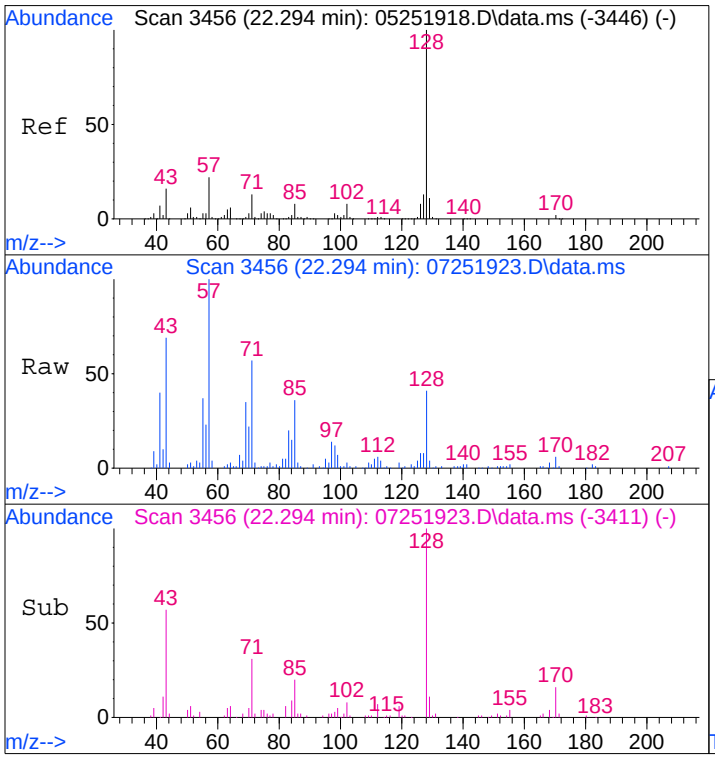


#91
d-Limonene
Concen: 3.05 ng
RT: 20.69 min Scan# 3157
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion: 68 Resp: 54366

Ion	Ratio	Lower	Upper
68	100		
93	76.8	50.9	90.9

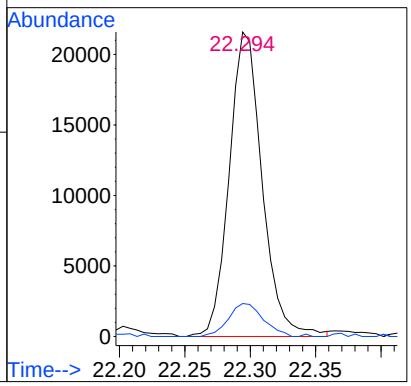




#95
Naphthalene
Concen: 0.73 ng
RT: 22.29 min Scan# 3456
Delta R.T. -0.005 min
Lab File: 07251923.D
Acq: 25 Jul 2019 18:04

Tgt Ion:128 Resp: 37927

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	31.1



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261907.D
Sample : P1904286-005 (10mL) Inst : MS08
Acq On : 26 Jul 2019 7:29 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

RS 8/2/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 08:28:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	155093	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	689101	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	302114	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.08	65	182152	11.816	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%			
57) Toluene-d8 (SS2)	15.81	98	743910	11.972	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%			
73) Bromofluorobenzene (SS3)	19.05	174	270958	13.276	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%			
Target Compounds						Qvalue
2) Propene	4.21	42	260	N.D.		
3) Dichlorodifluoromethan...	4.35	85	116	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.46	45	2585	0.288	ng	87
11) Acetonitrile	6.74	41	2315	0.101	ng	86
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.15	58	2855	0.319	ng	87
14) Trichlorofluoromethane	7.34	101	1096	0.064	ng	92
15) 2-Propanol (Isopropanol)	7.70	45	503	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.80	76	15665	0.400	ng	96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.35	57	169	N.D.		
32) Chloroform	11.40	83	1294	0.072	ng	90
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.03	56	339	N.D.		
41) Benzene	12.97	78	1562	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.07	130	2285	0.171	ng	91
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.13	57	447	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261907.D
Sample : P1904286-005 (10mL) Inst : MS08
Acq On : 26 Jul 2019 7:29 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 08:28:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

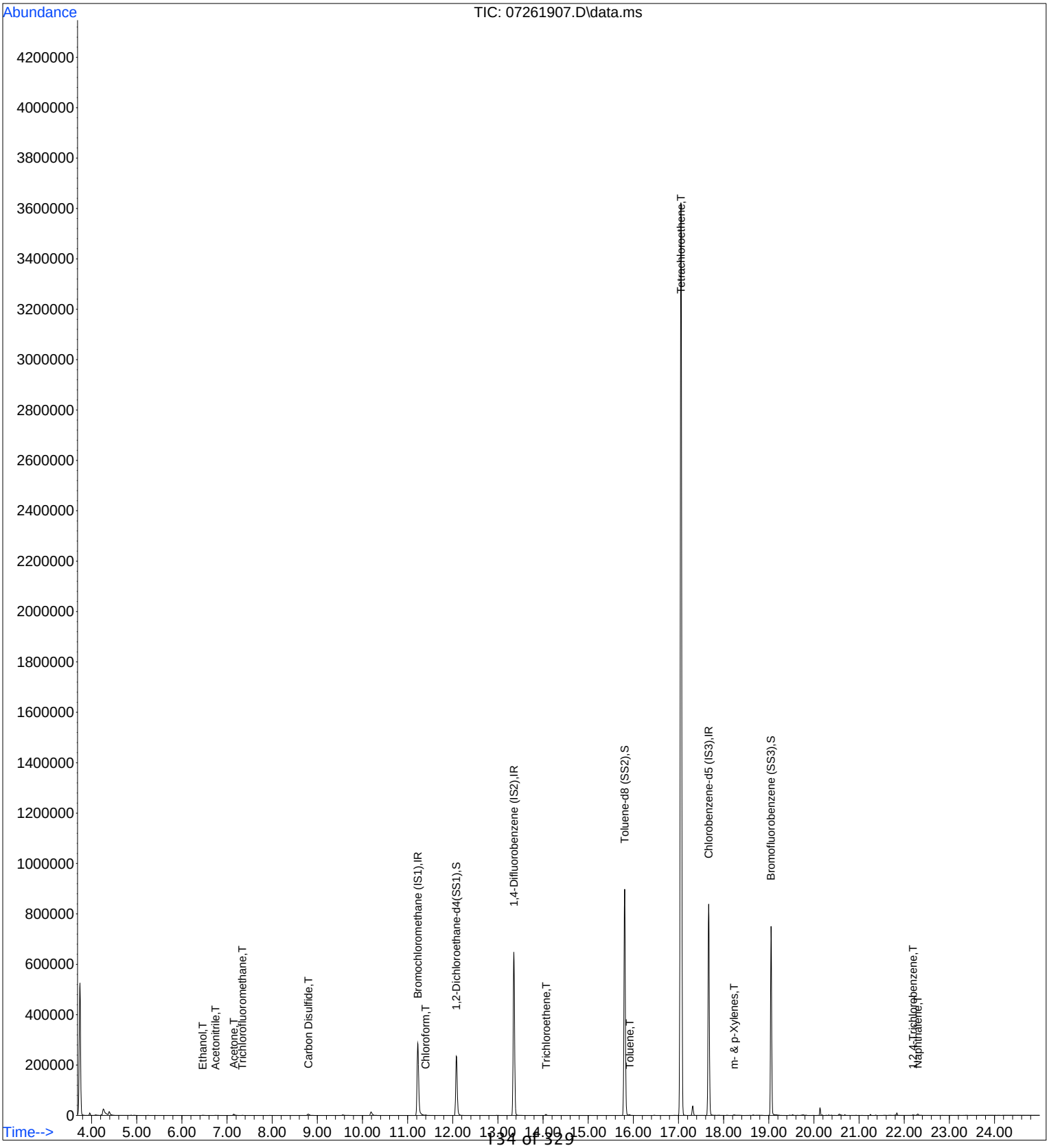
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.92	91	3131	0.060 ng		97
59) 2-Hexanone	16.23	43	155	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	17.05	166	1598308	99.611 ng		99
65) Chlorobenzene	17.71	112	504	N.D.		
66) Ethylbenzene	18.07	91	1650	N.D.		
67) m- & p-Xylenes	18.23	91	3815	0.081 ng		90
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.58	104	468	N.D.		
70) o-Xylene	18.66	91	1750	N.D.		
71) n-Nonane	18.85	43	403	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.18	105	1740	N.D.		
75) alpha-Pinene	19.52	93	1131	N.D.		
76) n-Propylbenzene	19.64	91	2019	N.D.		
77) 3-Ethyltoluene	19.72	105	1574	N.D.		
78) 4-Ethyltoluene	19.72	105	1574	N.D.		
79) 1,3,5-Trimethylbenzene	19.82	105	858	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.99	105	761	N.D.		
82) 1,2,4-Trimethylbenzene	20.19	105	1555	N.D.		
83) n-Decane	20.27	57	581	N.D.		
84) Benzyl Chloride	20.31	91	162	N.D.		
85) 1,3-Dichlorobenzene	20.33	146	911	N.D.		
86) 1,4-Dichlorobenzene	20.38	146	1320	N.D.		
87) sec-Butylbenzene	20.42	105	444	N.D.		
88) 4-Isopropyltoluene (p-...	20.56	119	2300	N.D.		
89) 1,2,3-Trimethylbenzene	20.56	105	837	N.D.		
90) 1,2-Dichlorobenzene	20.69	146	735	N.D.		
91) d-Limonene	20.69	68	745	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.37	57	669	N.D.		
94) 1,2,4-Trichlorobenzene	22.19	180	1482	0.080 ng	#	92
95) Naphthalene	22.30	128	8102	0.151 ng		89
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.14	119	653	N.D.		
100) n-Butylbenzene	20.93	91	872	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261907.D
Sample : P1904286-005 (10mL) Inst : MS08
Acq On : 26 Jul 2019 7:29 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 08:28:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261907.D
Sample : P1904286-005 (10mL) Inst : MS08
Acq On : 26 Jul 2019 7:29 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

RS 8/2/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 08:28:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

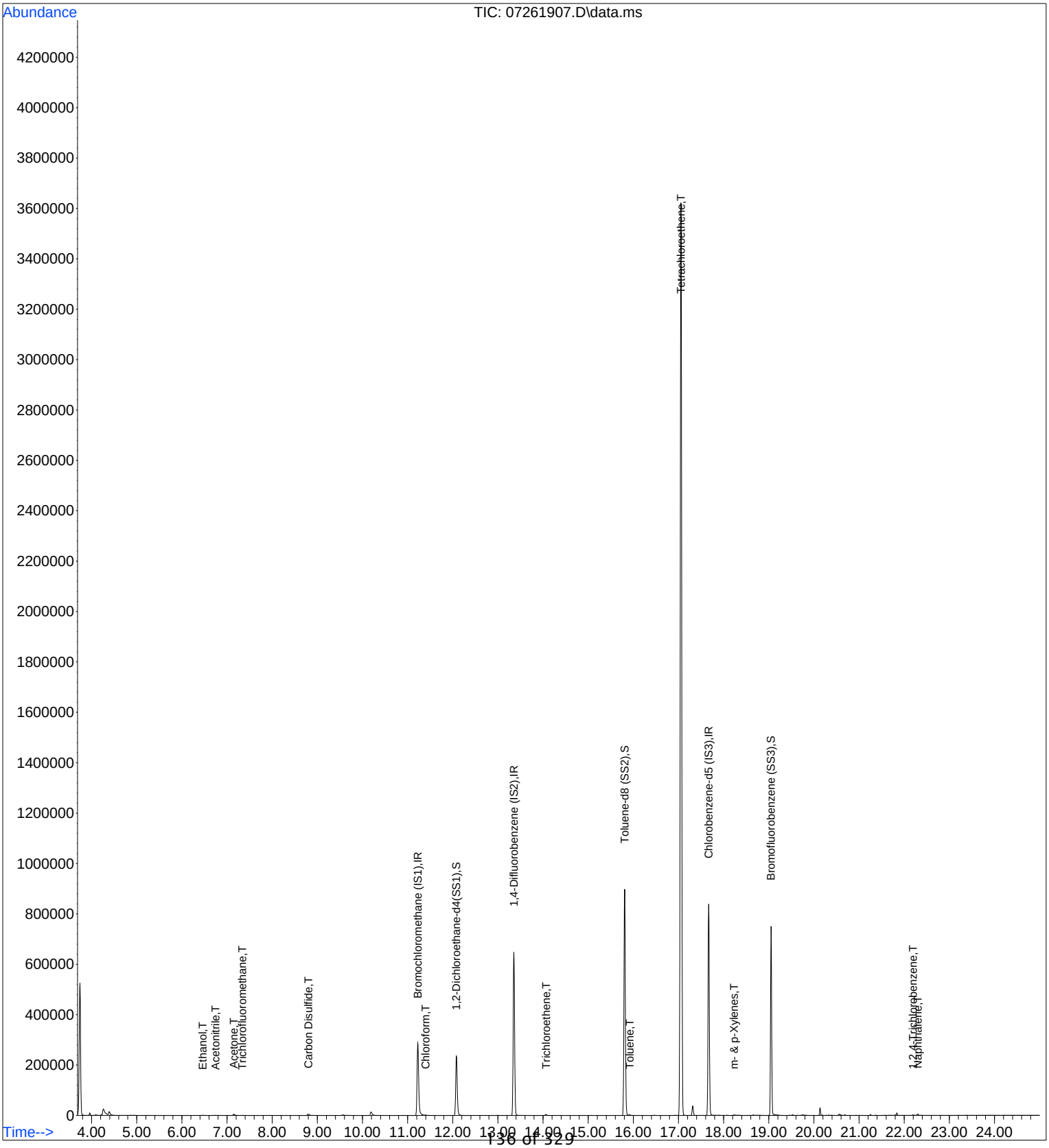
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	155093	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	689101	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	302114	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	182152	11.816	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
57) Toluene-d8 (SS2)	15.81	98	743910	11.972	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	19.05	174	270958	13.276	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
Target Compounds							Qvalue
10) Ethanol	6.46	45	2585	0.288	ng		87
11) Acetonitrile	6.74	41	2315	0.101	ng		86
13) Acetone	7.15	58	2855	0.319	ng		87
14) Trichlorofluoromethane	7.34	101	1096	0.064	ng		92
22) Carbon Disulfide	8.80	76	15665	0.400	ng		96
32) Chloroform	11.40	83	1294	0.072	ng		90
47) Trichloroethene	14.07	130	2285	0.171	ng		91
58) Toluene	15.92	91	3131	0.060	ng		97
64) Tetrachloroethene	17.05	166	1598308	99.611	ng		99
67) m- & p-Xylenes	18.23	91	3815	0.081	ng		90
94) 1,2,4-Trichlorobenzene	22.19	180	1482	0.080	ng	#	92
95) Naphthalene	22.30	128	8102	0.151	ng		89

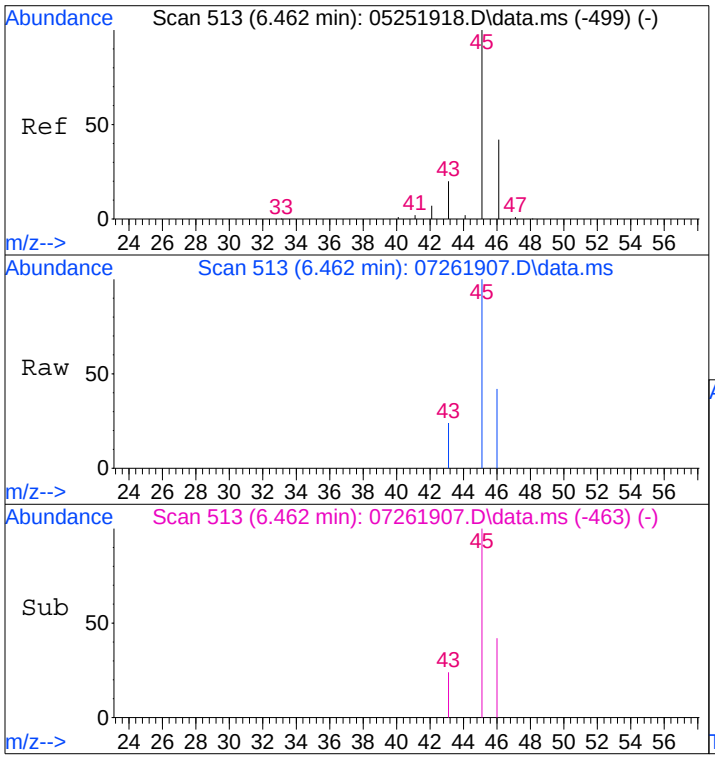
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261907.D
Sample : P1904286-005 (10mL) Inst : MS08
Acq On : 26 Jul 2019 7:29 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 08:28:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

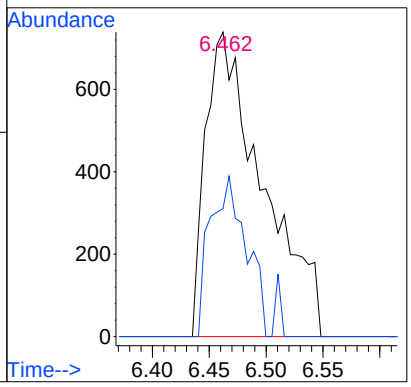


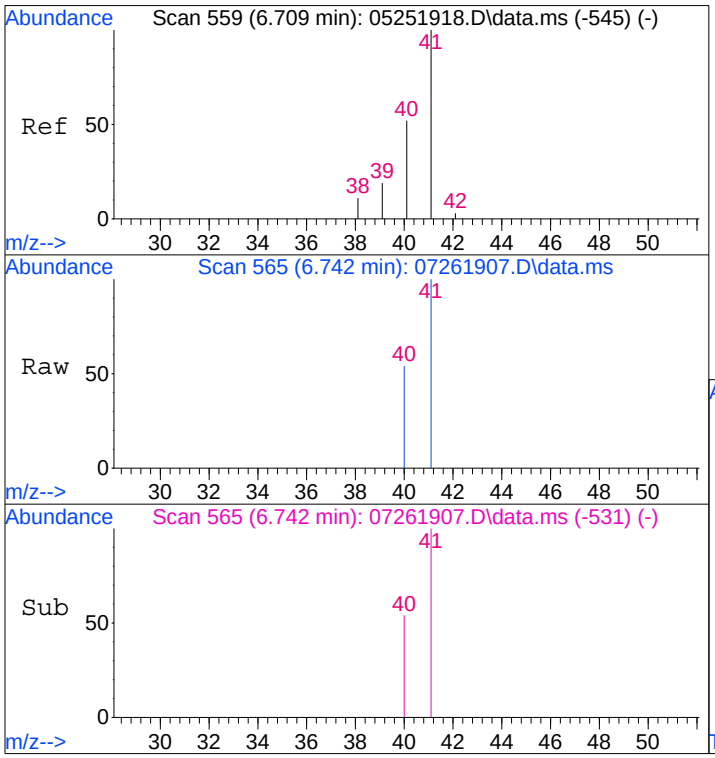


#10
Ethanol
Concen: 0.29 ng
RT: 6.46 min Scan# 513
Delta R.T. 0.019 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion: 45 Resp: 2585

Ion	Ratio	Lower	Upper
45	100		
46	33.3	21.7	61.7

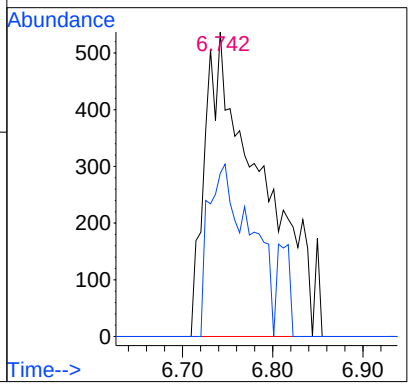


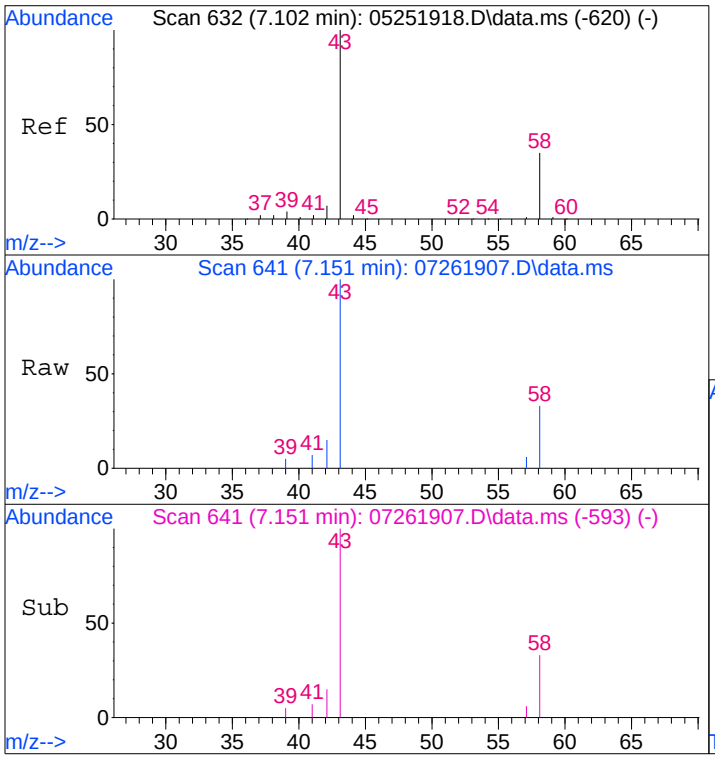


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.74 min Scan# 565
Delta R.T. -0.016 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion: 41 Resp: 2315

Ion	Ratio	Lower	Upper
41	100		
40	42.4	32.5	72.5

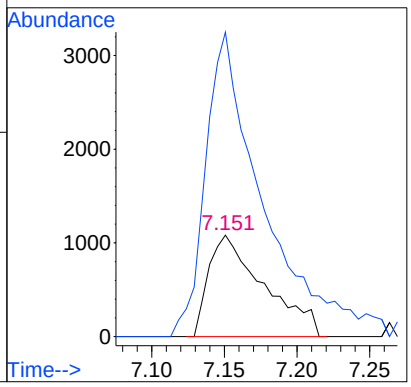


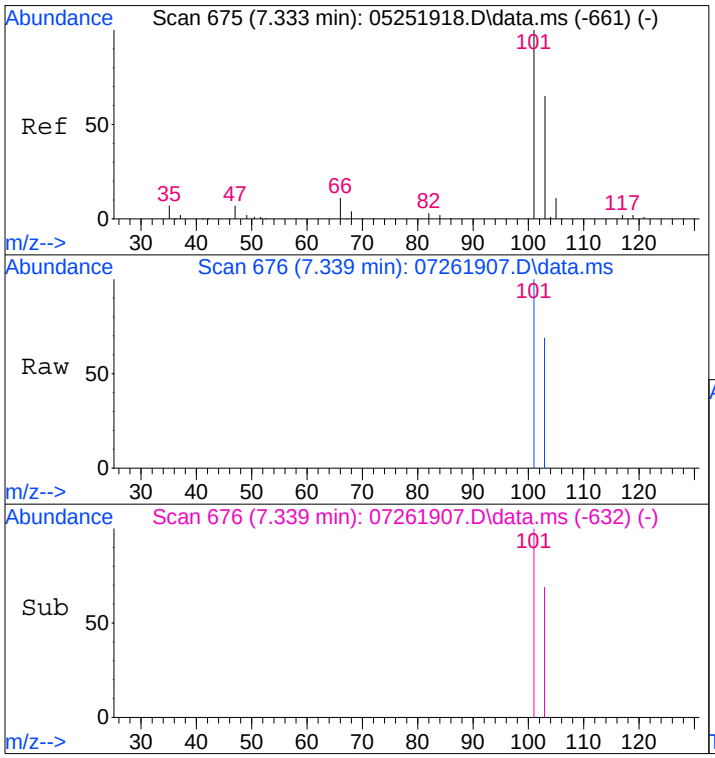


#13
Acetone
Concen: 0.32 ng
RT: 7.15 min Scan# 641
Delta R.T. 0.006 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion: 58 Resp: 2855

Ion	Ratio	Lower	Upper
58	100		
43	316.8	260.9	320.9

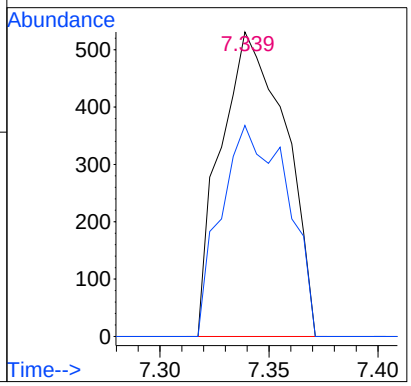


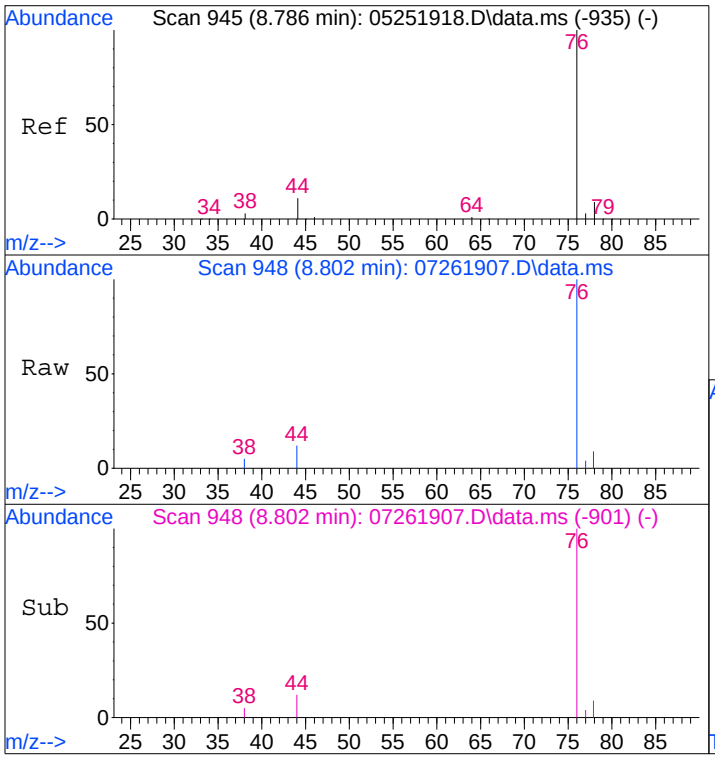


#14
Trichlorofluoromethane
Concen: 0.06 ng
RT: 7.34 min Scan# 676
Delta R.T. -0.011 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion:101 Resp: 1096

Ion	Ratio	Lower	Upper
101	100		
103	70.7	44.7	84.7

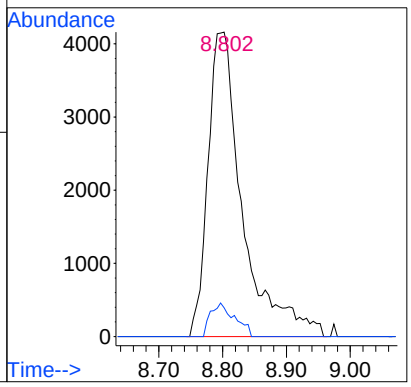


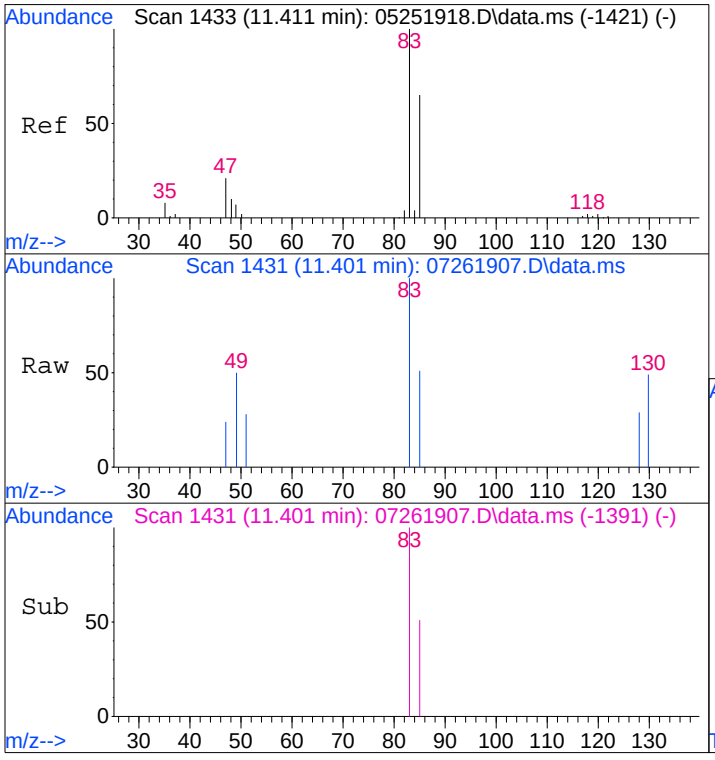


#22
Carbon Disulfide
Concen: 0.40 ng
RT: 8.80 min Scan# 948
Delta R.T. 0.000 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion: 76 Resp: 15665

Ion	Ratio	Lower	Upper
76	100		
78	7.7	0.0	29.2

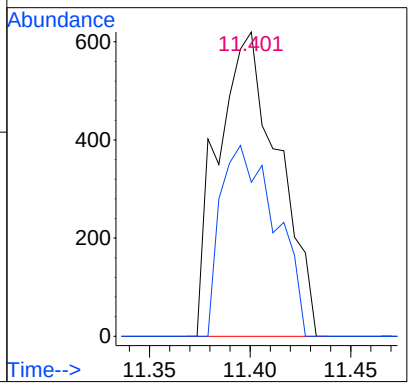


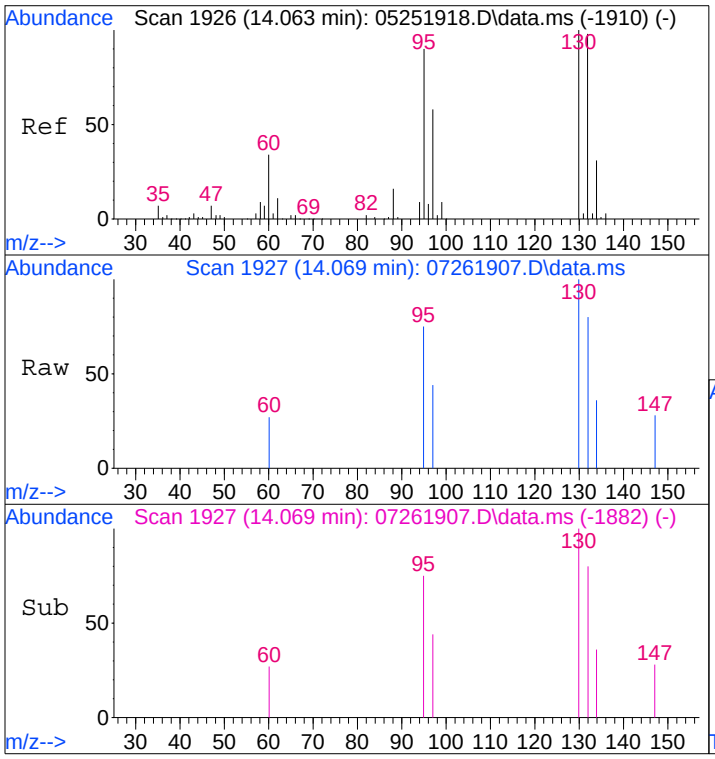


#32
Chloroform
Concen: 0.07 ng
RT: 11.40 min Scan# 1431
Delta R.T. -0.032 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion: 83 Resp: 1294

Ion	Ratio	Lower	Upper
83	100		
85	57.2	45.3	85.3

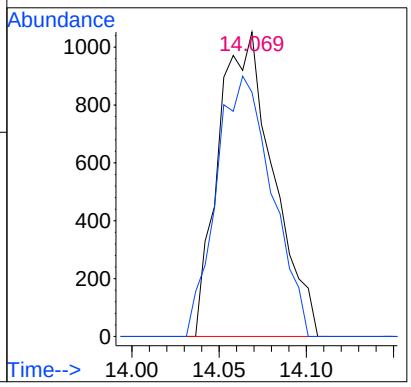


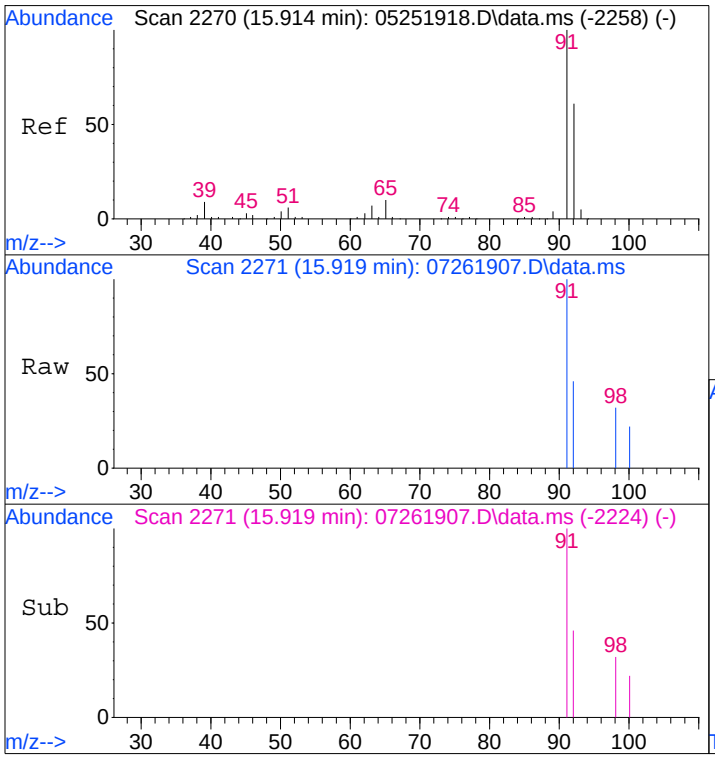


#47
Trichloroethene
Concen: 0.17 ng
RT: 14.07 min Scan# 1927
Delta R.T. -0.005 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion:130 Resp: 2285

Ion	Ratio	Lower	Upper
130	100		
132	87.3	76.1	116.1

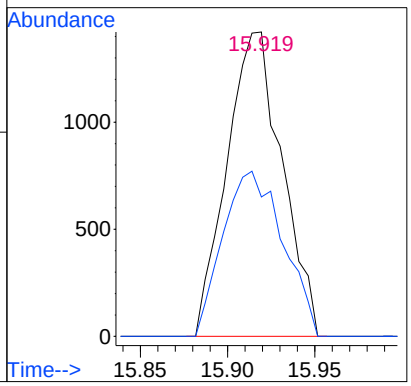


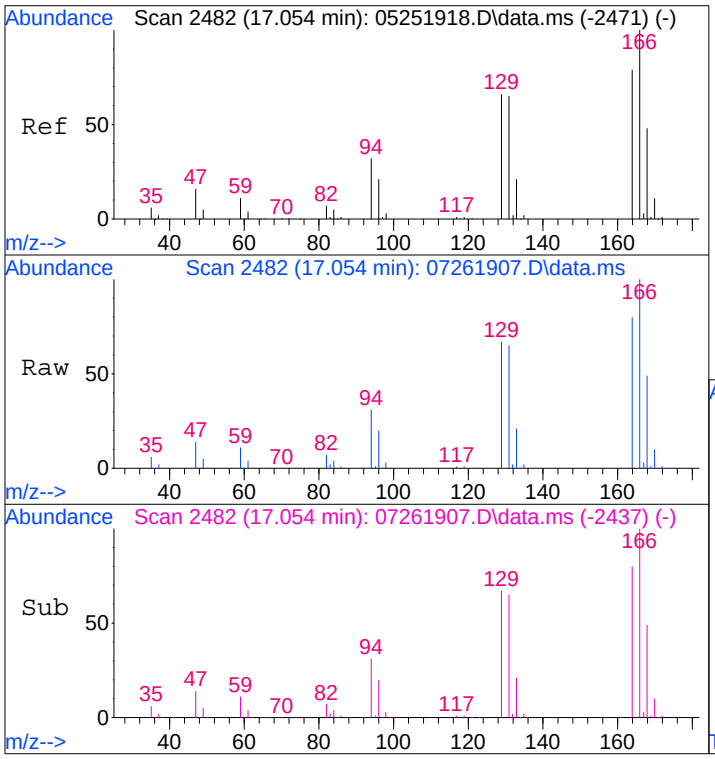


#58
Toluene
Concen: 0.06 ng
RT: 15.92 min Scan# 2271
Delta R.T. 0.000 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion: 91 Resp: 3131

Ion	Ratio	Lower	Upper
91	100		
92	59.1	41.2	81.2

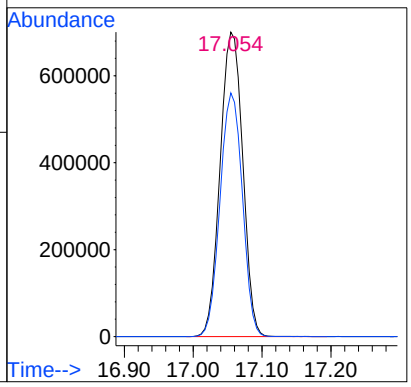


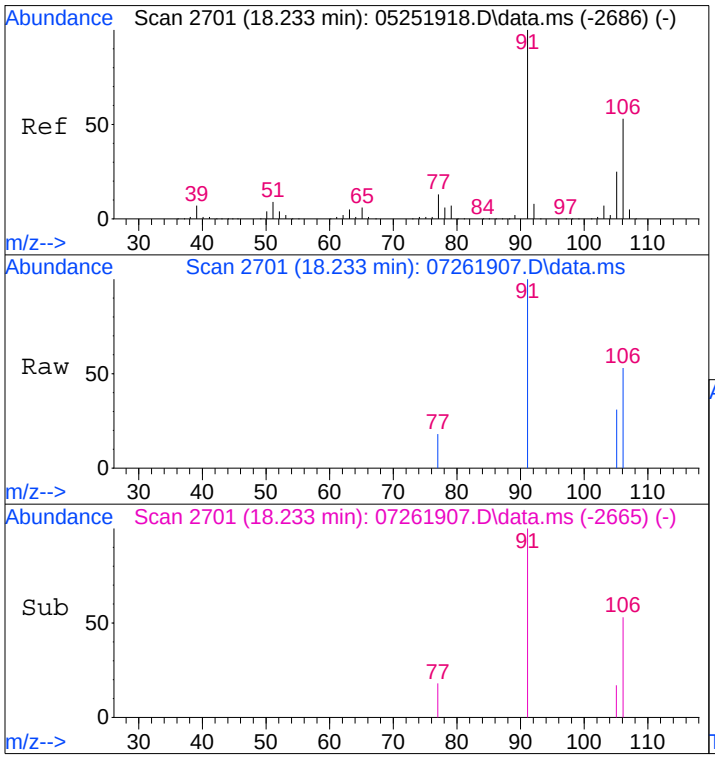


#64
Tetrachloroethene
Concen: 99.61 ng
RT: 17.05 min Scan# 2482
Delta R.T. -0.005 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion:166 Resp: 1598308

Ion	Ratio	Lower	Upper
166	100		
164	79.0	58.4	98.4

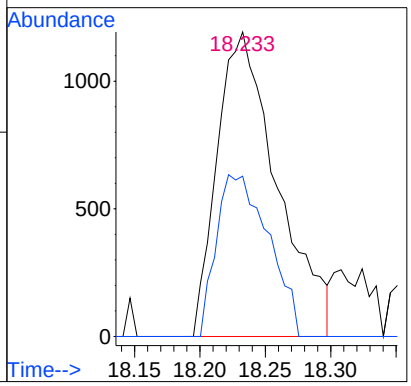


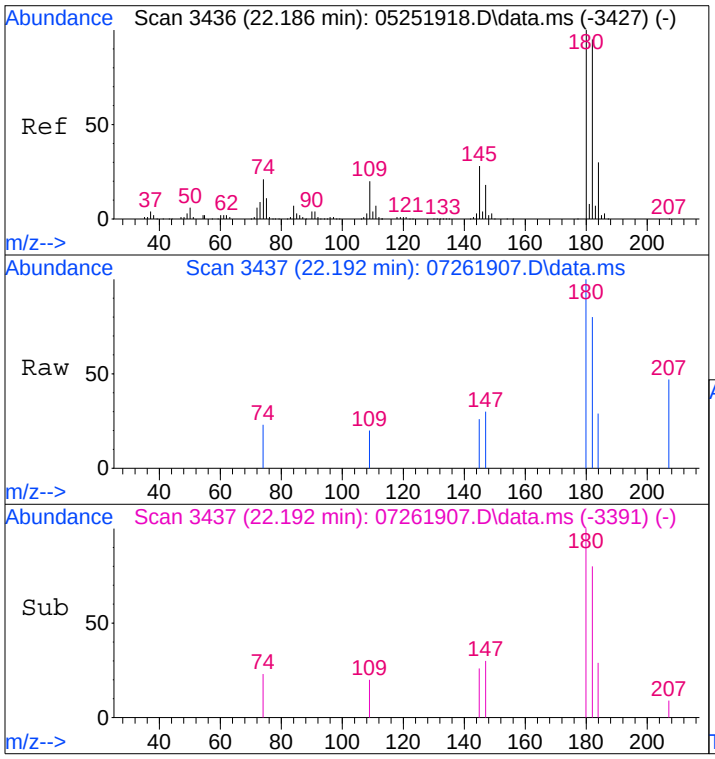


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 18.23 min Scan# 2701
Delta R.T. -0.005 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion: 91 Resp: 3815

Ion	Ratio	Lower	Upper
91	100		
106	46.0	33.4	73.4

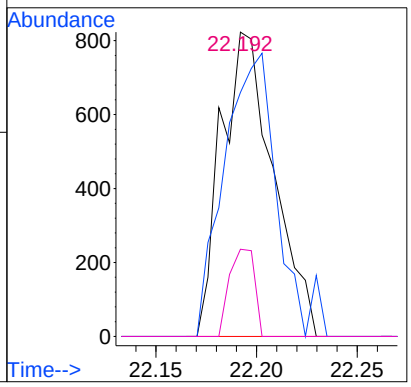


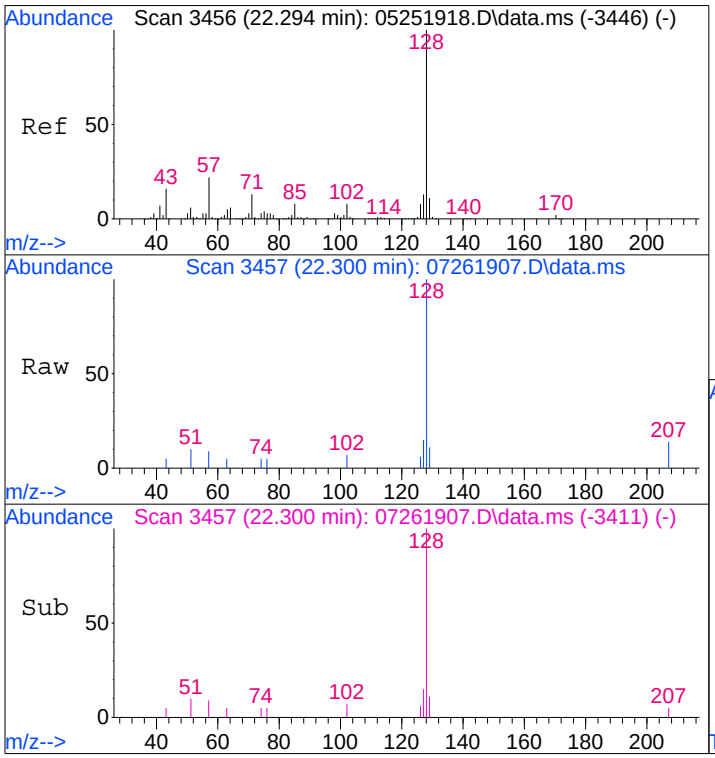


#94
1,2,4-Trichlorobenzene
Concen: 0.08 ng
RT: 22.19 min Scan# 3437
Delta R.T. 0.000 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion:180 Resp: 1482

Ion	Ratio	Lower	Upper
180	100		
182	94.5	75.9	113.9
184	13.8	24.2	36.4#

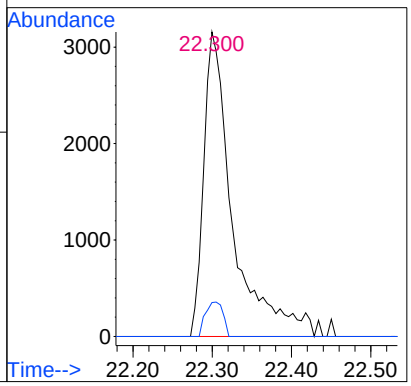




#95
Naphthalene
Concen: 0.15 ng
RT: 22.30 min Scan# 3457
Delta R.T. 0.000 min
Lab File: 07261907.D
Acq: 26 Jul 2019 7:29

Tgt Ion:128 Resp: 8102

Ion	Ratio	Lower	Upper
128	100		
129	6.8	0.0	31.1



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261908.D
Sample : P1904286-006 (10mL) Inst : MS08
Acq On : 26 Jul 2019 8:02 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

RS 8/2/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 29 07:46:24 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.22	130	149603	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.35	114	666441	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	288800	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.08	65	176492	11.869	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%			
57) Toluene-d8 (SS2)	15.81	98	718023	12.089	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%			
73) Bromofluorobenzene (SS3)	19.05	174	254660	13.053	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%			

Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	4.33	85	184	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.46	45	1275	0.147 ng	#	68
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.16	58	2265	0.262 ng		93
14) Trichlorofluoromethane	7.33	101	1741	0.106 ng		92
15) 2-Propanol (Isopropanol)	7.67	45	699	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.80	76	15232	0.404 ng		93
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.40	87	205	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	11.40	83	4113	0.236 ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	12.97	78	1156	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.06	130	10635	0.825 ng		97
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261908.D
Sample : P1904286-006 (10mL) Inst : MS08
Acq On : 26 Jul 2019 8:02 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 29 07:46:24 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

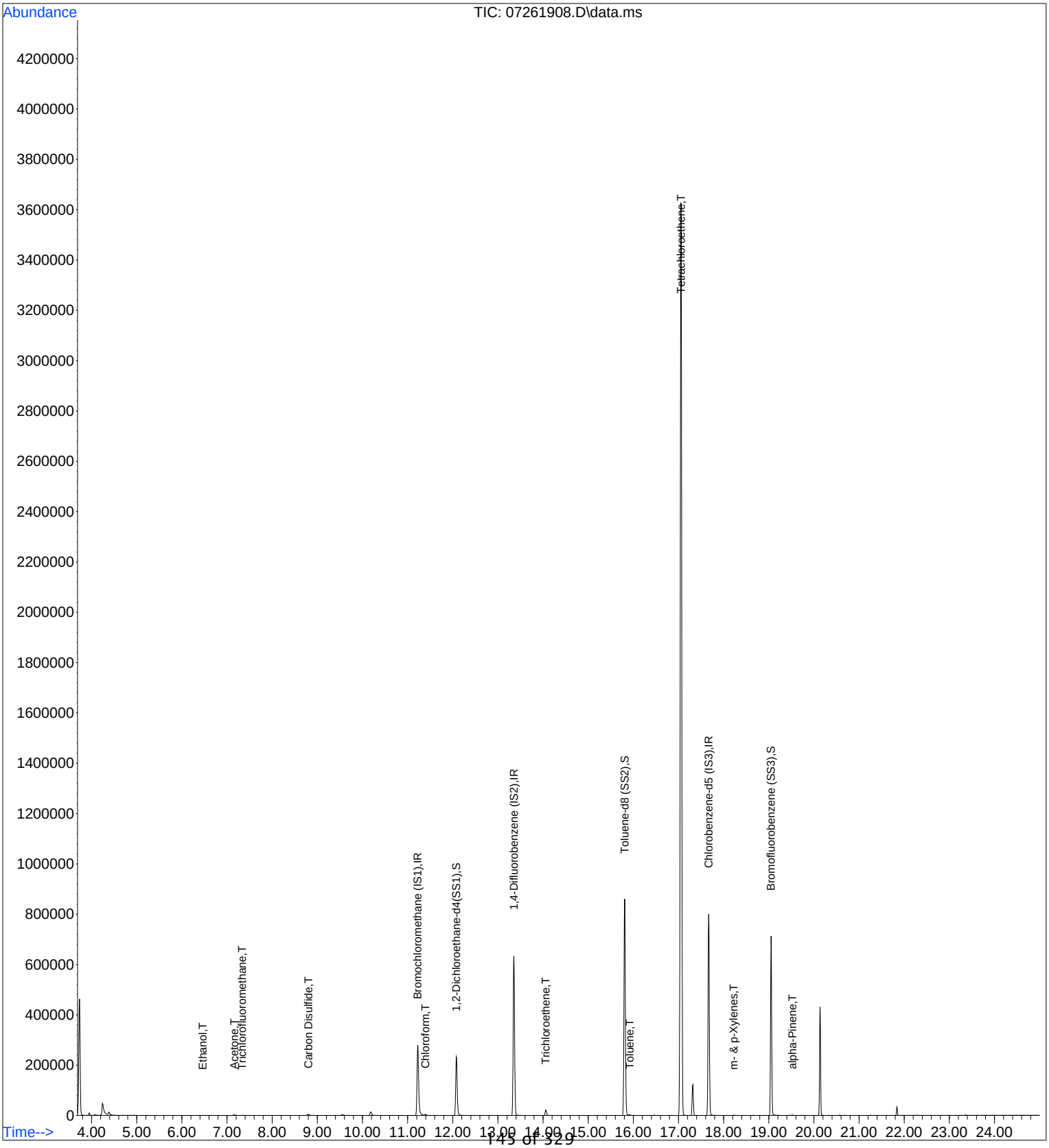
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.92	91	3575	0.071 ng	93
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.05	166	1614956	105.288 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.08	91	1398	N.D.	
67) m- & p-Xylenes	18.22	91	2990	0.067 ng	94
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.66	91	1346	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.19	105	160	N.D.	
75) alpha-Pinene	19.52	93	1574	0.053 ng	94
76) n-Propylbenzene	19.63	91	493	N.D.	
77) 3-Ethyltoluene	19.72	105	1620	N.D.	
78) 4-Ethyltoluene	19.77	105	548	N.D.	
79) 1,3,5-Trimethylbenzene	19.83	105	608	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.99	105	646	N.D.	
82) 1,2,4-Trimethylbenzene	20.19	105	1357	N.D.	
83) n-Decane	20.27	57	200	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.42	105	101	N.D.	
88) 4-Isopropyltoluene (p-...	20.56	119	1238	N.D.	
89) 1,2,3-Trimethylbenzene	20.56	105	417	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.68	68	587	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.36	57	360	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.33	128	956	N.D.	
96) n-Dodecane	22.29	57	729	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	20.19	119	173	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261908.D
Sample : P1904286-006 (10mL) Inst : MS08
Acq On : 26 Jul 2019 8:02 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 29 07:46:24 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261908.D
Sample : P1904286-006 (10mL) Inst : MS08
Acq On : 26 Jul 2019 8:02 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

RS 8/2/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 29 07:46:24 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

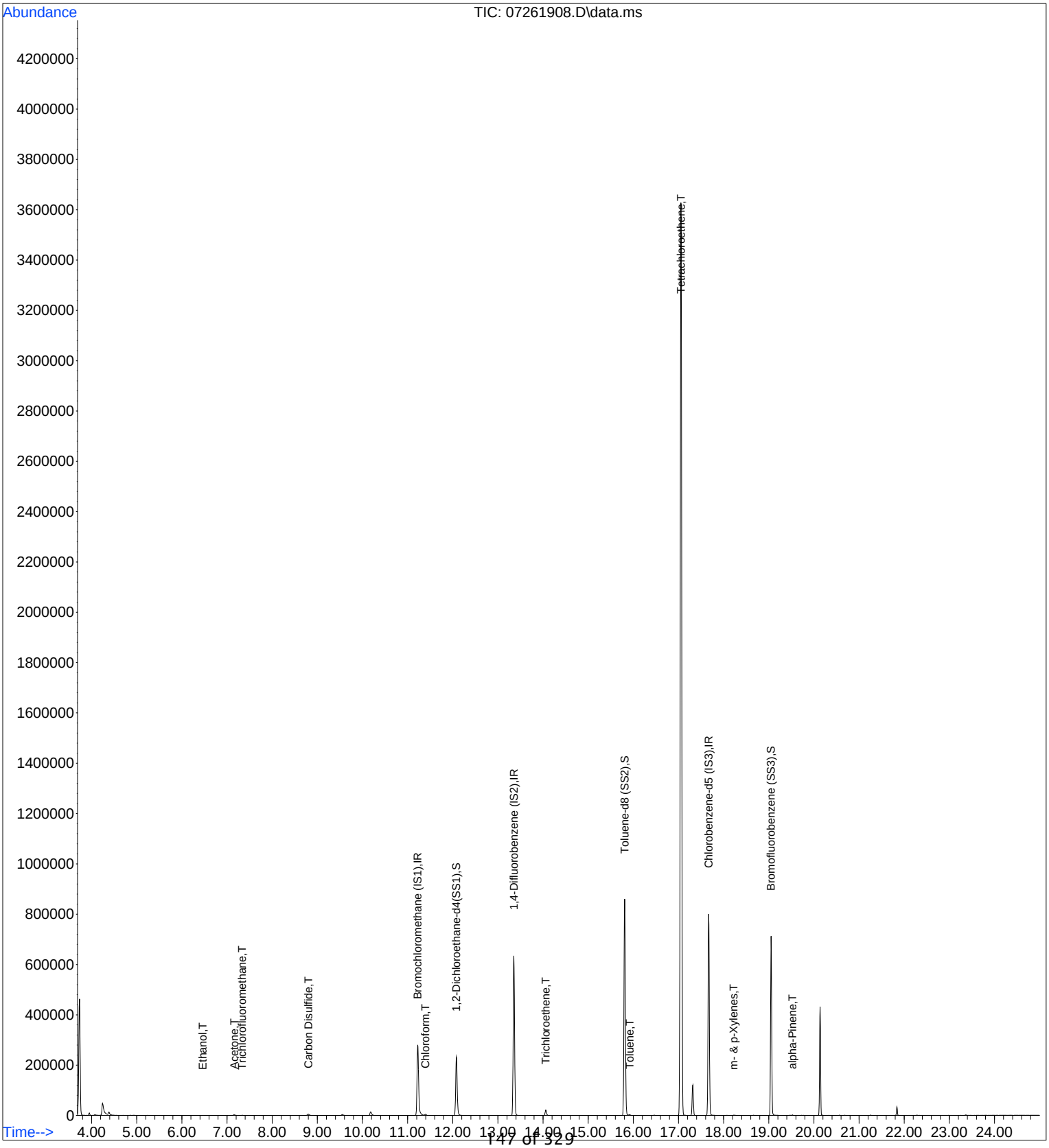
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.22	130	149603	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.35	114	666441	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	288800	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	176492	11.869	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
57) Toluene-d8 (SS2)	15.81	98	718023	12.089	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	19.05	174	254660	13.053	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
Target Compounds							Qvalue
10) Ethanol	6.46	45	1275	0.147	ng	#	68
13) Acetone	7.16	58	2265	0.262	ng		93
14) Trichlorofluoromethane	7.33	101	1741	0.106	ng		92
22) Carbon Disulfide	8.80	76	15232	0.404	ng		93
32) Chloroform	11.40	83	4113	0.236	ng		99
47) Trichloroethene	14.06	130	10635	0.825	ng		97
58) Toluene	15.92	91	3575	0.071	ng		93
64) Tetrachloroethene	17.05	166	1614956	105.288	ng		99
67) m- & p-Xylenes	18.22	91	2990	0.067	ng		94
75) alpha-Pinene	19.52	93	1574	0.053	ng		94

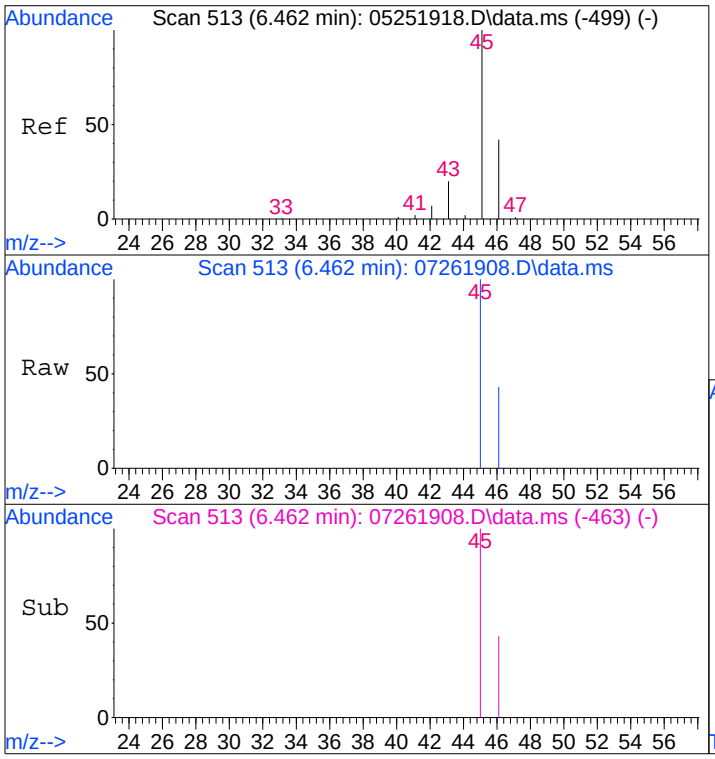
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261908.D
Sample : P1904286-006 (10mL) Inst : MS08
Acq On : 26 Jul 2019 8:02 Operator: RS
Misc : S31-07111901
ALS Vial : 4 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 29 07:46:24 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

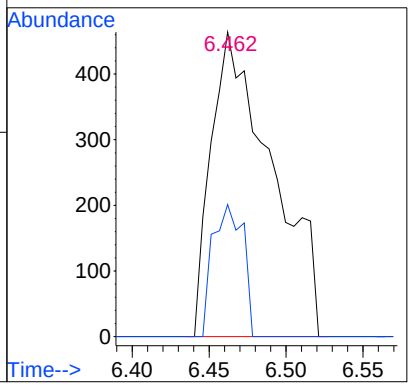


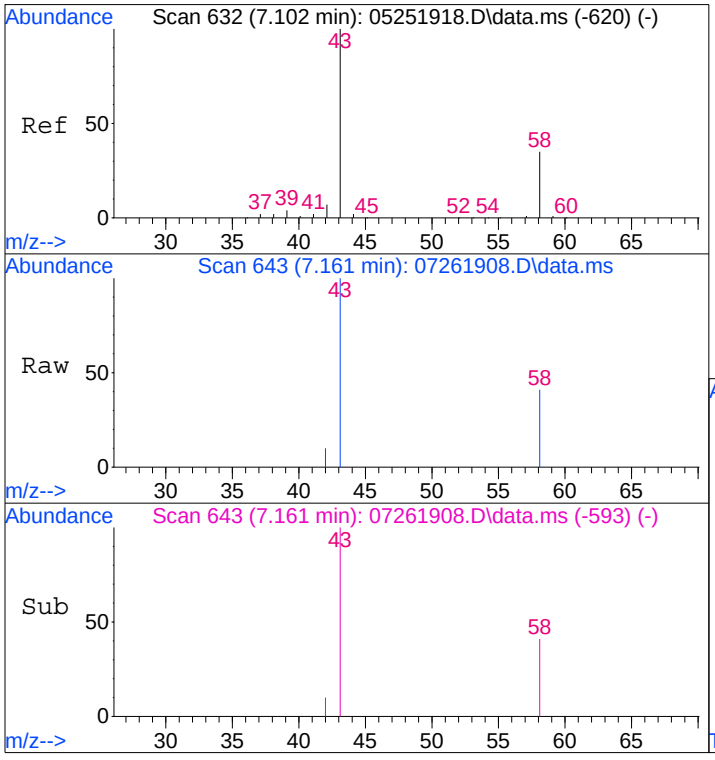


#10
Ethanol
Concen: 0.15 ng
RT: 6.46 min Scan# 513
Delta R.T. 0.019 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion: 45 Resp: 1275

Ion	Ratio	Lower	Upper
45	100		
46	21.6	21.7	61.7#

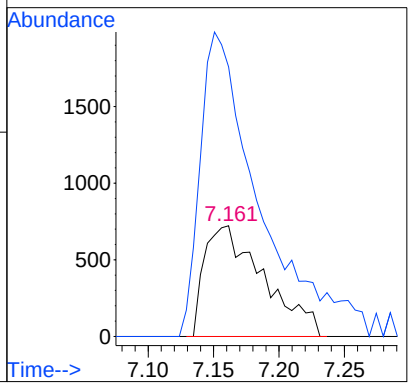


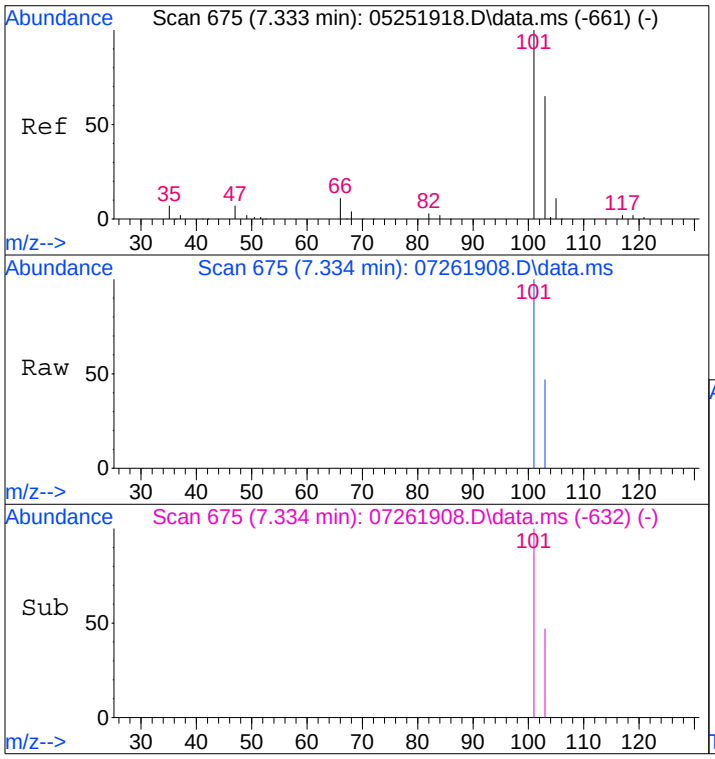


#13
Acetone
Concen: 0.26 ng
RT: 7.16 min Scan# 643
Delta R.T. 0.016 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion: 58 Resp: 2265

Ion	Ratio	Lower	Upper
58	100		
43	277.5	260.9	320.9

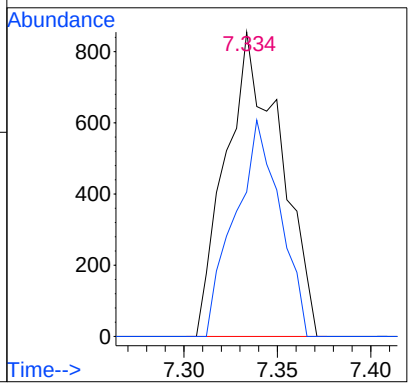


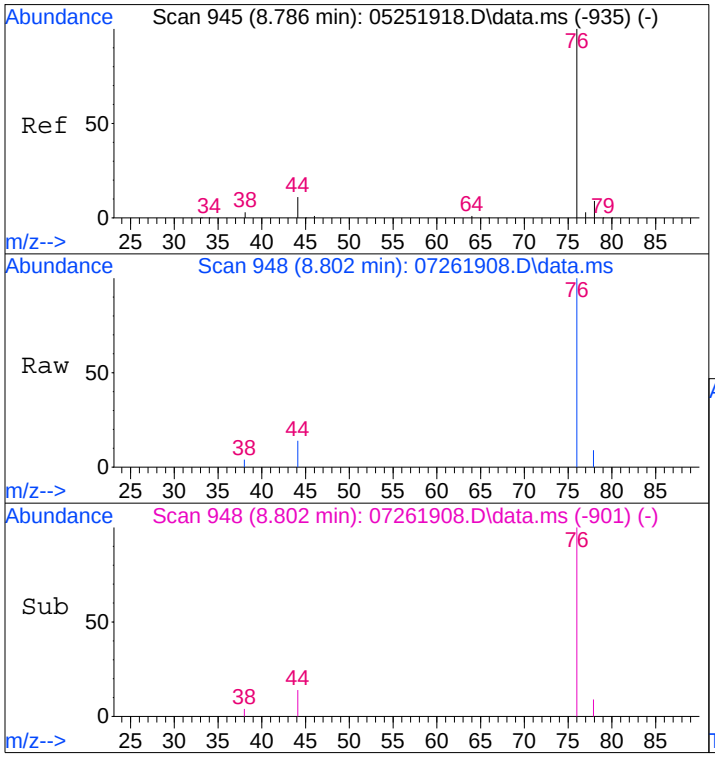


#14
Trichlorofluoromethane
Concen: 0.11 ng
RT: 7.33 min Scan# 675
Delta R.T. -0.016 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion:101 Resp: 1741

Ion	Ratio	Lower	Upper
101	100		
103	58.5	44.7	84.7

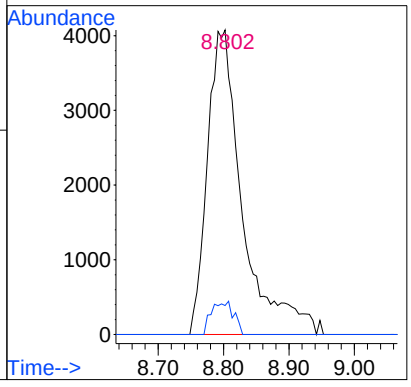


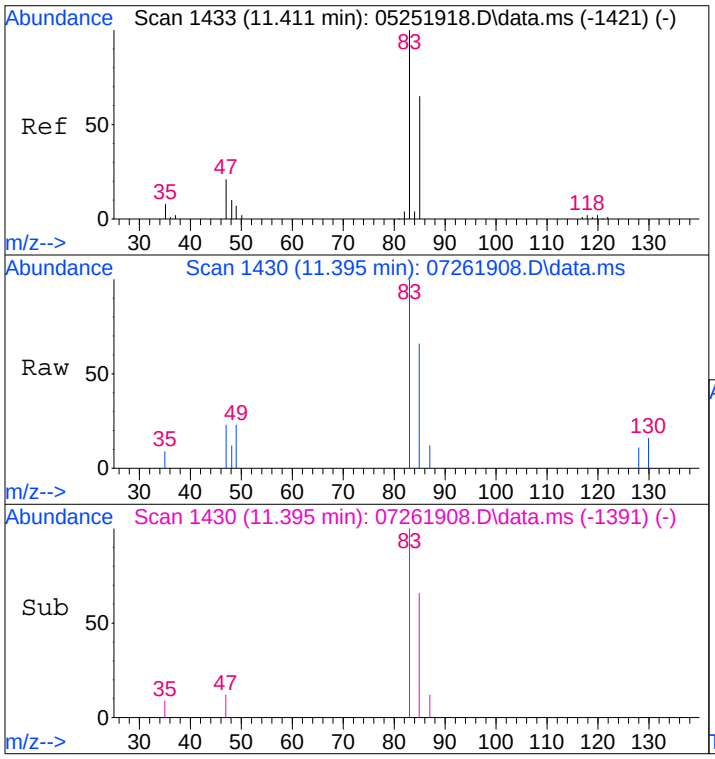


#22
Carbon Disulfide
Concen: 0.40 ng
RT: 8.80 min Scan# 948
Delta R.T. 0.000 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion: 76 Resp: 15232

Ion	Ratio	Lower	Upper
76	100		
78	6.8	0.0	29.2

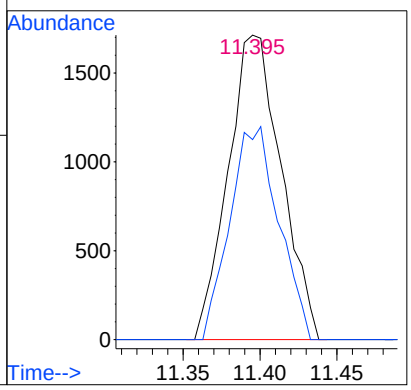


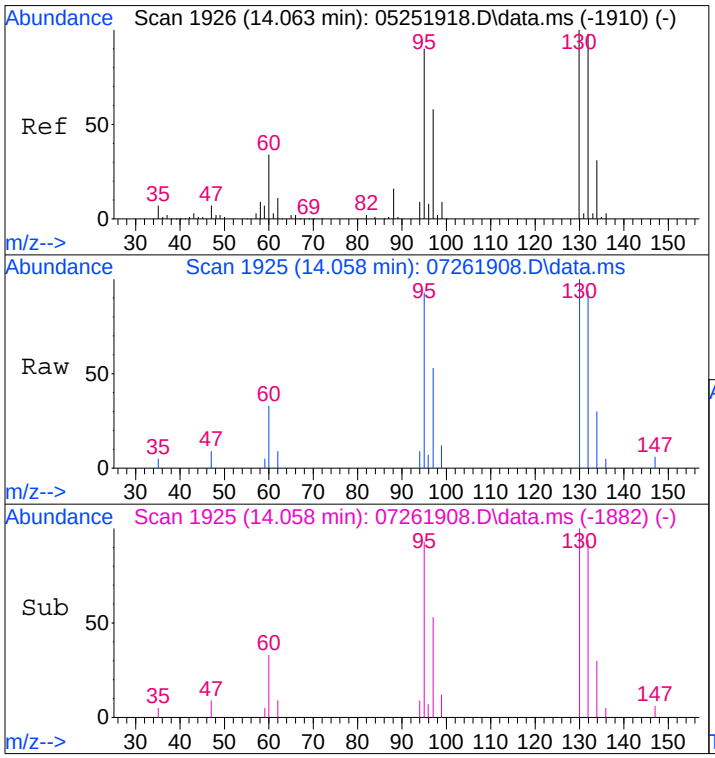


#32
Chloroform
Concen: 0.24 ng
RT: 11.40 min Scan# 1430
Delta R.T. -0.038 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion: 83 Resp: 4113

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.3	85.3

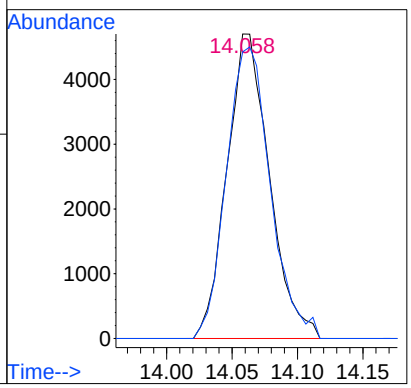


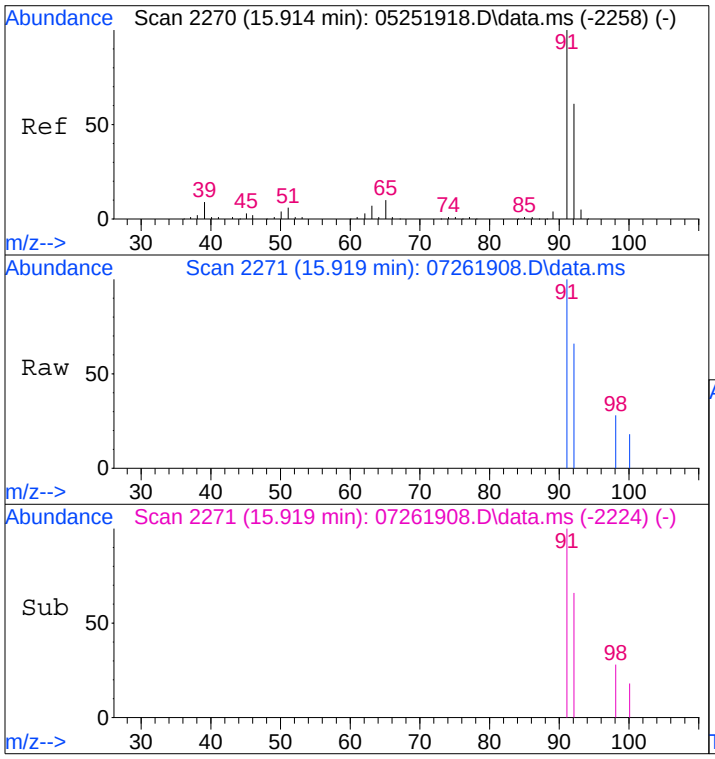


#47
Trichloroethene
Concen: 0.82 ng
RT: 14.06 min Scan# 1925
Delta R.T. -0.016 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion:130 Resp: 10635

Ion	Ratio	Lower	Upper
130	100		
132	99.3	76.1	116.1

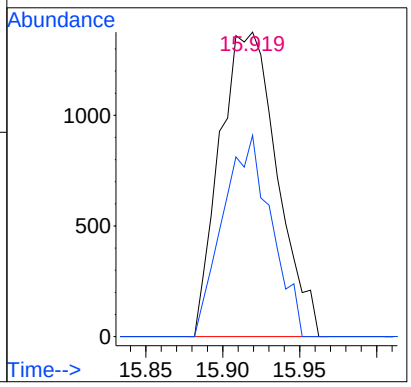


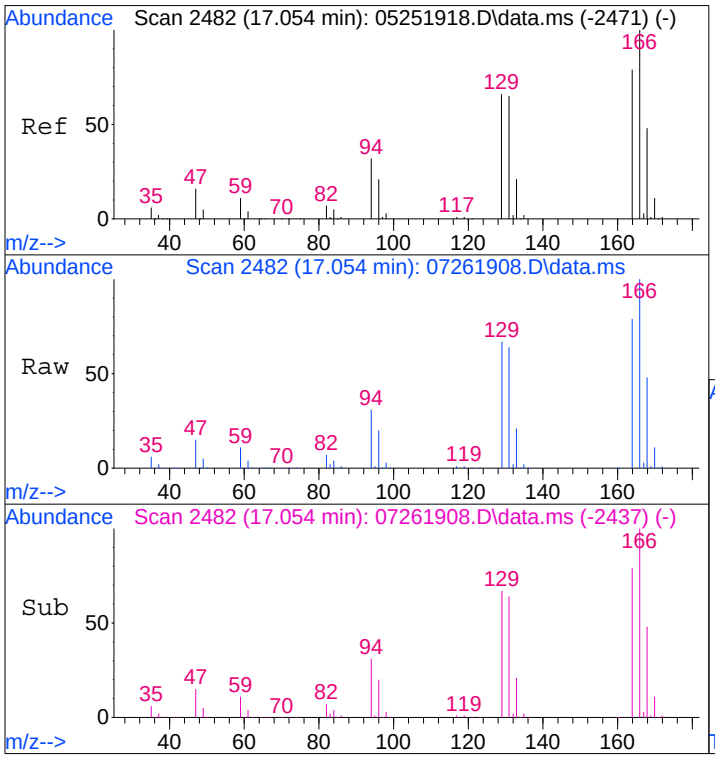


#58
Toluene
Concen: 0.07 ng
RT: 15.92 min Scan# 2271
Delta R.T. 0.000 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion: 91 Resp: 3575

Ion	Ratio	Lower	Upper
91	100		
92	55.5	41.2	81.2

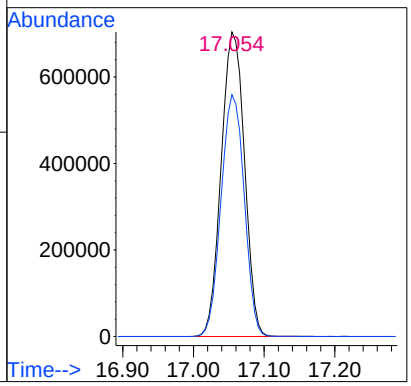


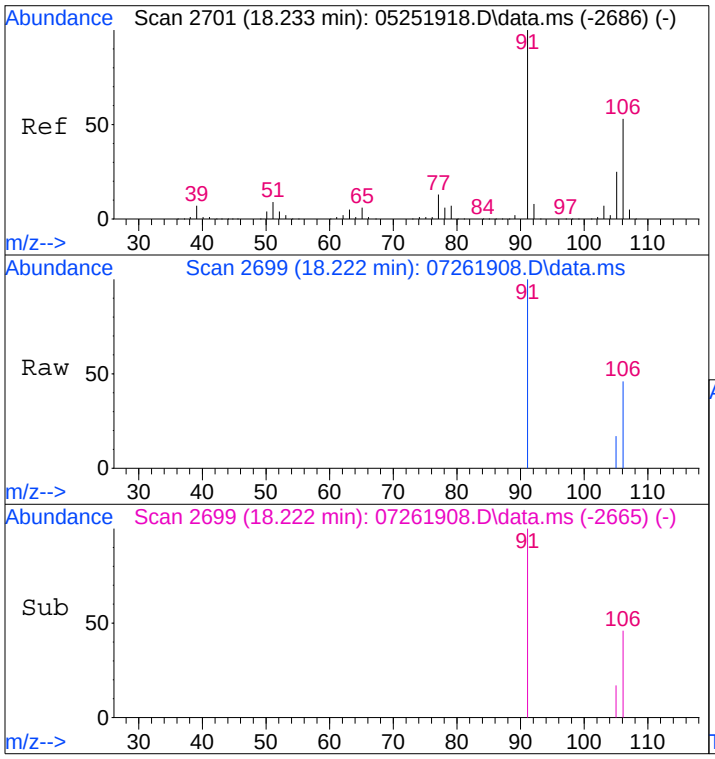


#64
Tetrachloroethene
Concen: 105.29 ng
RT: 17.05 min Scan# 2482
Delta R.T. -0.005 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion:166 Resp: 1614956

Ion	Ratio	Lower	Upper
166	100		
164	78.9	58.4	98.4

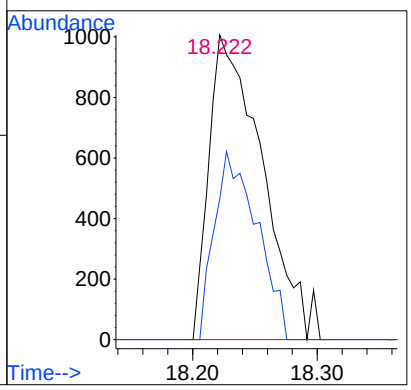


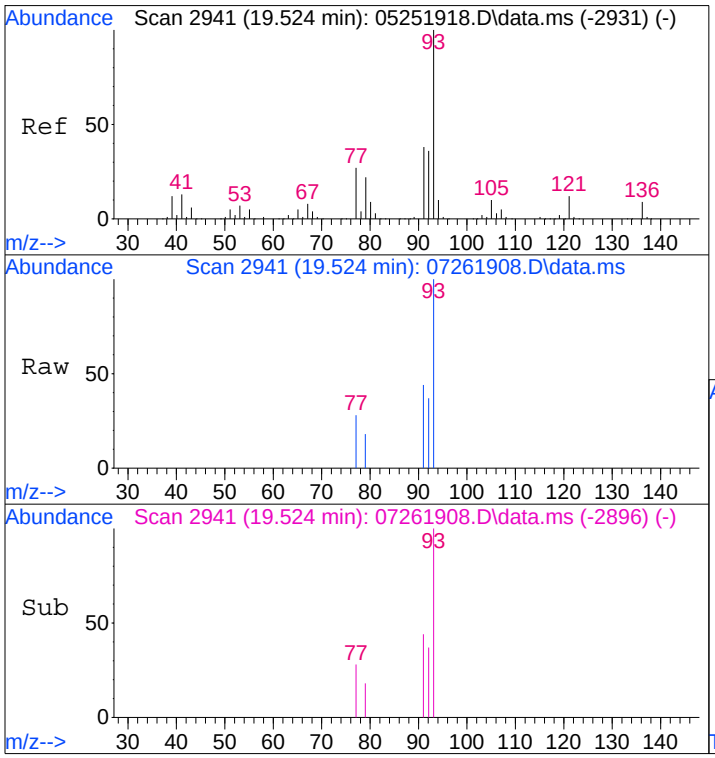


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 18.22 min Scan# 2699
Delta R.T. -0.016 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion: 91 Resp: 2990

Ion	Ratio	Lower	Upper
91	100		
106	49.5	33.4	73.4

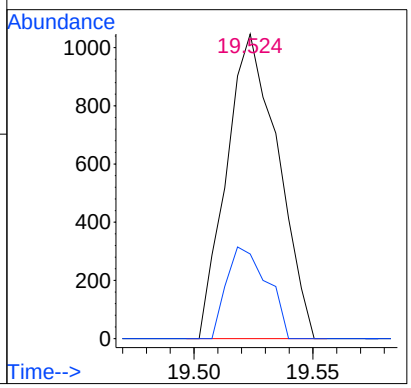




#75
alpha-Pinene
Concen: 0.05 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07261908.D
Acq: 26 Jul 2019 8:02

Tgt Ion: 93 Resp: 1574

Ion	Ratio	Lower	Upper
93	100		
77	23.9	7.0	47.0



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251924.D
Sample : P1904286-007 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:37 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:05:36 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	154080	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	693219	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	303047	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	182782	11.935	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.81	98	748057	12.002	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	19.05	174	265830	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.18	42	5878m	0.466	ng		
3) Dichlorodifluoromethan...	4.32	85	8974	0.456	ng		98
4) Chloromethane	4.61	50	281	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.87	135	407	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.21	54	184	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.44	45	9114	1.021	ng		97
11) Acetonitrile	6.71	41	1023	N.D.			
12) Acrolein	6.92	56	1124	0.171	ng		99
13) Acetone	7.11	58	74420	8.364	ng		93
14) Trichlorofluoromethane	7.32	101	33035	1.955	ng		98
15) 2-Propanol (Isopropanol)	7.60	45	41705	1.367	ng		98
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.52	84	488	N.D.			
20) 3-Chloro-1-propene (Al...	8.59	41	521	N.D.			
21) Trichlorotrifluoroethane	8.94	151	3806	0.343	ng		98
22) Carbon Disulfide	8.78	76	39984	1.029	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.17	73	198	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.59	72	1647	0.216	ng	#	41
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	11.39	83	901858	50.260	ng		99
34) Tetrahydrofuran (THF)	11.86	72	1221	0.145	ng	#	71
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	12.49	97	5721	0.351	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.97	78	3692	0.074	ng		93
42) Carbon Tetrachloride	13.12	117	3059	0.217	ng		100
43) Cyclohexane	13.26	84	673	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.00	83	38410	2.804	ng		99
47) Trichloroethene	14.06	130	5159	0.385	ng		98
48) 1,4-Dioxane	14.08	88	357	N.D.			
49) 2,2,4-Trimethylpentane...	14.11	57	980	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251924.D
Sample : P1904286-007 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:37 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:05:36 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

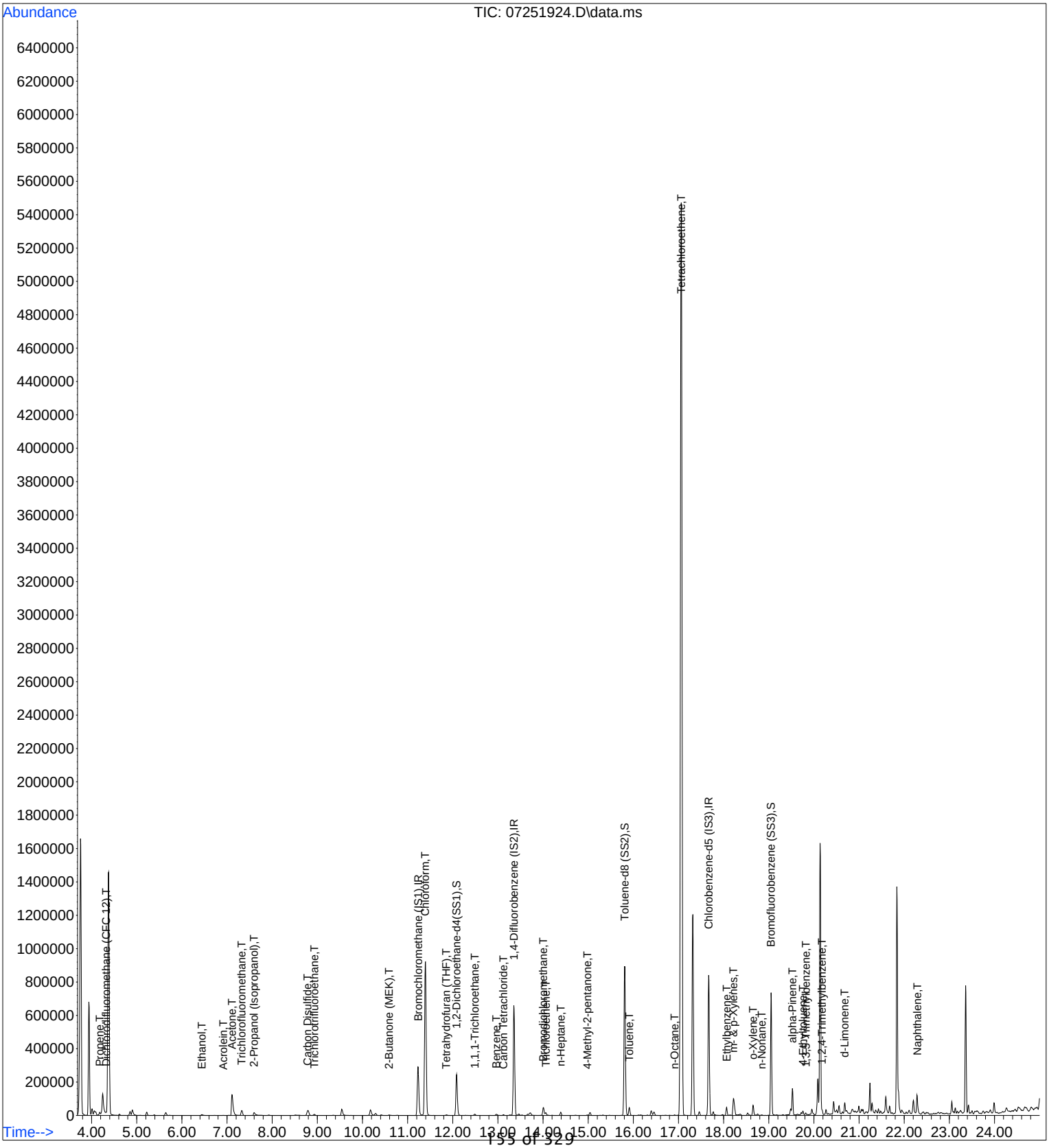
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.39	71	5966	0.437 ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.98	58	953	0.094 ng	#	51
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.91	91	43701	0.829 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.91	57	817	0.070 ng		90
64) Tetrachloroethene	17.06	166	2646784	164.447 ng		98
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.07	91	41298	0.654 ng		100
67) m- & p-Xylenes	18.22	91	85508	1.813 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.57	104	1159	N.D.		
70) o-Xylene	18.65	91	38217	0.798 ng		98
71) n-Nonane	18.85	43	2145	0.080 ng	#	64
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.18	105	1489	N.D.		
75) alpha-Pinene	19.52	93	68926	2.231 ng		98
76) n-Propylbenzene	19.63	91	2353	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.76	105	3426	0.061 ng		91
79) 1,3,5-Trimethylbenzene	19.82	105	4212	0.083 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.18	105	12813	0.266 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.38	91	713	N.D.		
85) 1,3-Dichlorobenzene	20.31	146	183	N.D.		
86) 1,4-Dichlorobenzene	20.38	146	113	N.D.		
87) sec-Butylbenzene	20.43	105	843	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.68	68	16730	0.901 ng		88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.29	128	26982	0.501 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.18	119	1589	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251924.D
Sample : P1904286-007 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:37 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:05:36 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

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Sample : P1904286-007 (400mL) Inst : MS08
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RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
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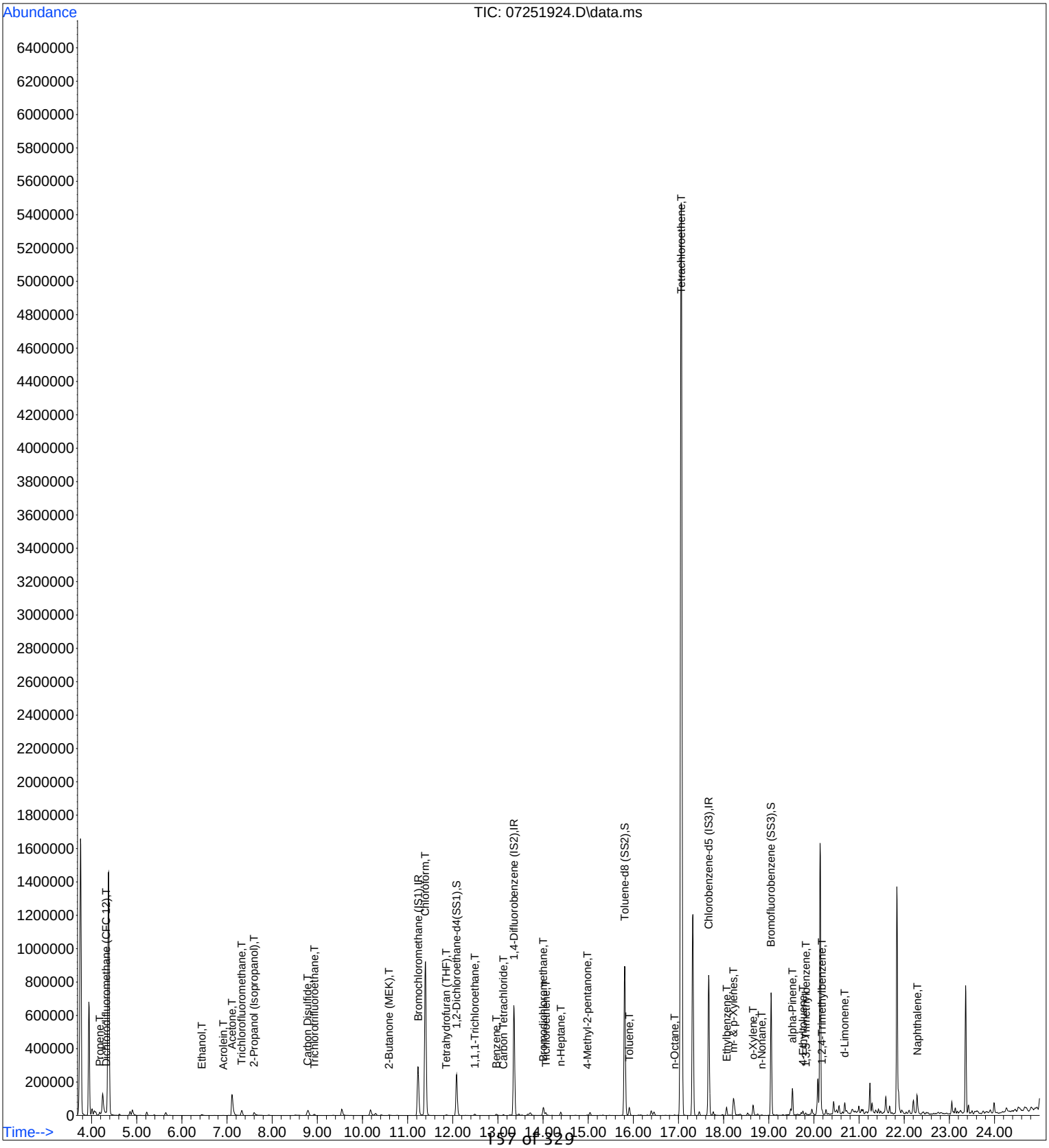
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	154080	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	693219	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	303047	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	182782	11.935	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.81	98	748057	12.002	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	19.05	174	265830	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.18	42	5878m	0.466	ng		
3) Dichlorodifluoromethan...	4.32	85	8974	0.456	ng		98
10) Ethanol	6.44	45	9114	1.021	ng		97
12) Acrolein	6.92	56	1124	0.171	ng		99
13) Acetone	7.11	58	74420	8.364	ng		93
14) Trichlorofluoromethane	7.32	101	33035	1.955	ng		98
15) 2-Propanol (Isopropanol)	7.60	45	41705	1.367	ng		98
21) Trichlorotrifluoroethane	8.94	151	3806	0.343	ng		98
22) Carbon Disulfide	8.78	76	39984	1.029	ng		98
27) 2-Butanone (MEK)	10.59	72	1647	0.216	ng	#	41
32) Chloroform	11.39	83	901858	50.260	ng		99
34) Tetrahydrofuran (THF)	11.86	72	1221	0.145	ng	#	71
38) 1,1,1-Trichloroethane	12.49	97	5721	0.351	ng		97
41) Benzene	12.97	78	3692	0.074	ng		93
42) Carbon Tetrachloride	13.12	117	3059	0.217	ng		100
46) Bromodichloromethane	14.00	83	38410	2.804	ng		99
47) Trichloroethene	14.06	130	5159	0.385	ng		98
51) n-Heptane	14.39	71	5966	0.437	ng		97
53) 4-Methyl-2-pentanone	14.98	58	953	0.094	ng	#	51
58) Toluene	15.91	91	43701	0.829	ng		99
63) n-Octane	16.91	57	817	0.070	ng		90
64) Tetrachloroethene	17.06	166	2646784	164.447	ng		98
66) Ethylbenzene	18.07	91	41298	0.654	ng		100
67) m- & p-Xylenes	18.22	91	85508	1.813	ng		98
70) o-Xylene	18.65	91	38217	0.798	ng		98
71) n-Nonane	18.85	43	2145	0.080	ng	#	64
75) alpha-Pinene	19.52	93	68926	2.231	ng		98
78) 4-Ethyltoluene	19.76	105	3426	0.061	ng		91
79) 1,3,5-Trimethylbenzene	19.82	105	4212	0.083	ng		94
82) 1,2,4-Trimethylbenzene	20.18	105	12813	0.266	ng		92
91) d-Limonene	20.68	68	16730	0.901	ng		88
95) Naphthalene	22.29	128	26982	0.501	ng		98

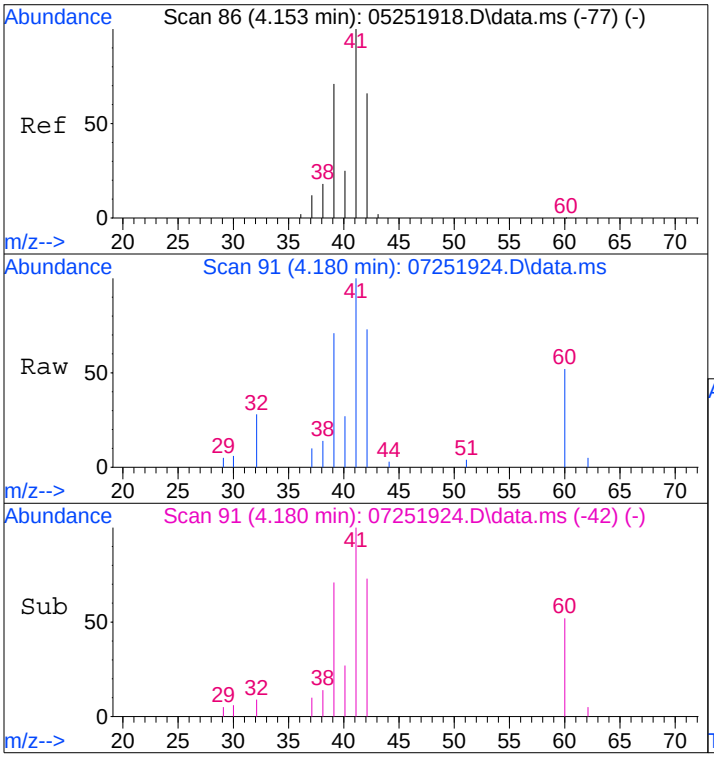
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251924.D
Sample : P1904286-007 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:37 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:05:36 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

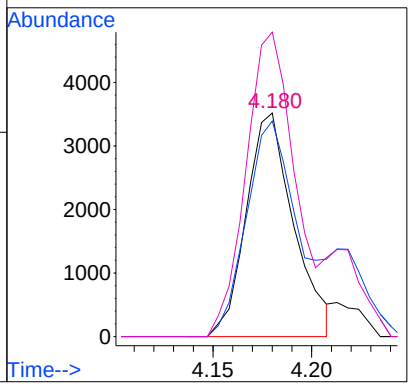


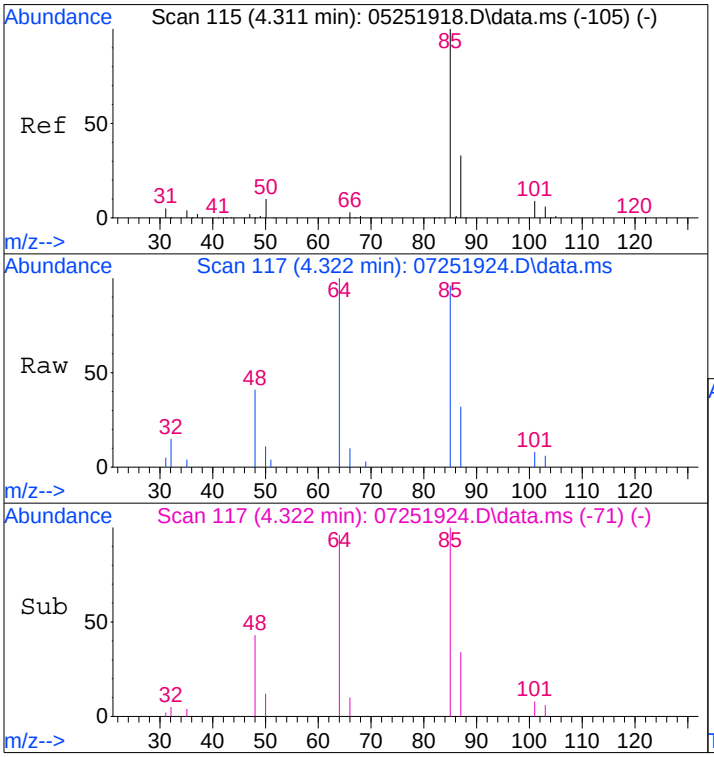


#2
Propene
Concen: 0.47 ng m
RT: 4.18 min Scan# 91
Delta R.T. 0.016 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 42 Resp: 5878

Ion	Ratio	Lower	Upper
42	100		
39	100.9	85.8	125.8
41	139.2	130.2	170.2

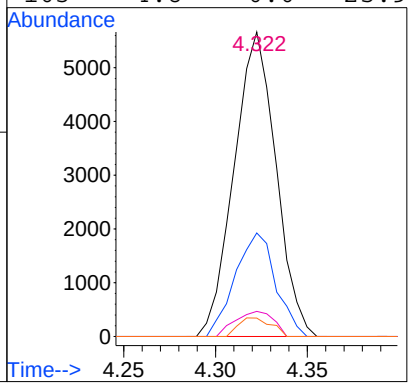


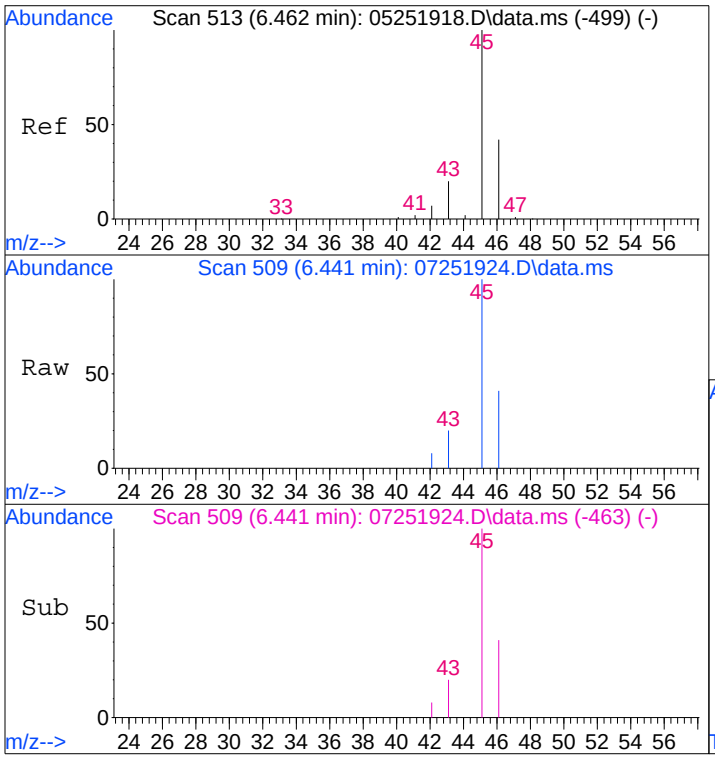


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.46 ng
RT: 4.32 min Scan# 117
Delta R.T. 0.000 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 85 Resp: 8974

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.5	52.5
101	7.6	0.0	29.0
103	4.8	0.0	25.9

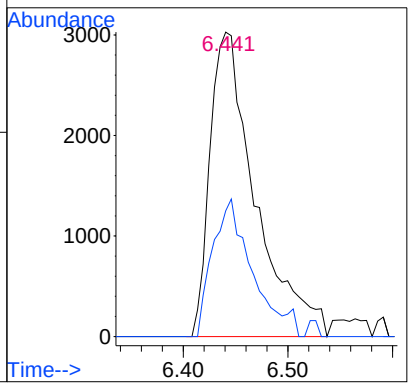


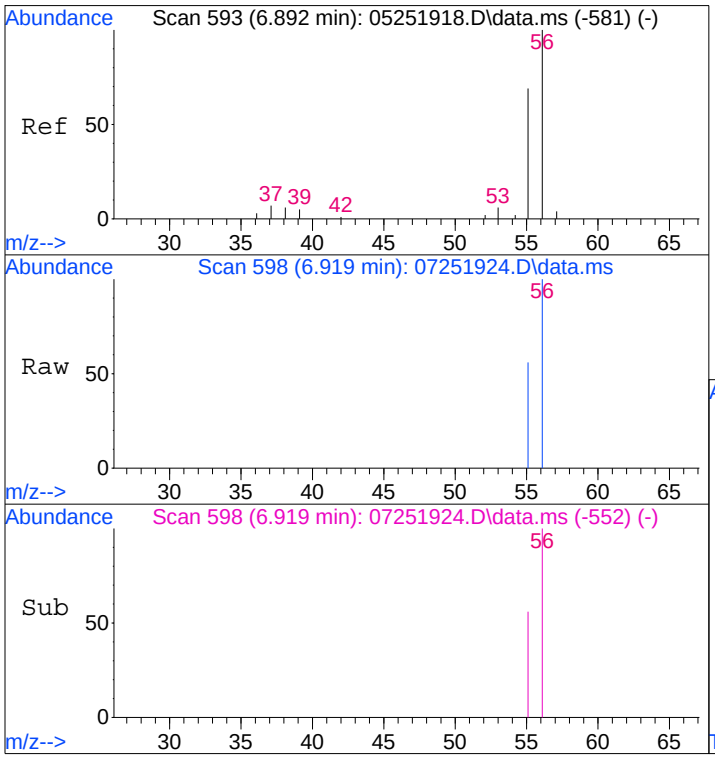


#10
Ethanol
Concen: 1.02 ng
RT: 6.44 min Scan# 509
Delta R.T. -0.002 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 45 Resp: 9114

Ion	Ratio	Lower	Upper
45	100		
46	39.6	21.7	61.7

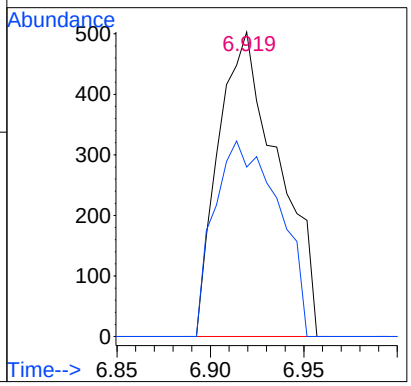


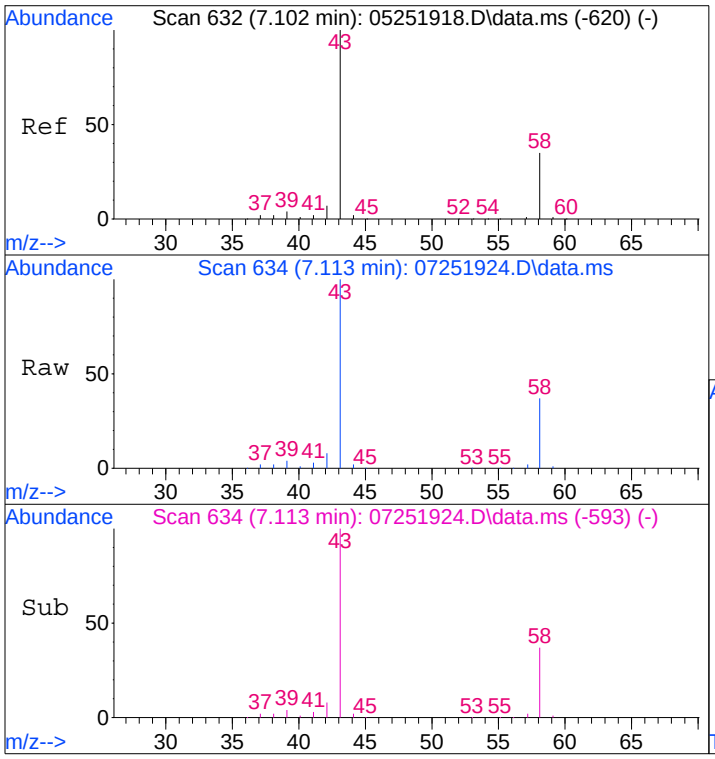


#12
Acrolein
Concen: 0.17 ng
RT: 6.92 min Scan# 598
Delta R.T. 0.000 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 56 Resp: 1124

Ion	Ratio	Lower	Upper
56	100		
55	68.9	48.1	88.1

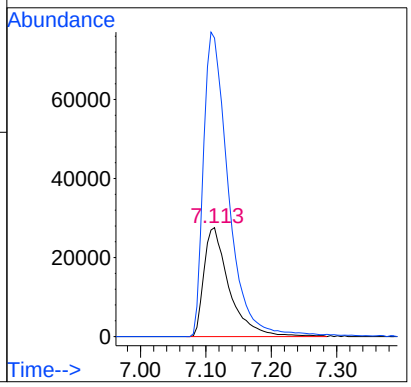


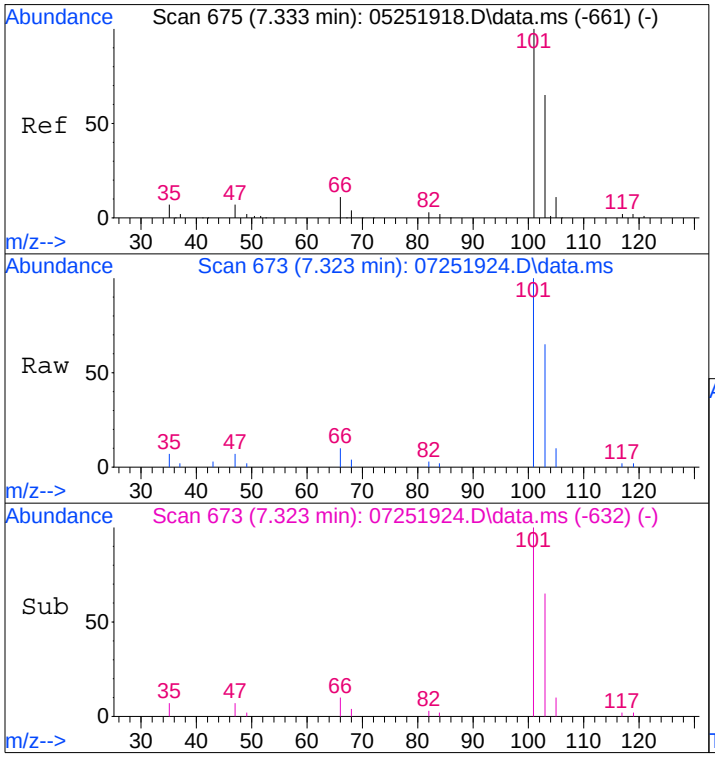


#13
Acetone
Concen: 8.36 ng
RT: 7.11 min Scan# 634
Delta R.T. -0.032 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 58 Resp: 74420

Ion	Ratio	Lower	Upper
58	100		
43	276.5	260.9	320.9

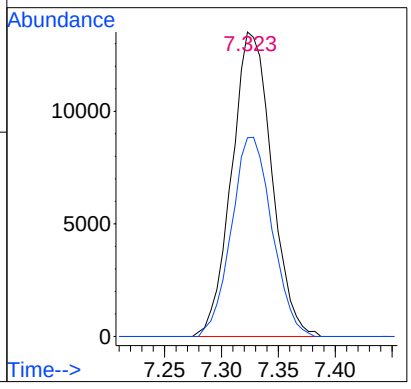


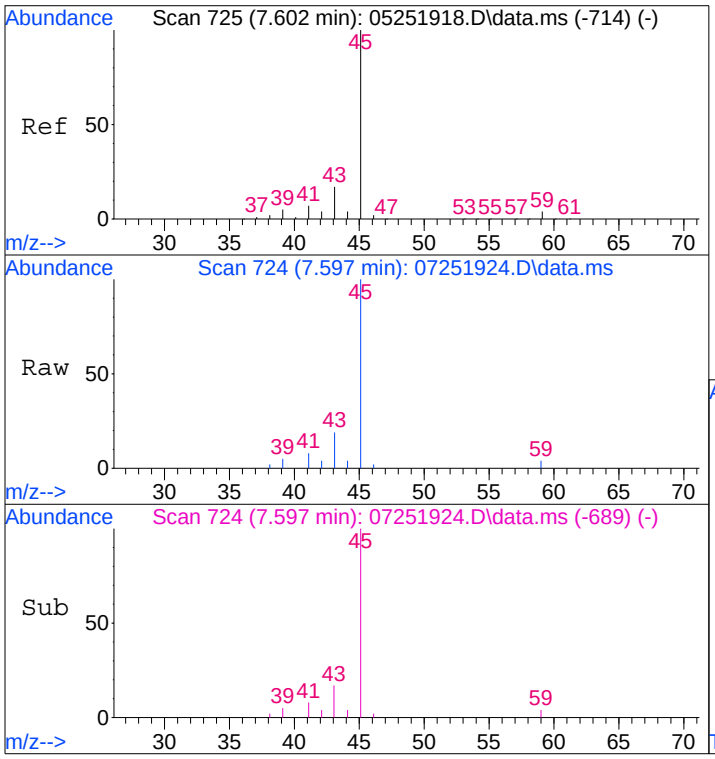


#14
Trichlorofluoromethane
Concen: 1.96 ng
RT: 7.32 min Scan# 673
Delta R.T. -0.027 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:101 Resp: 33035

Ion	Ratio	Lower	Upper
101	100		
103	66.4	44.7	84.7

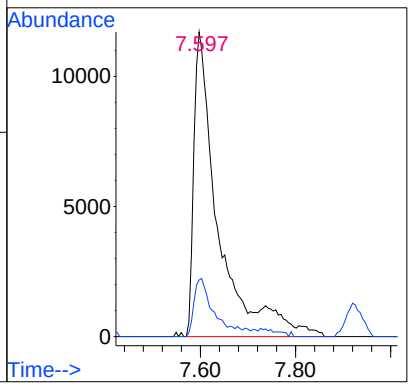


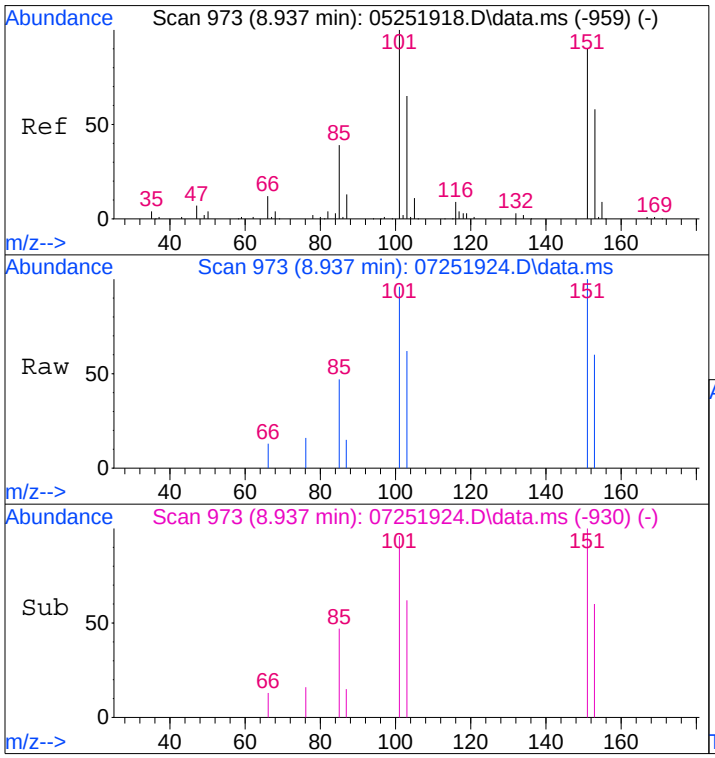


#15
2-Propanol (Isopropanol)
Concen: 1.37 ng
RT: 7.60 min Scan# 724
Delta R.T. -0.059 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 45 Resp: 41705

Ion	Ratio	Lower	Upper
45	100		
43	18.5	0.0	37.6

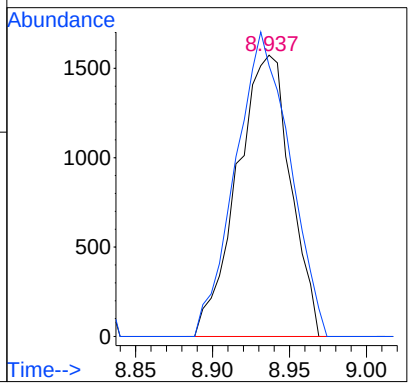


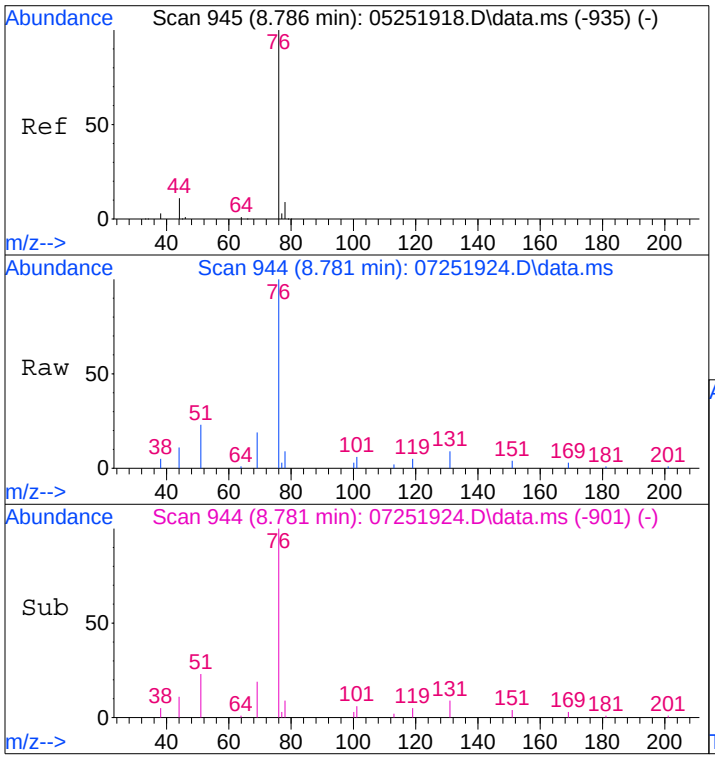


#21
Trichlorotrifluoroethane
Concen: 0.34 ng
RT: 8.94 min Scan# 973
Delta R.T. -0.016 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:151 Resp: 3806

Ion	Ratio	Lower	Upper
151	100		
101	109.9	92.2	132.2

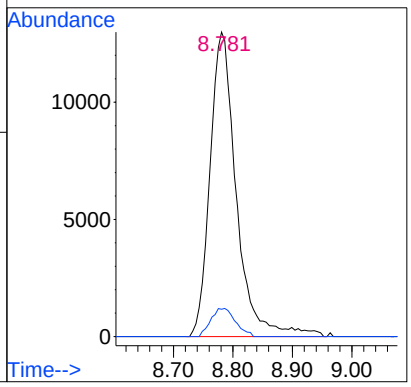


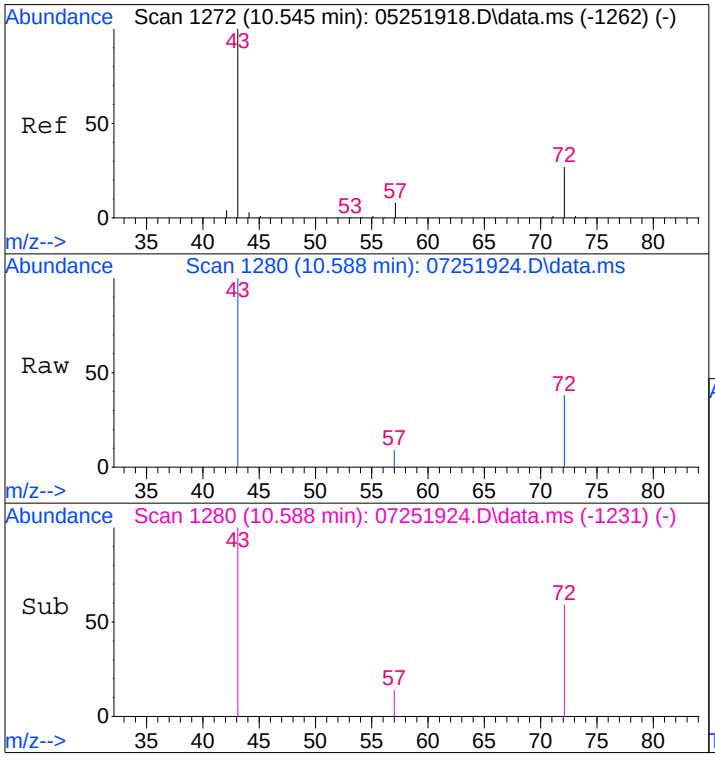


#22
Carbon Disulfide
Concen: 1.03 ng
RT: 8.78 min Scan# 944
Delta R.T. -0.021 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 76 Resp: 39984

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

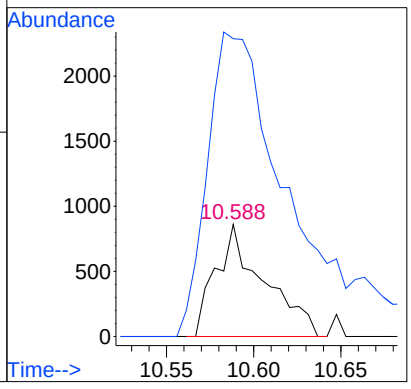


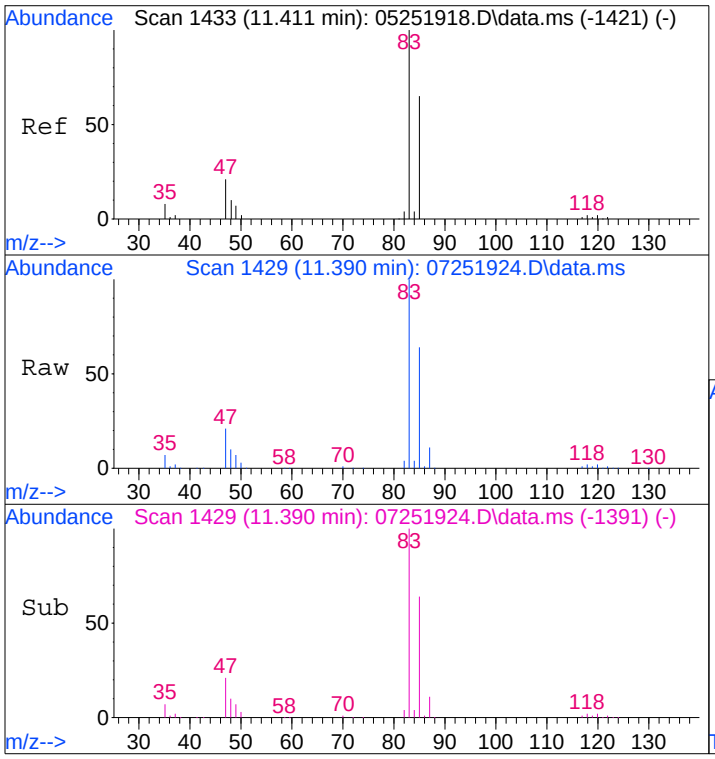


#27
2-Butanone (MEK)
Concen: 0.22 ng
RT: 10.59 min Scan# 1280
Delta R.T. 0.016 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 72 Resp: 1647

Ion	Ratio	Lower	Upper
72	100		
43	499.1	346.9	386.9#

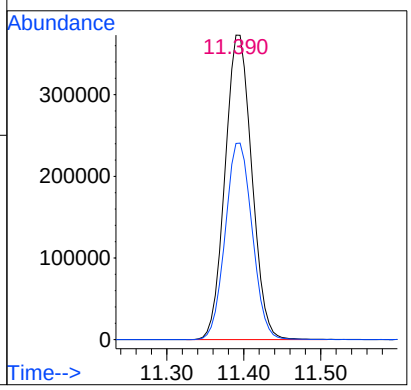


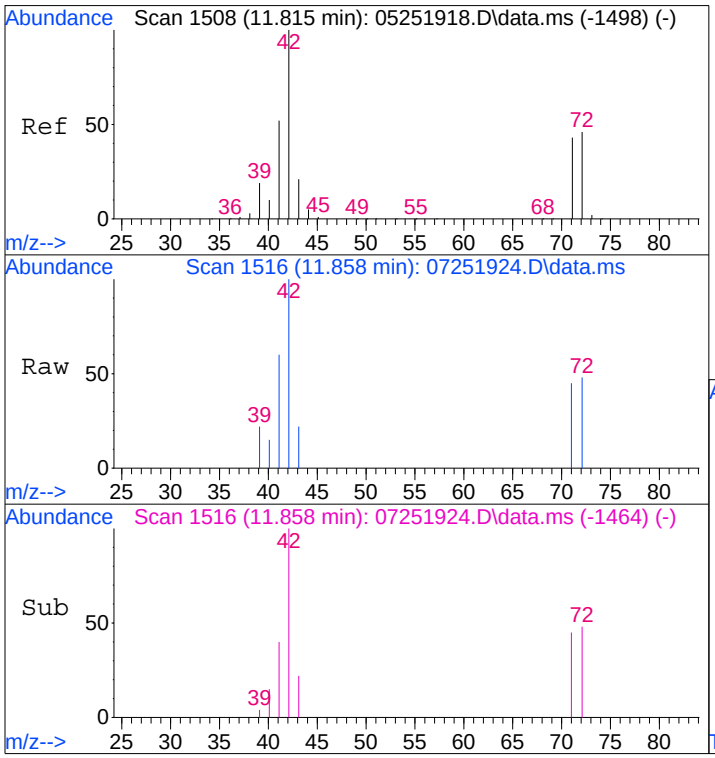


#32
Chloroform
Concen: 50.26 ng
RT: 11.39 min Scan# 1429
Delta R.T. -0.043 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 83 Resp: 901858

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.3	85.3

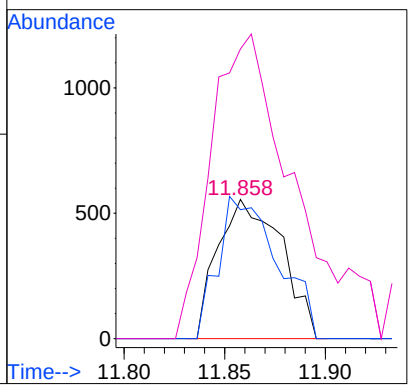


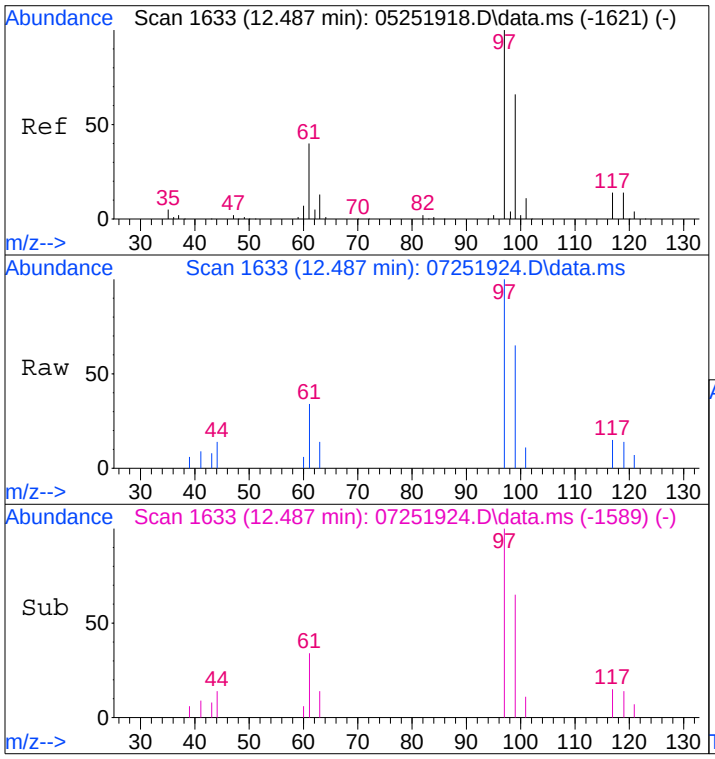


#34
Tetrahydrofuran (THF)
Concen: 0.14 ng
RT: 11.86 min Scan# 1516
Delta R.T. 0.032 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 72 Resp: 1221

Ion	Ratio	Lower	Upper
72	100		
71	95.2	73.9	113.9
42	287.5	201.9	241.9#

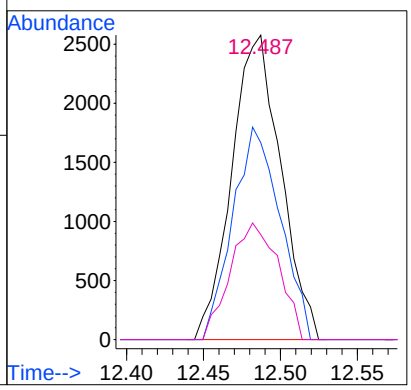


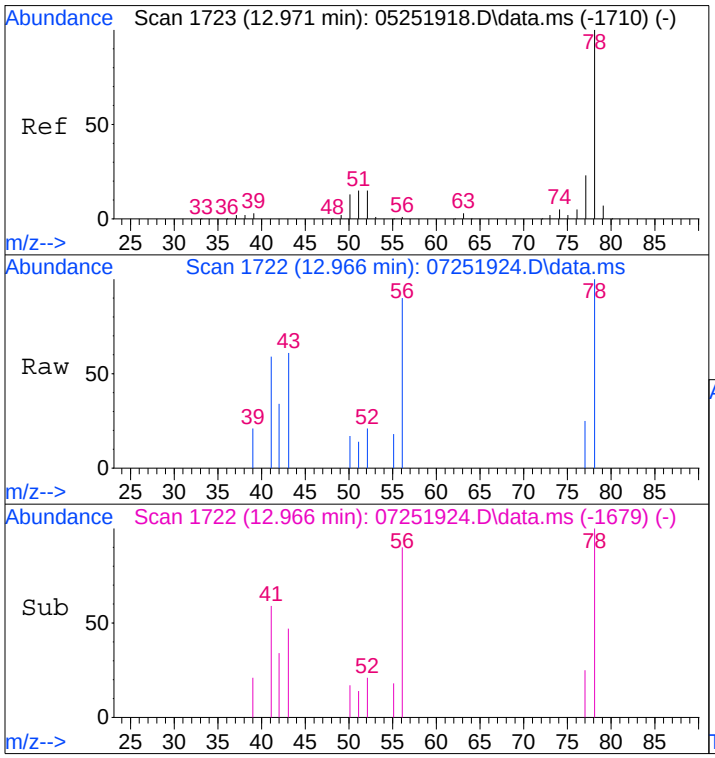


#38
1,1,1-Trichloroethane
Concen: 0.35 ng
RT: 12.49 min Scan# 1633
Delta R.T. -0.011 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 97 Resp: 5721

Ion	Ratio	Lower	Upper
97	100		
99	67.5	44.7	84.7
61	37.8	19.5	59.5

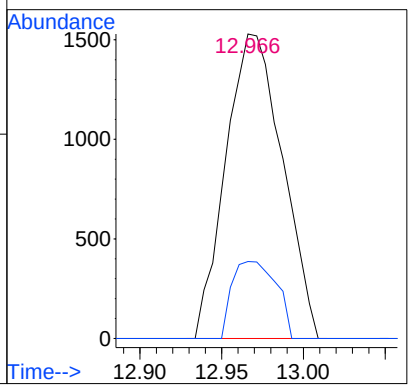


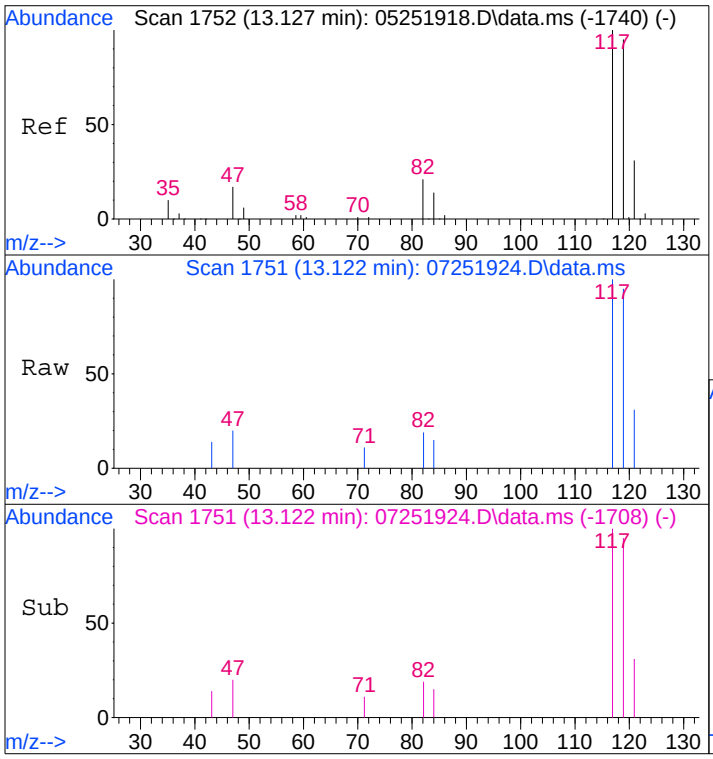


#41
Benzene
Concen: 0.07 ng
RT: 12.97 min Scan# 1722
Delta R.T. -0.016 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 78 Resp: 3692

Ion	Ratio	Lower	Upper
78	100		
77	19.7	3.2	43.2

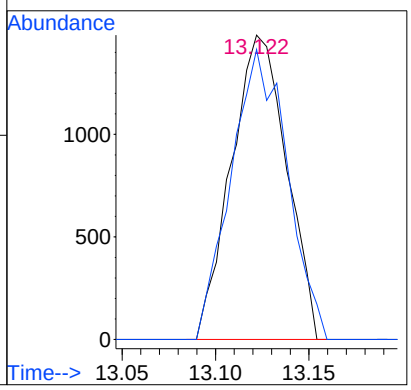


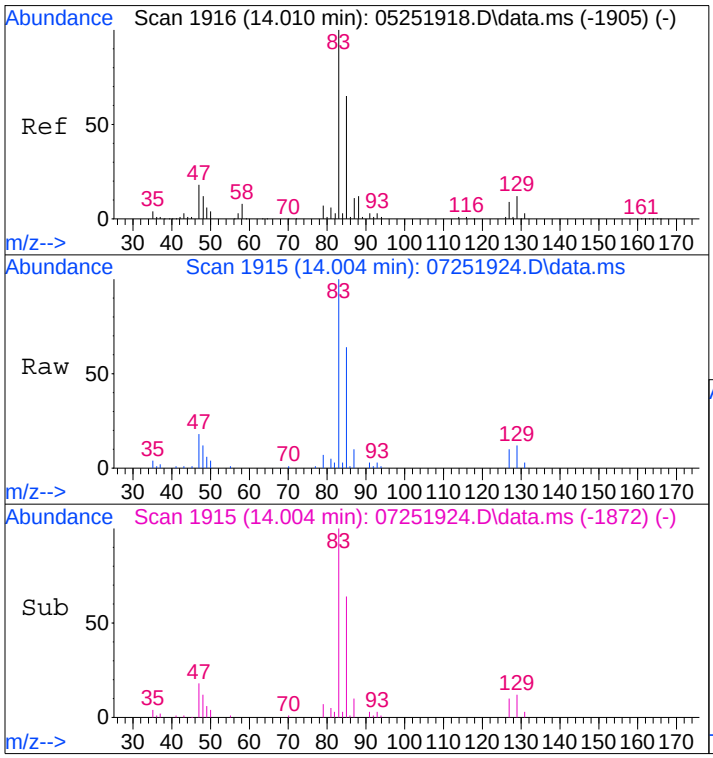


#42
Carbon Tetrachloride
Concen: 0.22 ng
RT: 13.12 min Scan# 1751
Delta R.T. -0.016 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:117 Resp: 3059

Ion	Ratio	Lower	Upper
117	100		
119	96.8	76.4	116.4

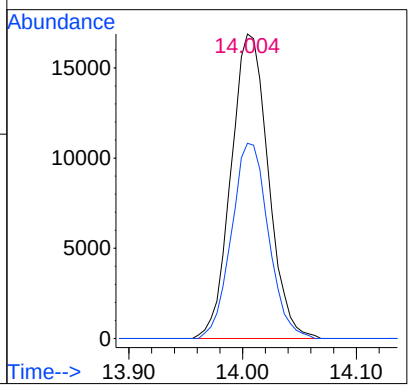


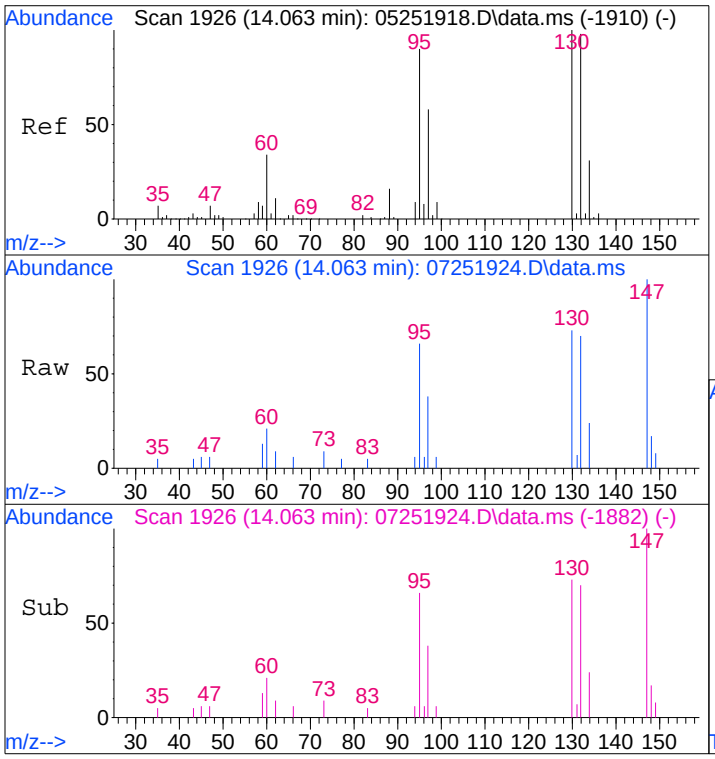


#46
Bromodichloromethane
Concen: 2.80 ng
RT: 14.00 min Scan# 1915
Delta R.T. -0.016 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 83 Resp: 38410

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.3	84.3

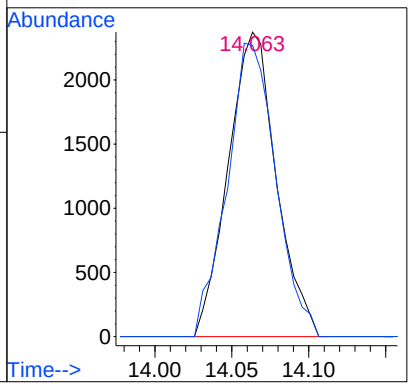


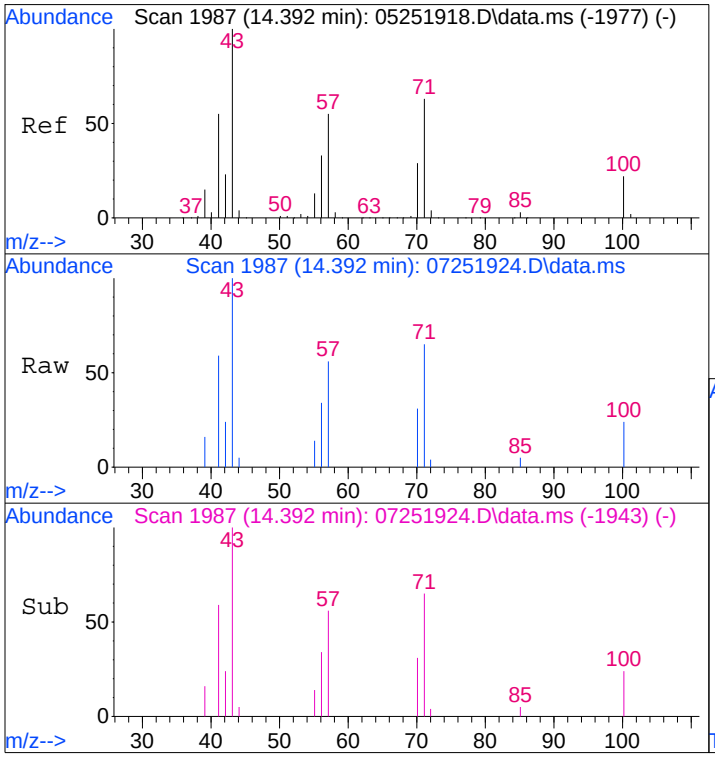


#47
Trichloroethene
Concen: 0.38 ng
RT: 14.06 min Scan# 1926
Delta R.T. -0.011 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:130 Resp: 5159

Ion	Ratio	Lower	Upper
130	100		
132	97.6	76.1	116.1

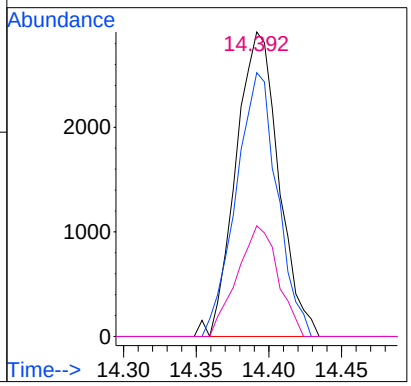


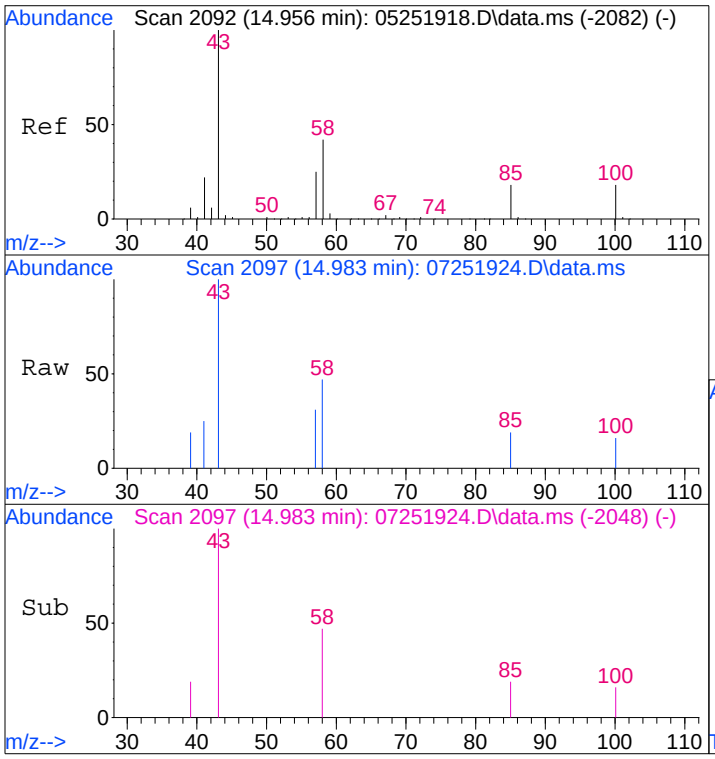


#51
n-Heptane
Concen: 0.44 ng
RT: 14.39 min Scan# 1987
Delta R.T. -0.011 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 71 Resp: 5966

Ion	Ratio	Lower	Upper
71	100		
57	83.4	66.0	106.0
100	34.7	16.3	56.3

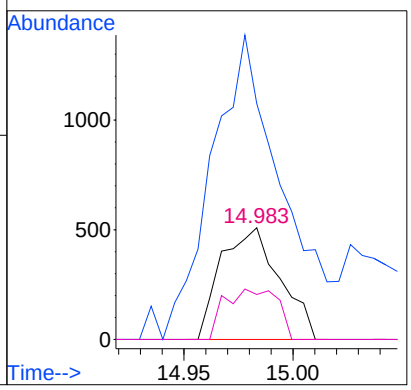


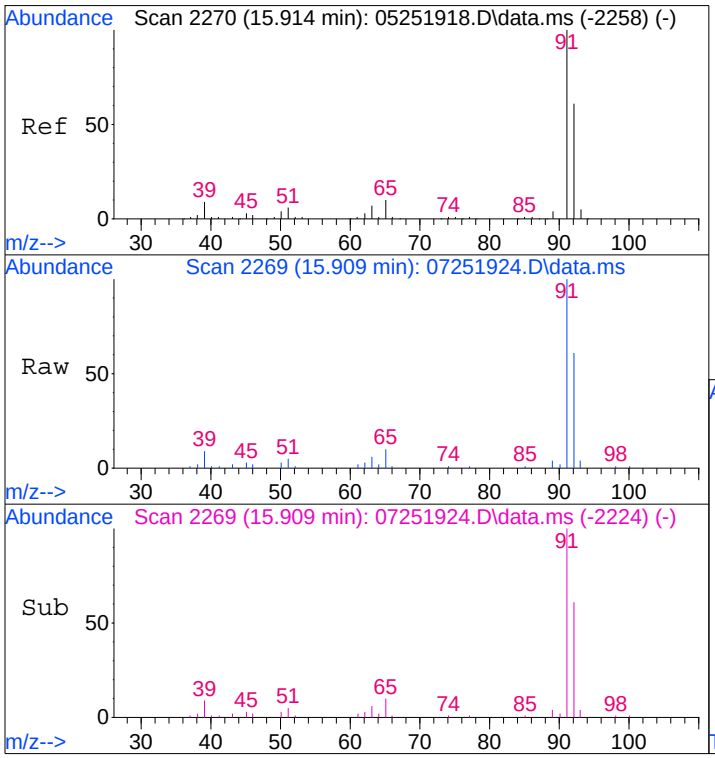


#53
4-Methyl-2-pentanone
Concen: 0.09 ng
RT: 14.98 min Scan# 2097
Delta R.T. 0.016 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 58 Resp: 953

Ion	Ratio	Lower	Upper
58	100		
43	335.2	191.3	286.9#
85	40.6	37.8	56.8

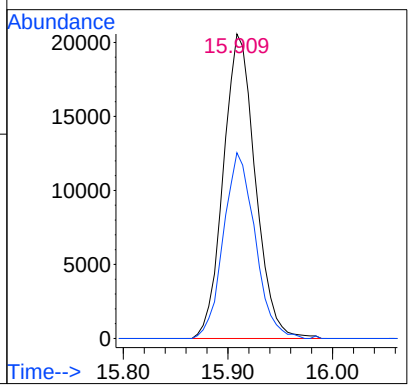


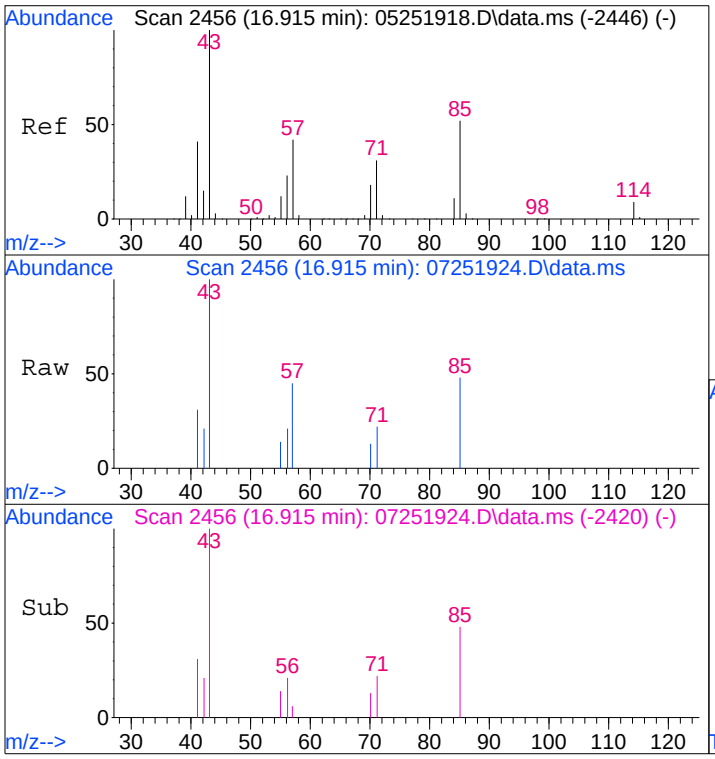


#58
Toluene
Concen: 0.83 ng
RT: 15.91 min Scan# 2269
Delta R.T. -0.010 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 91 Resp: 43701

Ion	Ratio	Lower	Upper
91	100		
92	60.3	41.2	81.2

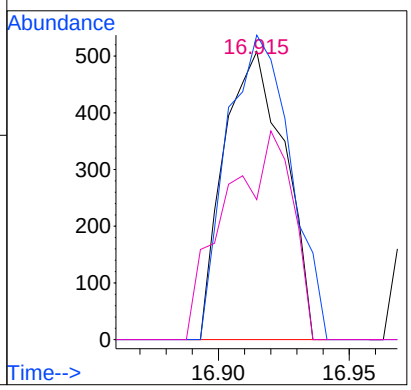


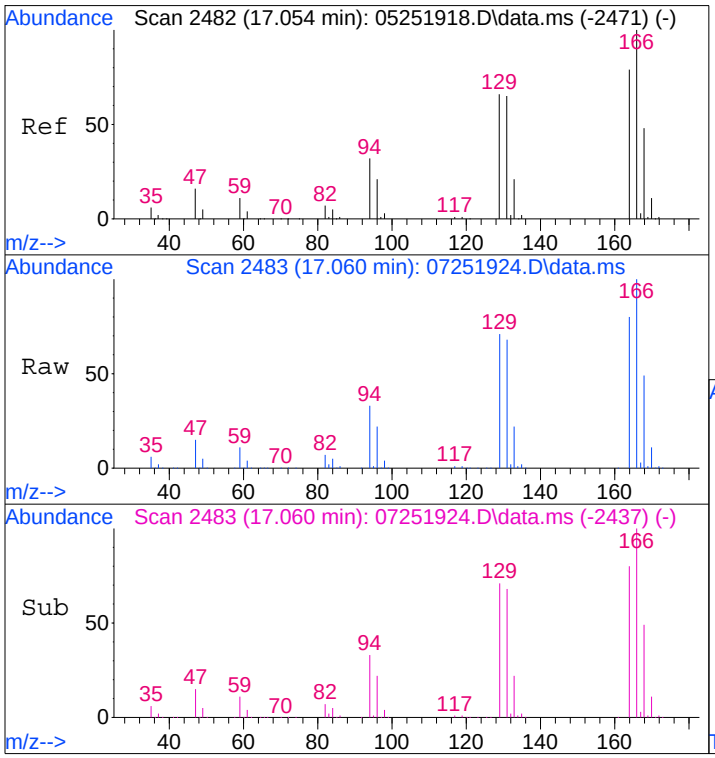


#63
n-Octane
Concen: 0.07 ng
RT: 16.91 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 57 Resp: 817

Ion	Ratio	Lower	Upper
57	100		
85	111.4	100.3	150.5
71	79.8	59.8	89.6

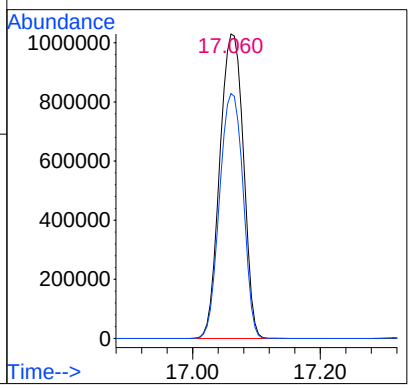


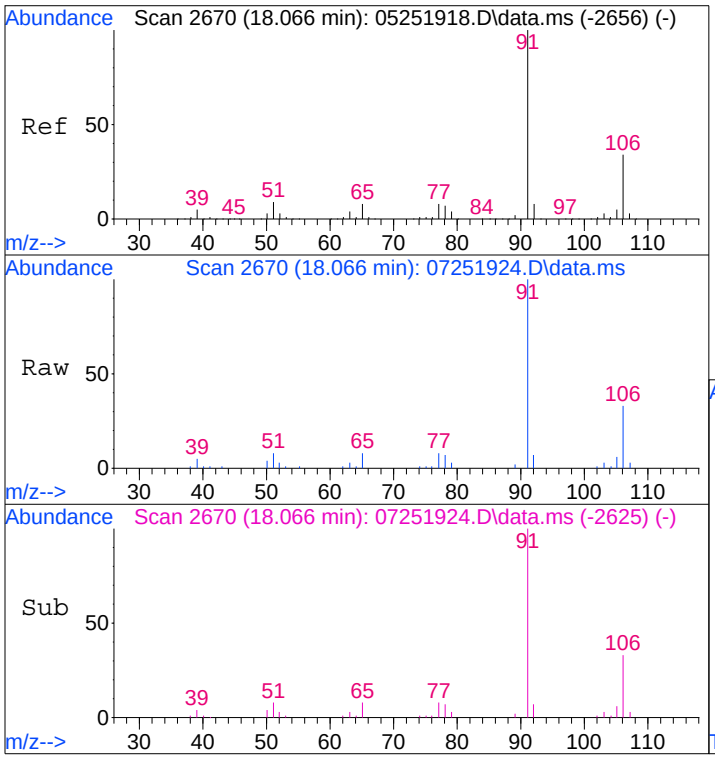


#64
Tetrachloroethene
Concen: 164.45 ng
RT: 17.06 min Scan# 2483
Delta R.T. 0.000 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:166 Resp: 2646784

Ion	Ratio	Lower	Upper
166	100		
164	80.0	58.4	98.4

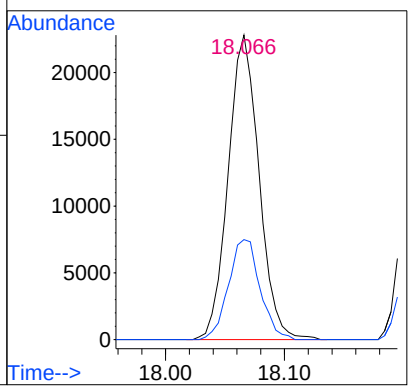


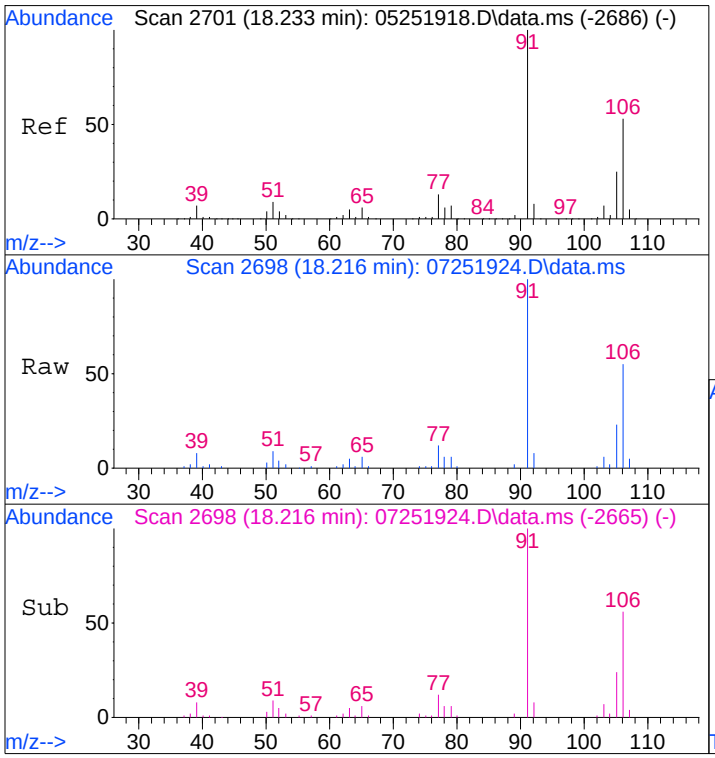


#66
Ethylbenzene
Concen: 0.65 ng
RT: 18.07 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 91 Resp: 41298

Ion	Ratio	Lower	Upper
91	100		
106	33.5	13.4	53.4

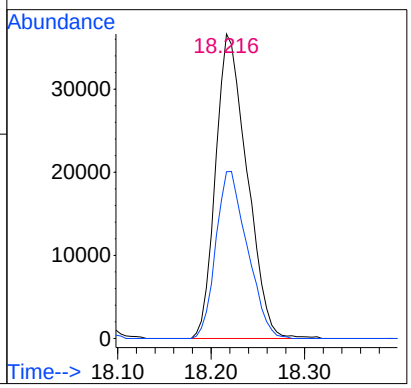


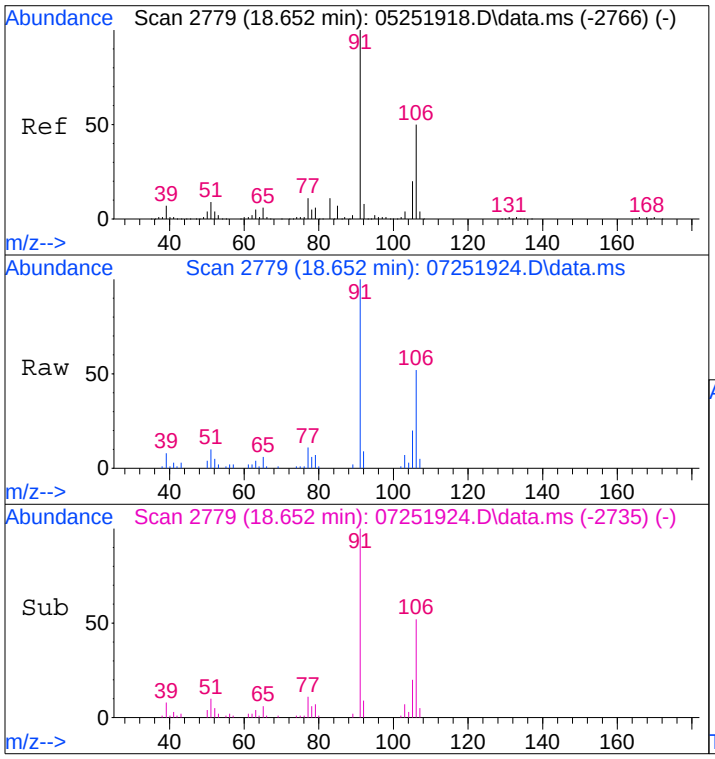


#67
m- & p-Xylenes
Concen: 1.81 ng
RT: 18.22 min Scan# 2698
Delta R.T. -0.021 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 91 Resp: 85508

Ion	Ratio	Lower	Upper
91	100		
106	55.0	33.4	73.4

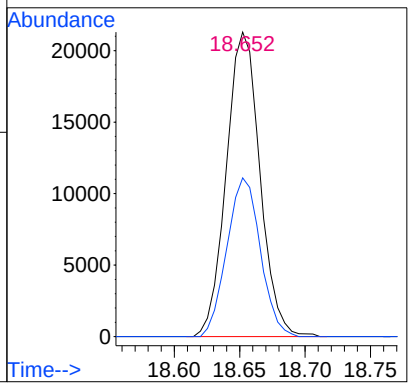


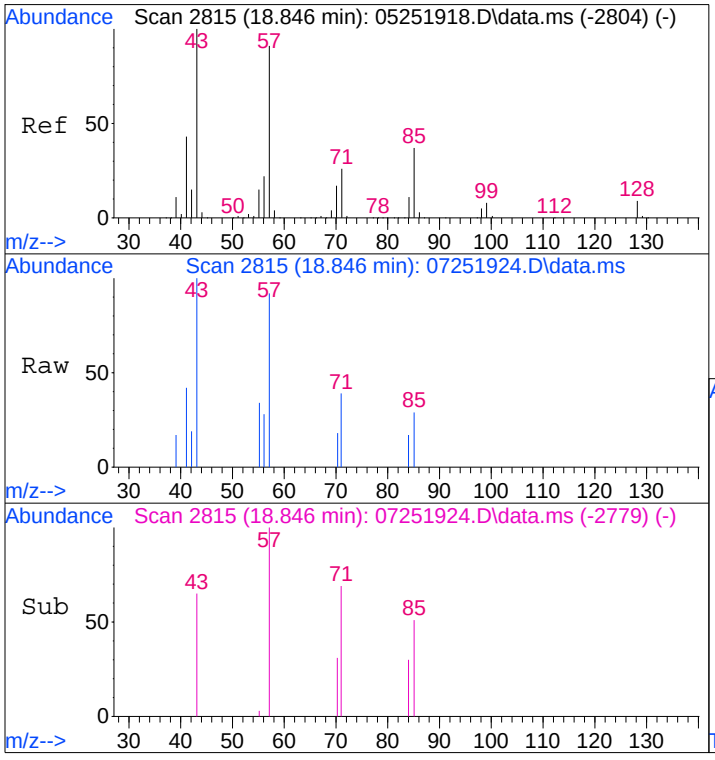


#70
o-Xylene
Concen: 0.80 ng
RT: 18.65 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 91 Resp: 38217

Ion	Ratio	Lower	Upper
91	100		
106	51.7	30.6	70.6

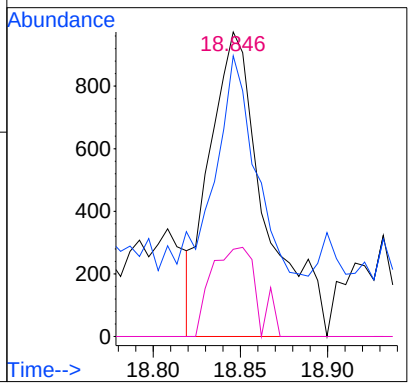


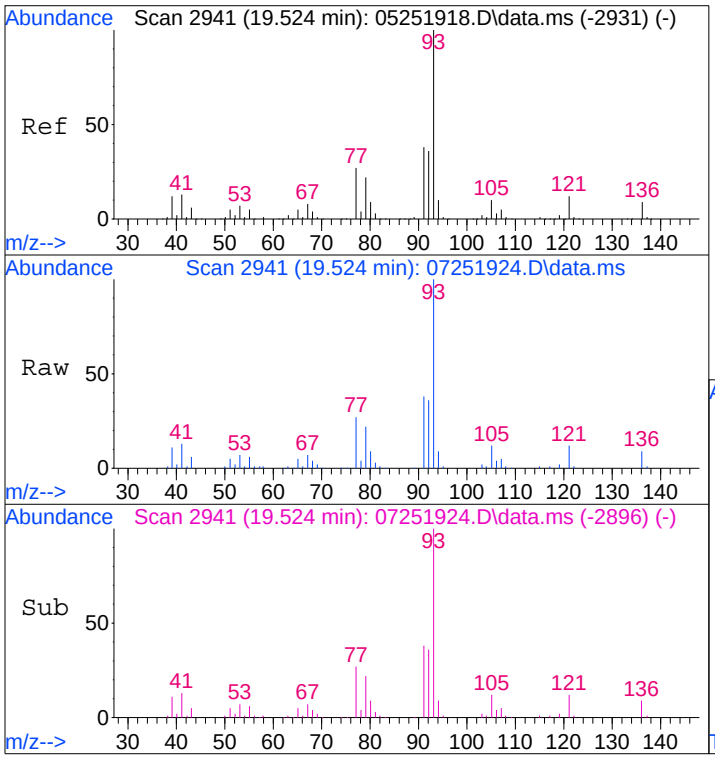


#71
n-Nonane
Concen: 0.08 ng
RT: 18.85 min Scan# 2815
Delta R.T. -0.005 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 43 Resp: 2145

Ion	Ratio	Lower	Upper
43	100		
57	53.1	71.7	111.7#
85	24.1	18.7	58.7

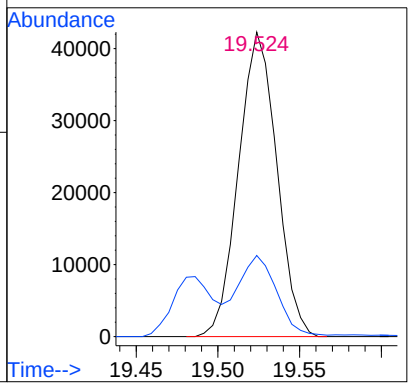


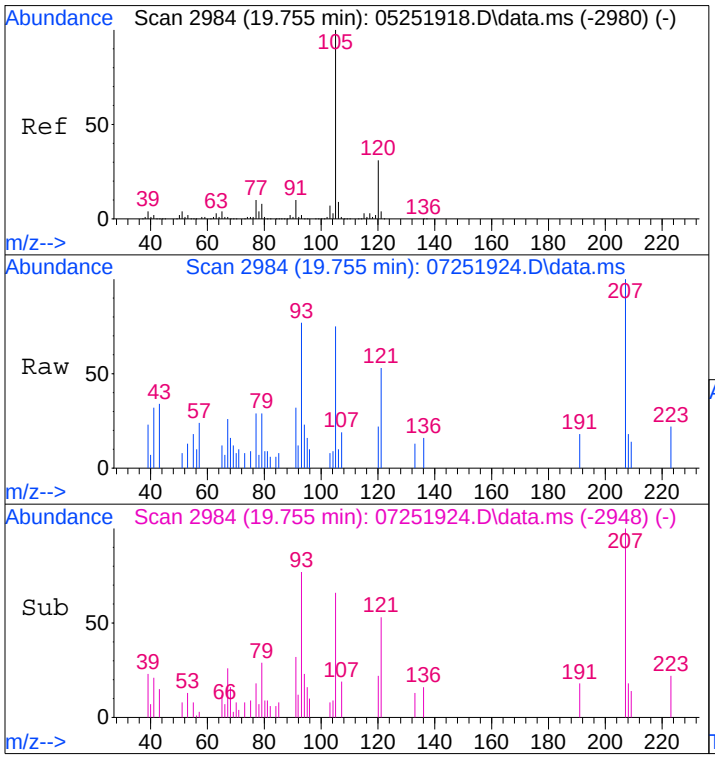


#75
alpha-Pinene
Concen: 2.23 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 93 Resp: 68926

Ion	Ratio	Lower	Upper
93	100		
77	28.0	7.0	47.0

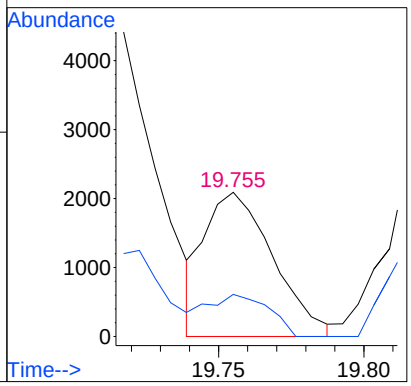


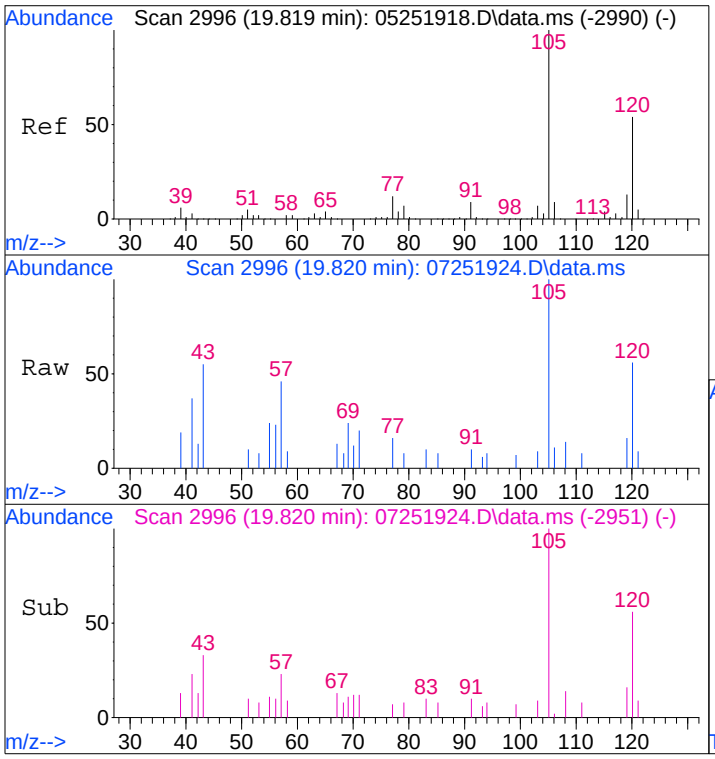


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 19.76 min Scan# 2984
Delta R.T. -0.005 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:105 Resp: 3426

Ion	Ratio	Lower	Upper
105	100		
120	26.6	11.7	51.7

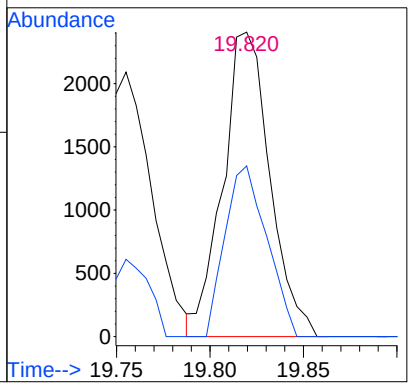


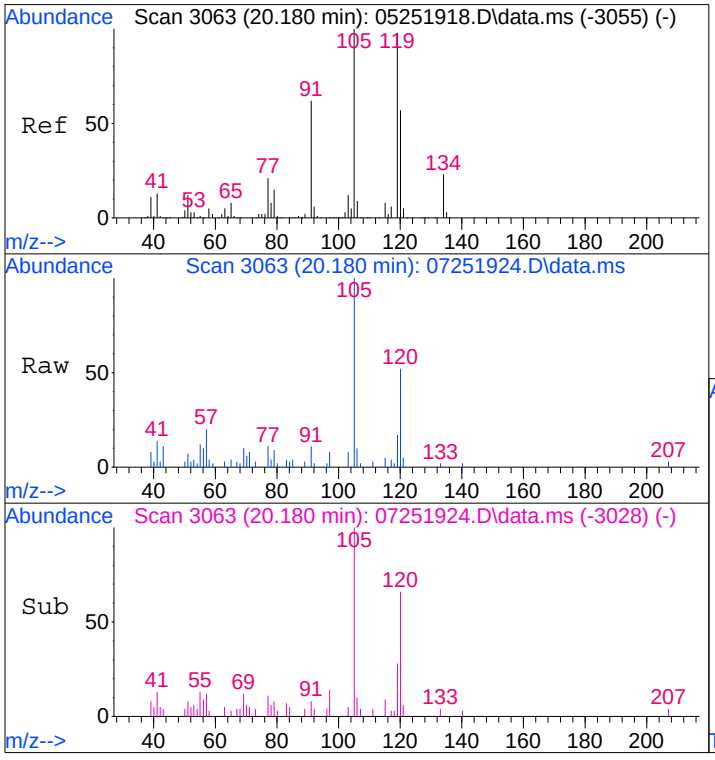


#79
1,3,5-Trimethylbenzene
Concen: 0.08 ng
RT: 19.82 min Scan# 2996
Delta R.T. -0.005 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:105 Resp: 4212

Ion	Ratio	Lower	Upper
105	100		
120	49.9	34.0	74.0

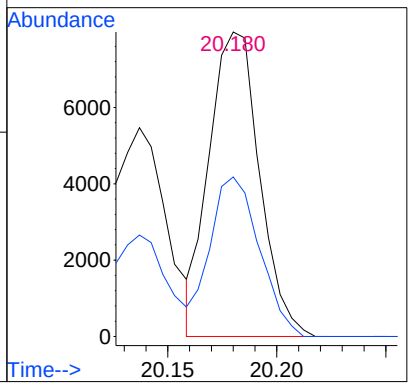


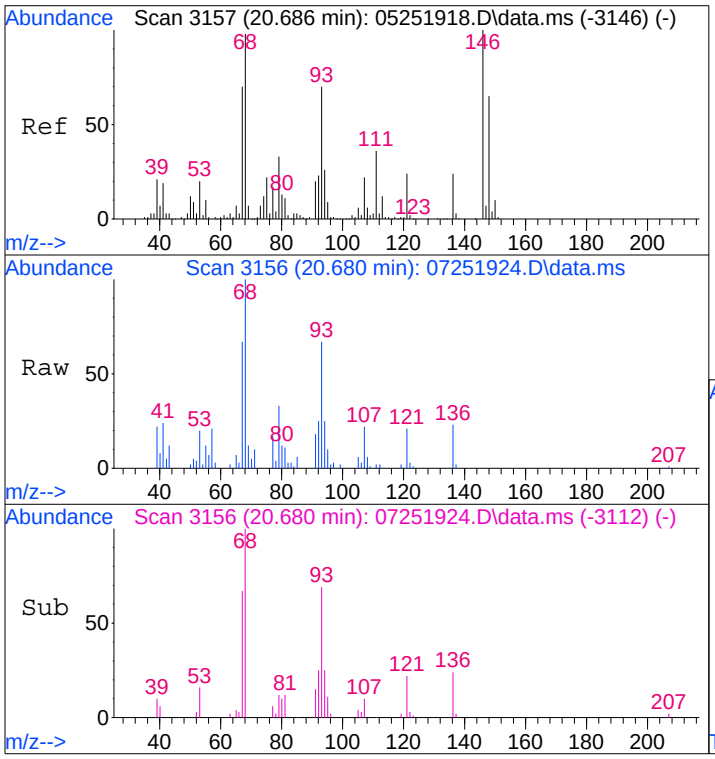


#82
1,2,4-Trimethylbenzene
Concen: 0.27 ng
RT: 20.18 min Scan# 3063
Delta R.T. -0.011 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:105 Resp: 12813

Ion	Ratio	Lower	Upper
105	100		
120	51.5	37.4	77.4

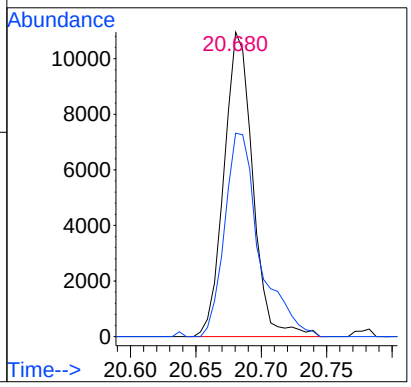


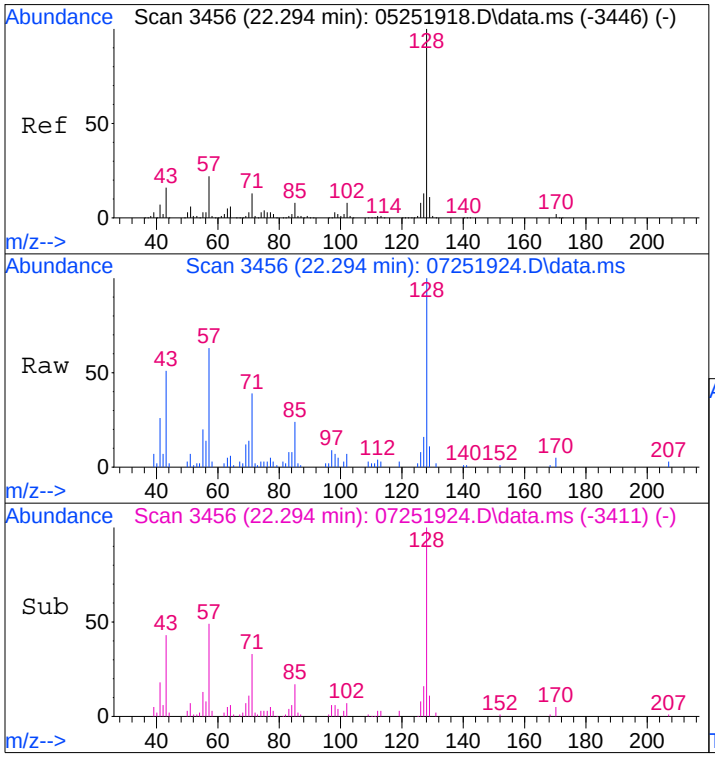


#91
d-Limonene
Concen: 0.90 ng
RT: 20.68 min Scan# 3156
Delta R.T. -0.011 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion: 68 Resp: 16730

Ion	Ratio	Lower	Upper
68	100		
93	80.9	50.9	90.9

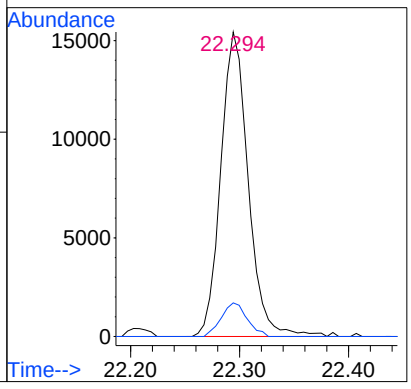




#95
Naphthalene
Concen: 0.50 ng
RT: 22.29 min Scan# 3456
Delta R.T. -0.005 min
Lab File: 07251924.D
Acq: 25 Jul 2019 18:37

Tgt Ion:128 Resp: 26982

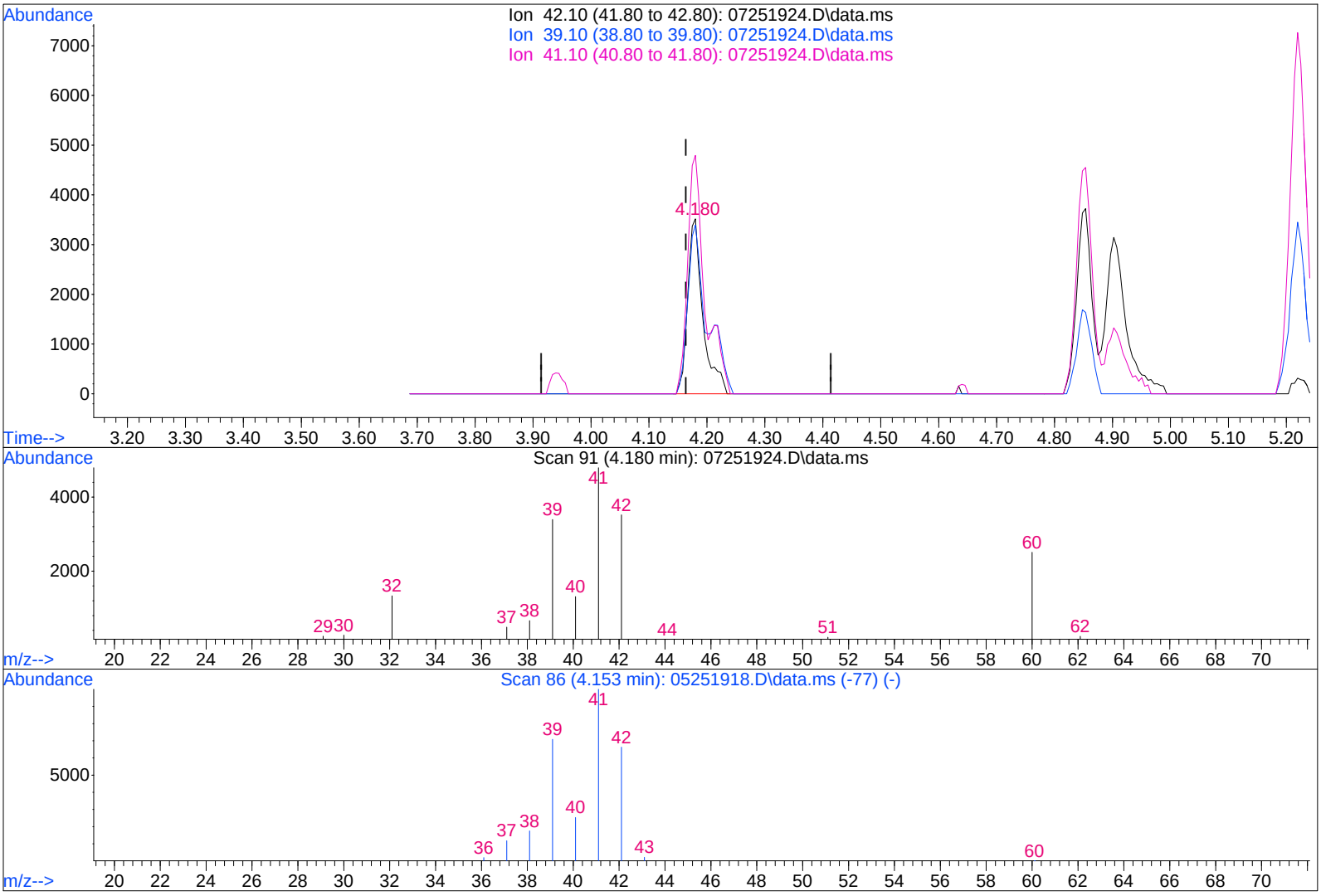
Ion	Ratio	Lower	Upper
128	100		
129	10.4	0.0	31.1



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251924.D
Sample : P1904286-007 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:37 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:29 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251924.D\data.ms

(2) Propene (T)

4.180min (+0.016) 0.51ng

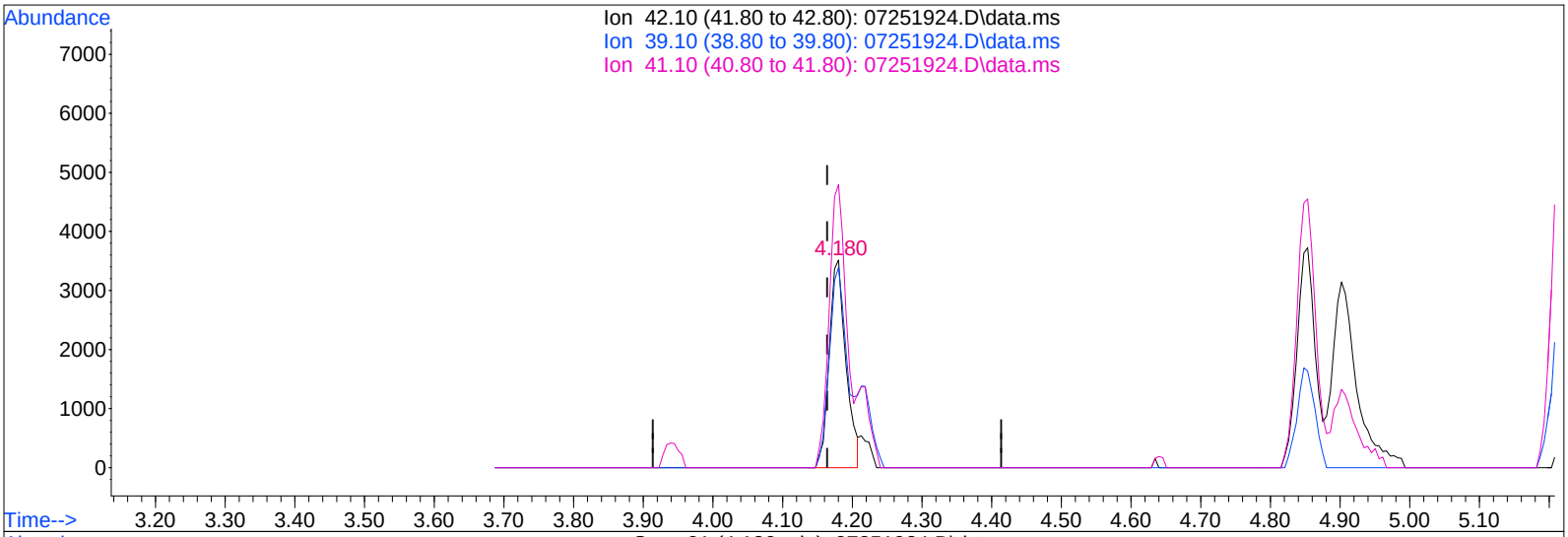
response 6414

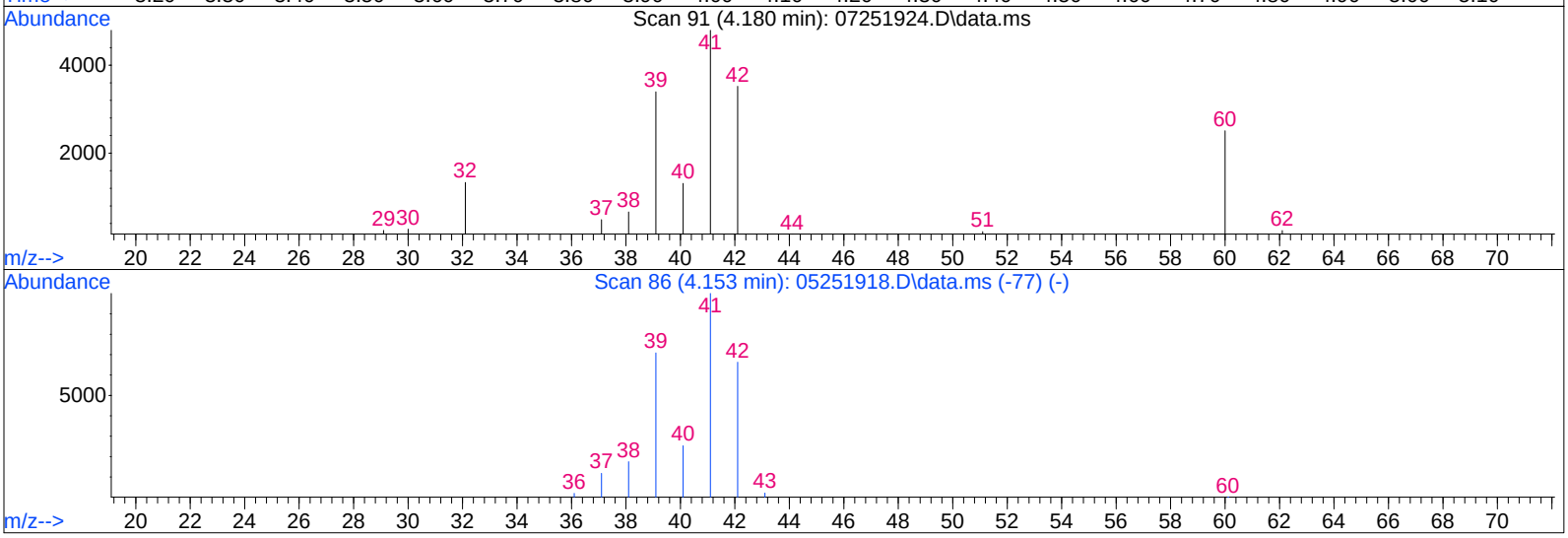
Ion	Exp%	Act%
42.10	100	100
39.10	105.80	123.84
41.10	150.20	156.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251924.D
Sample : P1904286-007 (400mL) Inst : MS08
Acq On : 25 Jul 2019 18:37 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:29 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration





TIC: 07251924.D\data.ms

(2) Propene (T)

4.180min (+0.016) 0.47ng m

response 5878

Ion	Exp%	Act%
42.10	100	100
39.10	105.80	100.87
41.10	150.20	139.21
0.00	0.00	0.00

IPC

RS 8/1/19

8/2/19

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251925.D
Sample : P1904286-007dil (40mL) Inst : MS08
Acq On : 25 Jul 2019 19:10 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:08:30 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	131731	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	592178	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	259742	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	154740	11.818	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
57) Toluene-d8 (SS2)	15.81	98	641745	12.013	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	19.05	174	230889	13.158	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.32	85	901	0.054	ng	#	80
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D. d			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.13	58	7041	0.926	ng		96
14) Trichlorofluoromethane	7.33	101	3100	0.215	ng		99
15) 2-Propanol (Isopropanol)	7.65	45	4226	0.162	ng		83
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.59	59	120	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	11.39	83	89200	5.814	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	12.49	97	341	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	12.97	78	192	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.01	83	3215	0.275	ng		97
47) Trichloroethene	14.06	130	432	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251925.D
Sample : P1904286-007dil (40mL) Inst : MS08
Acq On : 25 Jul 2019 19:10 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:08:30 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

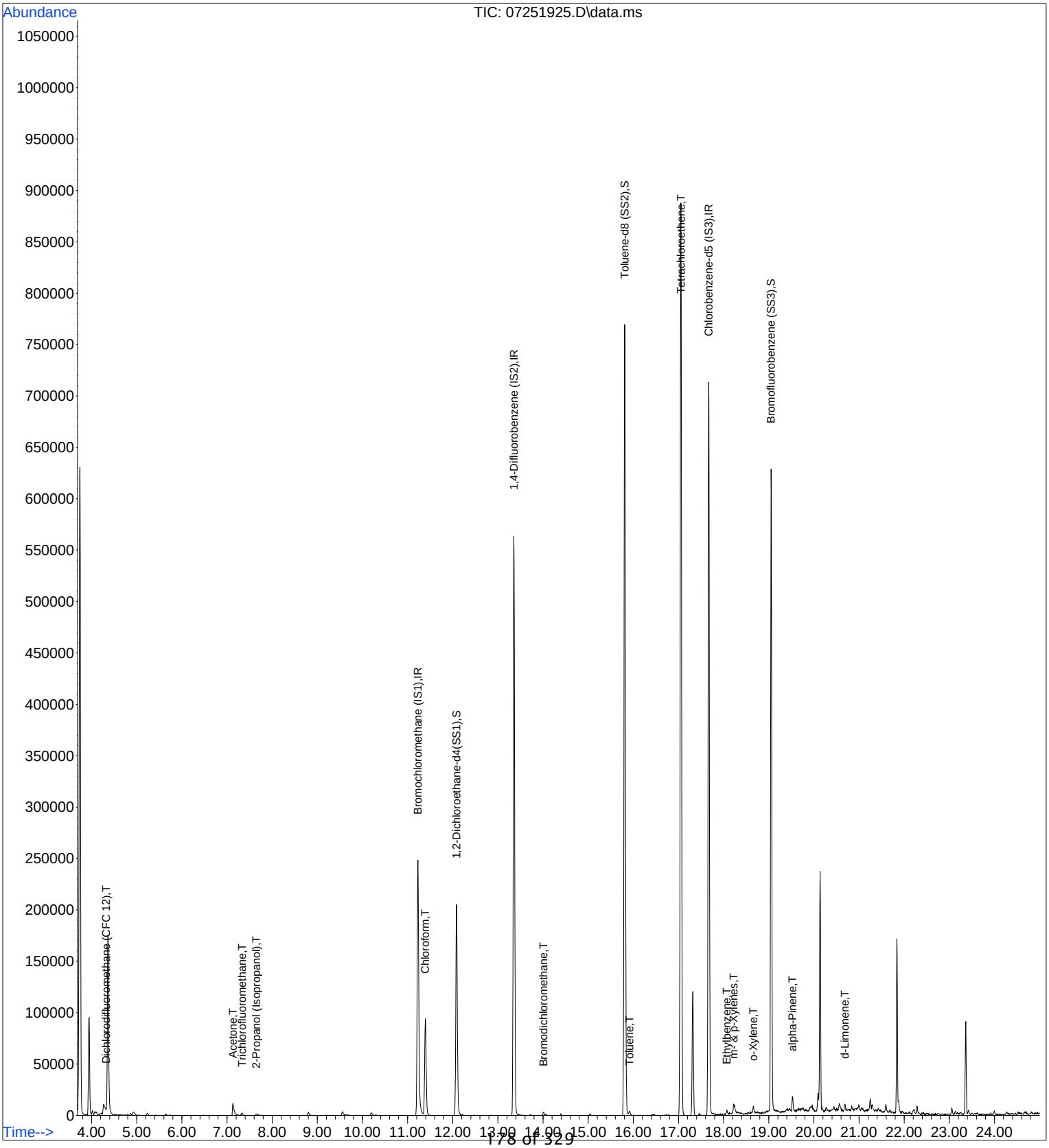
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.40	71	502	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.91	91	4427	0.098 ng		96
59) 2-Hexanone	16.16	43	101	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	17.05	166	373001	27.039 ng		100
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.07	91	4717	0.087 ng		93
67) m- & p-Xylenes	18.22	91	9273	0.229 ng		93
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.66	91	4540	0.111 ng		95
71) n-Nonane	18.85	43	300	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.19	105	774	N.D.		
75) alpha-Pinene	19.52	93	6288	0.238 ng	#	59
76) n-Propylbenzene	19.63	91	358	N.D.		
77) 3-Ethyltoluene	19.72	105	1316	N.D.		
78) 4-Ethyltoluene	19.72	105	1077	N.D.		
79) 1,3,5-Trimethylbenzene	19.84	105	533	N.D.		
80) alpha-Methylstyrene	19.97	118	893	N.D.		
81) 2-Ethyltoluene	19.99	105	1047	N.D.		
82) 1,2,4-Trimethylbenzene	20.19	105	1831	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.29	91	810	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.40	105	602	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	20.57	105	2066	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.69	68	1347	0.085 ng	#	19
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.37	57	764	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.30	128	2102	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.39	55	534	N.D.		
99) tert-Butylbenzene	20.17	119	539	N.D.		
100) n-Butylbenzene	20.92	91	899	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251925.D
Sample : P1904286-007dil (40mL) Inst : MS08
Acq On : 25 Jul 2019 19:10 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

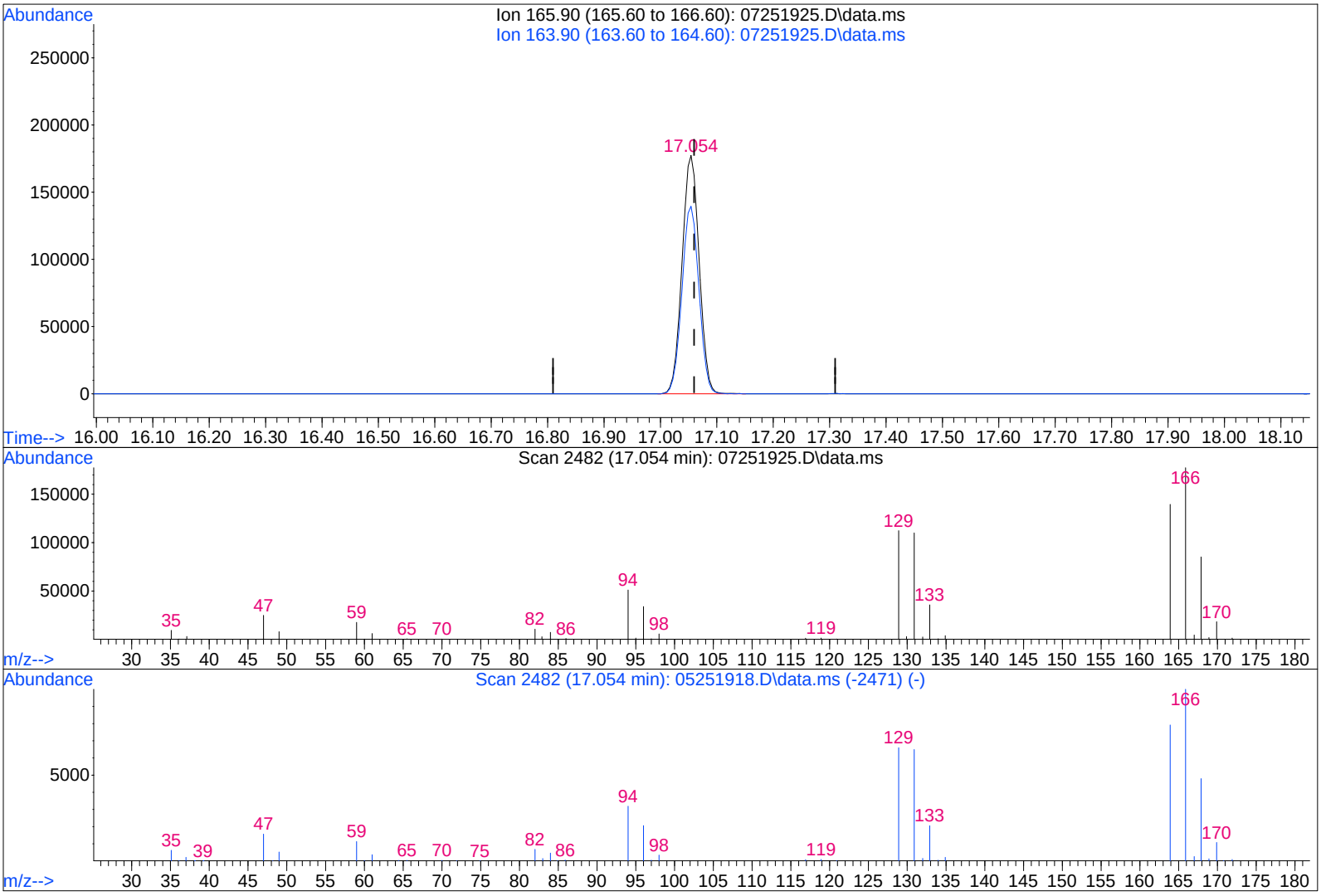
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:08:30 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251925.D
Sample : P1904286-007dil (40mL) Inst : MS08
Acq On : 25 Jul 2019 19:10 Operator: RS
Misc : S31-07111901
ALS Vial : 12 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:08:30 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251925.D\data.ms

(64) Tetrachloroethene (T)

17.054min (-0.005) 27.04ng

response 373001

Ion	Exp%	Act%
165.90	100	100
163.90	78.40	78.48
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251926.D
Sample : P1904286-008 (400mL) Inst : MS08
Acq On : 25 Jul 2019 19:43 Operator: RS RS 8/1/19
Misc : S31-07111901
ALS Vial : 13 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:29:11 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	152148	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	680079	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	301595	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	180282	11.921	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.81	98	734777	11.846	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
73) Bromofluorobenzene (SS3)	19.05	174	270859	13.294	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
Target Compounds							Qvalue
2) Propene	4.19	42	4801	0.385	ng		86
3) Dichlorodifluoromethan...	4.33	85	8754	0.451	ng		98
4) Chloromethane	4.61	50	464	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.42	45	24313	2.759	ng		97
11) Acetonitrile	6.71	41	246	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	7.11	58	22453	2.556	ng		97
14) Trichlorofluoromethane	7.33	101	7565	0.453	ng		99
15) 2-Propanol (Isopropanol)	7.59	45	48358	1.605	ng		99
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.	d		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.94	151	970	0.088	ng		99
22) Carbon Disulfide	8.78	76	35767	0.932	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.60	72	1462	0.195	ng	#	65
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.35	57	1335	0.070	ng	#	86
32) Chloroform	11.40	83	2317	0.131	ng		91
34) Tetrahydrofuran (THF)	11.86	72	1208	0.145	ng	#	84
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.97	78	2848	0.058	ng		91
42) Carbon Tetrachloride	13.12	117	817	0.059	ng	#	78
43) Cyclohexane	13.25	84	788	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.06	130	996	0.076	ng		87
48) 1,4-Dioxane	14.08	88	182	N.D.			
49) 2,2,4-Trimethylpentane...	14.13	57	2494	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251926.D
Sample : P1904286-008 (400mL) Inst : MS08
Acq On : 25 Jul 2019 19:43 Operator: RS
Misc : S31-07111901
ALS Vial : 13 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:29:11 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.39	71	610	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.98	58	699	0.070 ng	#	60
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.91	91	24492	0.467 ng		99
59) 2-Hexanone	16.18	43	2008	0.081 ng	#	62
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.81	43	345	N.D.		
63) n-Octane	16.91	57	436	N.D.		
64) Tetrachloroethene	17.05	166	63903	3.989 ng		99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.07	91	5072	0.081 ng		95
67) m- & p-Xylenes	18.22	91	5405	0.115 ng		94
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.57	104	110	N.D.		
70) o-Xylene	18.66	91	3914	0.082 ng		97
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	18.67	83	181	N.D.		
74) Cumene	19.18	105	609	N.D.		
75) alpha-Pinene	19.52	93	17712	0.576 ng		70
76) n-Propylbenzene	19.63	91	573	N.D.		
77) 3-Ethyltoluene	19.72	105	1478	N.D.		
78) 4-Ethyltoluene	19.75	105	936	N.D.		
79) 1,3,5-Trimethylbenzene	19.82	105	1060	N.D.		
80) alpha-Methylstyrene	19.96	118	1187	N.D.		
81) 2-Ethyltoluene	20.00	105	1153	N.D.		
82) 1,2,4-Trimethylbenzene	20.19	105	2392	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	20.56	105	1454	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.69	68	2587	0.140 ng		86
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.30	128	4997	0.093 ng		93
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.17	119	341	N.D.		
100) n-Butylbenzene	20.93	91	836	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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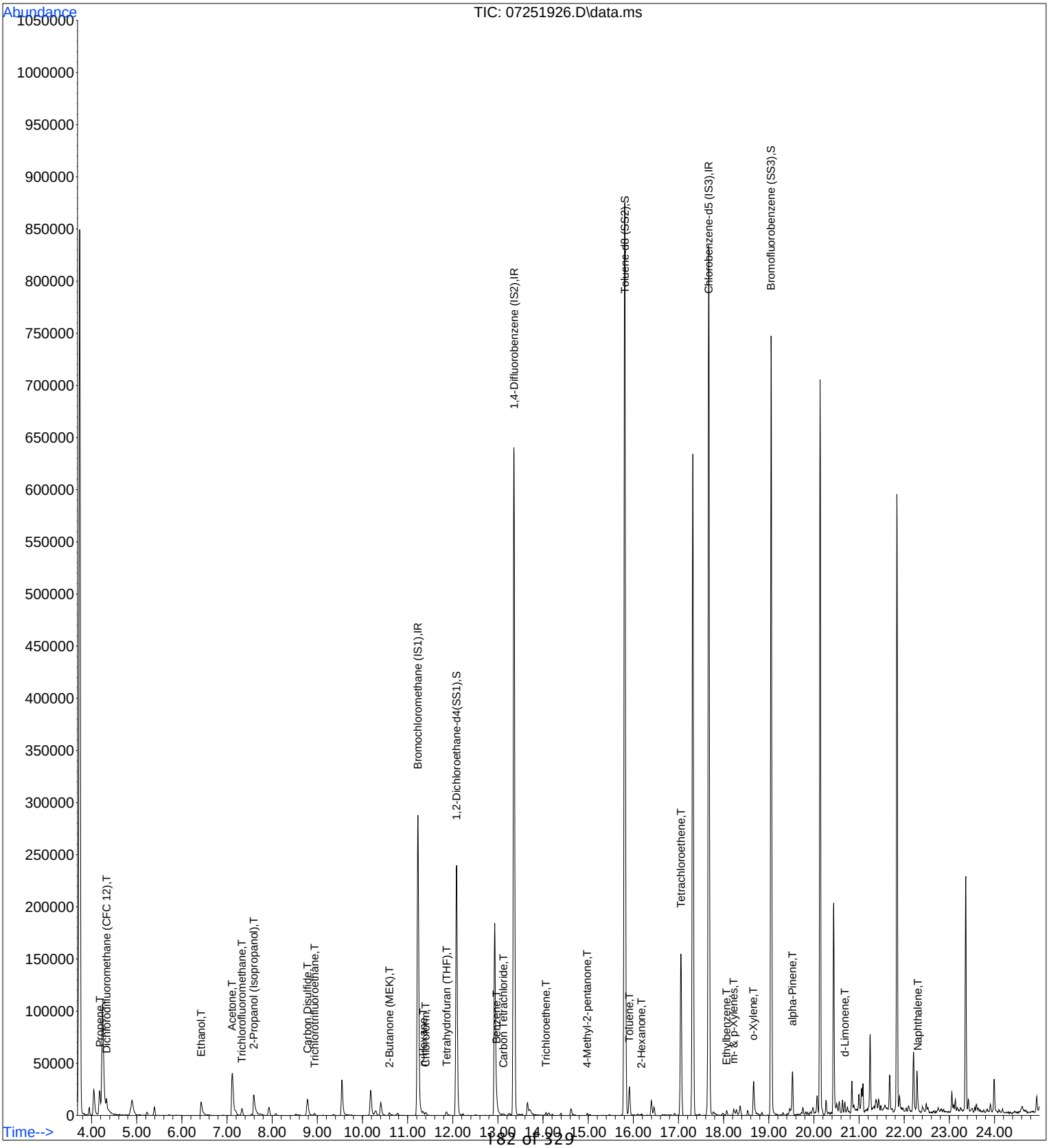
Sample : P1904286-008 (400mL) Inst : MS08
Acq On : 25 Jul 2019 19:43 Operator: RS
Misc : S31-07111901
ALS Vial : 13 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:29:11 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



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RS 8/1/19

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37) 1,4-Difluorobenzene (IS2)	13.36	114	680079	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	301595	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	180282	11.921	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.81	98	734777	11.846	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
73) Bromofluorobenzene (SS3)	19.05	174	270859	13.294	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
Target Compounds							Qvalue
2) Propene	4.19	42	4801	0.385	ng		86
3) Dichlorodifluoromethan...	4.33	85	8754	0.451	ng		98
10) Ethanol	6.42	45	24313	2.759	ng		97
13) Acetone	7.11	58	22453	2.556	ng		97
14) Trichlorofluoromethane	7.33	101	7565	0.453	ng		99
15) 2-Propanol (Isopropanol)	7.59	45	48358	1.605	ng		99
21) Trichlorotrifluoroethane	8.94	151	970	0.088	ng		99
22) Carbon Disulfide	8.78	76	35767	0.932	ng		97
27) 2-Butanone (MEK)	10.60	72	1462	0.195	ng	#	65
31) n-Hexane	11.35	57	1335	0.070	ng	#	86
32) Chloroform	11.40	83	2317	0.131	ng		91
34) Tetrahydrofuran (THF)	11.86	72	1208	0.145	ng	#	84
41) Benzene	12.97	78	2848	0.058	ng		91
42) Carbon Tetrachloride	13.12	117	817	0.059	ng	#	78
47) Trichloroethene	14.06	130	996	0.076	ng		87
53) 4-Methyl-2-pentanone	14.98	58	699	0.070	ng	#	60
58) Toluene	15.91	91	24492	0.467	ng		99
59) 2-Hexanone	16.18	43	2008	0.081	ng	#	62
64) Tetrachloroethene	17.05	166	63903	3.989	ng		99
66) Ethylbenzene	18.07	91	5072	0.081	ng		95
67) m- & p-Xylenes	18.22	91	5405	0.115	ng		94
70) o-Xylene	18.66	91	3914	0.082	ng		97
75) alpha-Pinene	19.52	93	17712	0.576	ng		70
91) d-Limonene	20.69	68	2587	0.140	ng		86
95) Naphthalene	22.30	128	4997	0.093	ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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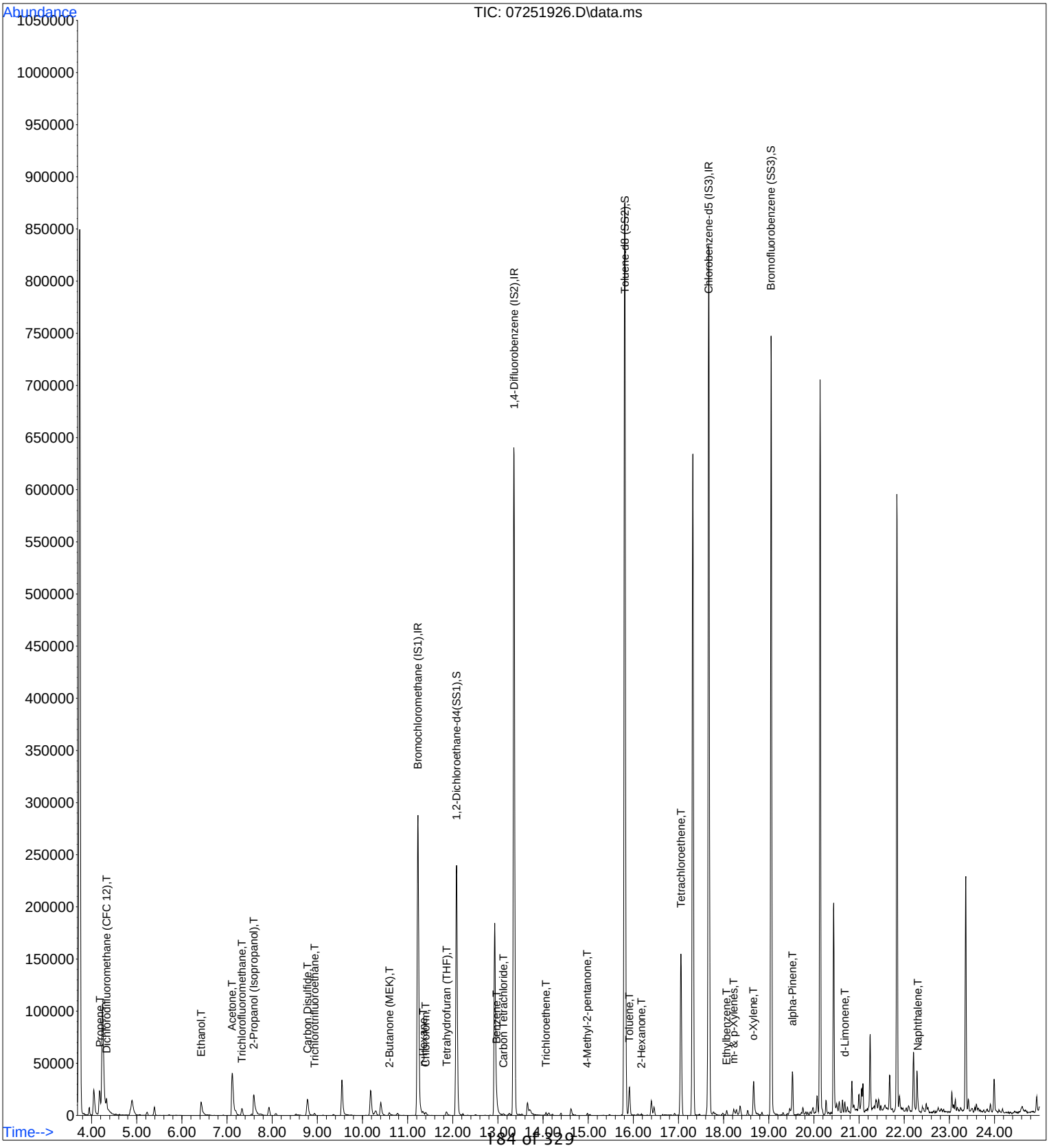
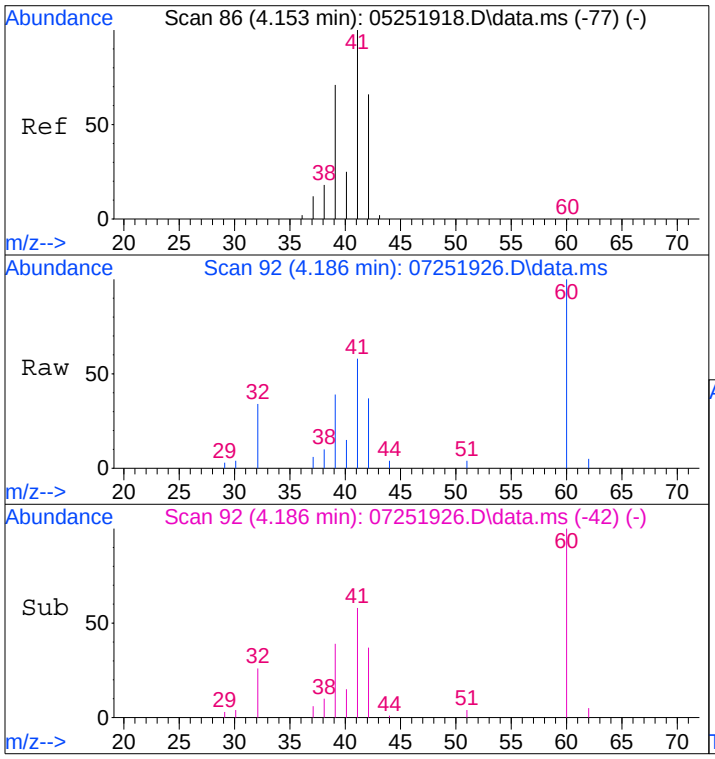
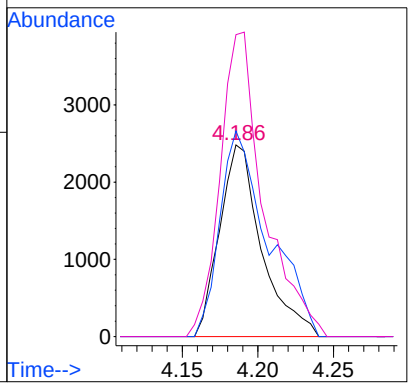


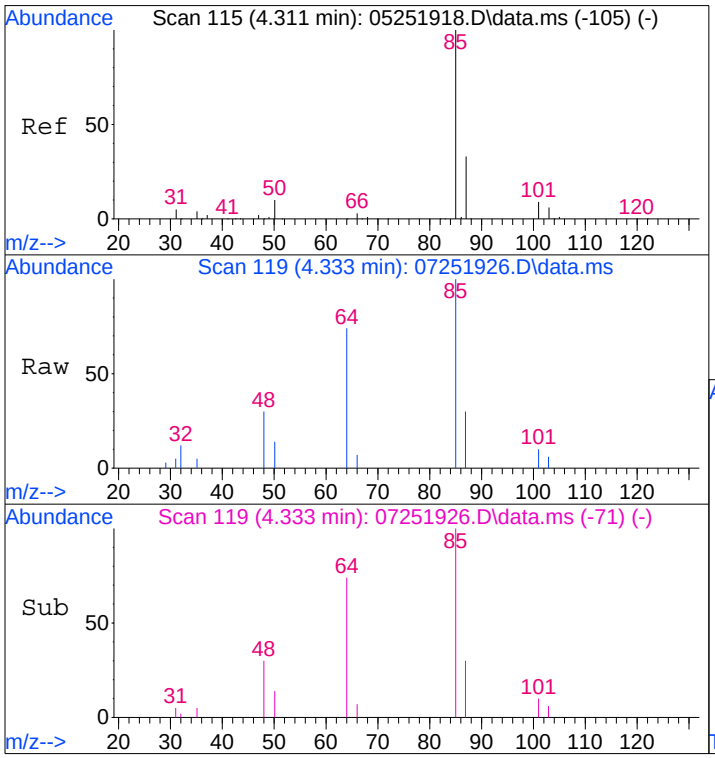


#2
Propene
Concen: 0.39 ng
RT: 4.19 min Scan# 92
Delta R.T. 0.022 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 42 Resp: 4801

Ion	Ratio	Lower	Upper
42	100		
39	123.6	85.8	125.8
41	164.3	130.2	170.2

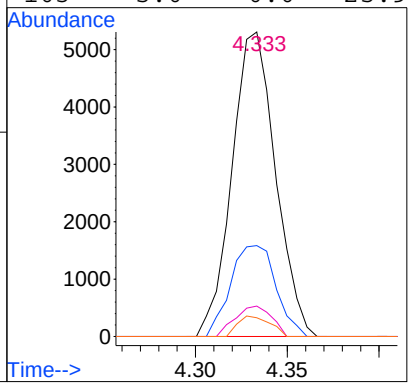


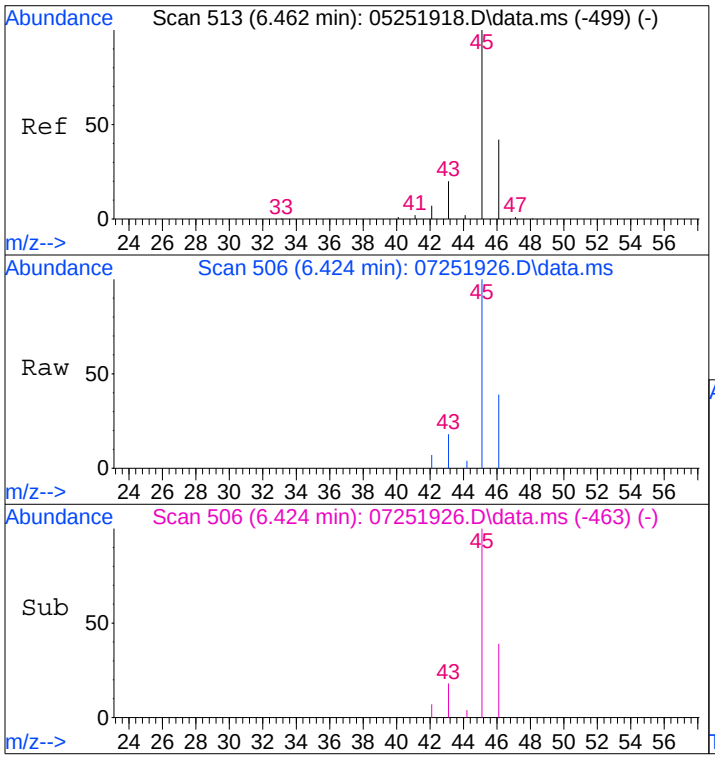


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.45 ng
RT: 4.33 min Scan# 119
Delta R.T. 0.011 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 85 Resp: 8754

Ion	Ratio	Lower	Upper
85	100		
87	31.1	12.5	52.5
101	8.4	0.0	29.0
103	5.0	0.0	25.9

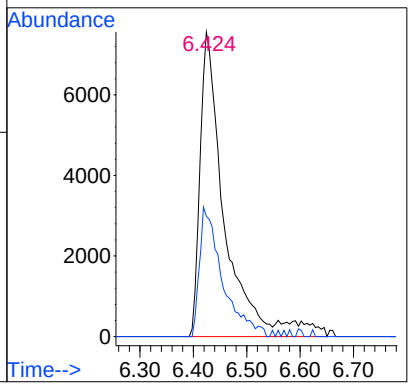


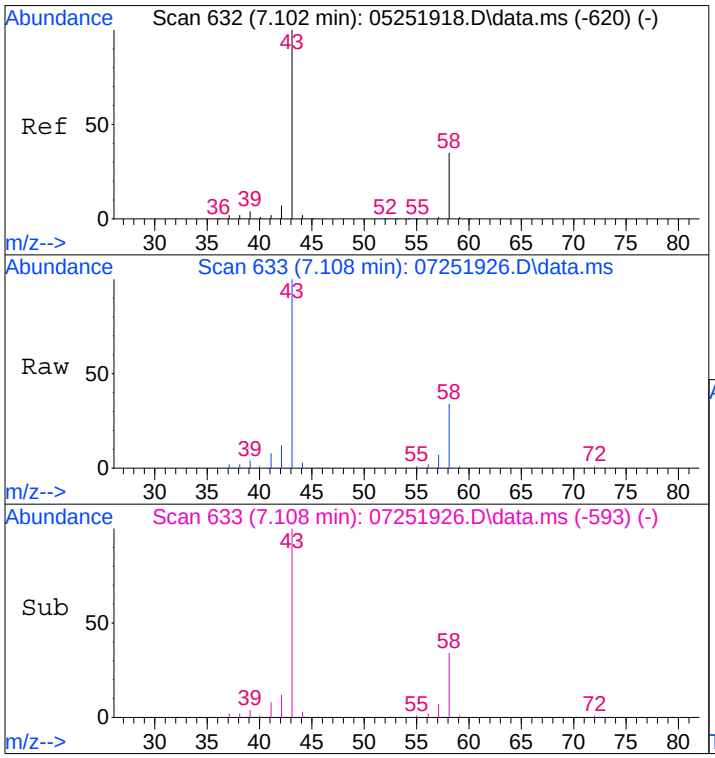


#10
Ethanol
Concen: 2.76 ng
RT: 6.42 min Scan# 506
Delta R.T. -0.019 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 45 Resp: 24313

Ion	Ratio	Lower	Upper
45	100		
46	39.5	21.7	61.7

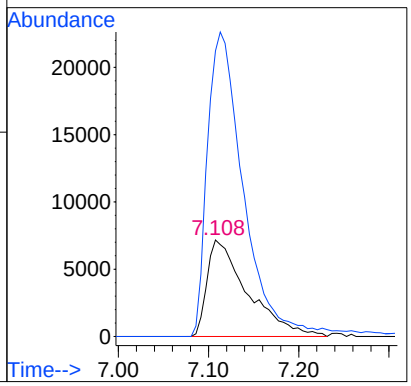


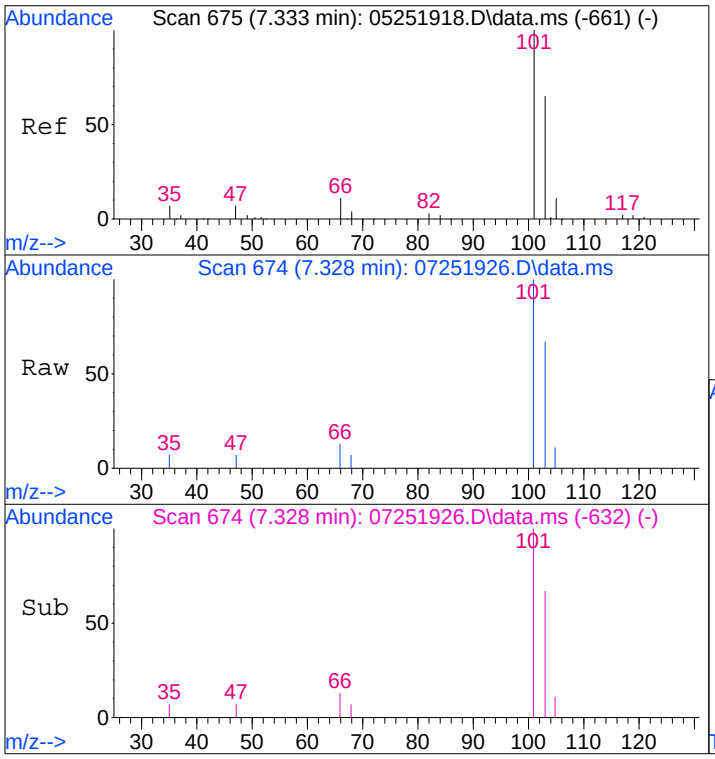


#13
Acetone
Concen: 2.56 ng
RT: 7.11 min Scan# 633
Delta R.T. -0.037 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 58 Resp: 22453

Ion	Ratio	Lower	Upper
58	100		
43	286.1	260.9	320.9

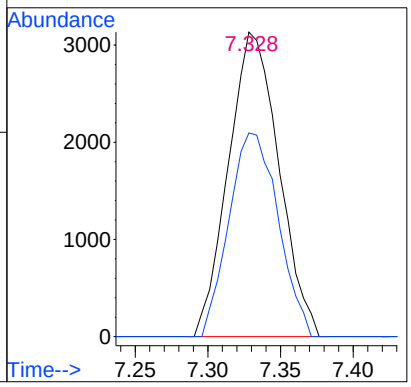


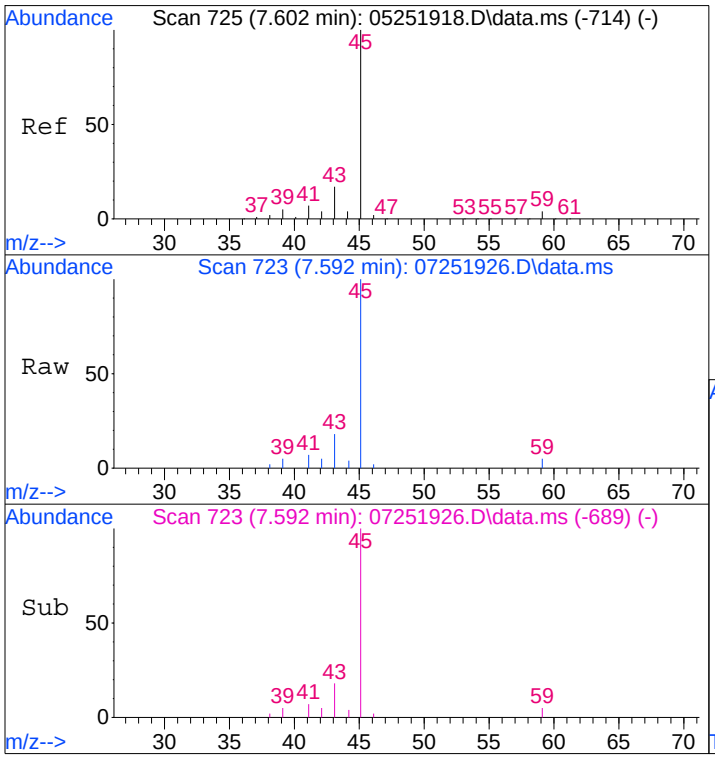


#14
Trichlorofluoromethane
Concen: 0.45 ng
RT: 7.33 min Scan# 674
Delta R.T. -0.021 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion:101 Resp: 7565

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.7	84.7

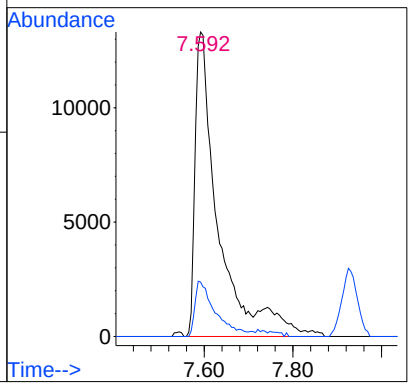


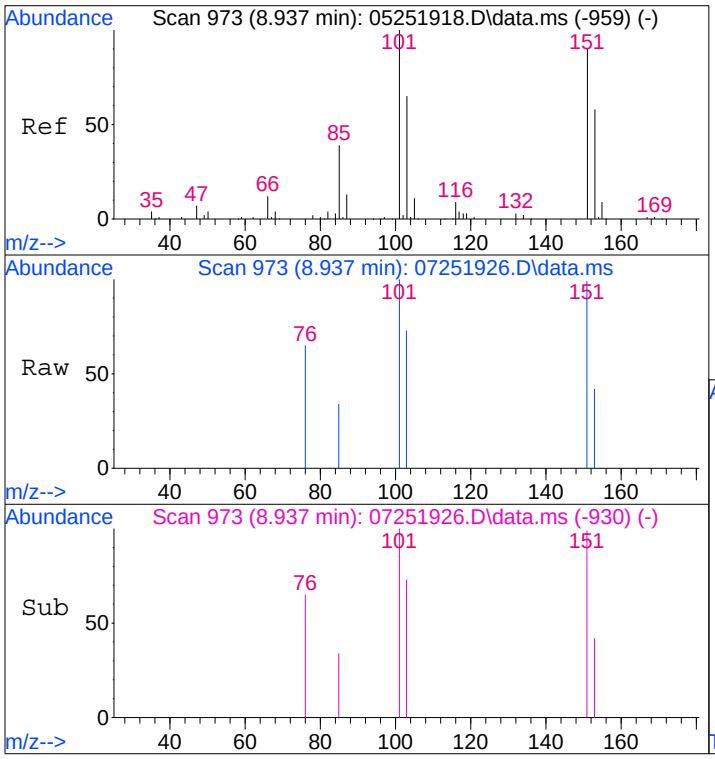


#15
2-Propanol (Isopropanol)
Concen: 1.61 ng
RT: 7.59 min Scan# 723
Delta R.T. -0.065 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 45 Resp: 48358

Ion	Ratio	Lower	Upper
45	100		
43	17.9	0.0	37.6

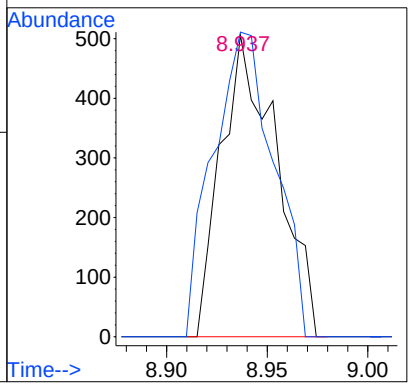


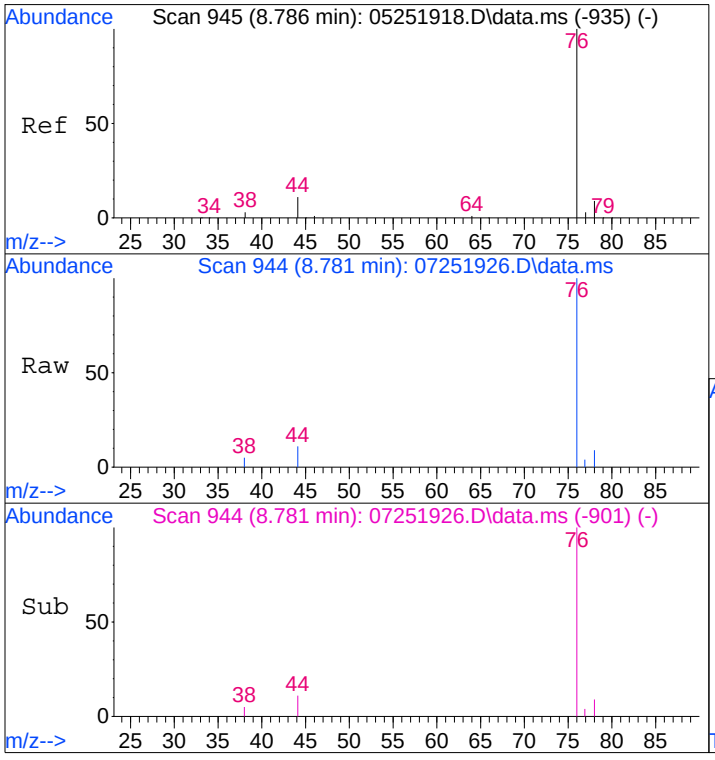


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.94 min Scan# 973
Delta R.T. -0.016 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion:151 Resp: 970

Ion	Ratio	Lower	Upper
151	100		
101	111.3	92.2	132.2

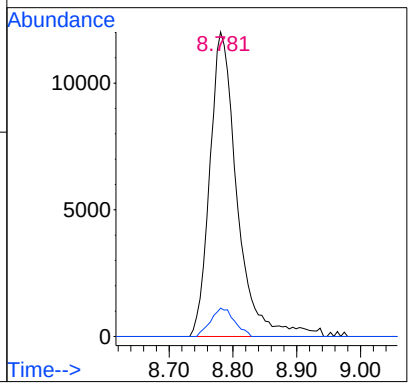


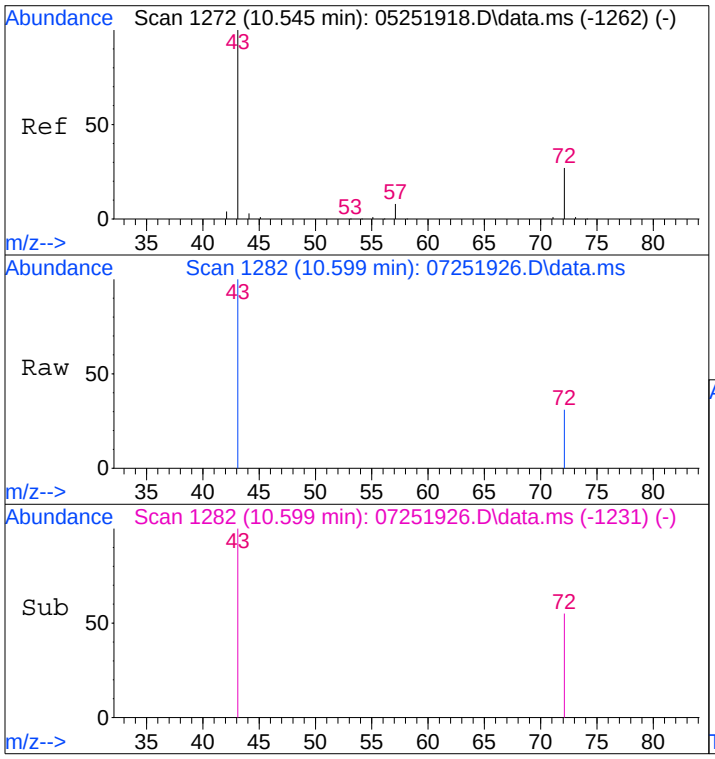


#22
Carbon Disulfide
Concen: 0.93 ng
RT: 8.78 min Scan# 944
Delta R.T. -0.021 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 76 Resp: 35767

Ion	Ratio	Lower	Upper
76	100		
78	8.1	0.0	29.2

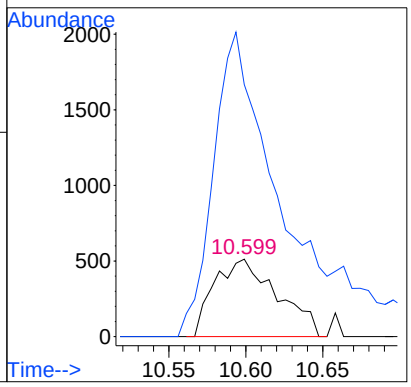


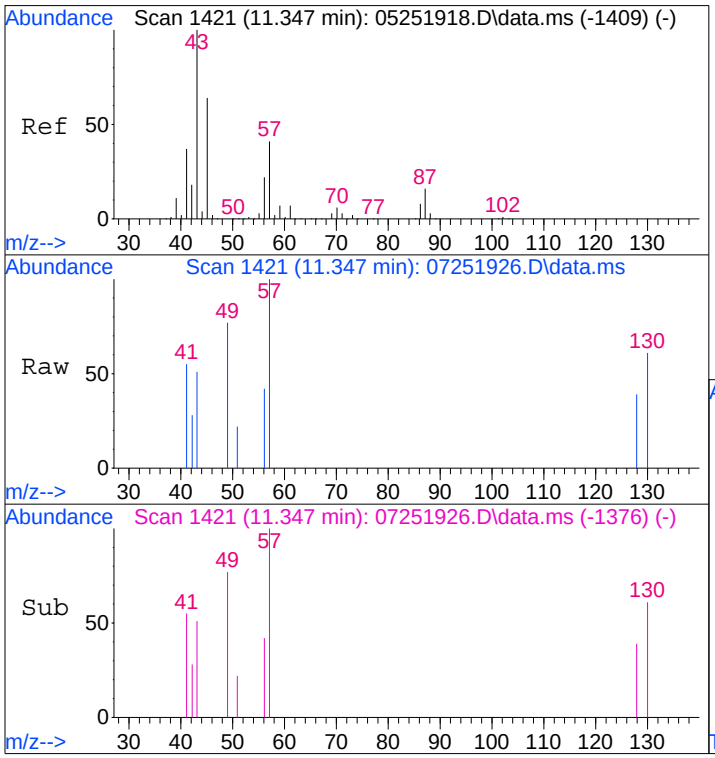


#27
2-Butanone (MEK)
Concen: 0.19 ng
RT: 10.60 min Scan# 1282
Delta R.T. 0.027 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 72 Resp: 1462

Ion	Ratio	Lower	Upper
72	100		
43	445.5	346.9	386.9#

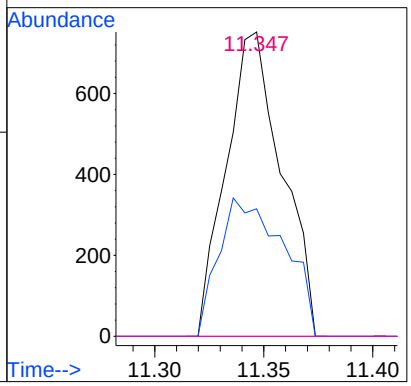


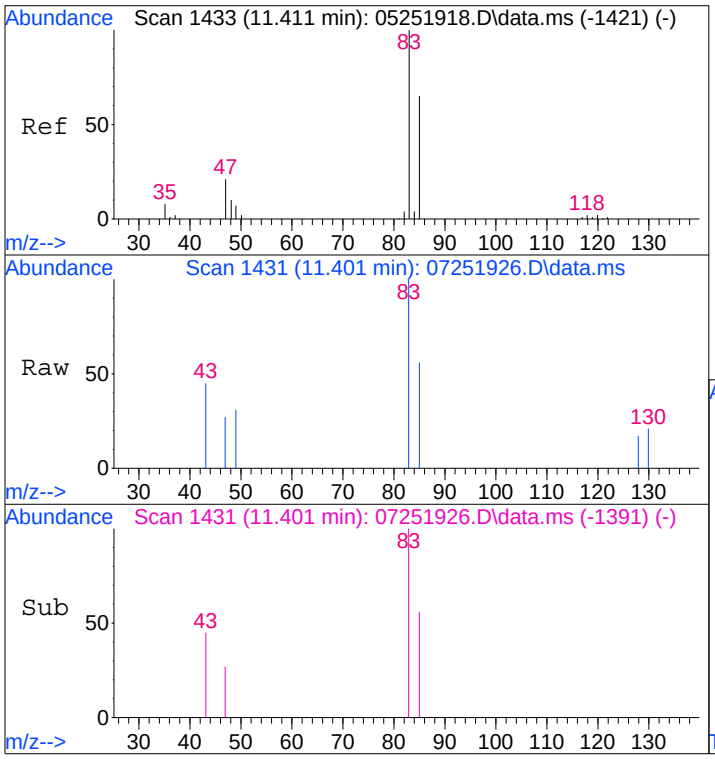


#31
n-Hexane
Concen: 0.07 ng
RT: 11.35 min Scan# 1421
Delta R.T. -0.005 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 57 Resp: 1335

Ion	Ratio	Lower	Upper
57	100		
56	53.0	41.1	61.7
86	0.0	16.4	24.6#

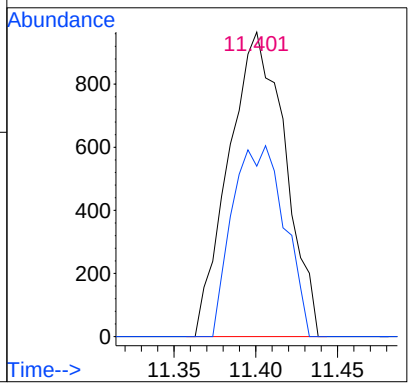


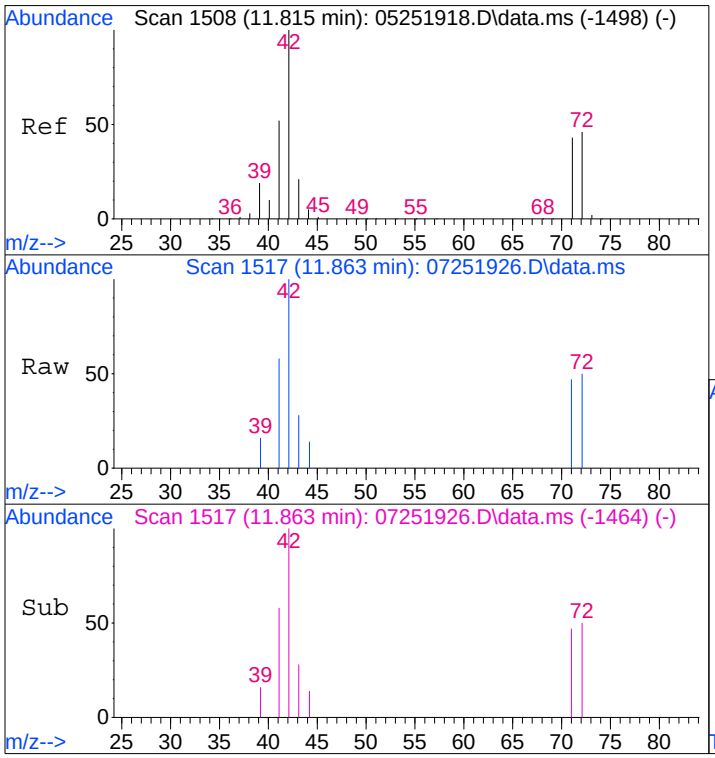


#32
Chloroform
Concen: 0.13 ng
RT: 11.40 min Scan# 1431
Delta R.T. -0.032 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 83 Resp: 2317

Ion	Ratio	Lower	Upper
83	100		
85	58.1	45.3	85.3

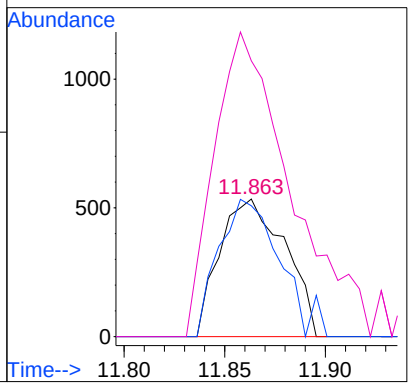


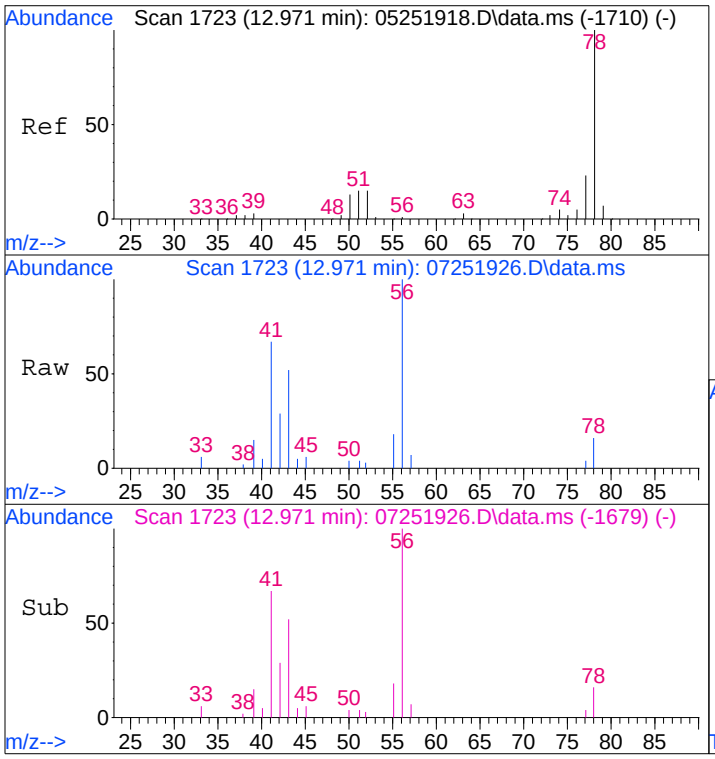


#34
Tetrahydrofuran (THF)
Concen: 0.14 ng
RT: 11.86 min Scan# 1517
Delta R.T. 0.038 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 72 Resp: 1208

Ion	Ratio	Lower	Upper
72	100		
71	93.3	73.9	113.9
42	258.0	201.9	241.9#

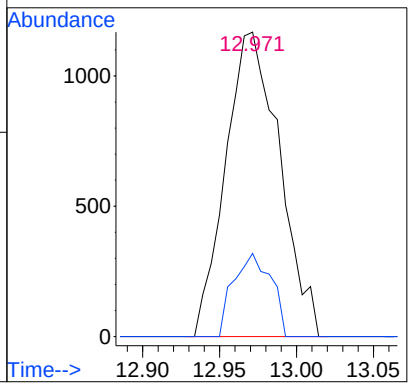


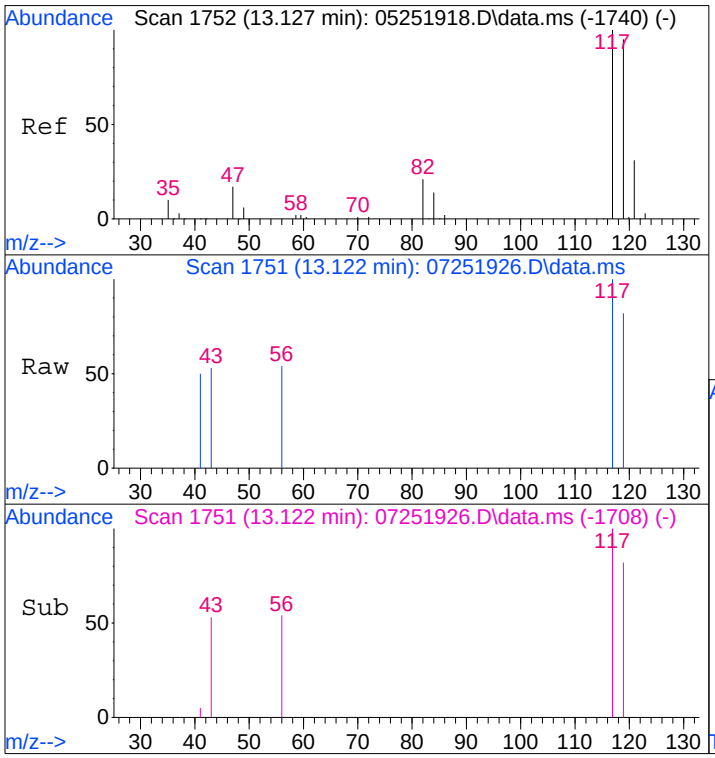


#41
Benzene
Concen: 0.06 ng
RT: 12.97 min Scan# 1723
Delta R.T. -0.011 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 78 Resp: 2848

Ion	Ratio	Lower	Upper
78	100		
77	19.0	3.2	43.2

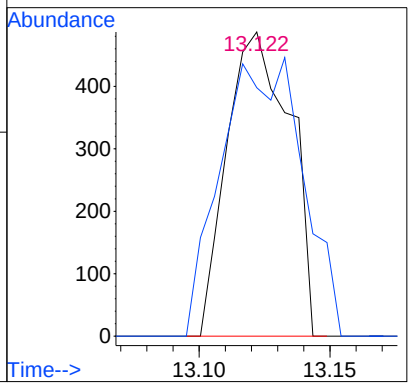


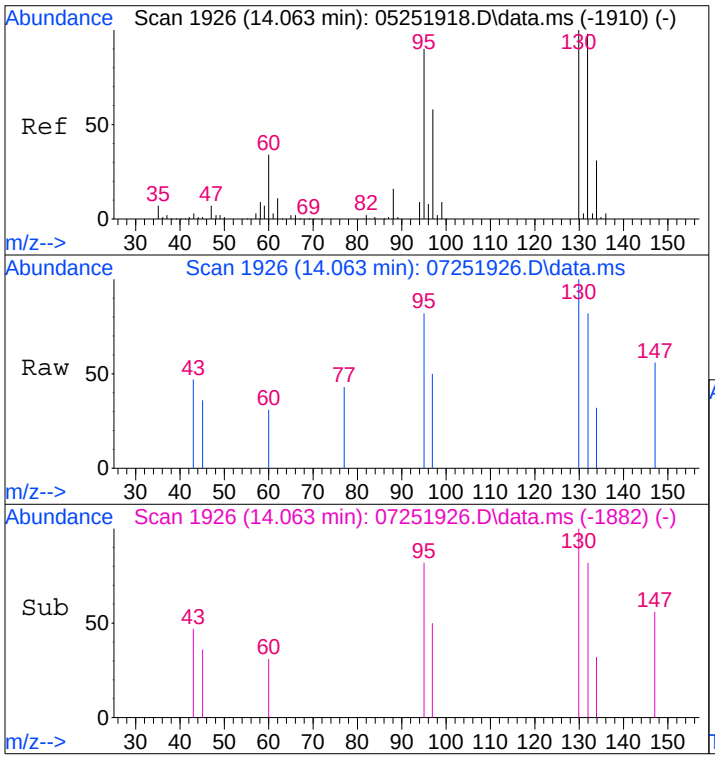


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.12 min Scan# 1751
Delta R.T. -0.016 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion:117 Resp: 817

Ion	Ratio	Lower	Upper
117	100		
119	117.7	76.4	116.4#

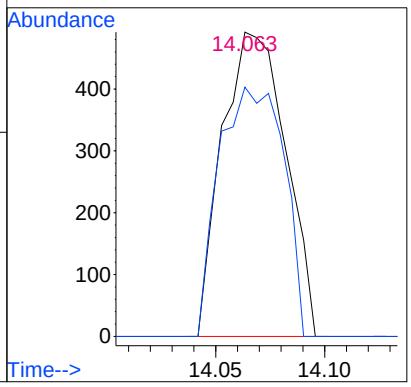


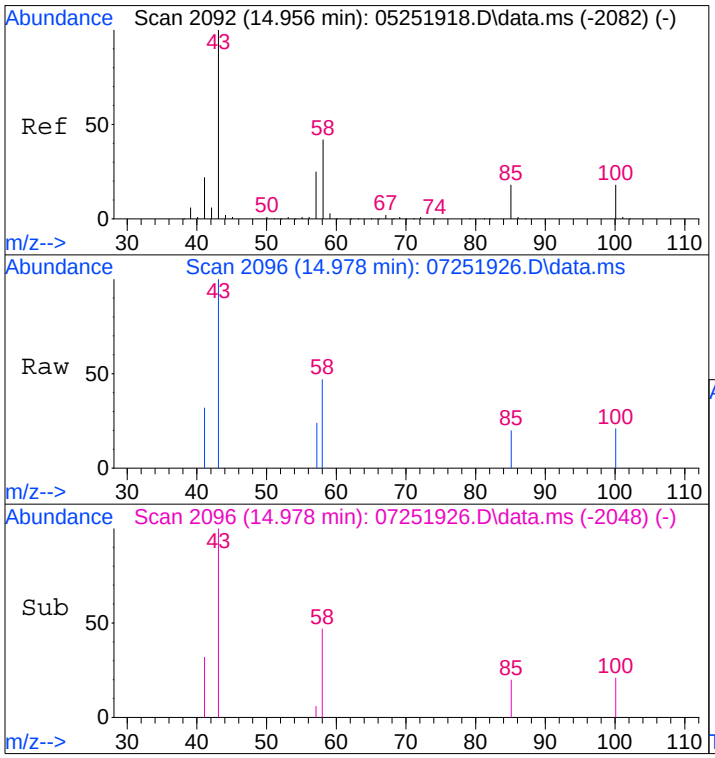


#47
Trichloroethene
Concen: 0.08 ng
RT: 14.06 min Scan# 1926
Delta R.T. -0.011 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion:130 Resp: 996

Ion	Ratio	Lower	Upper
130	100		
132	83.6	76.1	116.1

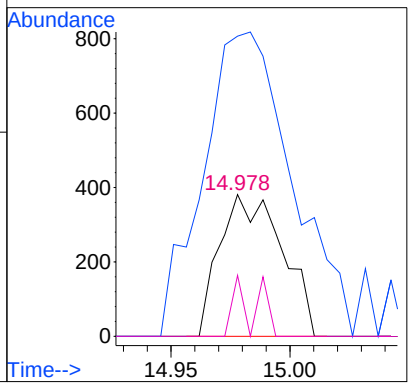


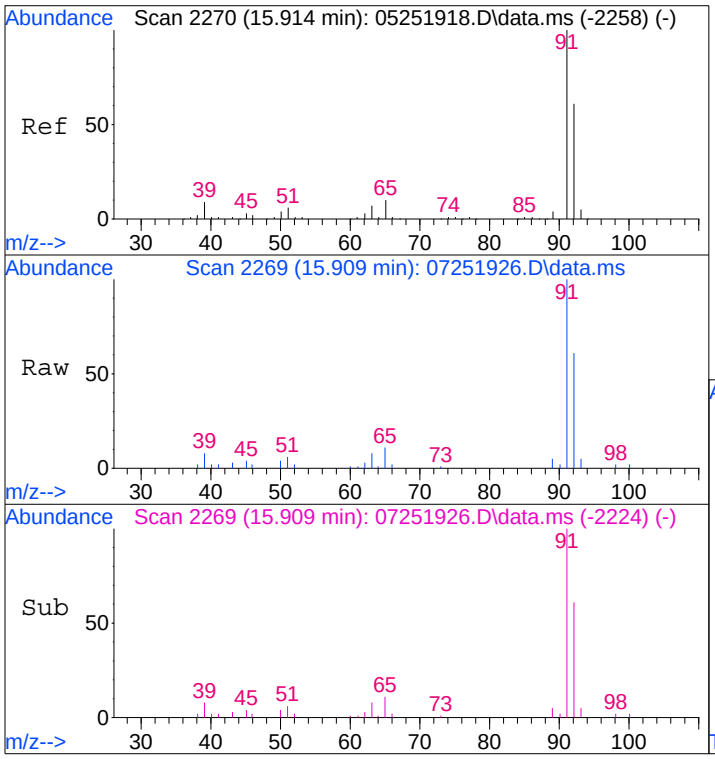


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.98 min Scan# 2096
Delta R.T. 0.011 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 58 Resp: 699

Ion	Ratio	Lower	Upper
58	100		
43	305.2	191.3	286.9#
85	15.0	37.8	56.8#

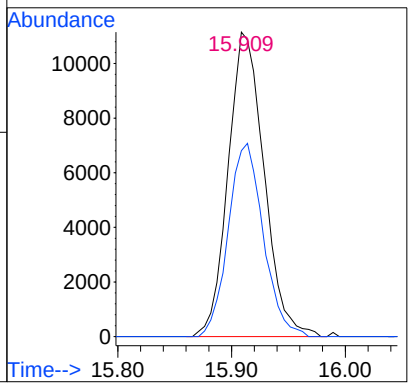


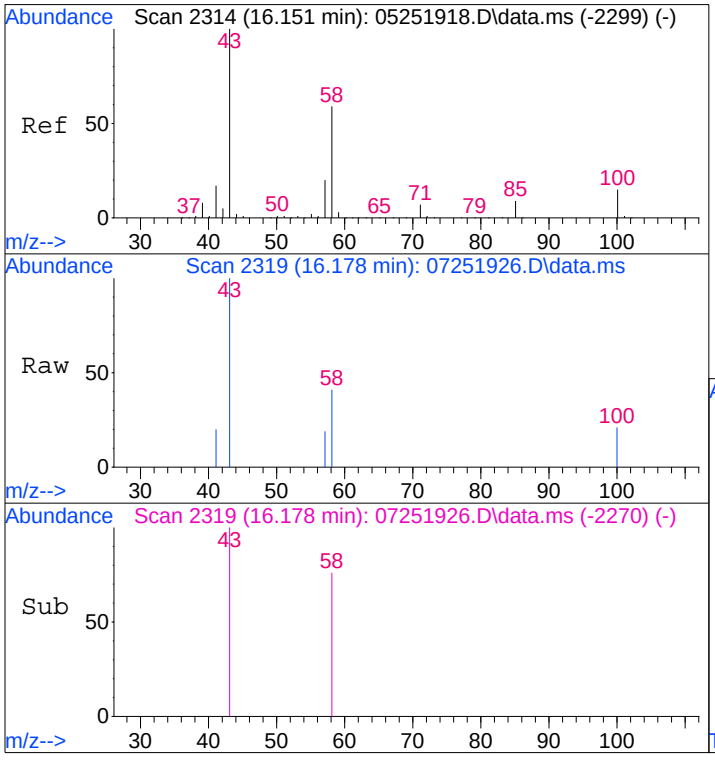


#58
Toluene
Concen: 0.47 ng
RT: 15.91 min Scan# 2269
Delta R.T. -0.010 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 91 Resp: 24492

Ion	Ratio	Lower	Upper
91	100		
92	61.8	41.2	81.2

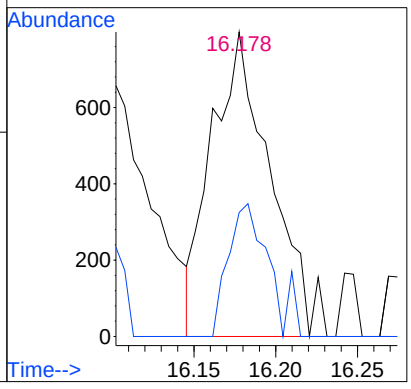


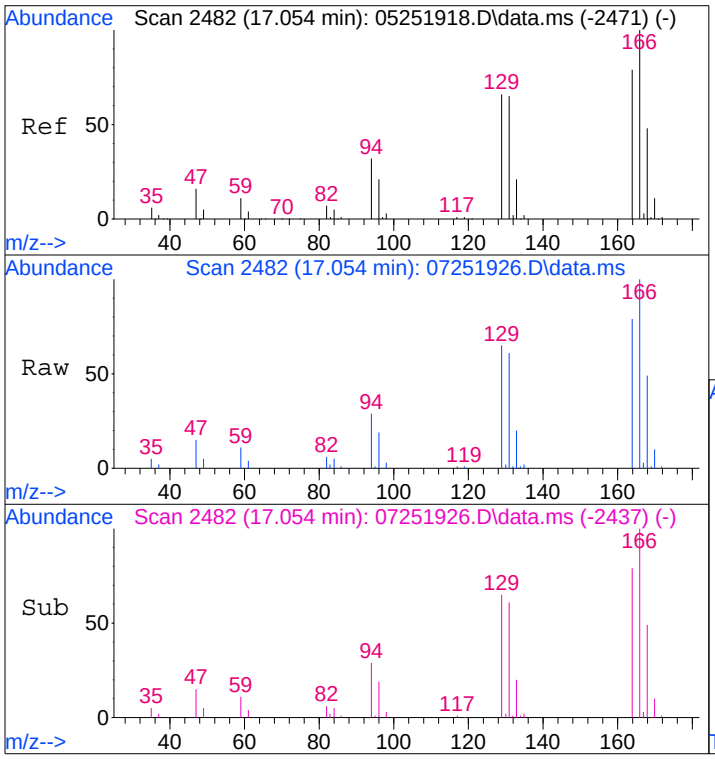


#59
2-Hexanone
Concen: 0.08 ng
RT: 16.18 min Scan# 2319
Delta R.T. 0.016 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 43 Resp: 2008

Ion	Ratio	Lower	Upper
43	100		
58	30.2	38.8	78.8#

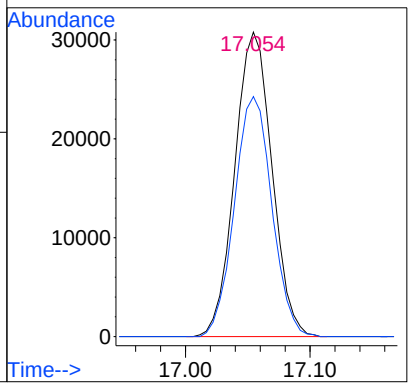


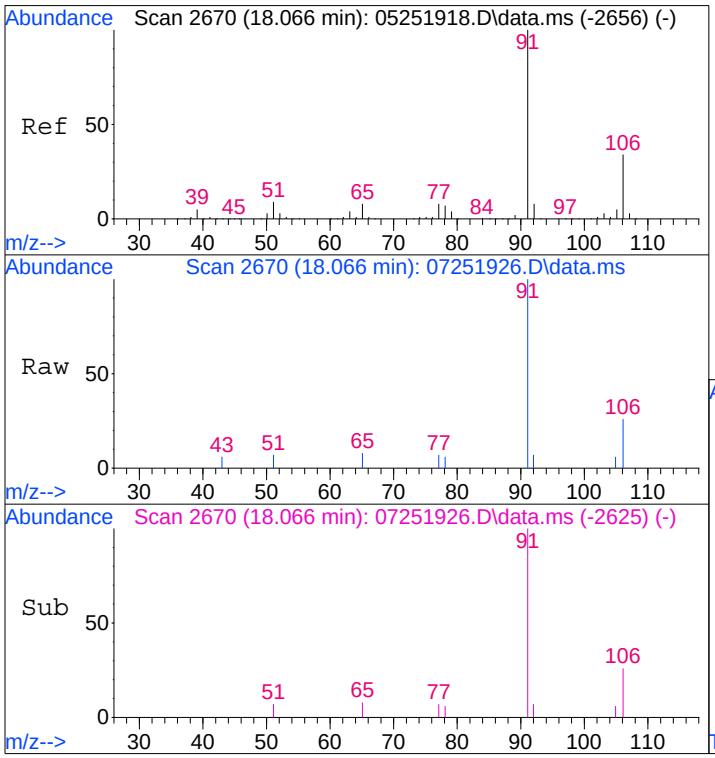


#64
Tetrachloroethene
Concen: 3.99 ng
RT: 17.05 min Scan# 2482
Delta R.T. -0.005 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion:166 Resp: 63903

Ion	Ratio	Lower	Upper
166	100		
164	79.3	58.4	98.4

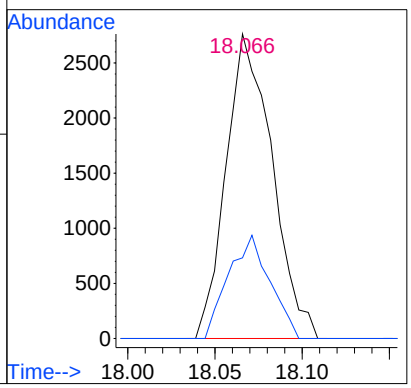


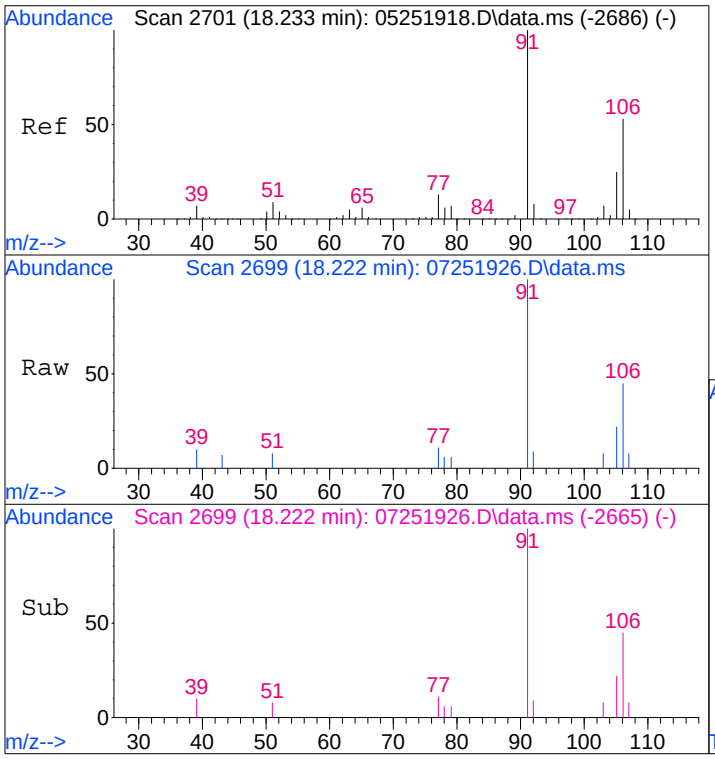


#66
Ethylbenzene
Concen: 0.08 ng
RT: 18.07 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 91 Resp: 5072

Ion	Ratio	Lower	Upper
91	100		
106	30.5	13.4	53.4

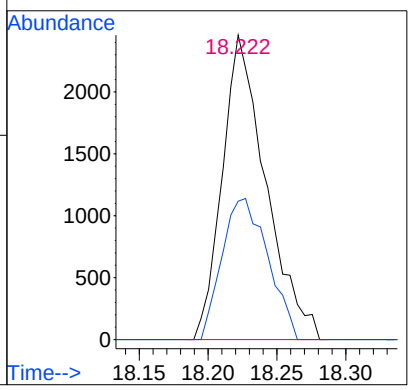


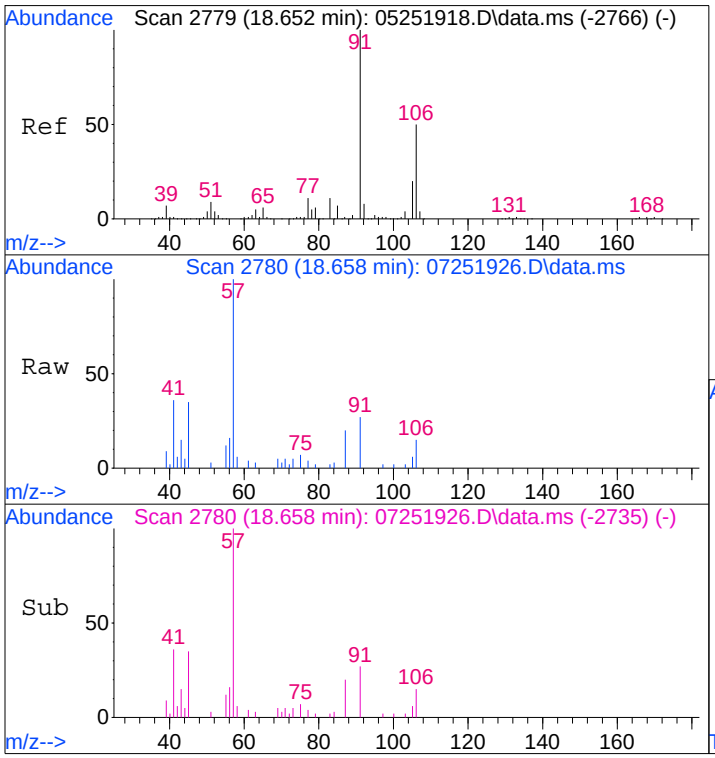


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 18.22 min Scan# 2699
Delta R.T. -0.016 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 91 Resp: 5405

Ion	Ratio	Lower	Upper
91	100		
106	48.8	33.4	73.4

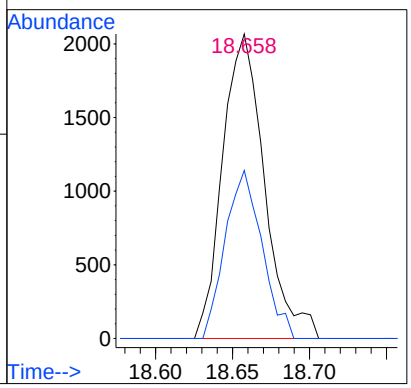


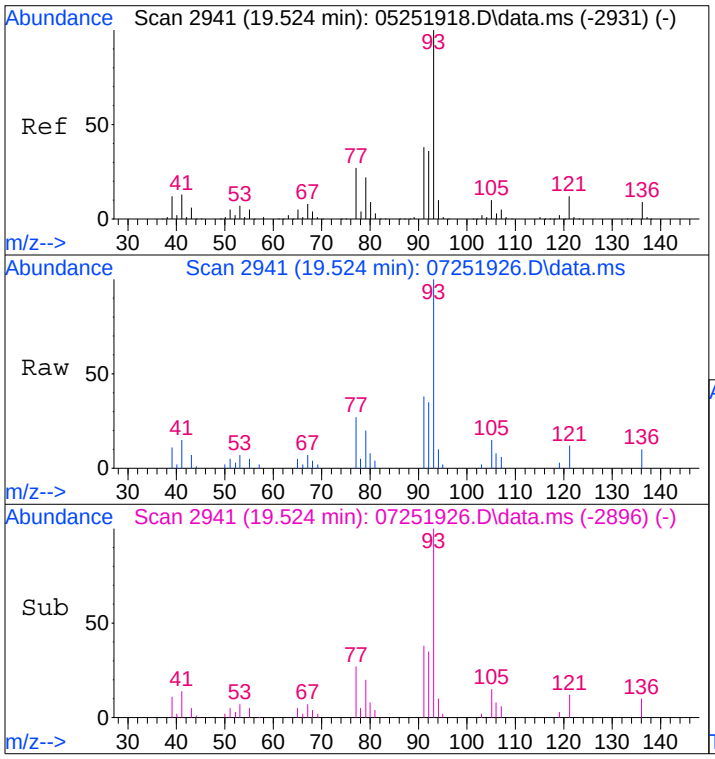


#70
o-Xylene
Concen: 0.08 ng
RT: 18.66 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 91 Resp: 3914

Ion	Ratio	Lower	Upper
91	100		
106	48.5	30.6	70.6

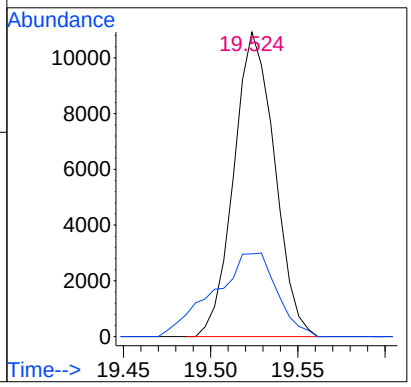


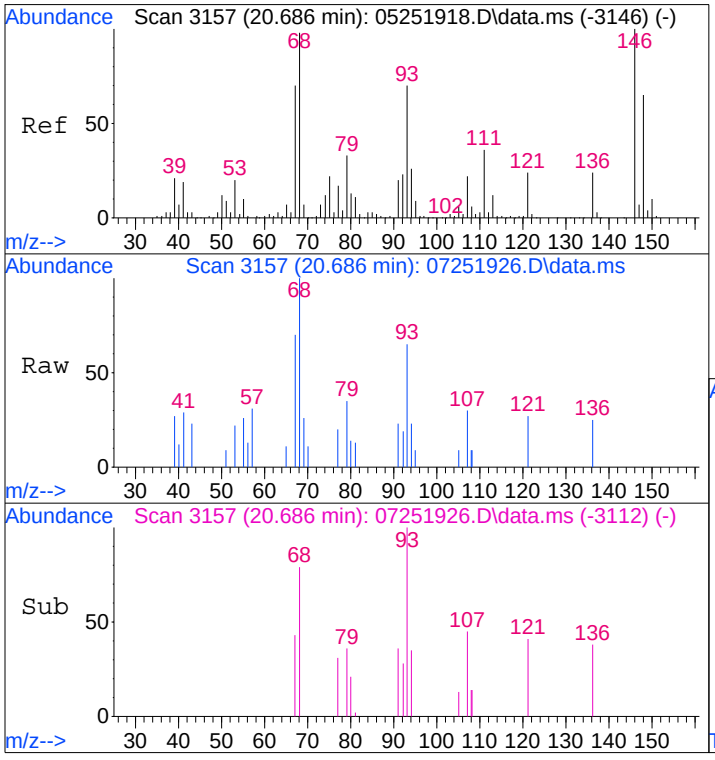


#75
alpha-Pinene
Concen: 0.58 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 93 Resp: 17712

Ion	Ratio	Lower	Upper
93	100		
77	42.5	7.0	47.0

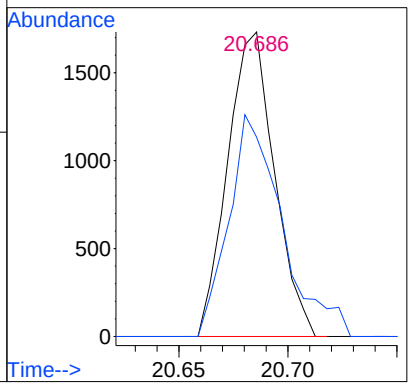


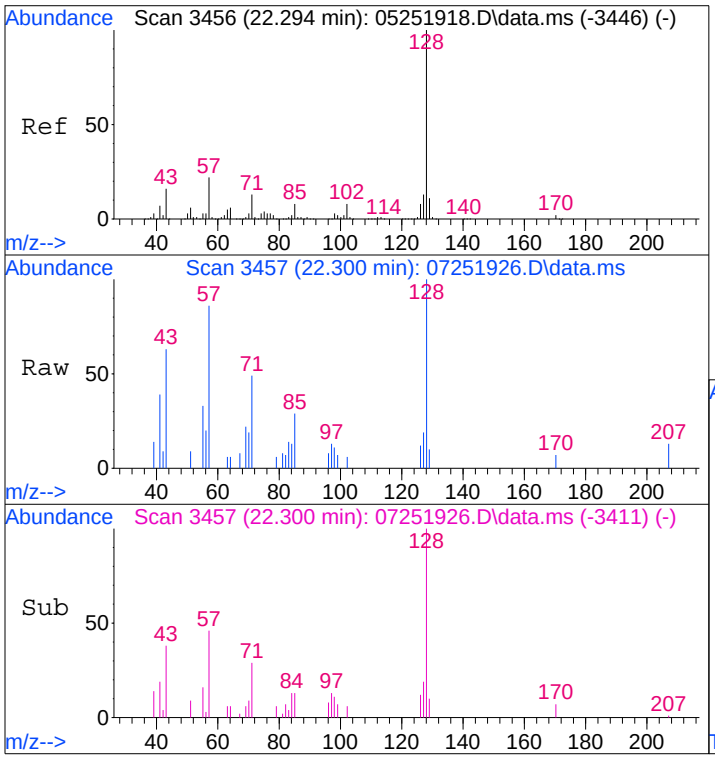


#91
d-Limonene
Concen: 0.14 ng
RT: 20.69 min Scan# 3157
Delta R.T. -0.005 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion: 68 Resp: 2587

Ion	Ratio	Lower	Upper
68	100		
93	82.9	50.9	90.9

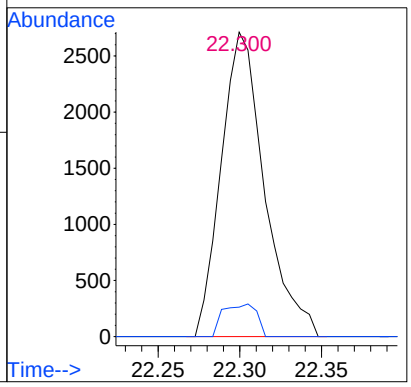




#95
Naphthalene
Concen: 0.09 ng
RT: 22.30 min Scan# 3457
Delta R.T. 0.000 min
Lab File: 07251926.D
Acq: 25 Jul 2019 19:43

Tgt Ion:128 Resp: 4997

Ion	Ratio	Lower	Upper
128	100		
129	8.3	0.0	31.1



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251928.D
Sample : P1904286-009 (150mL) Inst : MS08
Acq On : 25 Jul 2019 20:49 Operator: RS
Misc : S31-07111901
ALS Vial : 14 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:48:17 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	150764	12.500 ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	671759	12.500 ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	302961	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.08	65	177986	11.877 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%			
57) Toluene-d8 (SS2)	15.81	98	724236	11.623 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%			
73) Bromofluorobenzene (SS3)	19.06	174	280326	13.697 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.60%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	4.34	85	2742	0.142 ng	#	92
4) Chloromethane	4.62	50	116	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.42	45	184539	21.133 ng		99
11) Acetonitrile	6.71	41	686	N.D.		
12) Acrolein	0.00	56	0	N.D. d		
13) Acetone	7.12	58	13199	1.516 ng		88
14) Trichlorofluoromethane	7.33	101	6421	0.388 ng		99
15) 2-Propanol (Isopropanol)	7.61	45	13664	0.458 ng		98
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.94	151	581	0.053 ng		93
22) Carbon Disulfide	8.79	76	62139	1.634 ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.18	73	464	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.60	72	934	0.125 ng	#	13
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	11.40	83	6272	0.357 ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	12.49	97	1027	0.065 ng		88
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.98	78	2073	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.07	130	5391	0.415 ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.21	57	204	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251928.D
Sample : P1904286-009 (150mL) Inst : MS08
Acq On : 25 Jul 2019 20:49 Operator: RS
Misc : S31-07111901
ALS Vial : 14 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:48:17 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.99	58	120	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.91	91	9558	0.181 ng	97
59) 2-Hexanone	16.16	43	213	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	16.91	57	231	N.D.	
64) Tetrachloroethene	17.07	166	2834904	176.185 ng	98
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.07	91	17886	0.283 ng	97
67) m- & p-Xylenes	18.22	91	48013	1.018 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.58	104	160	N.D.	
70) o-Xylene	18.66	91	21620	0.451 ng	100
71) n-Nonane	18.85	43	885	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.18	105	504	N.D.	
75) alpha-Pinene	19.52	93	24504	0.794 ng	85
76) n-Propylbenzene	19.63	91	3038	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.75	105	4497	0.080 ng	92
79) 1,3,5-Trimethylbenzene	19.82	105	3773	0.074 ng	96
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.18	105	12120	0.252 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.42	105	270	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.69	68	7390	0.398 ng	96
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.30	128	8451	0.157 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.91	91	1110	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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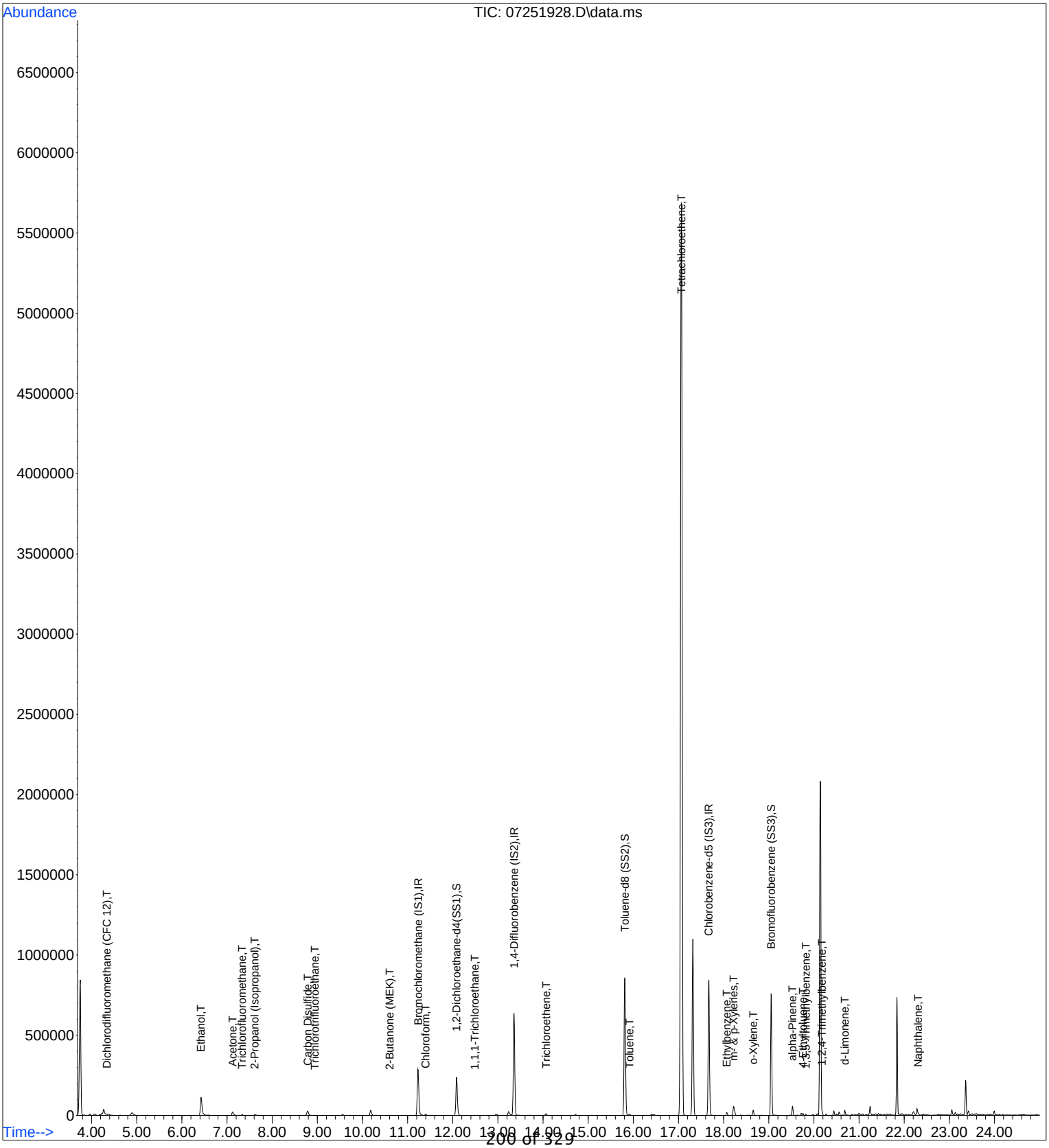
Sample : P1904286-009 (150mL) Inst : MS08
Acq On : 25 Jul 2019 20:49 Operator: RS
Misc : S31-07111901
ALS Vial : 14 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:48:17 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



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1) Bromochloromethane (IS1)	11.23	130	150764	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	671759	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	302961	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	177986	11.877	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.81	98	724236	11.623	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
73) Bromofluorobenzene (SS3)	19.06	174	280326	13.697	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.34	85	2742	0.142	ng	#	92
10) Ethanol	6.42	45	184539	21.133	ng		99
13) Acetone	7.12	58	13199	1.516	ng		88
14) Trichlorofluoromethane	7.33	101	6421	0.388	ng		99
15) 2-Propanol (Isopropanol)	7.61	45	13664	0.458	ng		98
21) Trichlorotrifluoroethane	8.94	151	581	0.053	ng		93
22) Carbon Disulfide	8.79	76	62139	1.634	ng		98
27) 2-Butanone (MEK)	10.60	72	934	0.125	ng	#	13
32) Chloroform	11.40	83	6272	0.357	ng		100
38) 1,1,1-Trichloroethane	12.49	97	1027	0.065	ng		88
47) Trichloroethene	14.07	130	5391	0.415	ng		99
58) Toluene	15.91	91	9558	0.181	ng		97
64) Tetrachloroethene	17.07	166	2834904	176.185	ng		98
66) Ethylbenzene	18.07	91	17886	0.283	ng		97
67) m- & p-Xylenes	18.22	91	48013	1.018	ng		97
70) o-Xylene	18.66	91	21620	0.451	ng		100
75) alpha-Pinene	19.52	93	24504	0.794	ng		85
78) 4-Ethyltoluene	19.75	105	4497	0.080	ng		92
79) 1,3,5-Trimethylbenzene	19.82	105	3773	0.074	ng		96
82) 1,2,4-Trimethylbenzene	20.18	105	12120	0.252	ng		91
91) d-Limonene	20.69	68	7390	0.398	ng		96
95) Naphthalene	22.30	128	8451	0.157	ng		98

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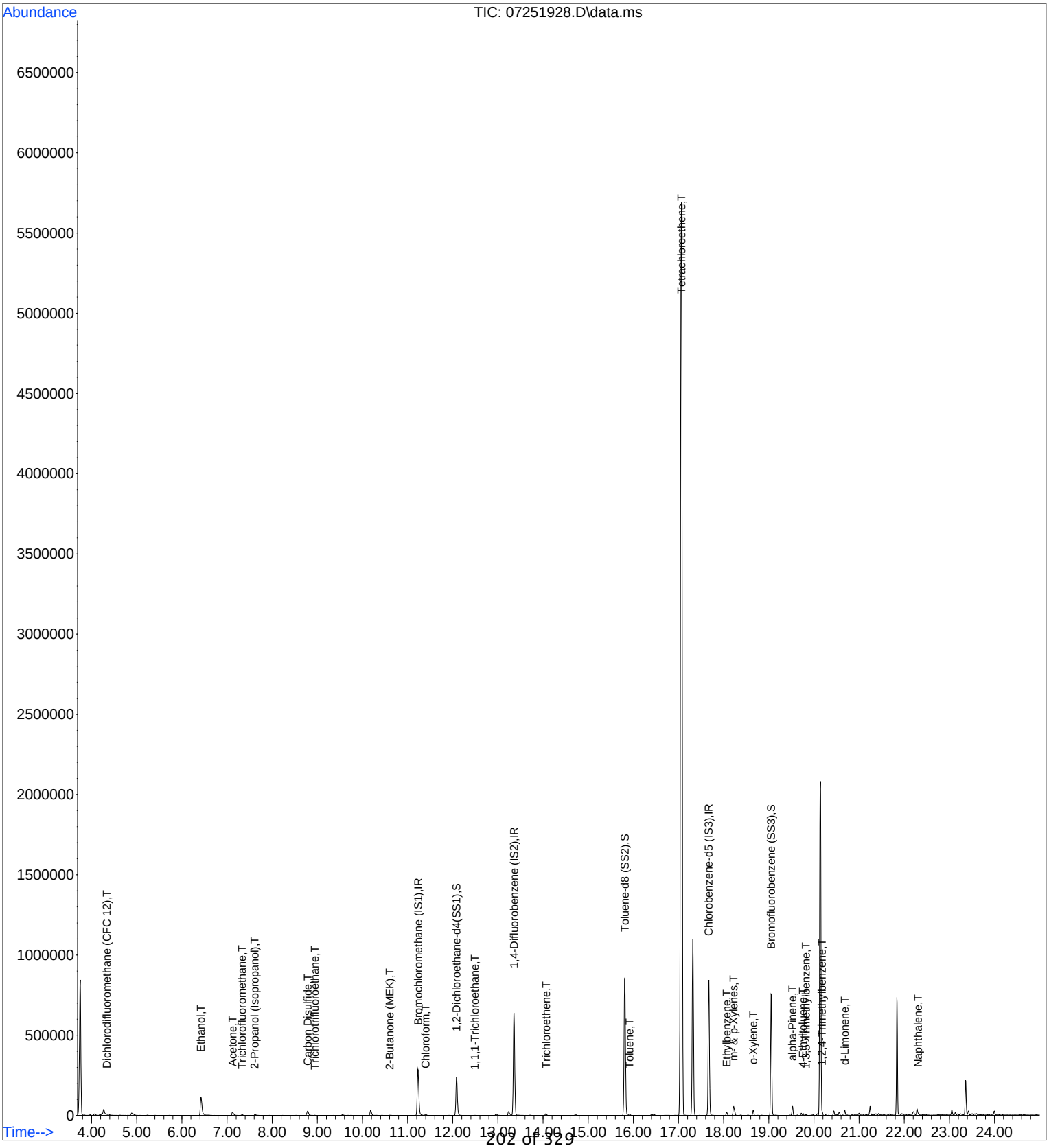
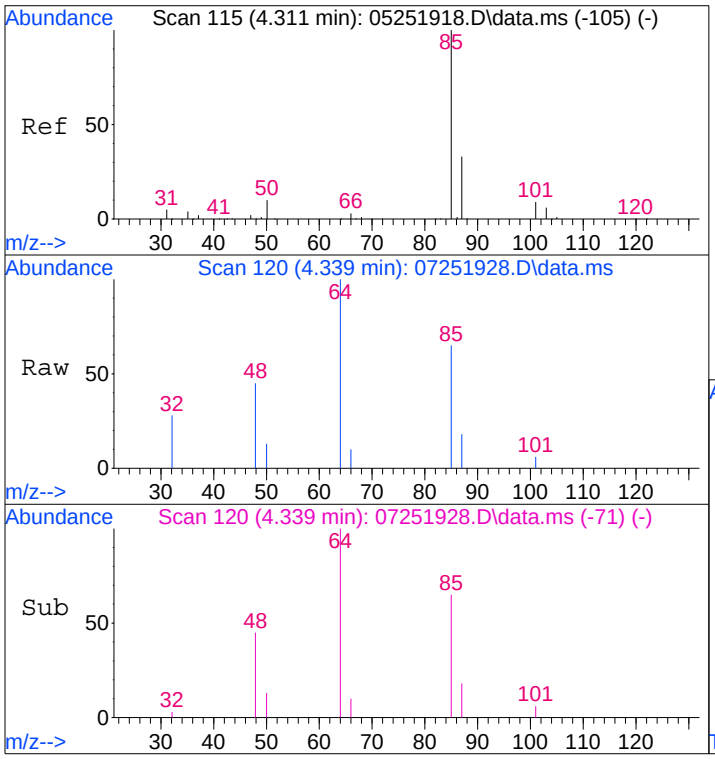
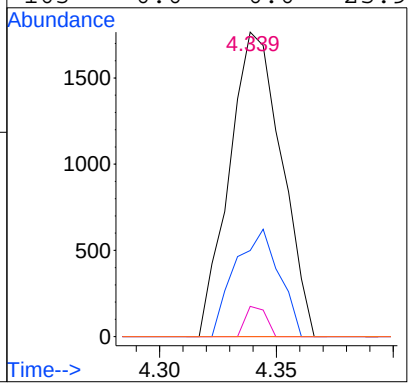


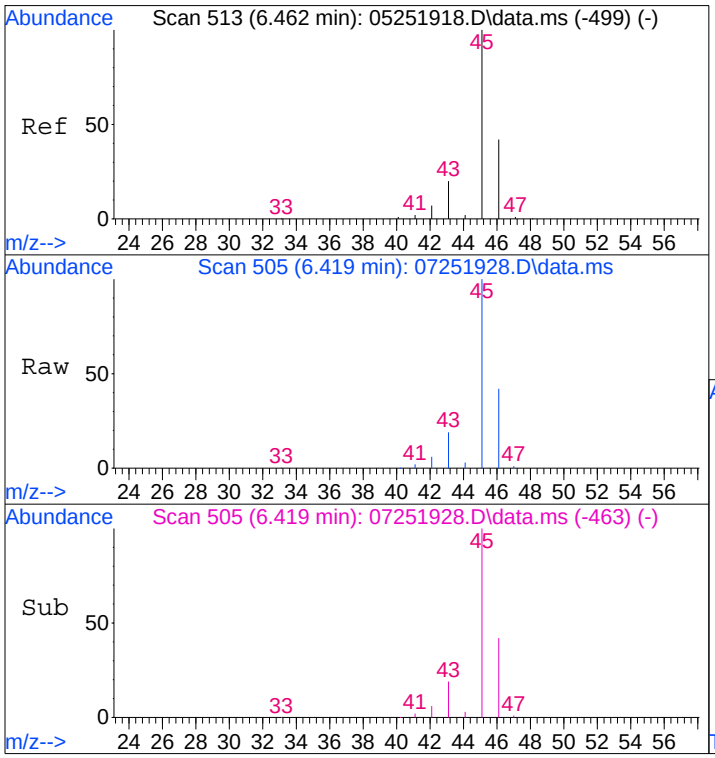


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.14 ng
RT: 4.34 min Scan# 120
Delta R.T. 0.016 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 85 Resp: 2742

Ion	Ratio	Lower	Upper
85	100		
87	30.0	12.5	52.5
101	3.9	0.0	29.0
103	0.0	0.0	25.9

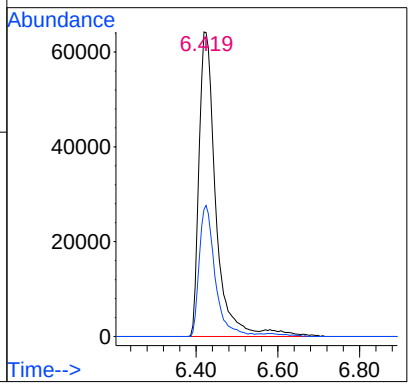


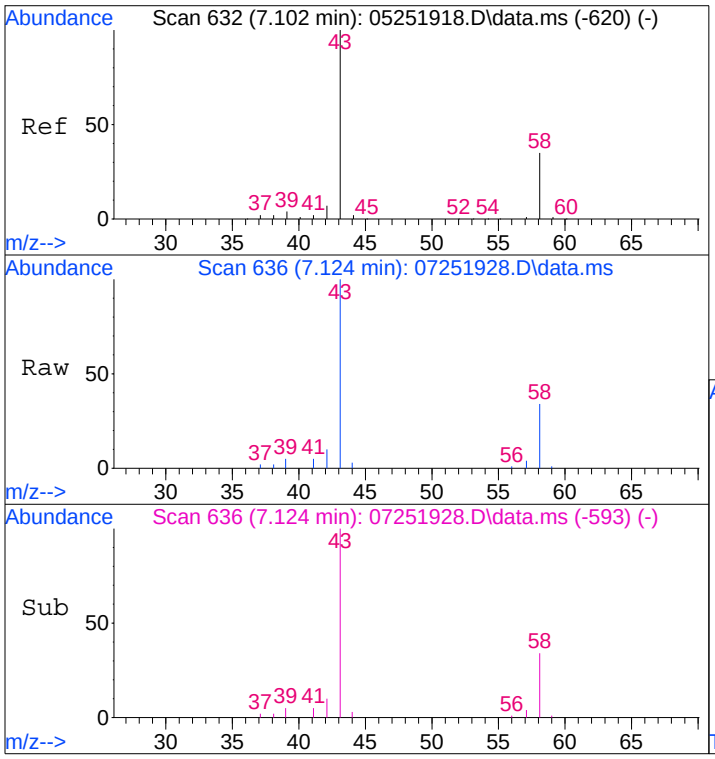


#10
Ethanol
Concen: 21.13 ng
RT: 6.42 min Scan# 505
Delta R.T. -0.024 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 45 Resp: 184539

Ion	Ratio	Lower	Upper
45	100		
46	42.1	21.7	61.7

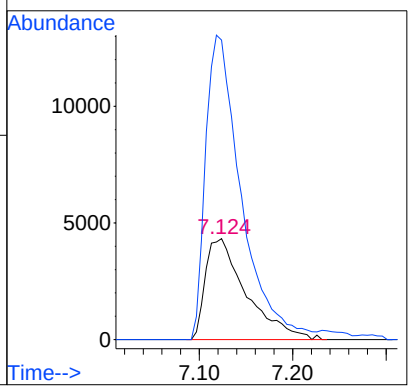


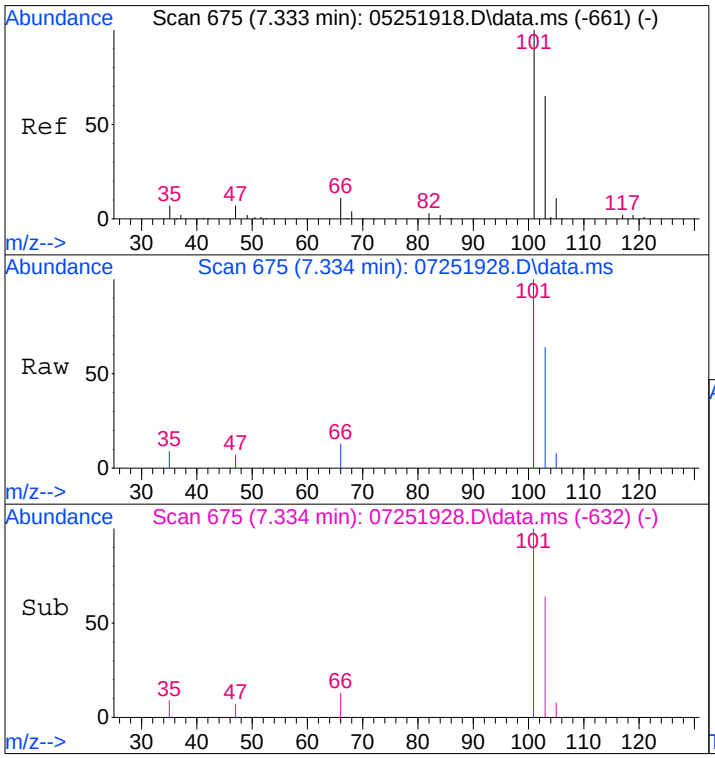


#13
Acetone
Concen: 1.52 ng
RT: 7.12 min Scan# 636
Delta R.T. -0.021 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 58 Resp: 13199

Ion	Ratio	Lower	Upper
58	100		
43	267.8	260.9	320.9

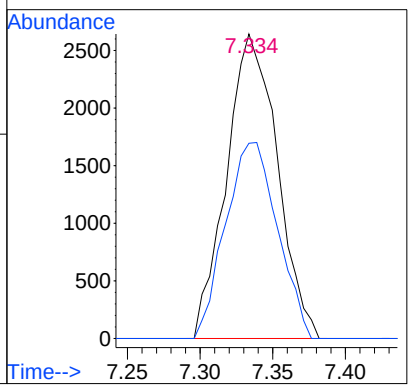


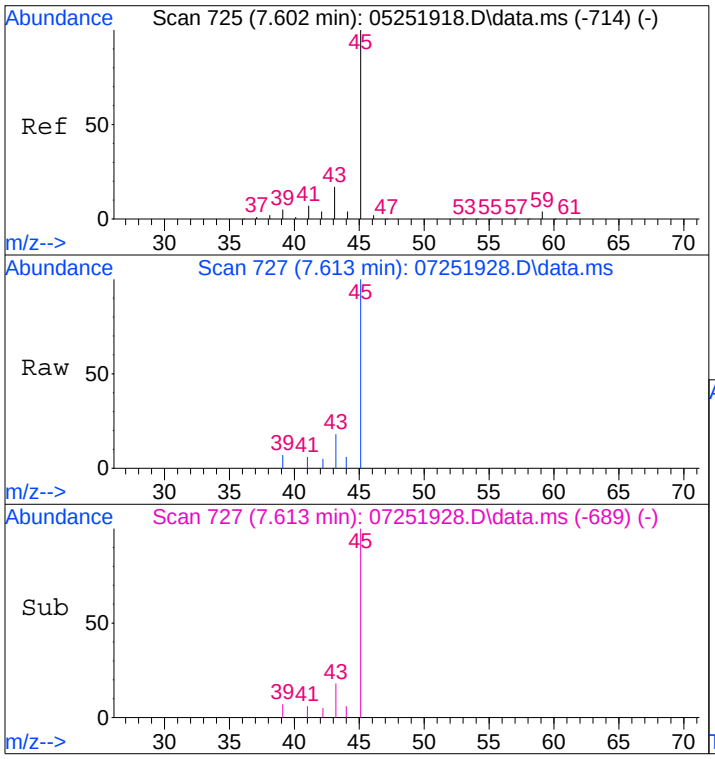


#14
Trichlorofluoromethane
Concen: 0.39 ng
RT: 7.33 min Scan# 675
Delta R.T. -0.016 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion:101 Resp: 6421

Ion	Ratio	Lower	Upper
101	100		
103	65.8	44.7	84.7

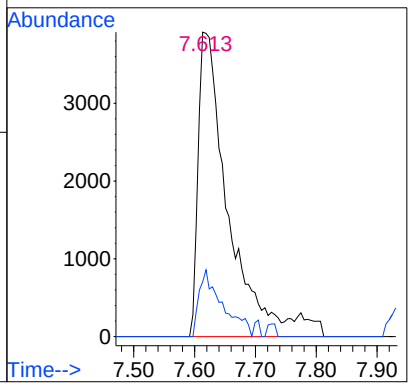


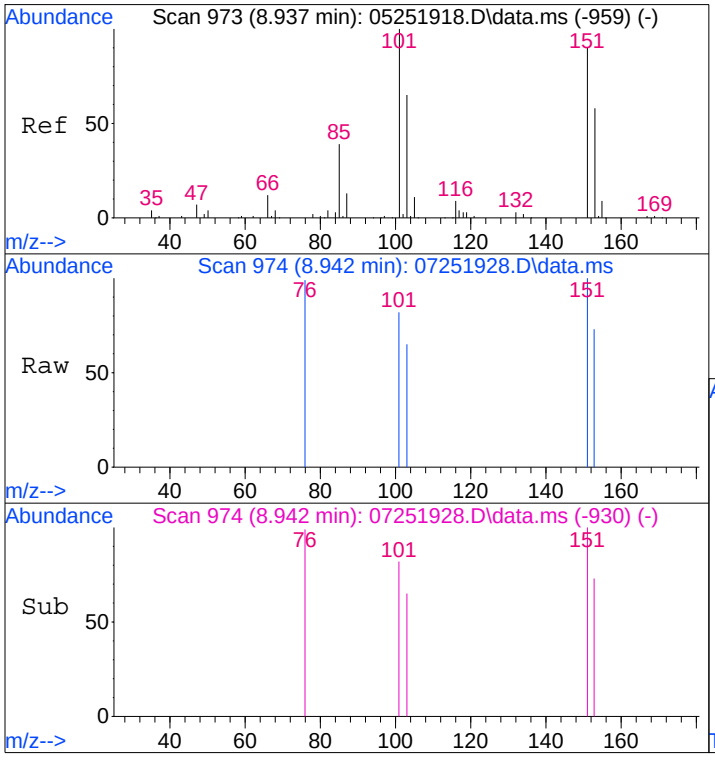


#15
2-Propanol (Isopropanol)
Concen: 0.46 ng
RT: 7.61 min Scan# 727
Delta R.T. -0.043 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 45 Resp: 13664

Ion	Ratio	Lower	Upper
45	100		
43	16.8	0.0	37.6

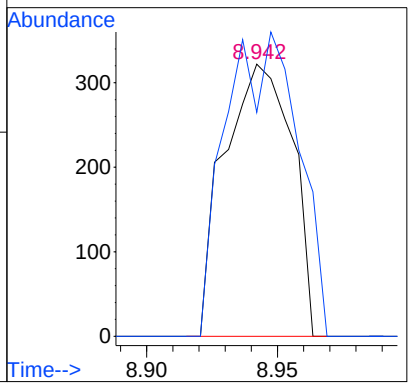


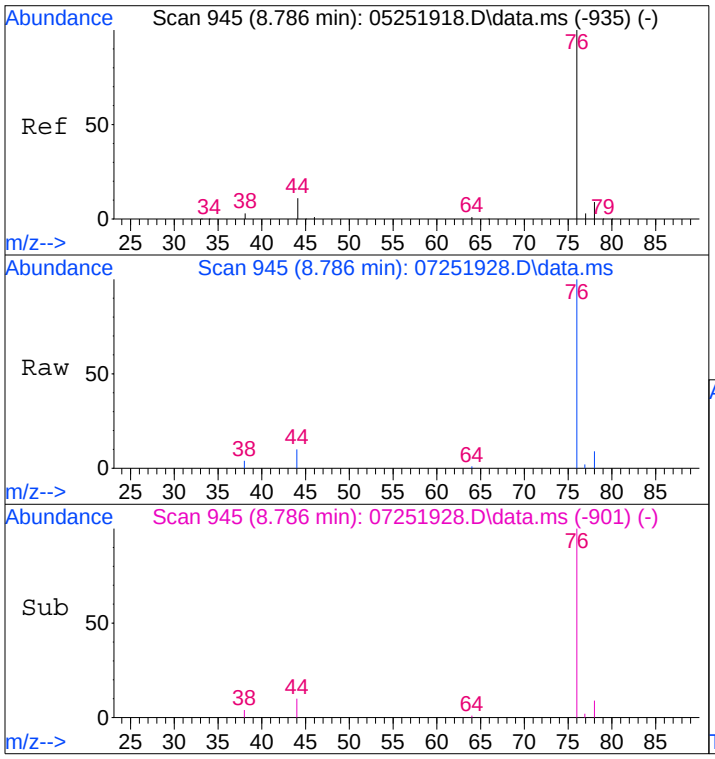


#21
Trichlorotrifluoroethane
Concen: 0.05 ng
RT: 8.94 min Scan# 974
Delta R.T. -0.011 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion:151 Resp: 581

Ion	Ratio	Lower	Upper
151	100		
101	119.6	92.2	132.2

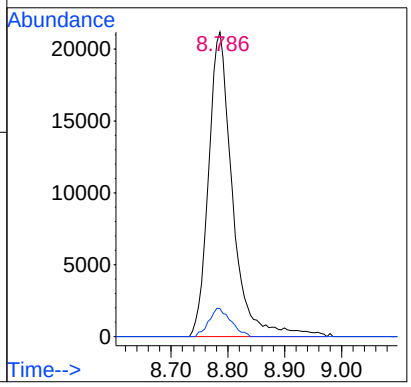


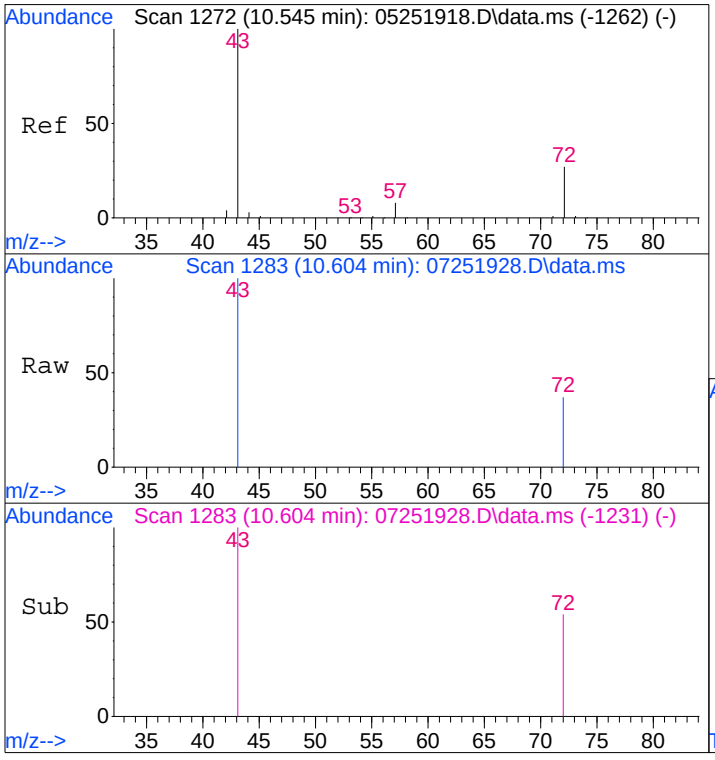


#22
Carbon Disulfide
Concen: 1.63 ng
RT: 8.79 min Scan# 945
Delta R.T. -0.016 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 76 Resp: 62139

Ion	Ratio	Lower	Upper
76	100		
78	8.5	0.0	29.2

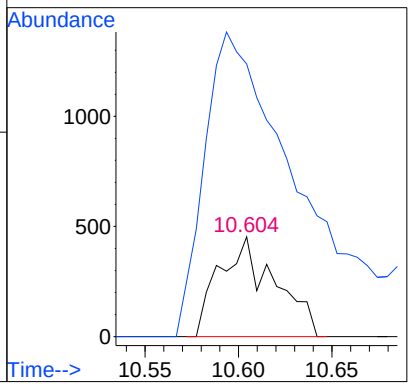


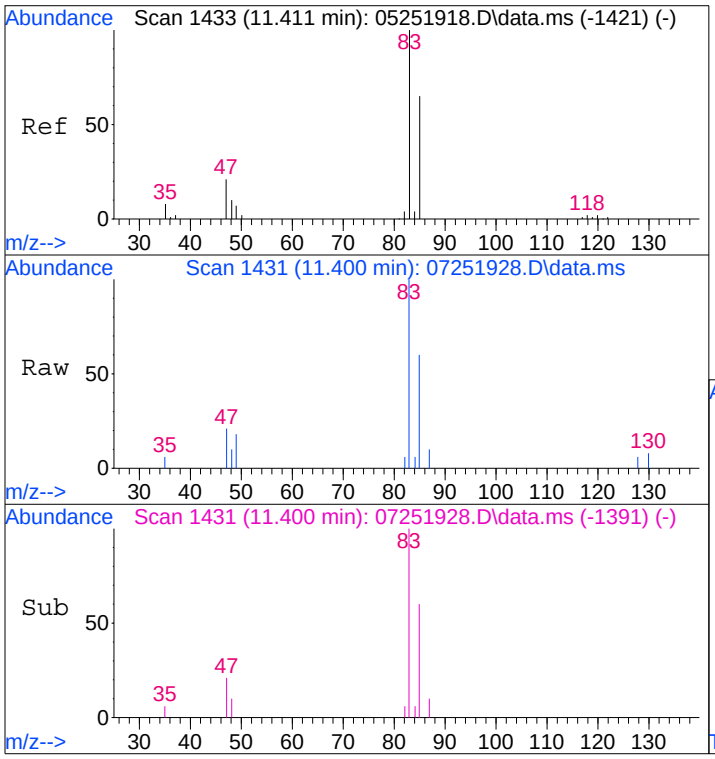


#27
2-Butanone (MEK)
Concen: 0.13 ng
RT: 10.60 min Scan# 1283
Delta R.T. 0.032 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 72 Resp: 934

Ion	Ratio	Lower	Upper
72	100		
43	562.7	346.9	386.9#

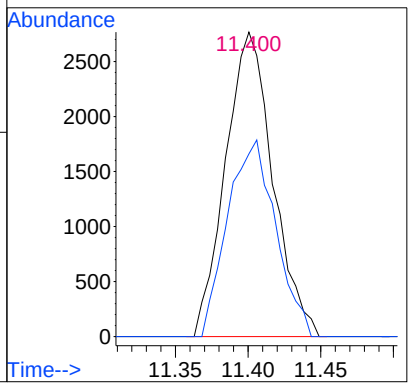


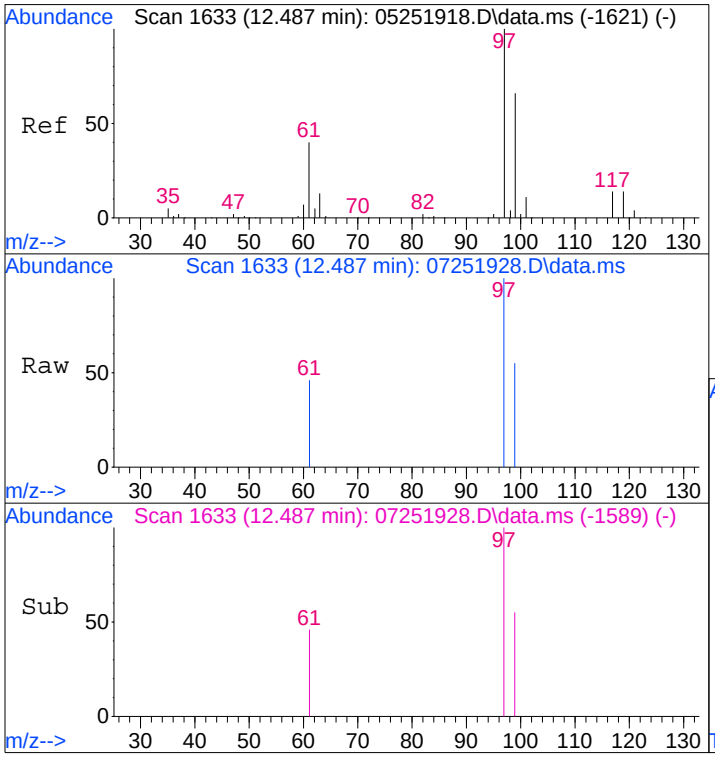


#32
Chloroform
Concen: 0.36 ng
RT: 11.40 min Scan# 1431
Delta R.T. -0.032 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 83 Resp: 6272

Ion	Ratio	Lower	Upper
83	100		
85	65.4	45.3	85.3

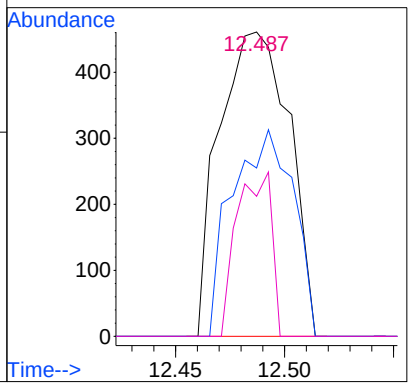


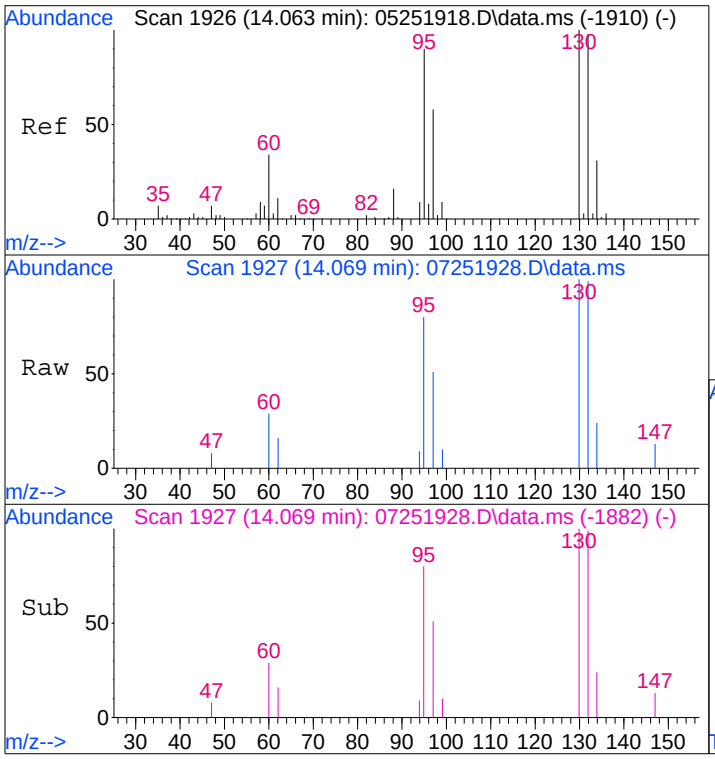


#38
1,1,1-Trichloroethane
Concen: 0.06 ng
RT: 12.49 min Scan# 1633
Delta R.T. -0.011 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 97 Resp: 1027

Ion	Ratio	Lower	Upper
97	100		
99	59.6	44.7	84.7
61	26.9	19.5	59.5

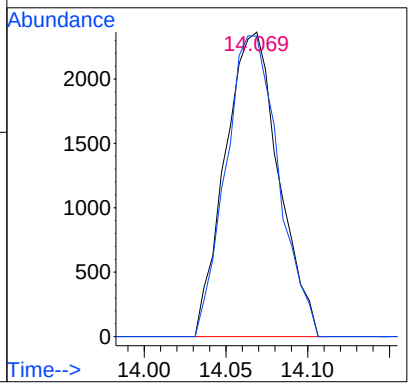


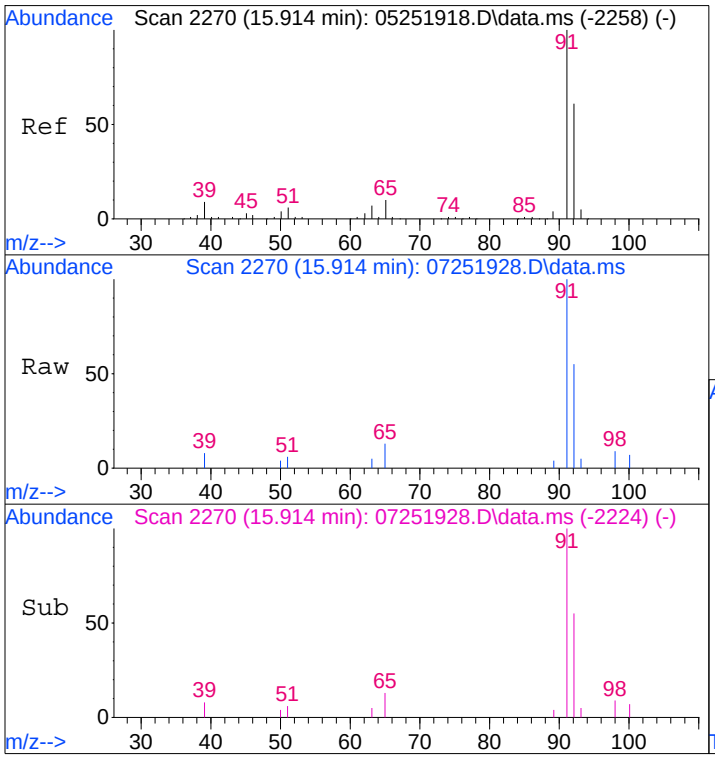


#47
Trichloroethene
Concen: 0.41 ng
RT: 14.07 min Scan# 1927
Delta R.T. -0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion:130 Resp: 5391

Ion	Ratio	Lower	Upper
130	100		
132	97.3	76.1	116.1

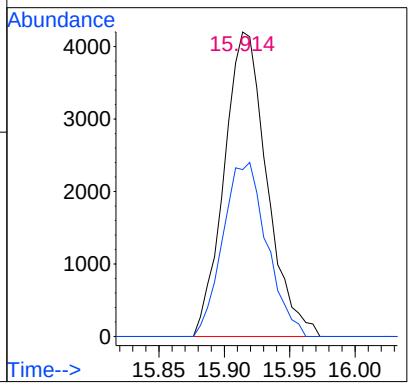


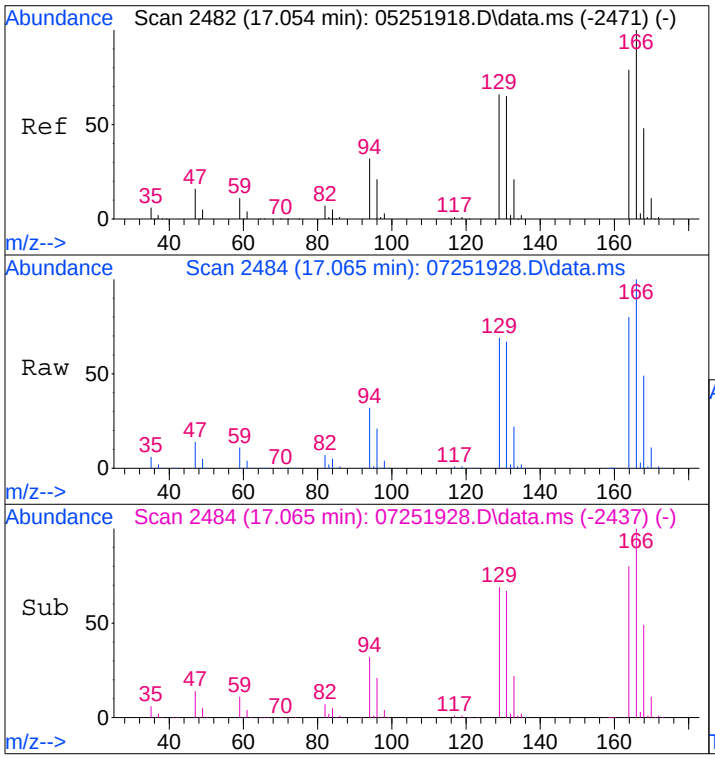


#58
Toluene
Concen: 0.18 ng
RT: 15.91 min Scan# 2270
Delta R.T. -0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 91 Resp: 9558

Ion	Ratio	Lower	Upper
91	100		
92	58.8	41.2	81.2

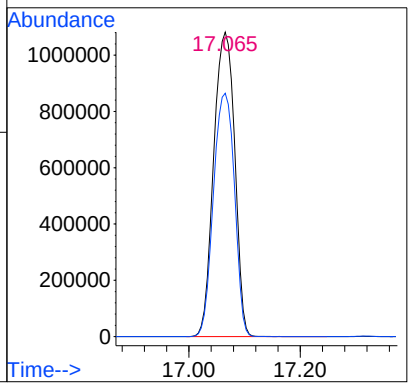


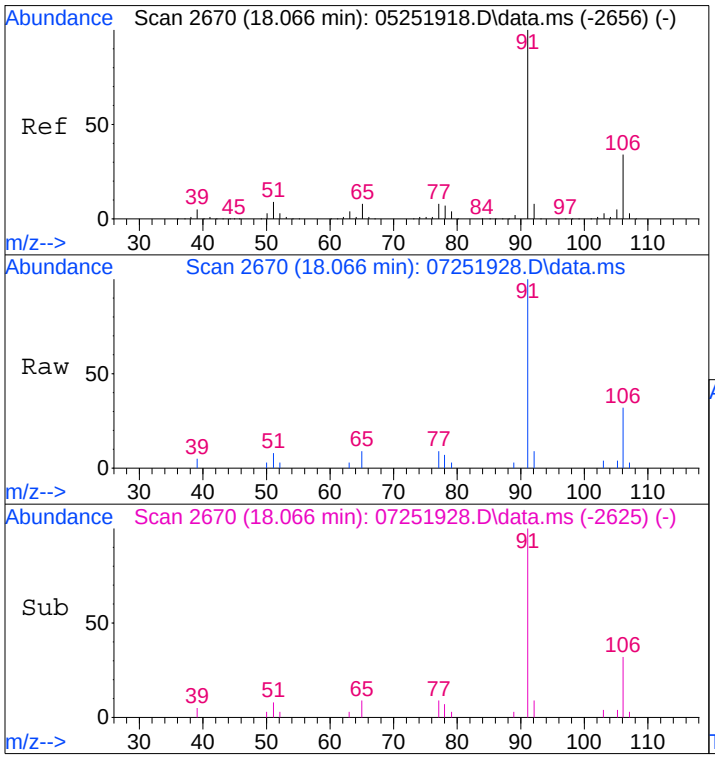


#64
Tetrachloroethene
Concen: 176.18 ng
RT: 17.07 min Scan# 2484
Delta R.T. 0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion:166 Resp: 2834904

Ion	Ratio	Lower	Upper
166	100		
164	79.9	58.4	98.4

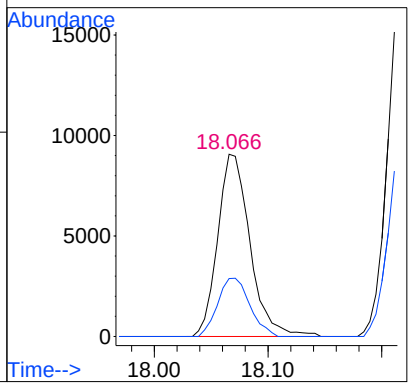


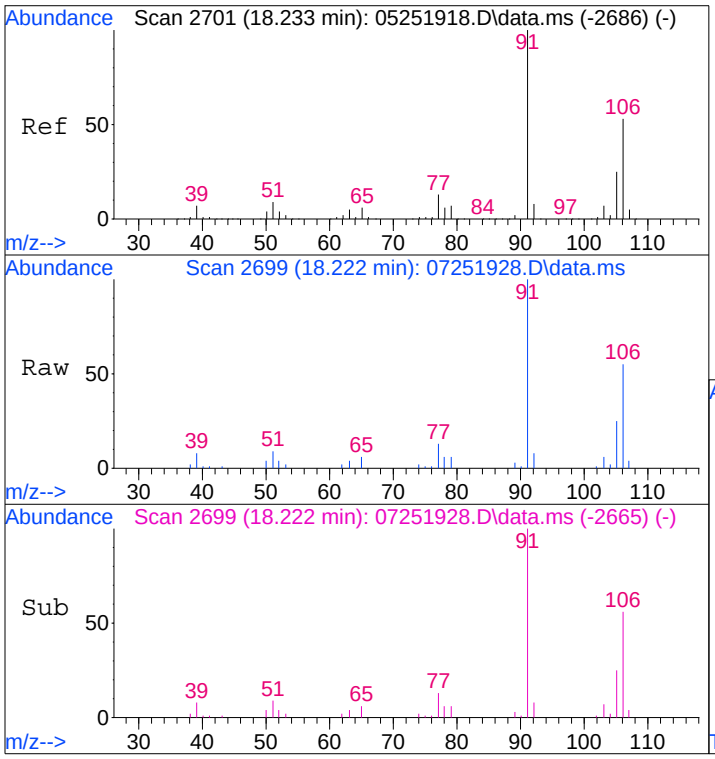


#66
Ethylbenzene
Concen: 0.28 ng
RT: 18.07 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 91 Resp: 17886

Ion	Ratio	Lower	Upper
91	100		
106	31.8	13.4	53.4

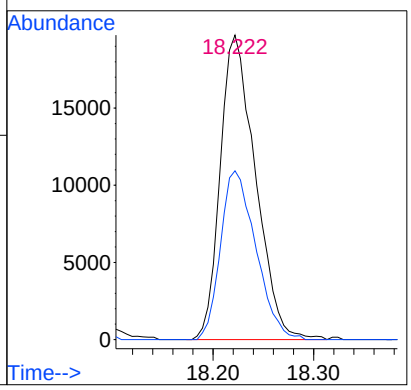


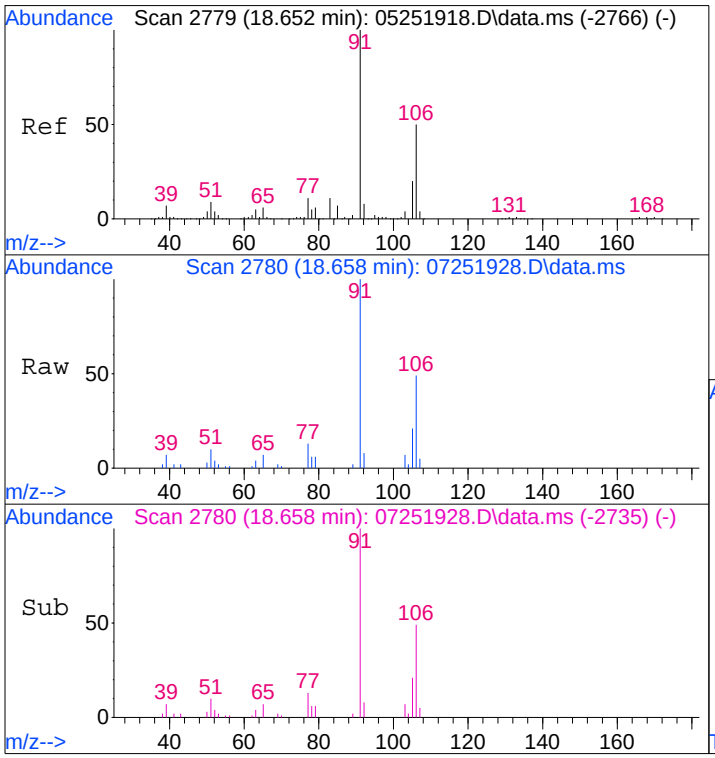


#67
m- & p-Xylenes
Concen: 1.02 ng
RT: 18.22 min Scan# 2699
Delta R.T. -0.016 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 91 Resp: 48013

Ion	Ratio	Lower	Upper
91	100		
106	55.5	33.4	73.4

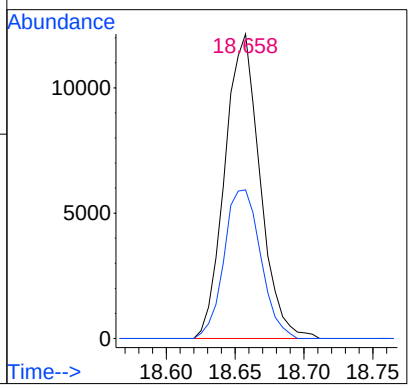


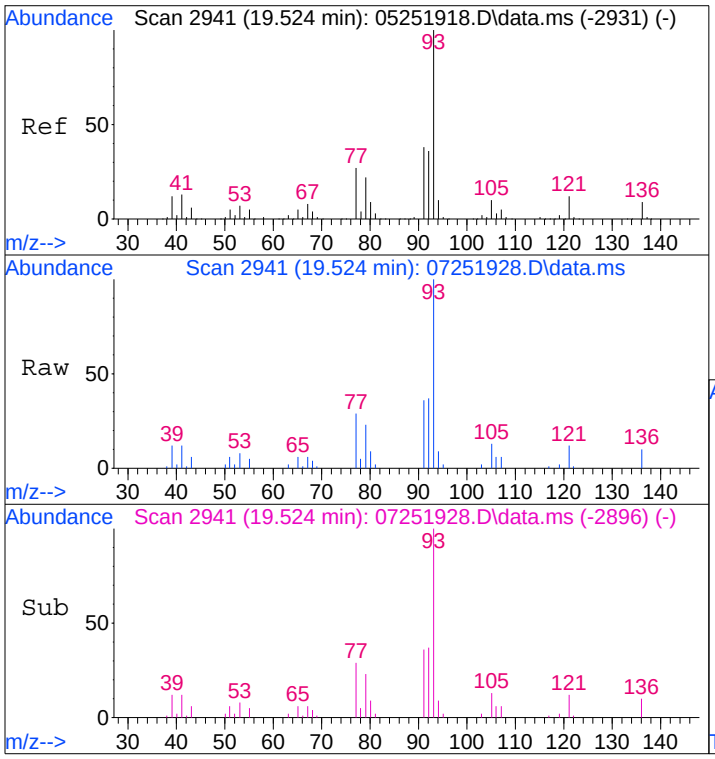


#70
o-Xylene
Concen: 0.45 ng
RT: 18.66 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 91 Resp: 21620

Ion	Ratio	Lower	Upper
91	100		
106	50.8	30.6	70.6

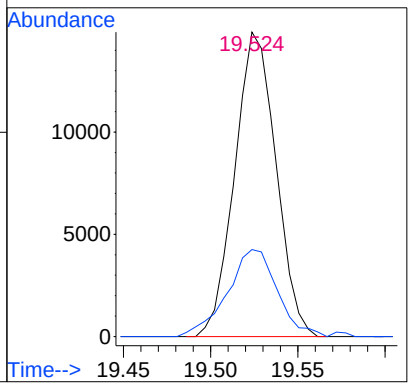


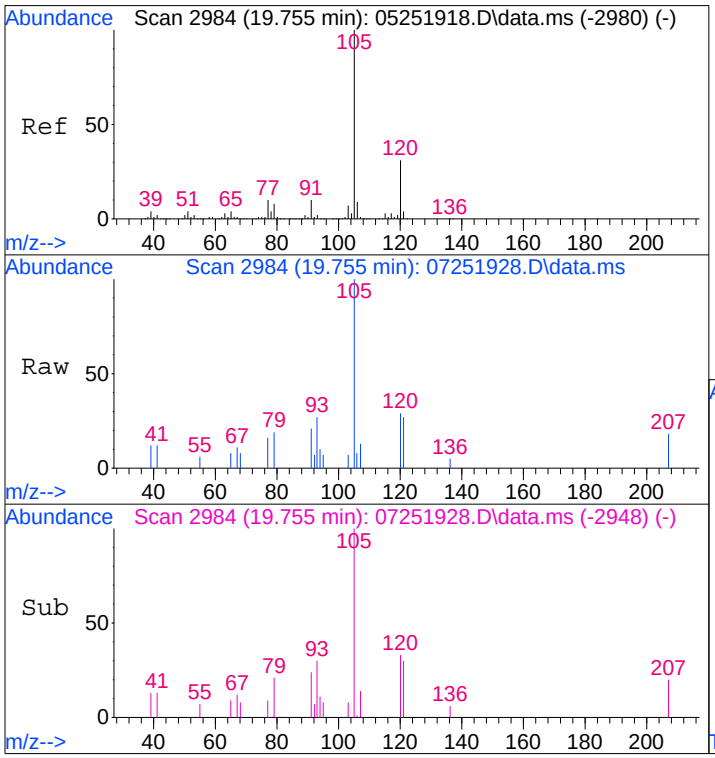


#75
alpha-Pinene
Concen: 0.79 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 93 Resp: 24504

Ion	Ratio	Lower	Upper
93	100		
77	34.6	7.0	47.0

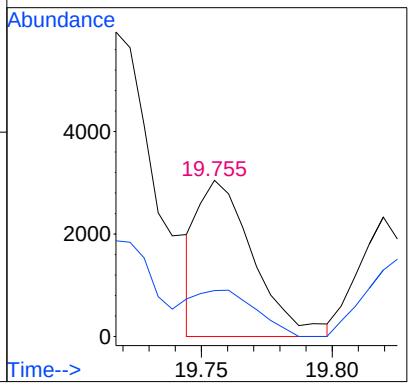


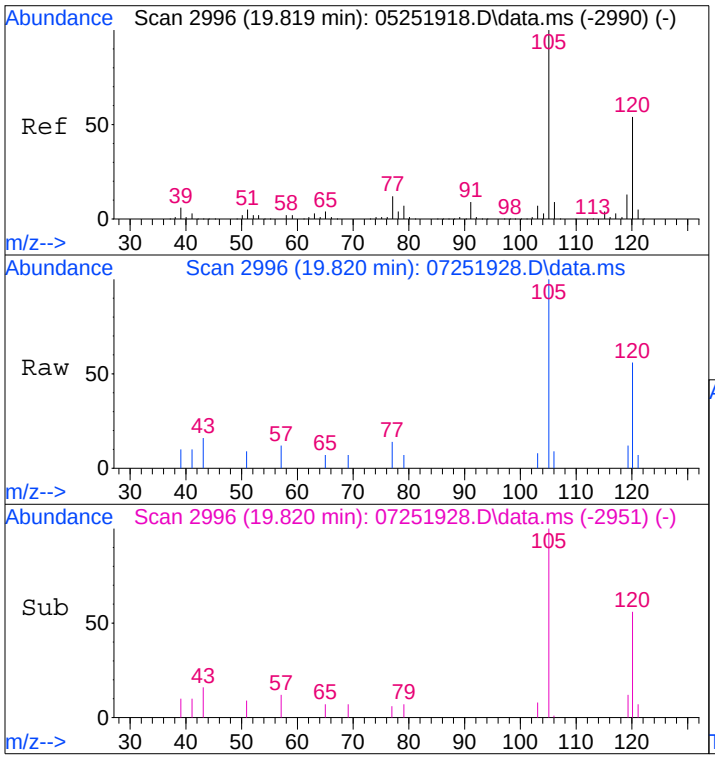


#78
4-Ethyltoluene
Concen: 0.08 ng
RT: 19.75 min Scan# 2984
Delta R.T. -0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion:105 Resp: 4497

Ion	Ratio	Lower	Upper
105	100		
120	36.4	11.7	51.7

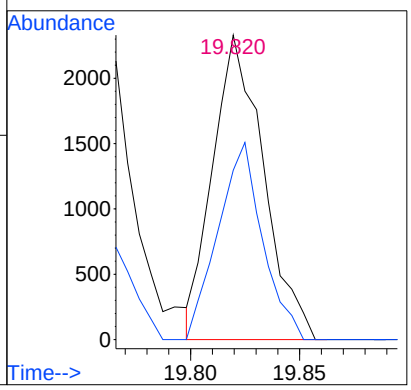


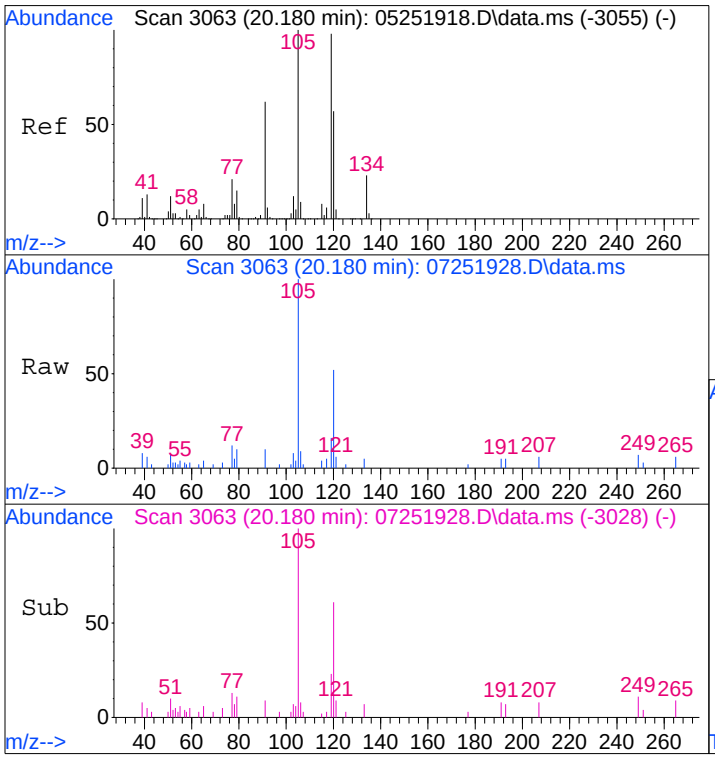


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.82 min Scan# 2996
Delta R.T. -0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion:105 Resp: 3773

Ion	Ratio	Lower	Upper
105	100		
120	56.7	34.0	74.0

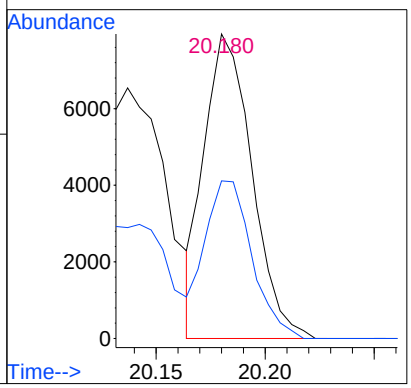


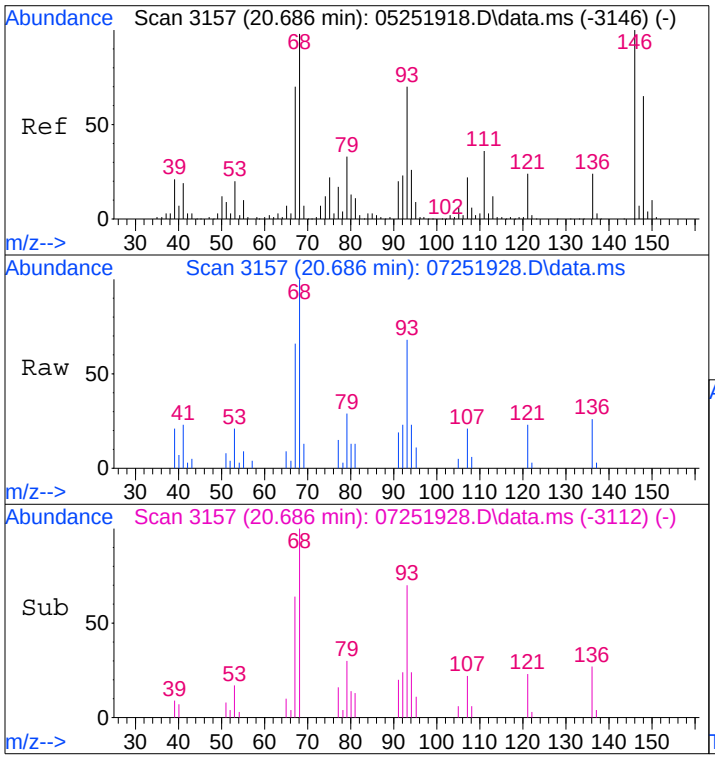


#82
1,2,4-Trimethylbenzene
Concen: 0.25 ng
RT: 20.18 min Scan# 3063
Delta R.T. -0.011 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion:105 Resp: 12120

Ion	Ratio	Lower	Upper
105	100		
120	51.1	37.4	77.4

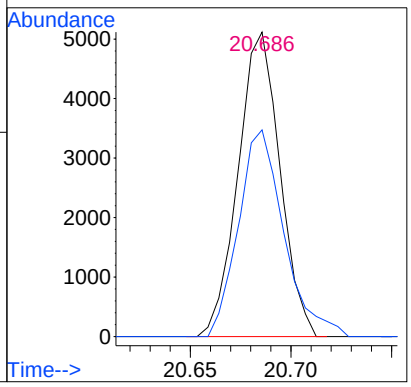


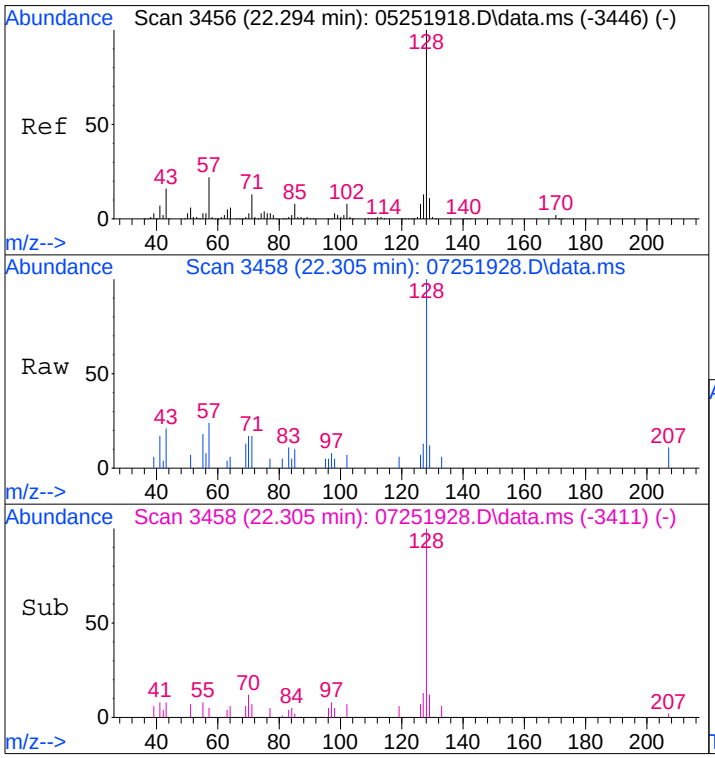


#91
d-Limonene
Concen: 0.40 ng
RT: 20.69 min Scan# 3157
Delta R.T. -0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion: 68 Resp: 7390

Ion	Ratio	Lower	Upper
68	100		
93	73.9	50.9	90.9

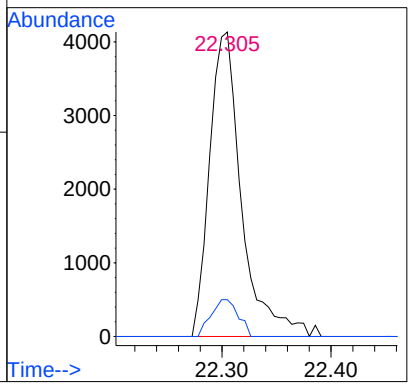




#95
Naphthalene
Concen: 0.16 ng
RT: 22.30 min Scan# 3458
Delta R.T. 0.005 min
Lab File: 07251928.D
Acq: 25 Jul 2019 20:49

Tgt Ion:128 Resp: 8451

Ion	Ratio	Lower	Upper
128	100		
129	10.2	0.0	31.1



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251929.D
Sample : P1904286-009dil (50mL) Inst : MS08
Acq On : 25 Jul 2019 21:22 Operator: RS
Misc : S31-07111901
ALS Vial : 14 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:49:29 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	138705	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	614109	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	278827	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	162855	11.813	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	15.81	98	669365	11.672	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
73) Bromofluorobenzene (SS3)	19.06	174	257323	13.661	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.34	85	901	0.051	ng	#	80
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.42	45	65005	8.091	ng		99
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.13	58	5235	0.654	ng		85
14) Trichlorofluoromethane	7.34	101	2150	0.141	ng		98
15) 2-Propanol (Isopropanol)	7.63	45	4247	0.155	ng		88
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.56	59	262	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.79	76	25604	0.732	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	11.40	83	2106	0.130	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	12.48	97	188	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.98	78	735	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.07	130	1819	0.153	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251929.D
Sample : P1904286-009dil (50mL) Inst : MS08
Acq On : 25 Jul 2019 21:22 Operator: RS
Misc : S31-07111901
ALS Vial : 14 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:49:29 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

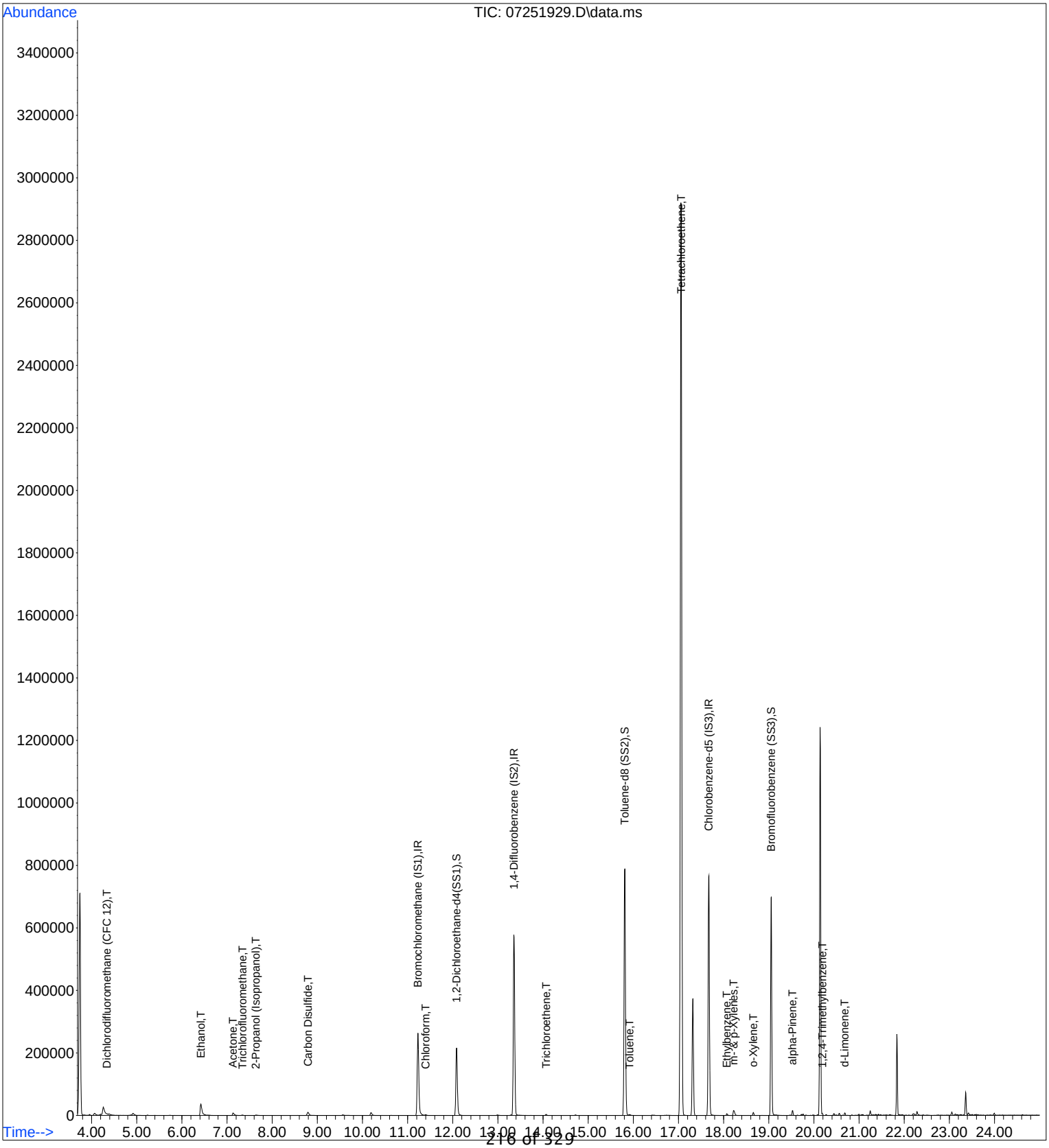
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.91	91	3323	0.068 ng	92
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.06	166	1283974	86.704 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.07	91	5815	0.100 ng	96
67) m- & p-Xylenes	18.22	91	15578	0.359 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.66	91	6927	0.157 ng	98
71) n-Nonane	18.85	43	288	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	19.52	93	6977	0.245 ng	93
76) n-Propylbenzene	19.63	91	1121	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.76	105	1816	N.D.	
79) 1,3,5-Trimethylbenzene	19.82	105	1329	N.D.	
80) alpha-Methylstyrene	19.97	118	347	N.D.	
81) 2-Ethyltoluene	19.99	105	1463	N.D.	
82) 1,2,4-Trimethylbenzene	20.19	105	4125	0.093 ng	93
83) n-Decane	20.27	57	1199	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	20.56	105	1266	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.68	68	2262	0.132 ng	98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.39	55	395	N.D.	
99) tert-Butylbenzene	20.19	119	411	N.D.	
100) n-Butylbenzene	20.92	91	261	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251929.D
Sample : P1904286-009dil (50mL) Inst : MS08
Acq On : 25 Jul 2019 21:22 Operator: RS
Misc : S31-07111901
ALS Vial : 14 Sample Multiplier: 1

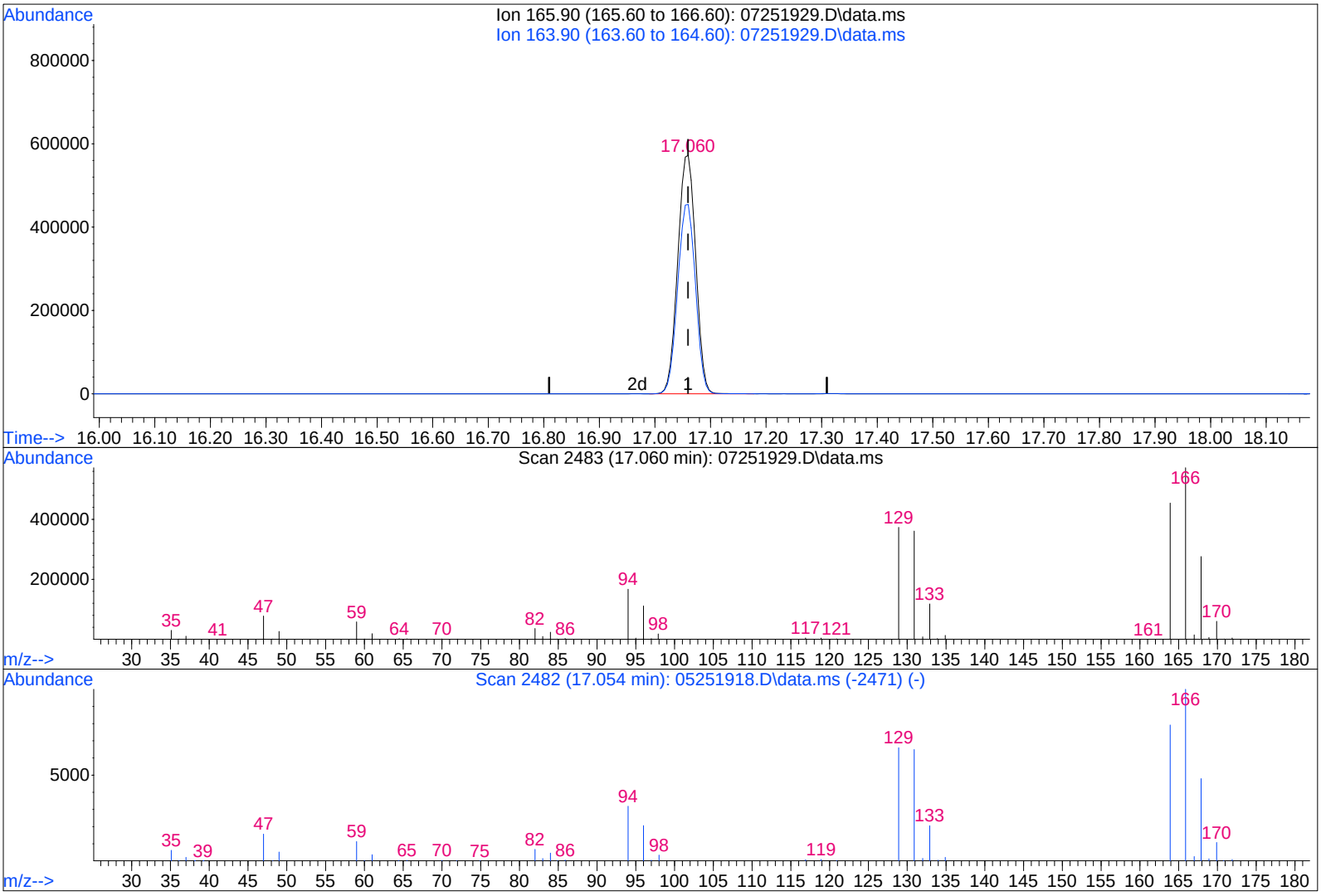
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:49:29 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251929.D
Sample : P1904286-009dil (50mL) Inst : MS08
Acq On : 25 Jul 2019 21:22 Operator: RS
Misc : S31-07111901
ALS Vial : 14 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:39 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251929.D\data.ms

(64) Tetrachloroethene (T)

17.060min (+0.000) 86.70ng

response 1283974

Ion	Exp%	Act%
165.90	100	100
163.90	78.40	78.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251930.D
Sample : P1904286-010 (400mL) Inst : MS08
Acq On : 25 Jul 2019 21:56 Operator: RS
Misc : S31-07111901
ALS Vial : 15 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:51:39 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	152564	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	675137	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	318078	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	179713	11.851	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.81	98	734653	11.230	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
73) Bromofluorobenzene (SS3)	19.06	174	282374	13.141	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
Target Compounds							Qvalue
2) Propene	4.19	42	3340m	0.267	ng		
3) Dichlorodifluoromethan...	4.33	85	7520	0.386	ng		96
4) Chloromethane	4.61	50	560	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.42	45	91480	10.352	ng		99
11) Acetonitrile	6.70	41	2227	0.099	ng		95
12) Acrolein	6.91	56	1382	0.212	ng		94
13) Acetone	7.10	58	63796	7.241	ng		89
14) Trichlorofluoromethane	7.33	101	3957	0.237	ng		95
15) 2-Propanol (Isopropanol)	7.60	45	39045	1.293	ng		98
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.51	84	436	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.94	151	982	0.089	ng		83
22) Carbon Disulfide	8.79	76	40778	1.059	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.18	73	1735	N.D.			
26) Vinyl Acetate	10.27	86	1472	0.505	ng	#	71
27) 2-Butanone (MEK)	10.56	72	11443	1.519	ng	#	89
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.41	87	203	N.D.			
30) Ethyl Acetate	11.38	61	1577	0.434	ng		88
31) n-Hexane	11.34	57	399	N.D.			
32) Chloroform	11.40	83	2565	0.144	ng		93
34) Tetrahydrofuran (THF)	11.85	72	4065	0.486	ng	#	80
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.97	78	2132	N.D.			
42) Carbon Tetrachloride	13.12	117	623	N.D.			
43) Cyclohexane	13.25	84	174	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.06	130	615	N.D.			
48) 1,4-Dioxane	14.08	88	142	N.D.			
49) 2,2,4-Trimethylpentane...	14.13	57	709	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File: I:\MS08\Data\2019 07\25\07251930.D
Sample : P1904286-010 (400mL) Inst : MS08
Acq On : 25 Jul 2019 21:56 Operator: RS
Misc : S31-07111901
ALS Vial : 15 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:51:39 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

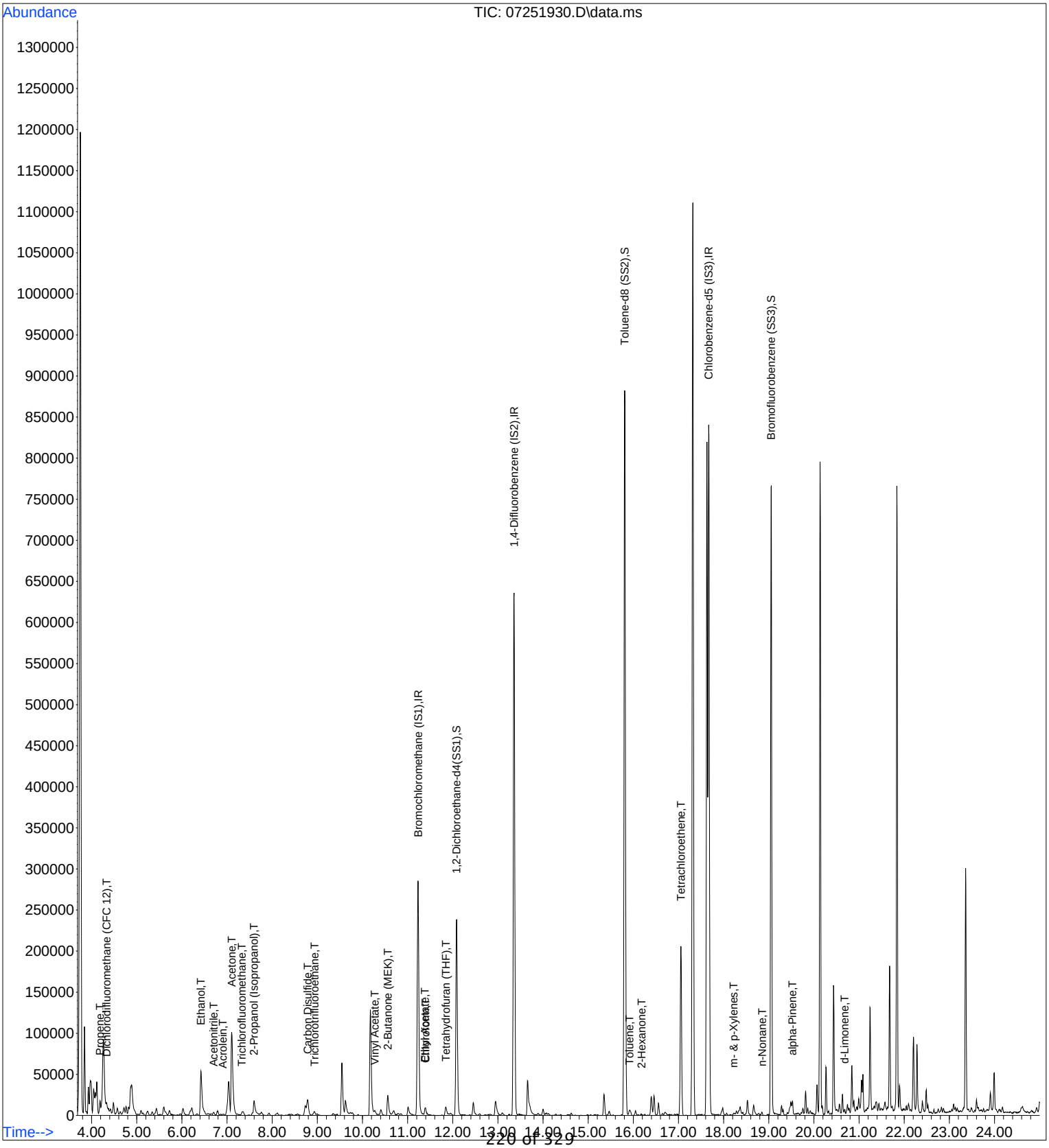
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.39	71	242	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.98	58	371	N.D.		
54) trans-1,3-Dichloropropene	15.47	75	119	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.91	91	6478	0.117 ng		99
59) 2-Hexanone	16.18	43	2118	0.081 ng	#	72
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.80	43	782	N.D.		
63) n-Octane	16.91	57	467	N.D.		
64) Tetrachloroethene	17.05	166	85163	5.041 ng		100
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	18.08	91	2307	N.D.		
67) m- & p-Xylenes	18.22	91	3243	0.066 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.57	104	543	N.D.		
70) o-Xylene	18.66	91	1836	N.D.		
71) n-Nonane	18.85	43	2420	0.086 ng		89
72) 1,1,2,2-Tetrachloroethane	18.66	83	325	N.D.		
74) Cumene	19.19	105	404	N.D.		
75) alpha-Pinene	19.52	93	6206	0.191 ng	#	1
76) n-Propylbenzene	19.63	91	547	N.D.		
77) 3-Ethyltoluene	19.72	105	1020	N.D.		
78) 4-Ethyltoluene	19.75	105	651	N.D.		
79) 1,3,5-Trimethylbenzene	19.82	105	443	N.D.		
80) alpha-Methylstyrene	19.96	118	1008	N.D.		
81) 2-Ethyltoluene	19.99	105	554	N.D.		
82) 1,2,4-Trimethylbenzene	20.19	105	1460	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.38	146	310	N.D.		
86) 1,4-Dichlorobenzene	20.38	146	310	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.56	119	2884	N.D.		
89) 1,2,3-Trimethylbenzene	20.56	105	660	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.68	68	1232	0.063 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.20	180	203	N.D.		
95) Naphthalene	22.30	128	2502	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.18	119	456	N.D.		
100) n-Butylbenzene	20.90	91	544	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251930.D
Sample : P1904286-010 (400mL) Inst : MS08
Acq On : 25 Jul 2019 21:56 Operator: RS
Misc : S31-07111901
ALS Vial : 15 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:51:39 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251930.D
Sample : P1904286-010 (400mL) Inst : MS08
Acq On : 25 Jul 2019 21:56 Operator: RS
Misc : S31-07111901
ALS Vial : 15 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:51:39 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

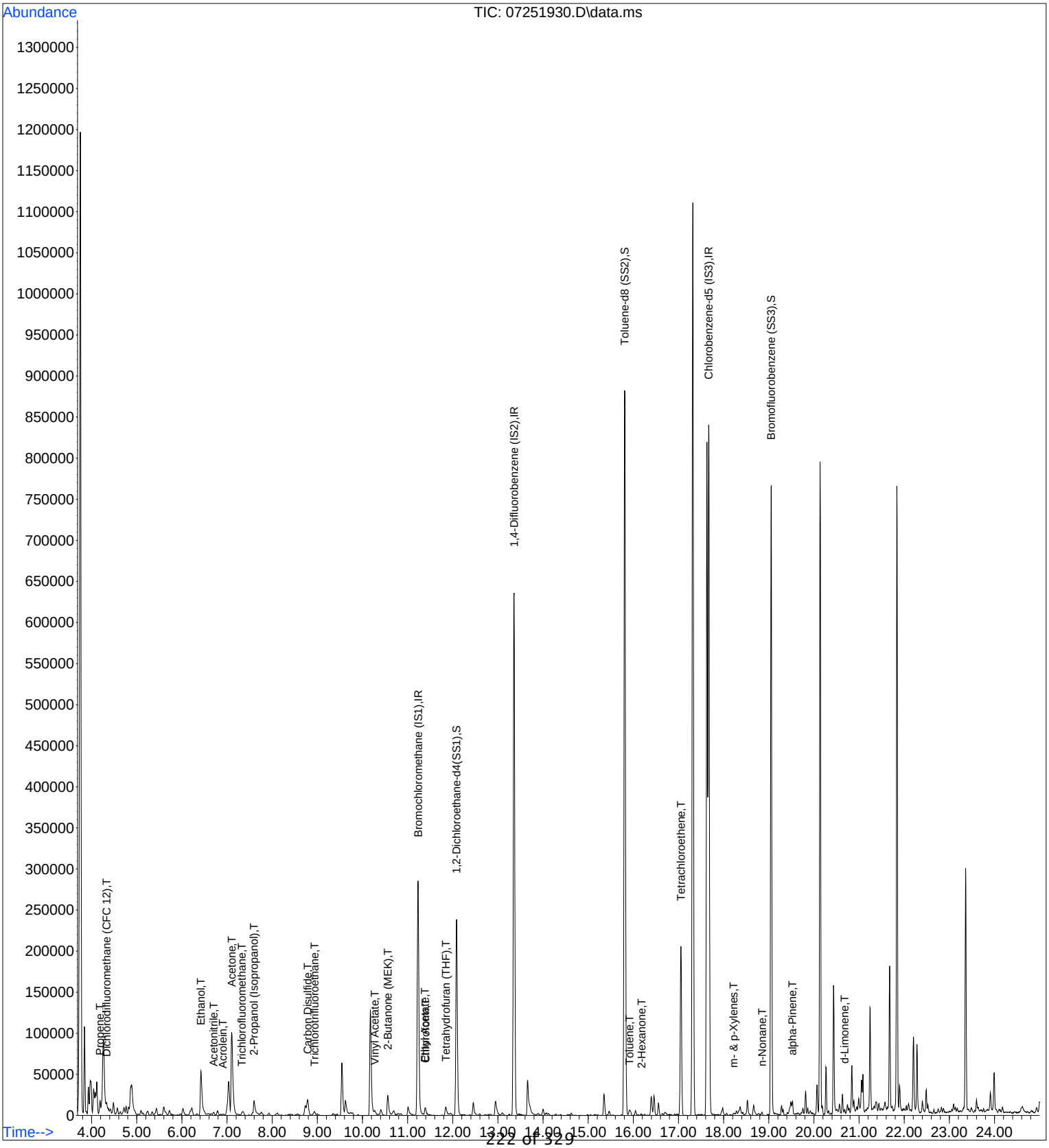
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	152564	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	675137	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	318078	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	179713	11.851	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.81	98	734653	11.230	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
73) Bromofluorobenzene (SS3)	19.06	174	282374	13.141	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
Target Compounds							Qvalue
2) Propene	4.19	42	3340m	0.267	ng		
3) Dichlorodifluoromethan...	4.33	85	7520	0.386	ng		96
10) Ethanol	6.42	45	91480	10.352	ng		99
11) Acetonitrile	6.70	41	2227	0.099	ng		95
12) Acrolein	6.91	56	1382	0.212	ng		94
13) Acetone	7.10	58	63796	7.241	ng		89
14) Trichlorofluoromethane	7.33	101	3957	0.237	ng		95
15) 2-Propanol (Isopropanol)	7.60	45	39045	1.293	ng		98
21) Trichlorotrifluoroethane	8.94	151	982	0.089	ng		83
22) Carbon Disulfide	8.79	76	40778	1.059	ng		98
26) Vinyl Acetate	10.27	86	1472	0.505	ng	#	71
27) 2-Butanone (MEK)	10.56	72	11443	1.519	ng	#	89
30) Ethyl Acetate	11.38	61	1577	0.434	ng		88
32) Chloroform	11.40	83	2565	0.144	ng		93
34) Tetrahydrofuran (THF)	11.85	72	4065	0.486	ng	#	80
58) Toluene	15.91	91	6478	0.117	ng		99
59) 2-Hexanone	16.18	43	2118	0.081	ng	#	72
64) Tetrachloroethene	17.05	166	85163	5.041	ng		100
67) m- & p-Xylenes	18.22	91	3243	0.066	ng		100
71) n-Nonane	18.85	43	2420	0.086	ng		89
75) alpha-Pinene	19.52	93	6206	0.191	ng	#	1
91) d-Limonene	20.68	68	1232	0.063	ng		99

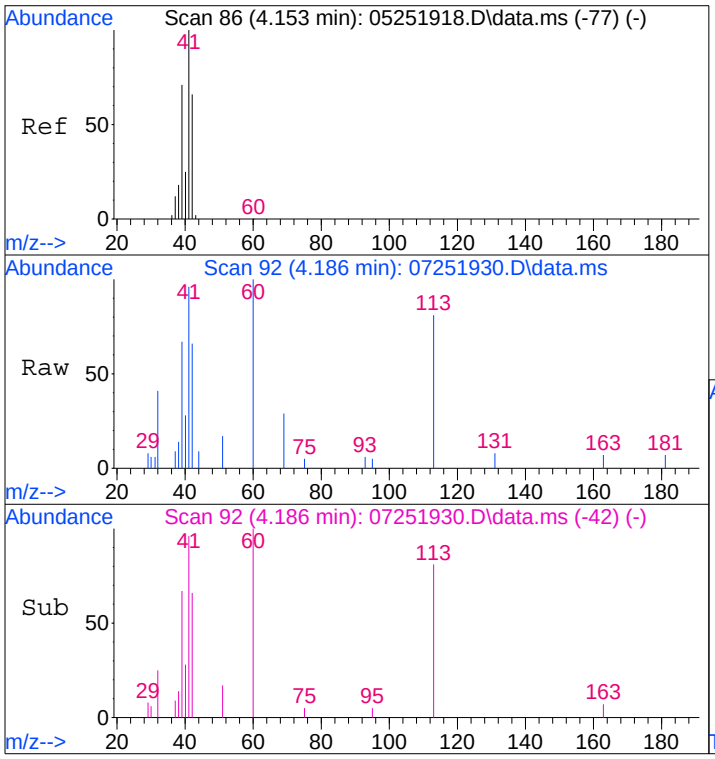
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251930.D
Sample : P1904286-010 (400mL) Inst : MS08
Acq On : 25 Jul 2019 21:56 Operator: RS
Misc : S31-07111901
ALS Vial : 15 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:51:39 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

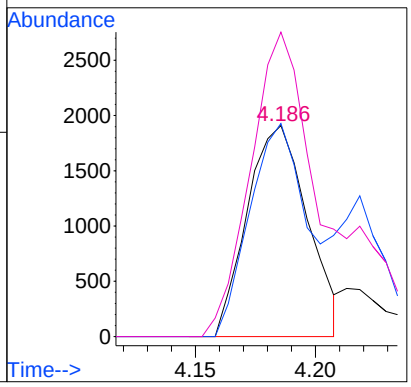


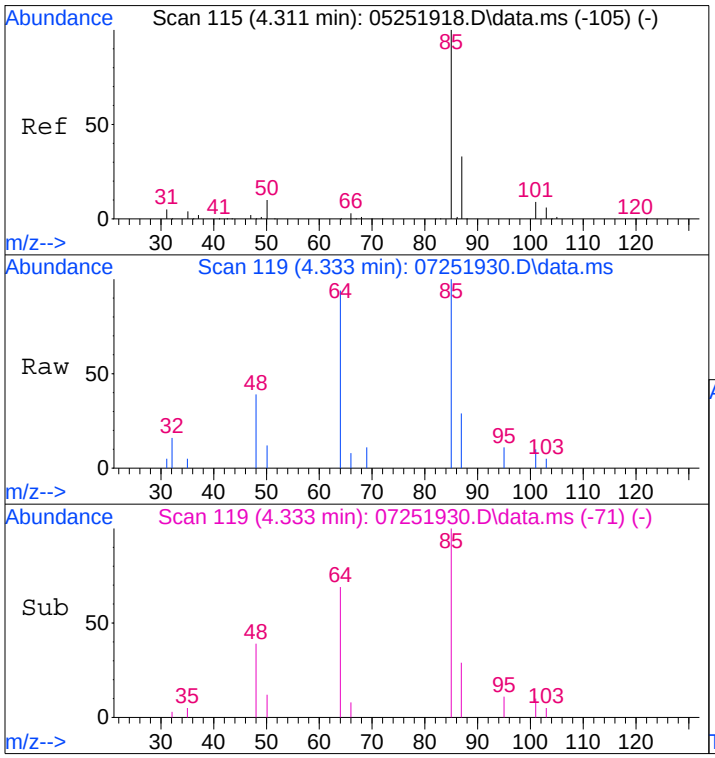


#2
Propene
Concen: 0.27 ng m
RT: 4.19 min Scan# 92
Delta R.T. 0.022 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 42 Resp: 3340

Ion	Ratio	Lower	Upper
42	100		
39	93.6	85.8	125.8
41	135.0	130.2	170.2

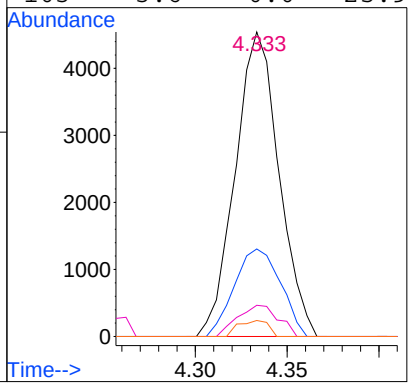


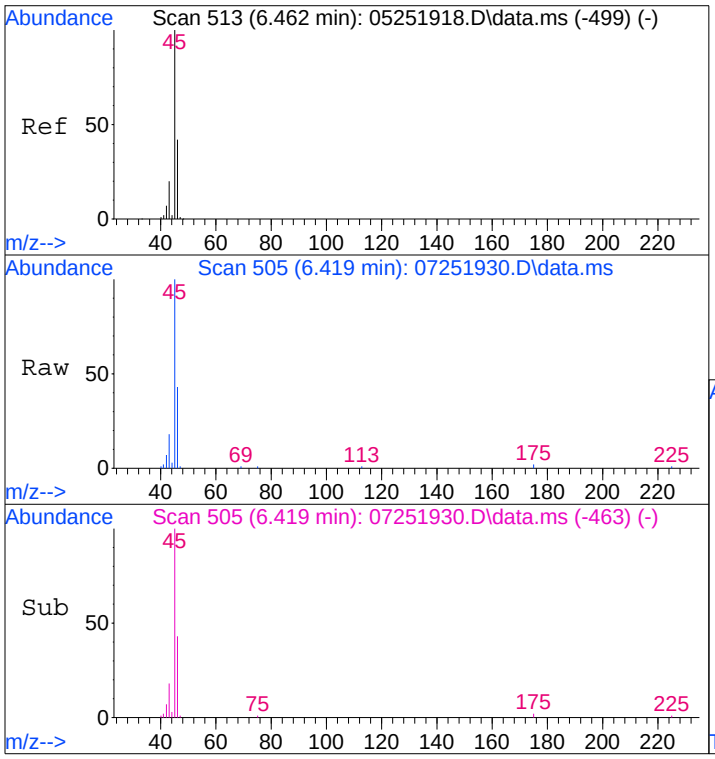


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.39 ng
RT: 4.33 min Scan# 119
Delta R.T. 0.011 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 85 Resp: 7520

Ion	Ratio	Lower	Upper
85	100		
87	30.4	12.5	52.5
101	9.5	0.0	29.0
103	3.6	0.0	25.9

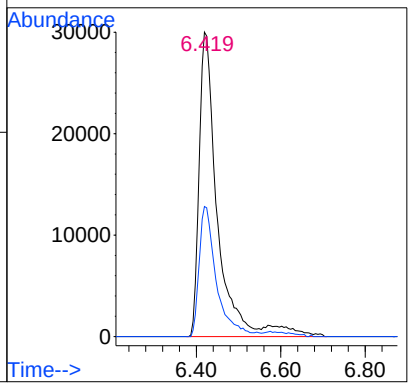


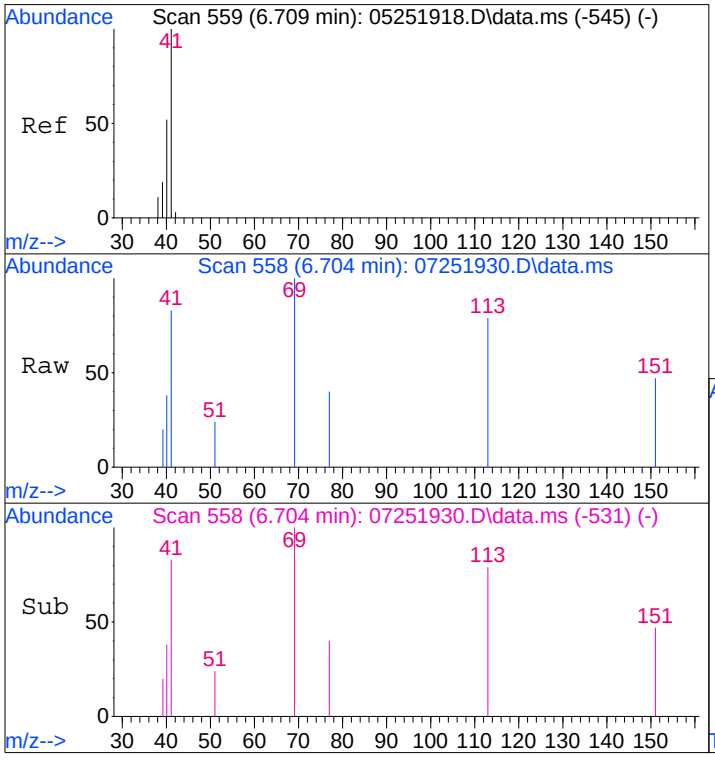


#10
Ethanol
Concen: 10.35 ng
RT: 6.42 min Scan# 505
Delta R.T. -0.024 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 45 Resp: 91480

Ion	Ratio	Lower	Upper
45	100		
46	42.3	21.7	61.7

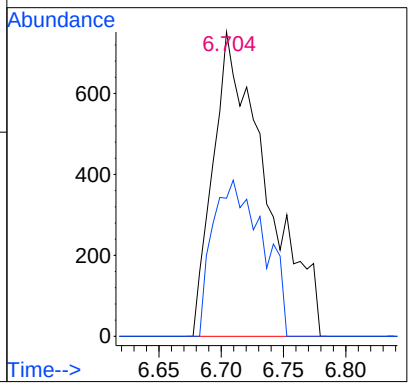


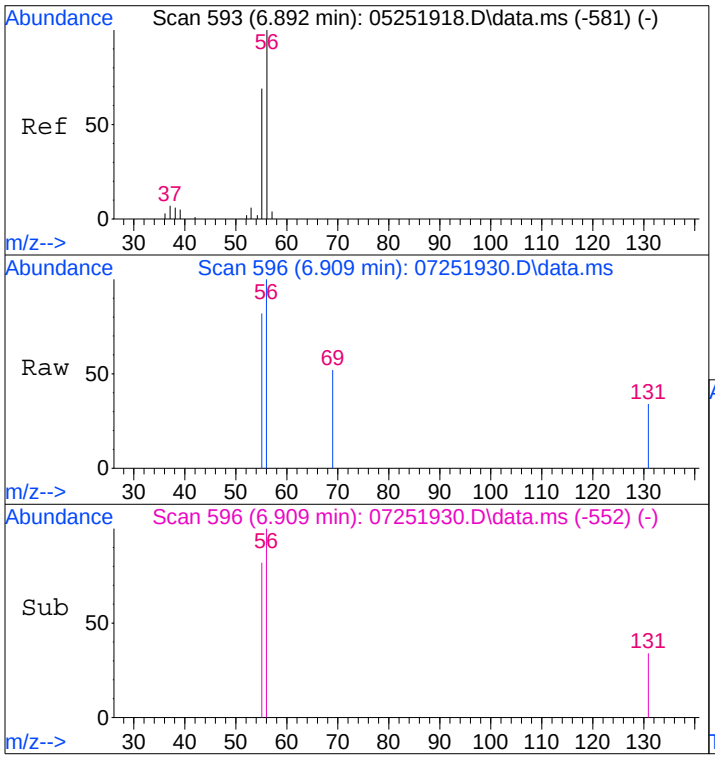


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.70 min Scan# 558
Delta R.T. -0.054 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 41 Resp: 2227

Ion	Ratio	Lower	Upper
41	100		
40	48.7	32.5	72.5

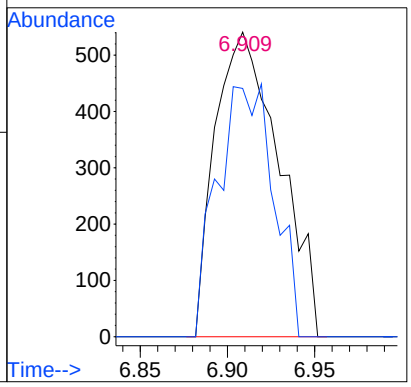


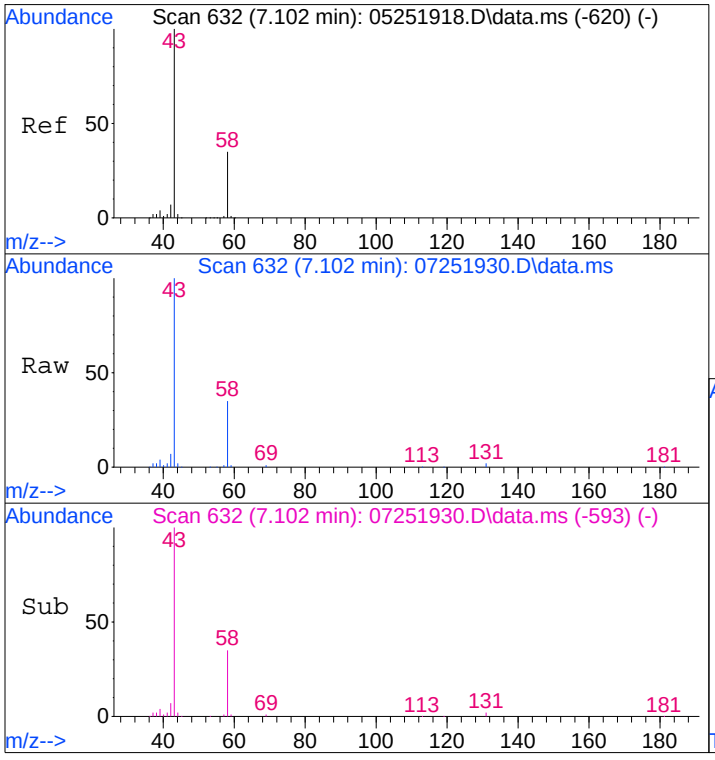


#12
Acrolein
Concen: 0.21 ng
RT: 6.91 min Scan# 596
Delta R.T. -0.011 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 56 Resp: 1382

Ion	Ratio	Lower	Upper
56	100		
55	72.9	48.1	88.1

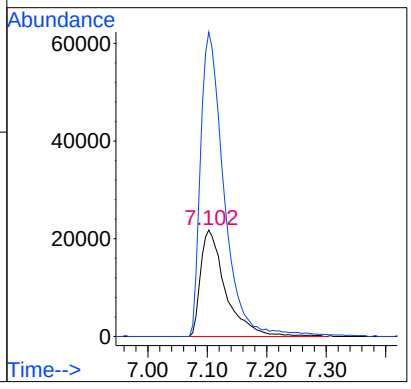


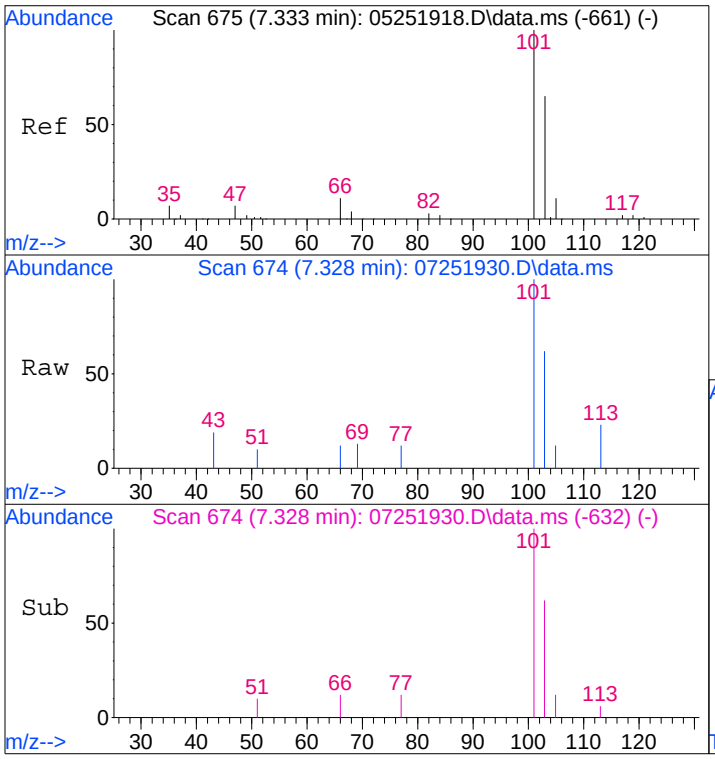


#13
Acetone
Concen: 7.24 ng
RT: 7.10 min Scan# 632
Delta R.T. -0.043 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 58 Resp: 63796

Ion	Ratio	Lower	Upper
58	100		
43	269.3	260.9	320.9

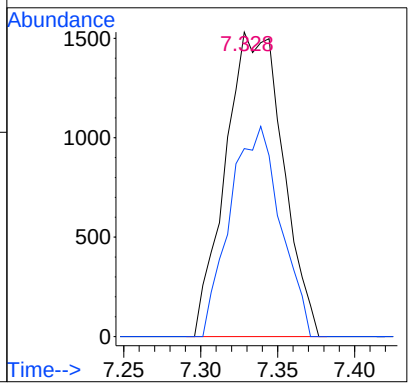


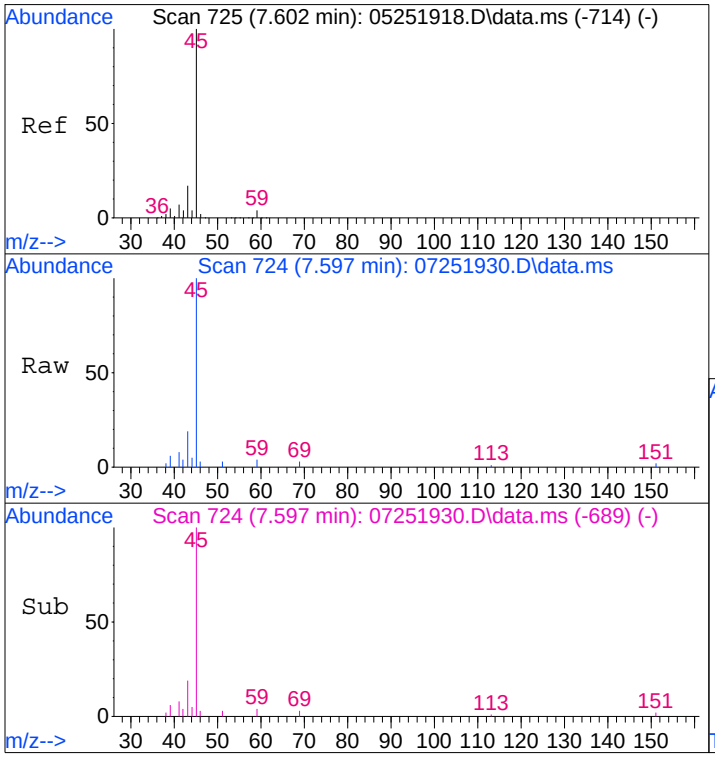


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 7.33 min Scan# 674
Delta R.T. -0.021 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion:101 Resp: 3957

Ion	Ratio	Lower	Upper
101	100		
103	60.9	44.7	84.7

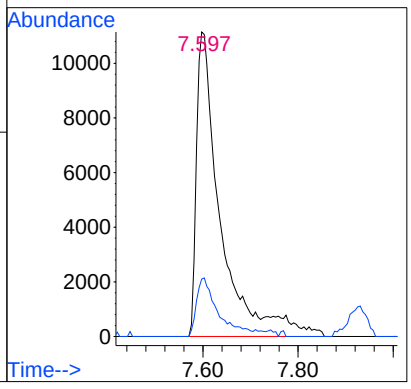


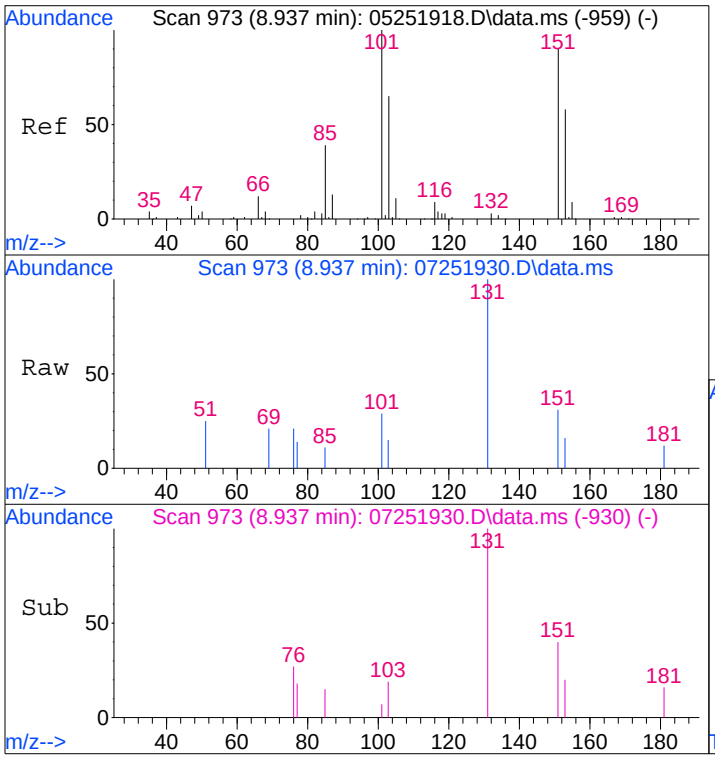


#15
2-Propanol (Isopropanol)
Concen: 1.29 ng
RT: 7.60 min Scan# 724
Delta R.T. -0.059 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 45 Resp: 39045

Ion	Ratio	Lower	Upper
45	100		
43	18.7	0.0	37.6

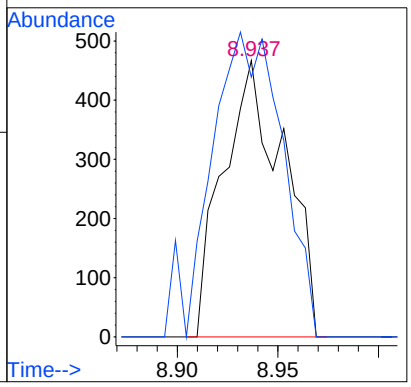


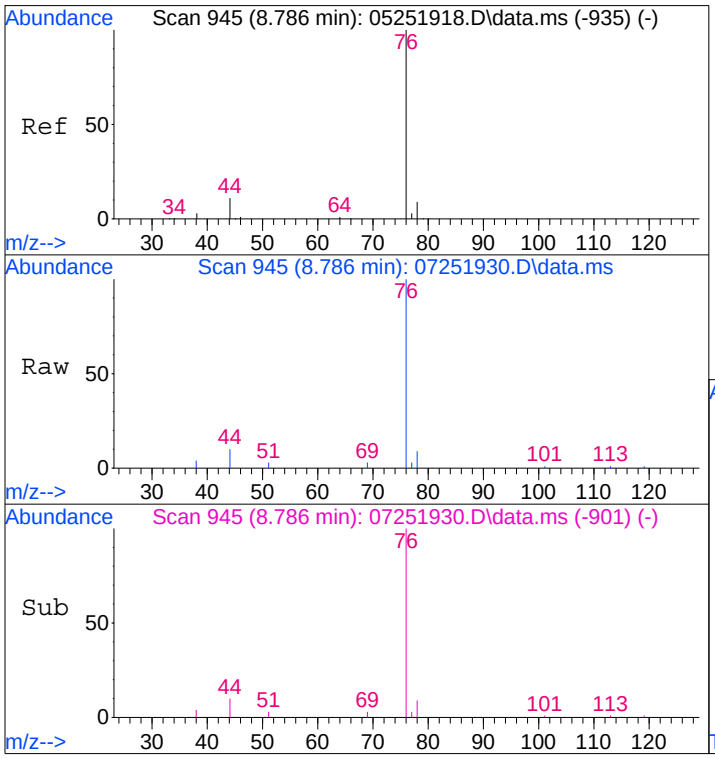


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.94 min Scan# 973
Delta R.T. -0.016 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion:151 Resp: 982

Ion	Ratio	Lower	Upper
151	100		
101	129.9	92.2	132.2

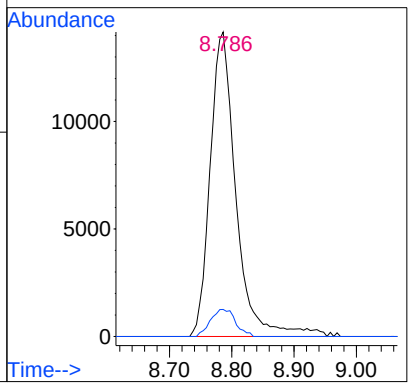


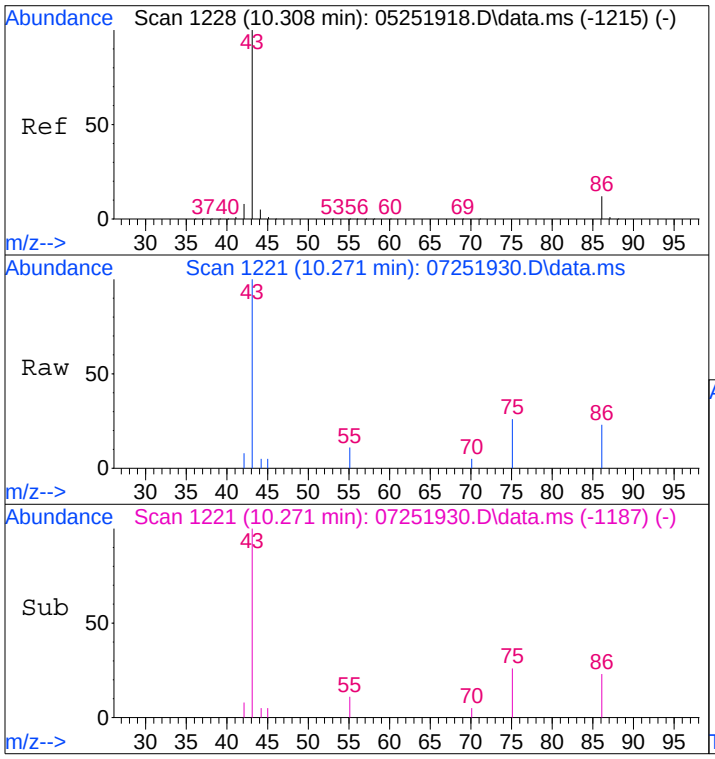


#22
Carbon Disulfide
Concen: 1.06 ng
RT: 8.79 min Scan# 945
Delta R.T. -0.016 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 76 Resp: 40778

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

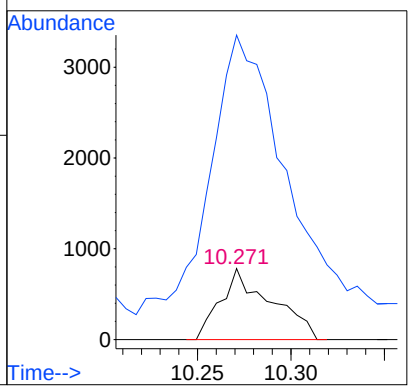


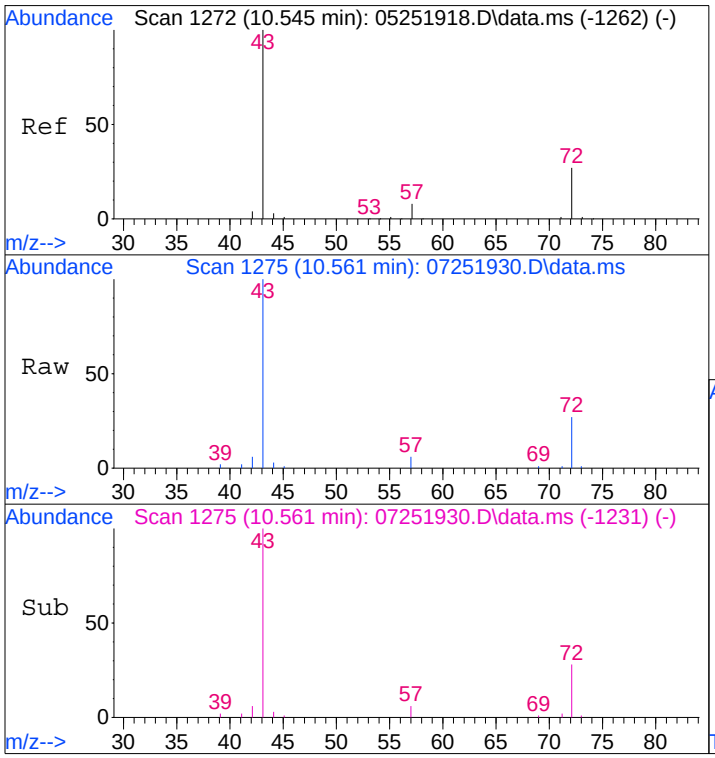


#26
Vinyl Acetate
Concen: 0.50 ng
RT: 10.27 min Scan# 1221
Delta R.T. -0.064 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 86 Resp: 1472

Ion	Ratio	Lower	Upper
86	100		
43	765.6	864.9	904.9#

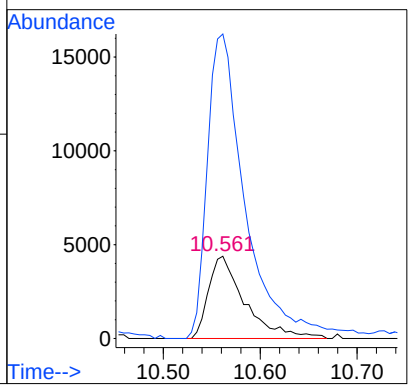


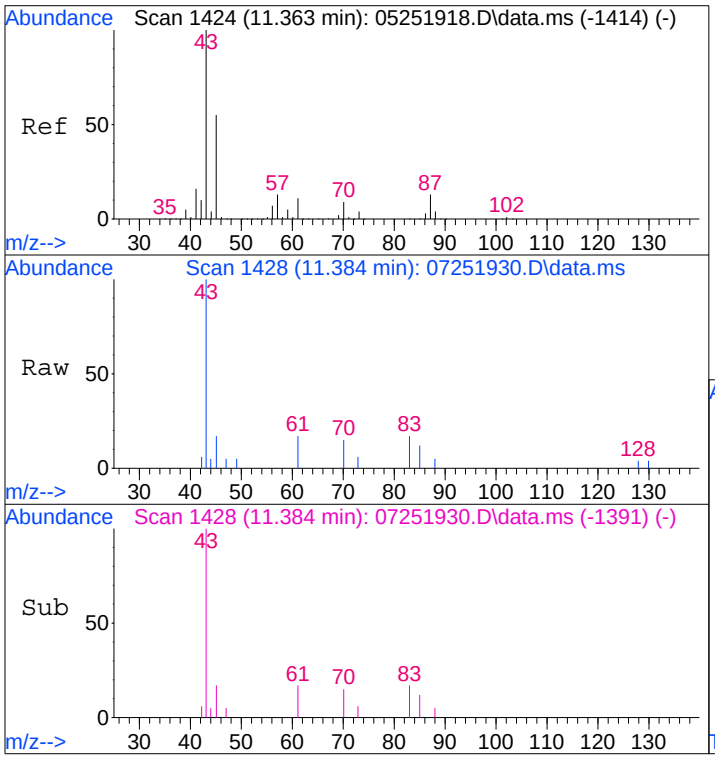


#27
2-Butanone (MEK)
Concen: 1.52 ng
RT: 10.56 min Scan# 1275
Delta R.T. -0.011 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 72 Resp: 11443

Ion	Ratio	Lower	Upper
72	100		
43	391.8	346.9	386.9#

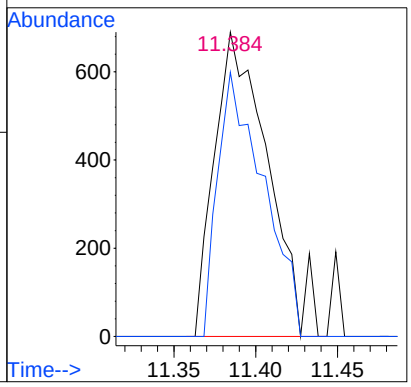


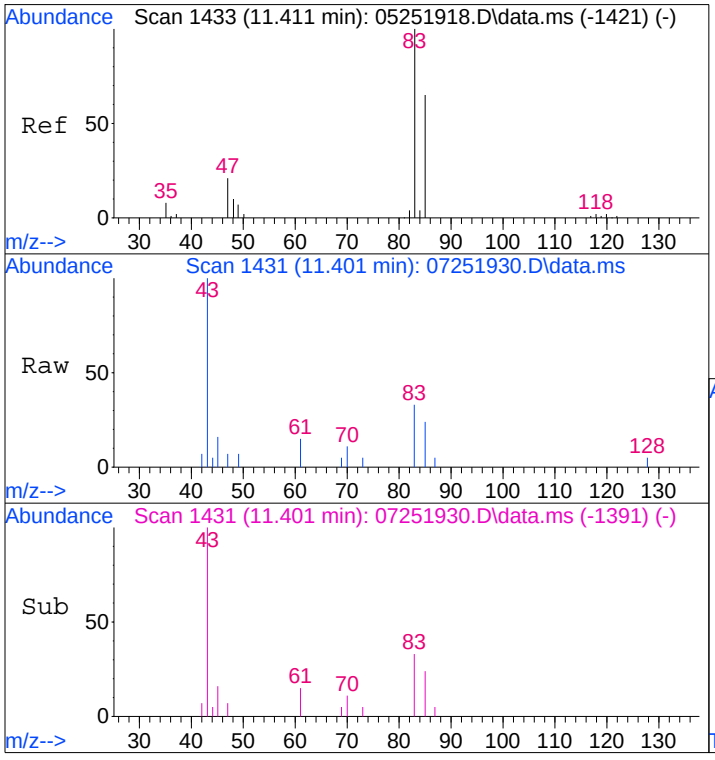


#30
Ethyl Acetate
Concen: 0.43 ng
RT: 11.38 min Scan# 1428
Delta R.T. 0.000 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 61 Resp: 1577

Ion	Ratio	Lower	Upper
61	100		
70	73.7	64.6	104.6

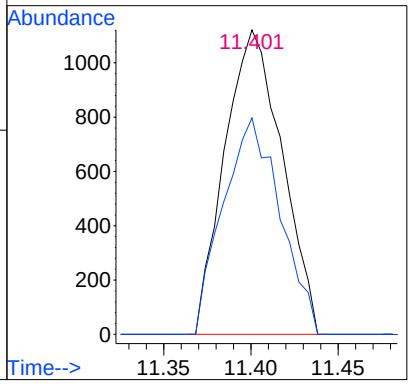


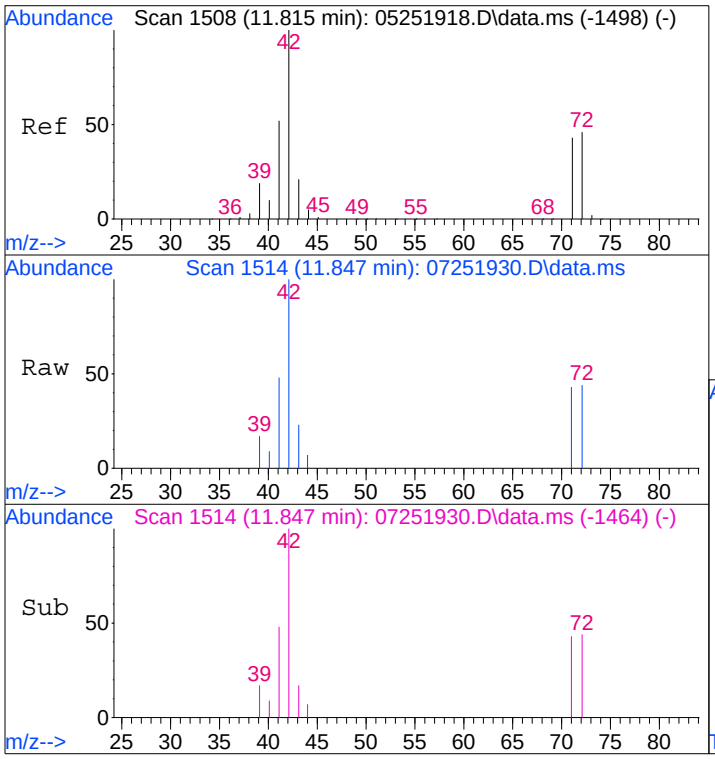


#32
Chloroform
Concen: 0.14 ng
RT: 11.40 min Scan# 1431
Delta R.T. -0.032 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 83 Resp: 2565

Ion	Ratio	Lower	Upper
83	100		
85	70.6	45.3	85.3

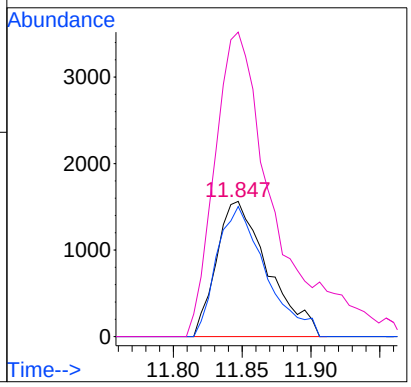


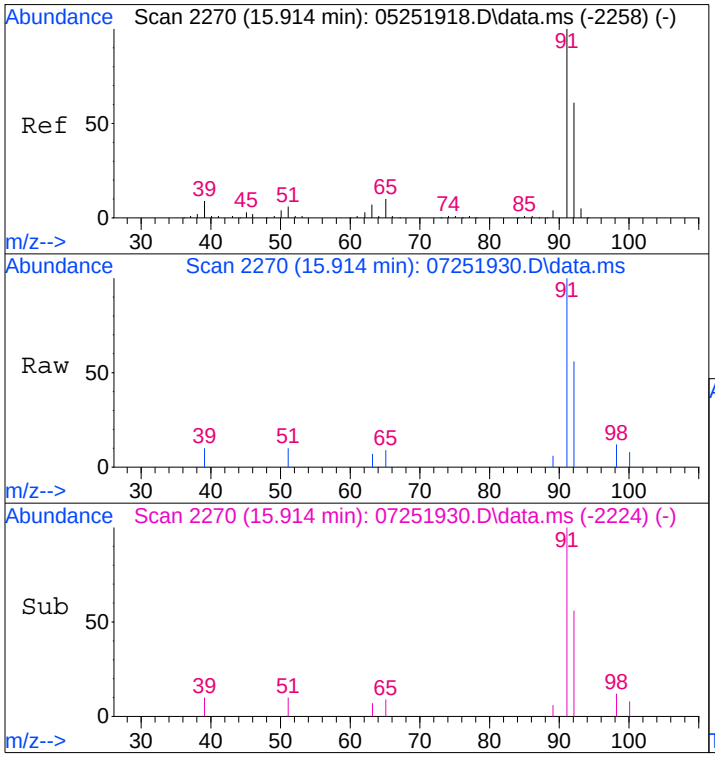


#34
Tetrahydrofuran (THF)
Concen: 0.49 ng
RT: 11.85 min Scan# 1514
Delta R.T. 0.022 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 72 Resp: 4065

Ion	Ratio	Lower	Upper
72	100		
71	91.0	73.9	113.9
42	264.7	201.9	241.9#

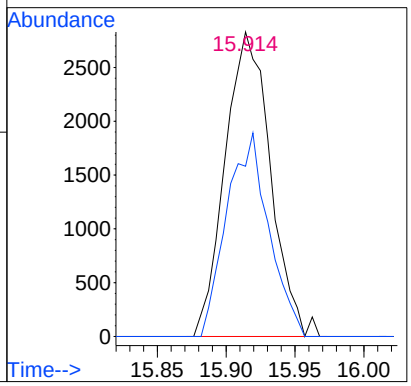


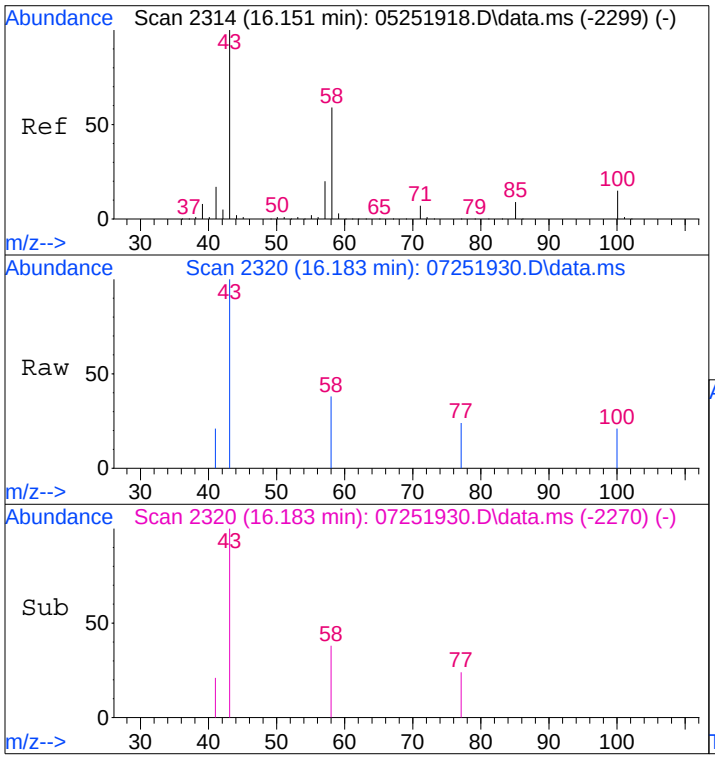


#58
Toluene
Concen: 0.12 ng
RT: 15.91 min Scan# 2270
Delta R.T. -0.005 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 91 Resp: 6478

Ion	Ratio	Lower	Upper
91	100		
92	61.8	41.2	81.2

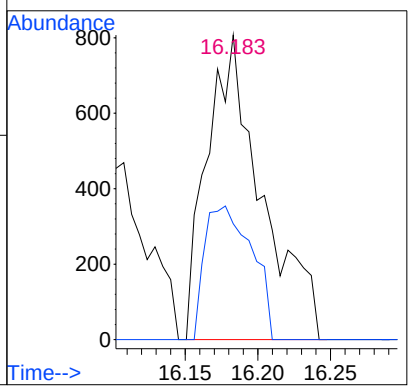


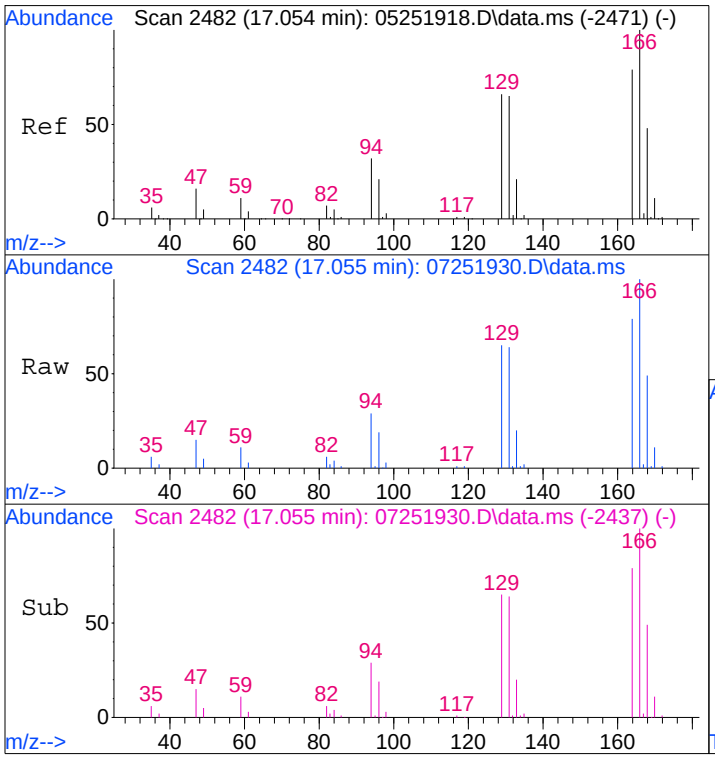


#59
2-Hexanone
Concen: 0.08 ng
RT: 16.18 min Scan# 2320
Delta R.T. 0.022 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 43 Resp: 2118

Ion	Ratio	Lower	Upper
43	100		
58	37.8	38.8	78.8#

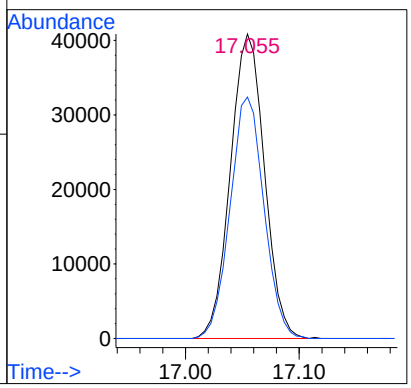


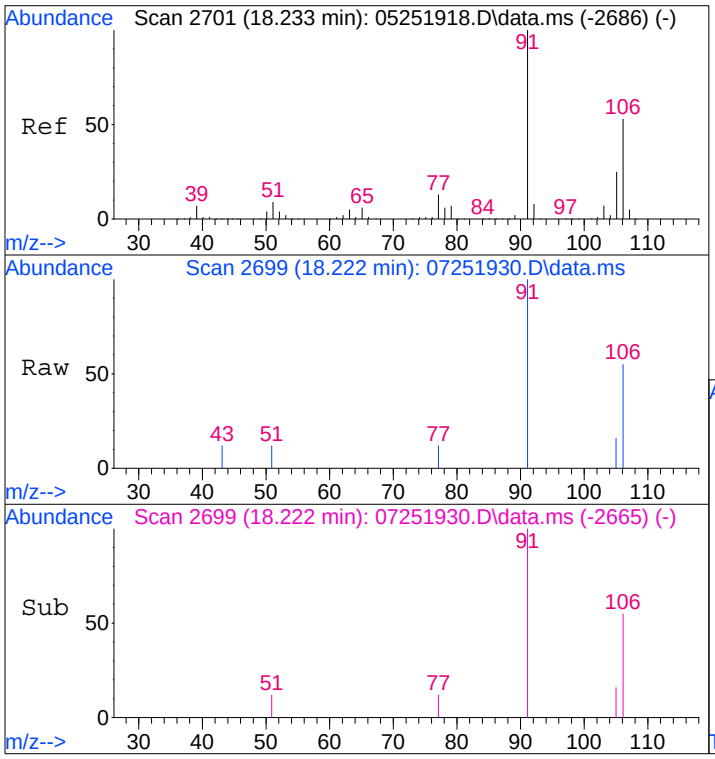


#64
Tetrachloroethene
Concen: 5.04 ng
RT: 17.05 min Scan# 2482
Delta R.T. -0.005 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion:166 Resp: 85163

Ion	Ratio	Lower	Upper
166	100		
164	78.7	58.4	98.4

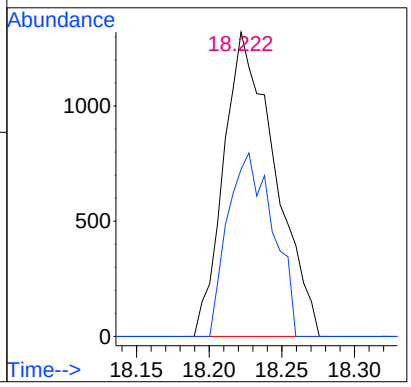


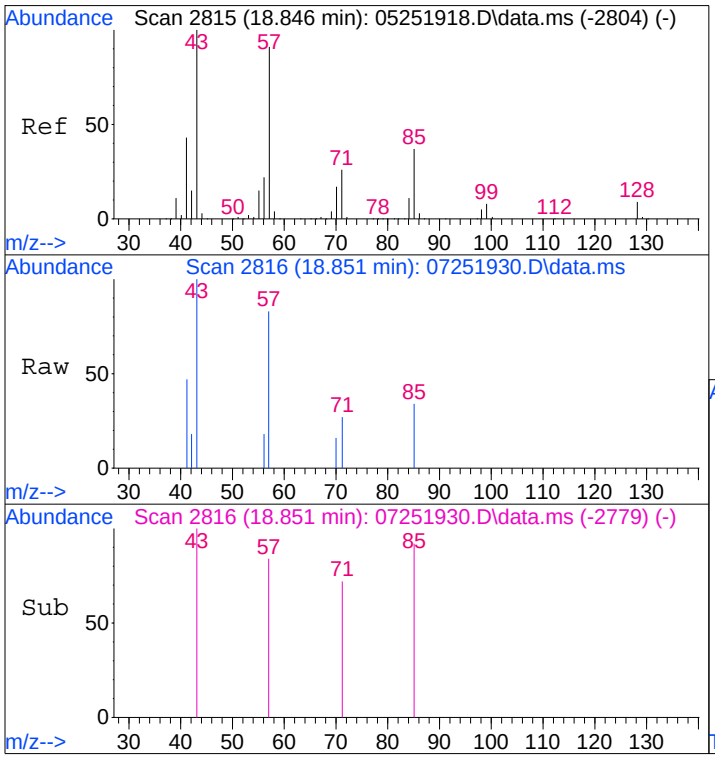


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 18.22 min Scan# 2699
Delta R.T. -0.016 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 91 Resp: 3243

Ion	Ratio	Lower	Upper
91	100		
106	53.2	33.4	73.4

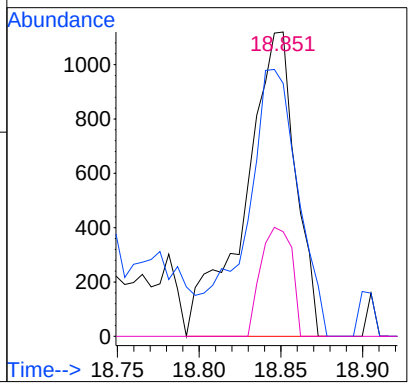


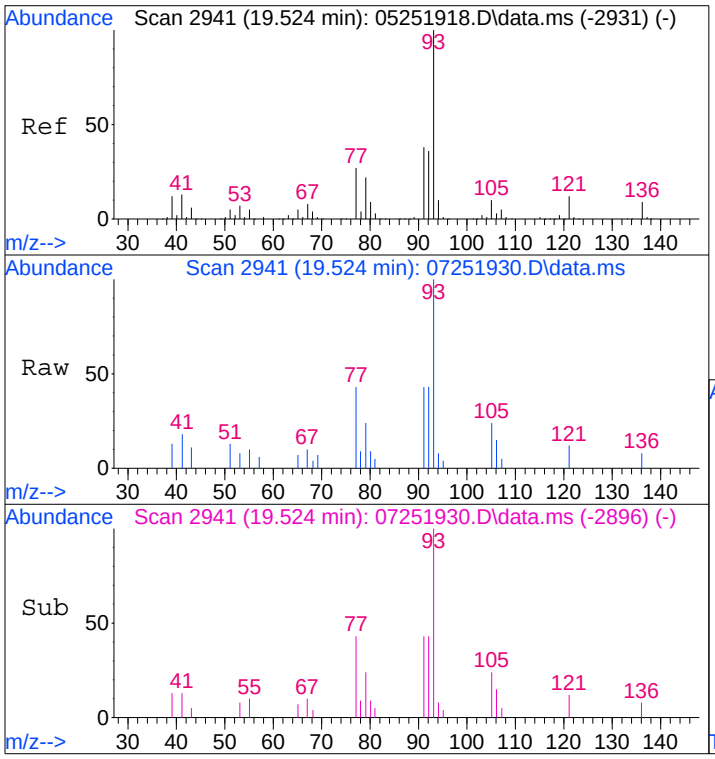


#71
n-Nonane
Concen: 0.09 ng
RT: 18.85 min Scan# 2816
Delta R.T. 0.000 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 43 Resp: 2420

Ion	Ratio	Lower	Upper
43	100		
57	87.6	71.7	111.7
85	22.0	18.7	58.7

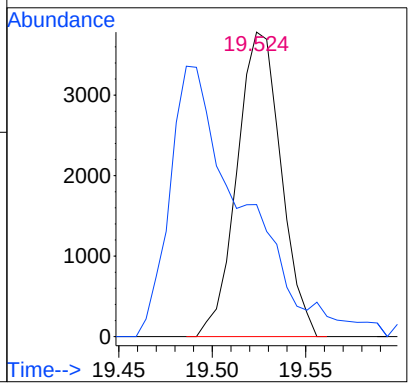


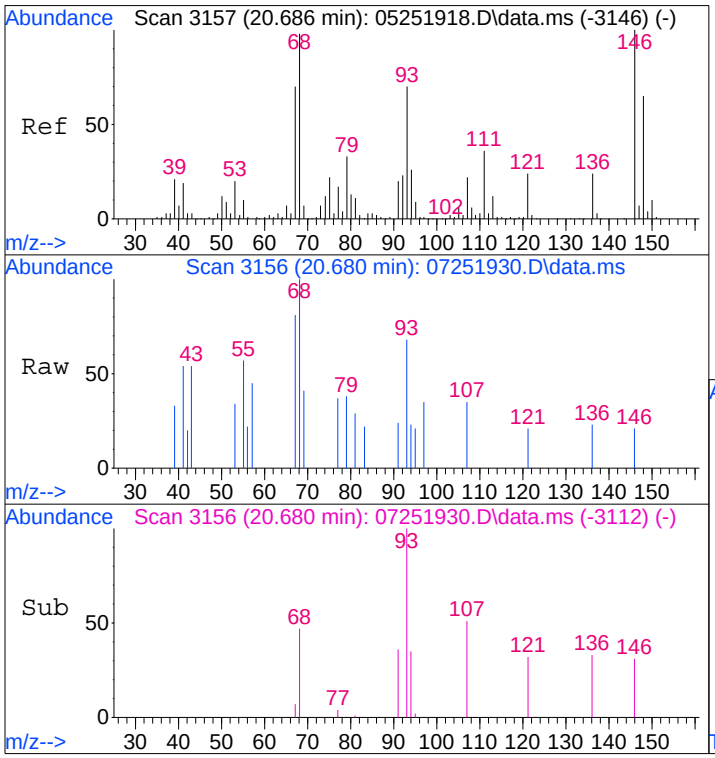


#75
alpha-Pinene
Concen: 0.19 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 93 Resp: 6206

Ion	Ratio	Lower	Upper
93	100		
77	149.9	7.0	47.0#

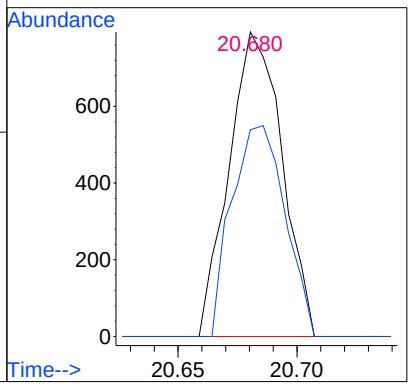




#91
d-Limonene
Concen: 0.06 ng
RT: 20.68 min Scan# 3156
Delta R.T. -0.011 min
Lab File: 07251930.D
Acq: 25 Jul 2019 21:56

Tgt Ion: 68 Resp: 1232

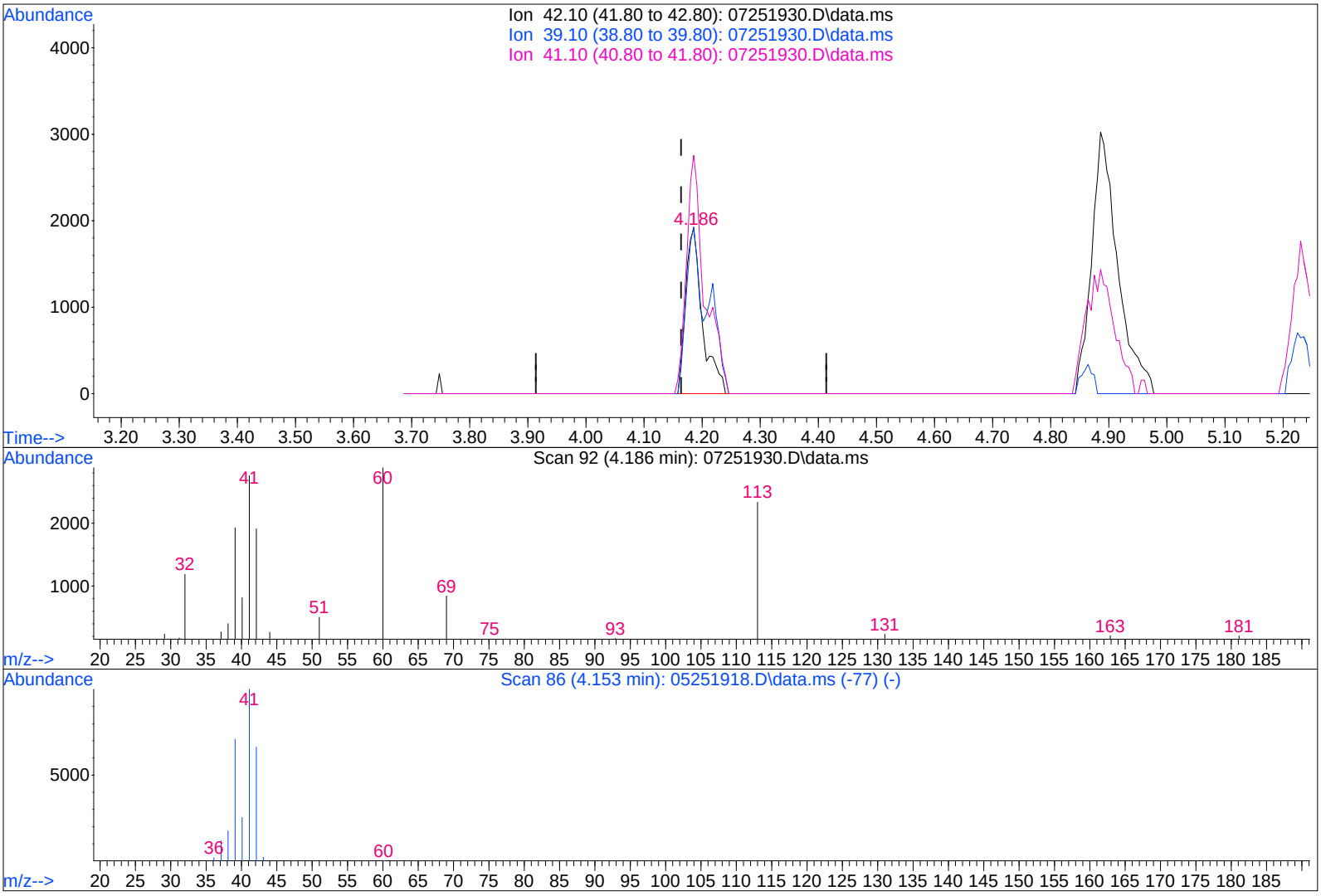
Ion	Ratio	Lower	Upper
68	100		
93	69.8	50.9	90.9



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251930.D
Sample : P1904286-010 (400mL) Inst : MS08
Acq On : 25 Jul 2019 21:56 Operator: RS
Misc : S31-07111901
ALS Vial : 15 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:41 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251930.D\data.ms

(2) Propene (T)

4.186min (+0.022) 0.31ng

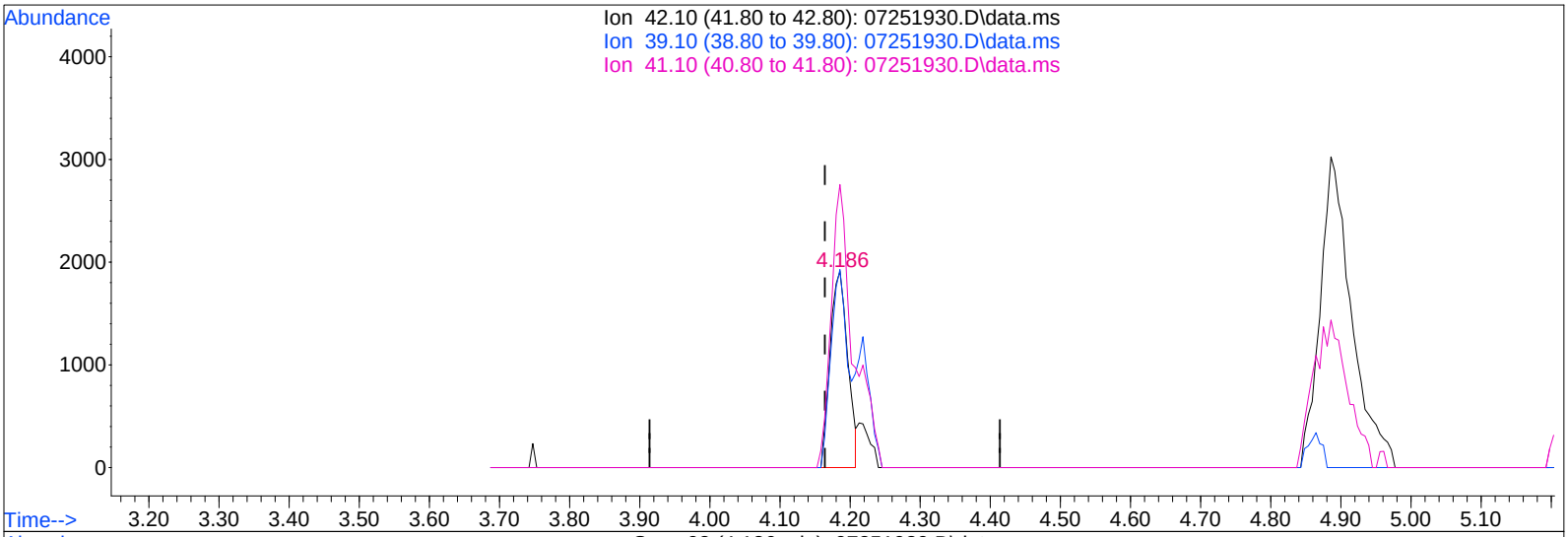
response 3869

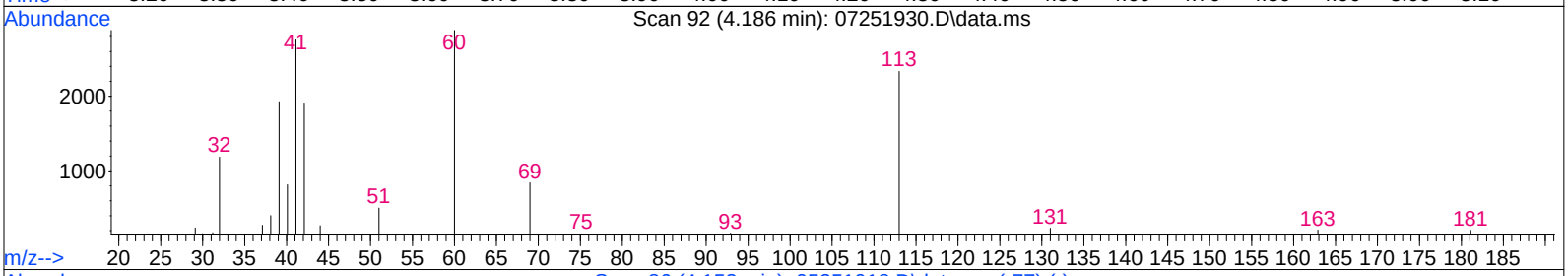
Ion	Exp%	Act%
42.10	100	100
39.10	105.80	80.77#
41.10	150.20	158.34
0.00	0.00	0.00

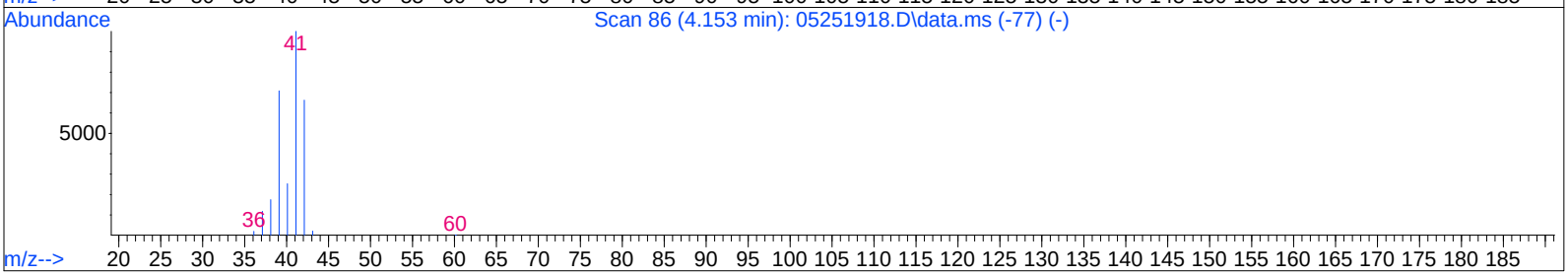
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251930.D
Sample : P1904286-010 (400mL) Inst : MS08
Acq On : 25 Jul 2019 21:56 Operator: RS
Misc : S31-07111901
ALS Vial : 15 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:41 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration







TIC: 07251930.D\data.ms

(2) Propene (T)

4.186min (+0.022) 0.27ng m

response 3340

Ion	Exp%	Act%
42.10	100	100
39.10	105.80	93.56
41.10	150.20	135.00
0.00	0.00	0.00

IPC

RS 8/1/19

8/2/19

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:55:11 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	148887	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	668909	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	309758	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.08	65	176230	11.908	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%			
57) Toluene-d8 (SS2)	15.81	98	721028	11.318	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.56%			
73) Bromofluorobenzene (SS3)	19.06	174	277786	13.275	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%			
Target Compounds						Qvalue
2) Propene	4.16	42	64243	5.270	ng	95
3) Dichlorodifluoromethan...	4.33	85	8766	0.461	ng	99
4) Chloromethane	4.61	50	946	0.066	ng	77
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.31	54	109	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.06	64	1769	0.200	ng	84
10) Ethanol	6.42	45	13115	1.521	ng	93
11) Acetonitrile	6.70	41	3400	0.155	ng	90
12) Acrolein	6.90	56	2231	0.350	ng	97
13) Acetone	7.09	58	51400m	5.978	ng	
14) Trichlorofluoromethane	7.33	101	13361	0.818	ng	98
15) 2-Propanol (Isopropanol)	7.61	45	12958	0.440	ng	93
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	8.52	84	1744	0.160	ng	89
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	8.94	151	2253	0.210	ng	98
22) Carbon Disulfide	8.79	76	285156	7.592	ng	99
23) trans-1,2-Dichloroethene	9.80	61	549	N.D.		
24) 1,1-Dichloroethane	10.09	63	174	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.56	72	13556	1.844	ng	92
28) cis-1,2-Dichloroethene	11.07	61	2686	0.185	ng	97
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	11.39	61	1571	0.443	ng	98
31) n-Hexane	11.35	57	114415	6.096	ng	97
32) Chloroform	11.40	83	20834	1.202	ng	99
34) Tetrahydrofuran (THF)	11.82	72	40462	4.958	ng	94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D. d		
38) 1,1,1-Trichloroethane	12.49	97	784	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.97	78	61259	1.274	ng	99
42) Carbon Tetrachloride	13.13	117	2610	0.192	ng	91
43) Cyclohexane	13.26	84	89216	4.301	ng	99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	13.73	63	334	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	14.07	130	3773	0.291	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:55:11 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

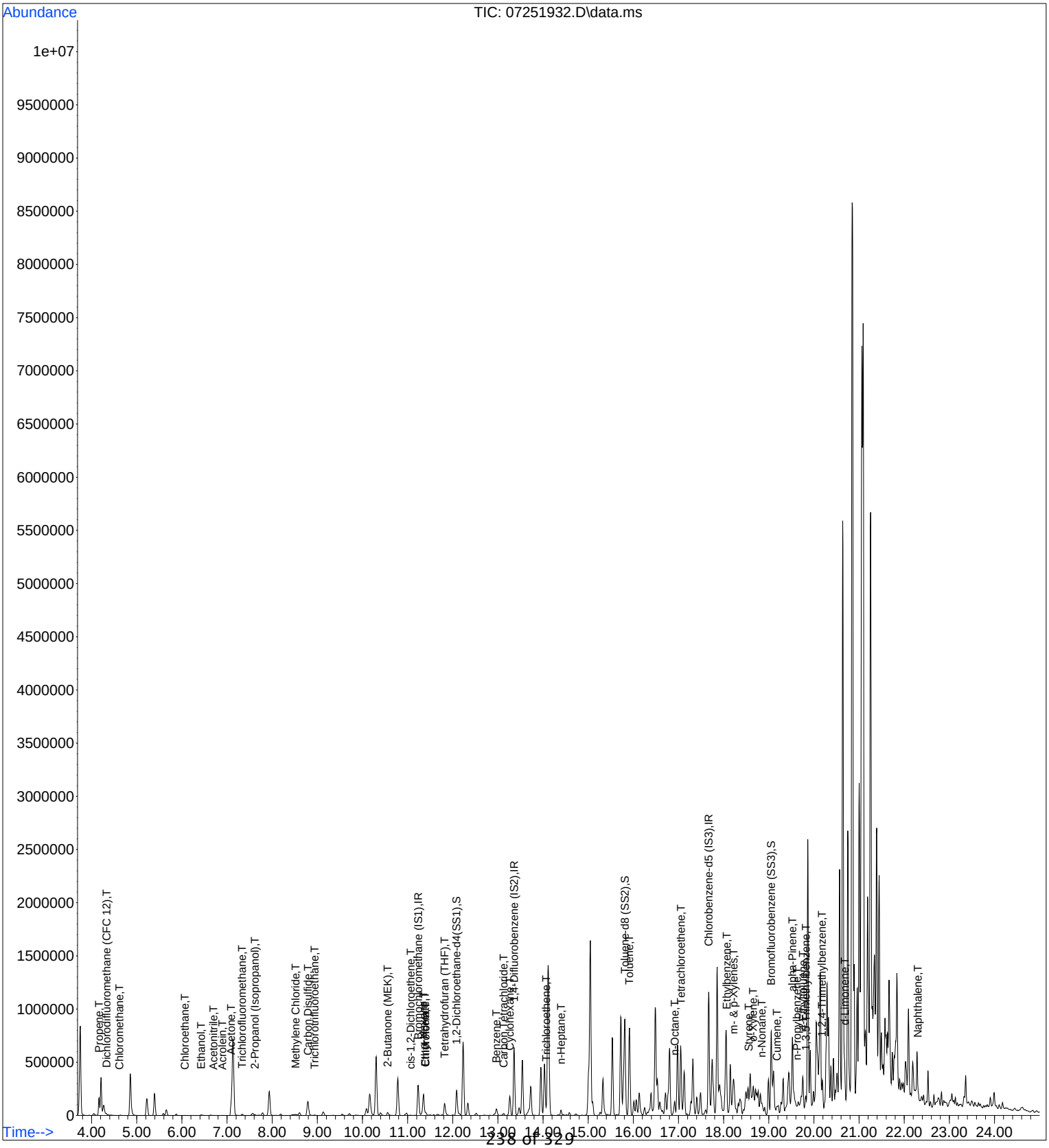
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.40	71	13938	1.059 ng	99
52) cis-1,3-Dichloropropene	14.93	75	155	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.46	75	345	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.91	91	652577	12.107 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	16.31	129	106	N.D.	
61) 1,2-Dibromoethane	16.58	107	386	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.91	57	25627	2.143 ng	99
64) Tetrachloroethene	17.05	166	112750	6.853 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.07	91	98075	1.520 ng	100
67) m- & p-Xylenes	18.22	91	235499	4.884 ng	97
68) Bromoform	18.29	173	299	N.D.	
69) Styrene	18.56	104	4951	0.132 ng	81
70) o-Xylene	18.65	91	84827	1.732 ng	99
71) n-Nonane	18.85	43	26484m	0.961 ng	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.18	105	18022	0.272 ng	100
75) alpha-Pinene	19.52	93	245973	7.791 ng	97
76) n-Propylbenzene	19.63	91	20553	0.278 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.76	105	23076	0.401 ng	96
79) 1,3,5-Trimethylbenzene	19.82	105	22946	0.440 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.18	105	59428	1.208 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.32	146	879	N.D.	
86) 1,4-Dichlorobenzene	20.37	146	1370	N.D.	
87) sec-Butylbenzene	20.42	105	2664	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.67	146	734	N.D.	
91) d-Limonene	20.69	68	39510	2.081 ng	97
92) 1,2-Dibromo-3-Chloropr...	21.10	157	396	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	22.30	128	23692	0.431 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:55:11 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

RS 8/1/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:55:11 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

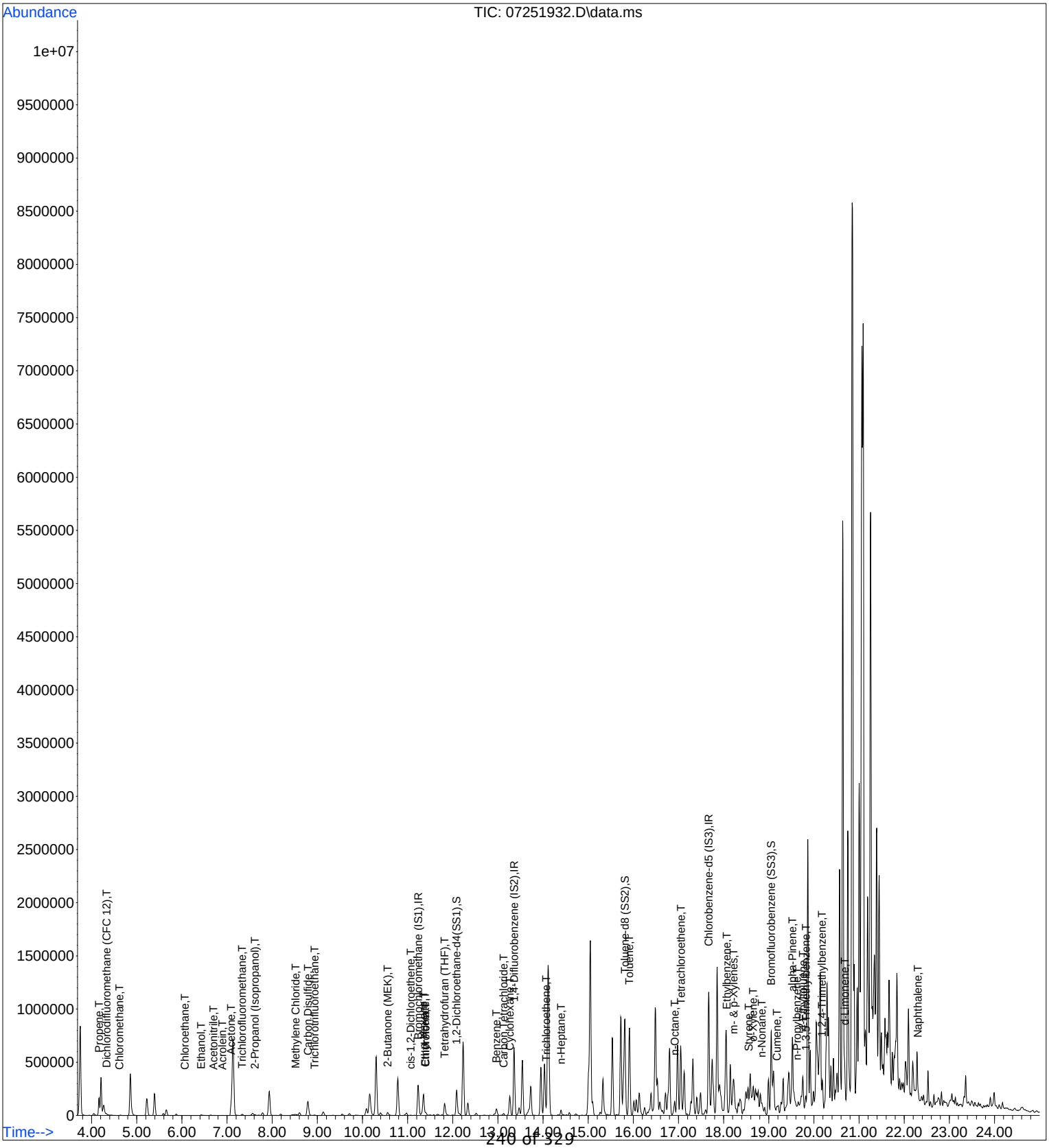
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	148887	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.36	114	668909	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	309758	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.08	65	176230	11.908	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%			
57) Toluene-d8 (SS2)	15.81	98	721028	11.318	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.56%			
73) Bromofluorobenzene (SS3)	19.06	174	277786	13.275	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%			
Target Compounds						Qvalue
2) Propene	4.16	42	64243	5.270	ng	95
3) Dichlorodifluoromethan...	4.33	85	8766	0.461	ng	99
4) Chloromethane	4.61	50	946	0.066	ng	77
9) Chloroethane	6.06	64	1769	0.200	ng	84
10) Ethanol	6.42	45	13115	1.521	ng	93
11) Acetonitrile	6.70	41	3400	0.155	ng	90
12) Acrolein	6.90	56	2231	0.350	ng	97
13) Acetone	7.09	58	51400m	5.978	ng	
14) Trichlorofluoromethane	7.33	101	13361	0.818	ng	98
15) 2-Propanol (Isopropanol)	7.61	45	12958	0.440	ng	93
19) Methylene Chloride	8.52	84	1744	0.160	ng	89
21) Trichlorotrifluoroethane	8.94	151	2253	0.210	ng	98
22) Carbon Disulfide	8.79	76	285156	7.592	ng	99
27) 2-Butanone (MEK)	10.56	72	13556	1.844	ng	92
28) cis-1,2-Dichloroethene	11.07	61	2686	0.185	ng	97
30) Ethyl Acetate	11.39	61	1571	0.443	ng	98
31) n-Hexane	11.35	57	114415	6.096	ng	97
32) Chloroform	11.40	83	20834	1.202	ng	99
34) Tetrahydrofuran (THF)	11.82	72	40462	4.958	ng	94
41) Benzene	12.97	78	61259	1.274	ng	99
42) Carbon Tetrachloride	13.13	117	2610	0.192	ng	91
43) Cyclohexane	13.26	84	89216	4.301	ng	99
47) Trichloroethene	14.07	130	3773	0.291	ng	98
51) n-Heptane	14.40	71	13938	1.059	ng	99
58) Toluene	15.91	91	652577	12.107	ng	100
63) n-Octane	16.91	57	25627	2.143	ng	99
64) Tetrachloroethene	17.05	166	112750	6.853	ng	99
66) Ethylbenzene	18.07	91	98075	1.520	ng	100
67) m- & p-Xylenes	18.22	91	235499	4.884	ng	97
69) Styrene	18.56	104	4951	0.132	ng	81
70) o-Xylene	18.65	91	84827	1.732	ng	99
71) n-Nonane	18.85	43	26484m	0.961	ng	
74) Cumene	19.18	105	18022	0.272	ng	100
75) alpha-Pinene	19.52	93	245973	7.791	ng	97
76) n-Propylbenzene	19.63	91	20553	0.278	ng	97
78) 4-Ethyltoluene	19.76	105	23076	0.401	ng	96
79) 1,3,5-Trimethylbenzene	19.82	105	22946	0.440	ng	98
82) 1,2,4-Trimethylbenzene	20.18	105	59428	1.208	ng	92
91) d-Limonene	20.69	68	39510	2.081	ng	97
95) Naphthalene	22.30	128	23692	0.431	ng	96

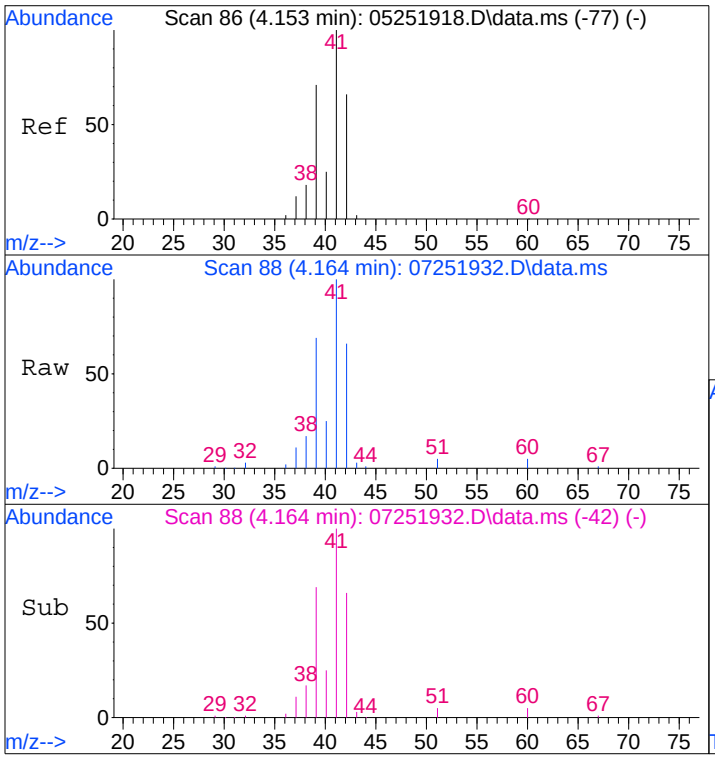
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Aug 01 10:55:11 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

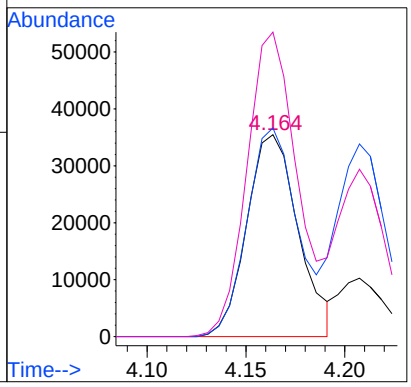


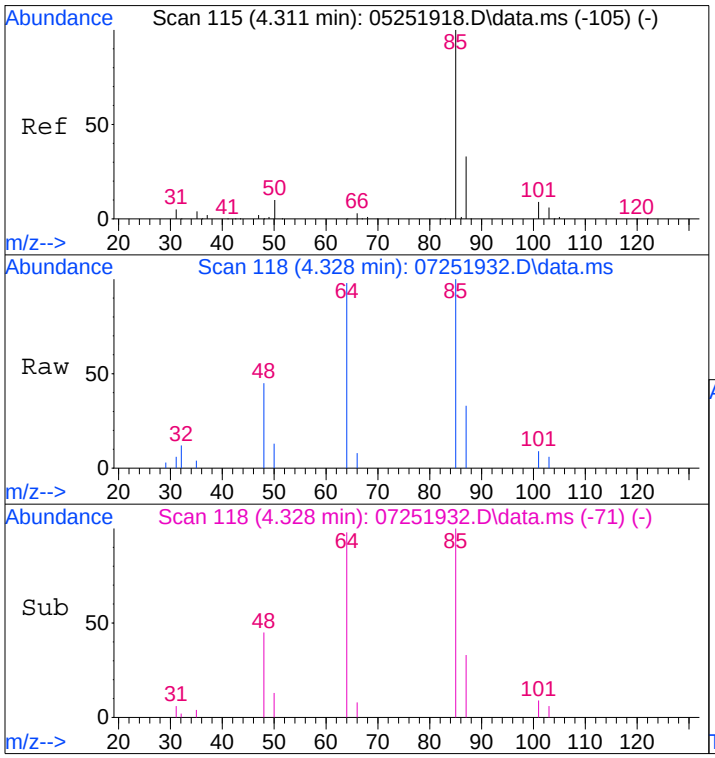


#2
Propene
Concen: 5.27 ng
RT: 4.16 min Scan# 88
Delta R.T. -0.000 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 42 Resp: 64243

Ion	Ratio	Lower	Upper
42	100		
39	100.1	85.8	125.8
41	144.3	130.2	170.2

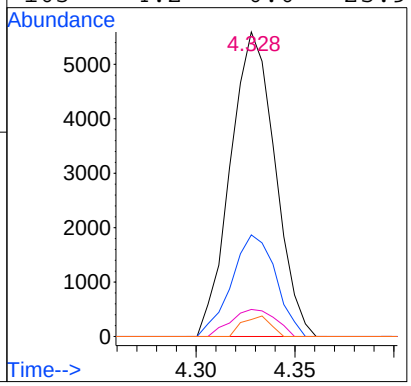


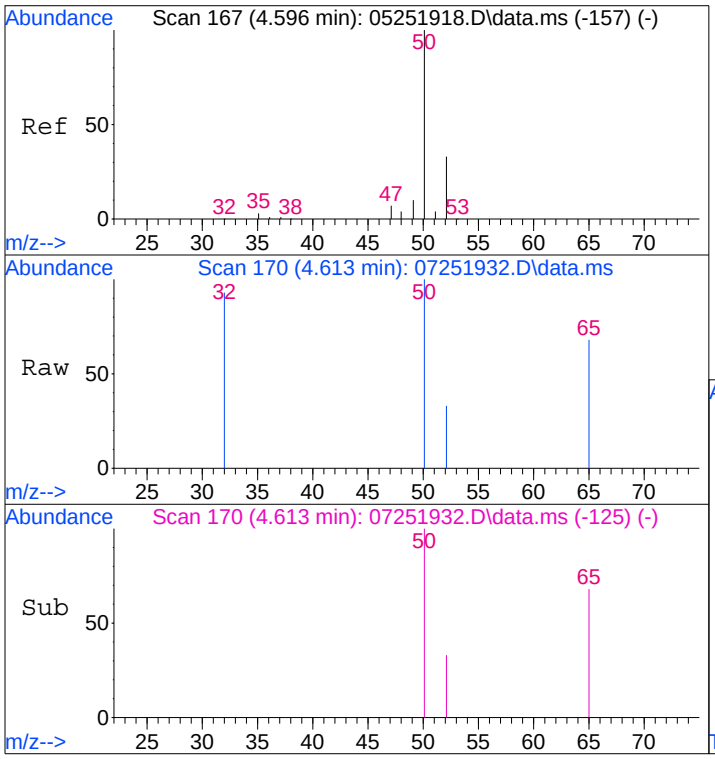


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.46 ng
RT: 4.33 min Scan# 118
Delta R.T. 0.006 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 85 Resp: 8766

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.5	52.5
101	8.9	0.0	29.0
103	4.2	0.0	25.9

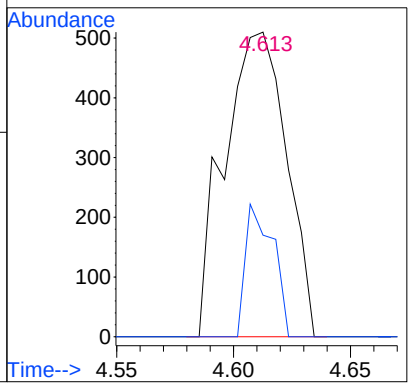


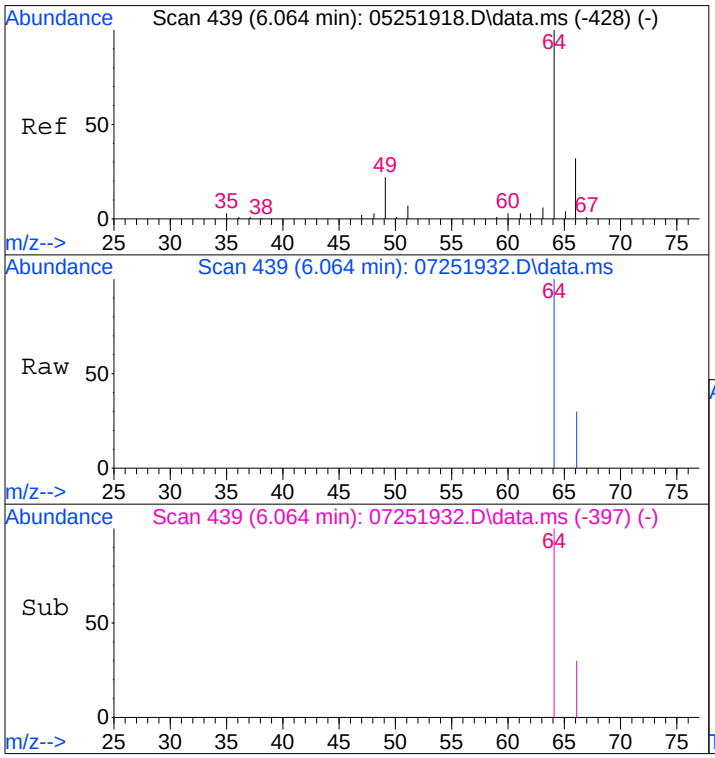


#4
Chloromethane
Concen: 0.07 ng
RT: 4.61 min Scan# 170
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 50 Resp: 946

Ion	Ratio	Lower	Upper
50	100		
52	19.2	12.2	52.2

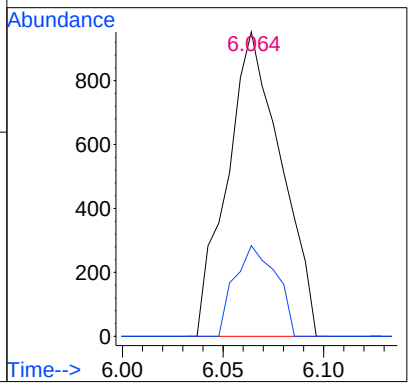


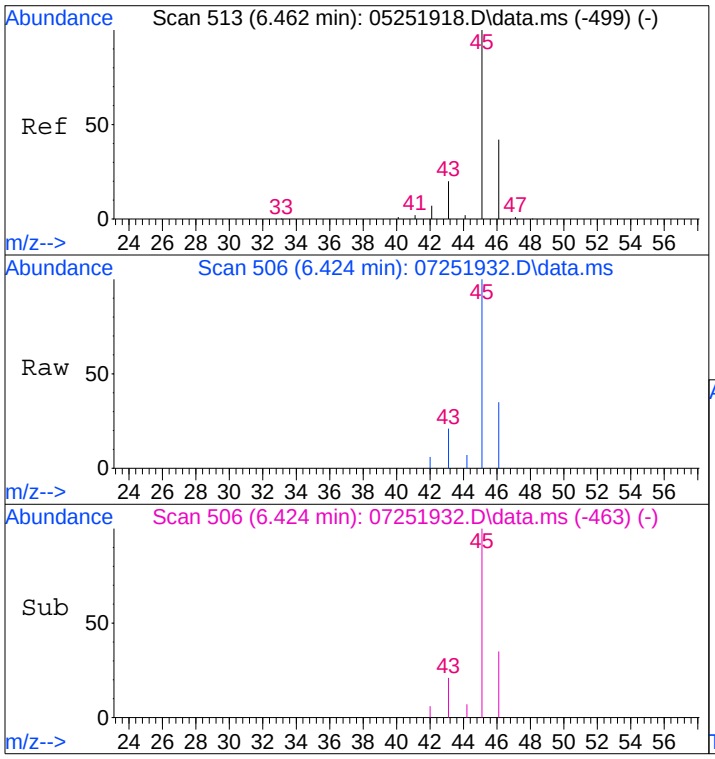


#9
Chloroethane
Concen: 0.20 ng
RT: 6.06 min Scan# 439
Delta R.T. -0.021 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 64 Resp: 1769

Ion	Ratio	Lower	Upper
64	100		
66	23.1	11.7	51.7

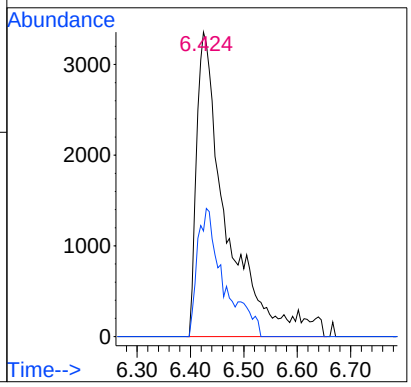


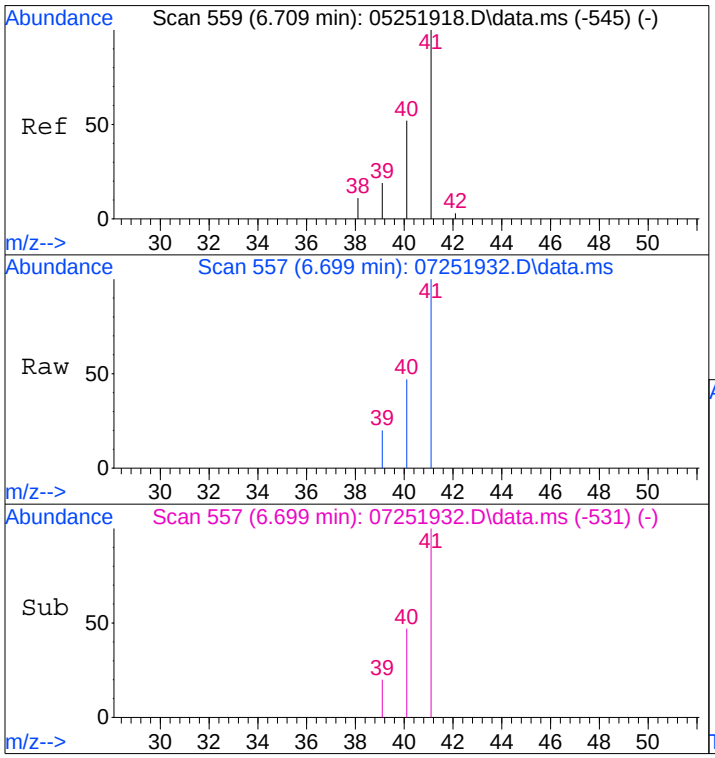


#10
Ethanol
Concen: 1.52 ng
RT: 6.42 min Scan# 506
Delta R.T. -0.019 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 45 Resp: 13115

Ion	Ratio	Lower	Upper
45	100		
46	37.1	21.7	61.7

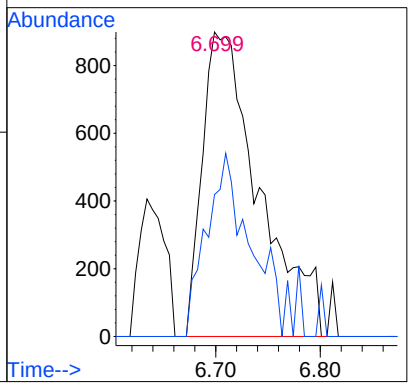


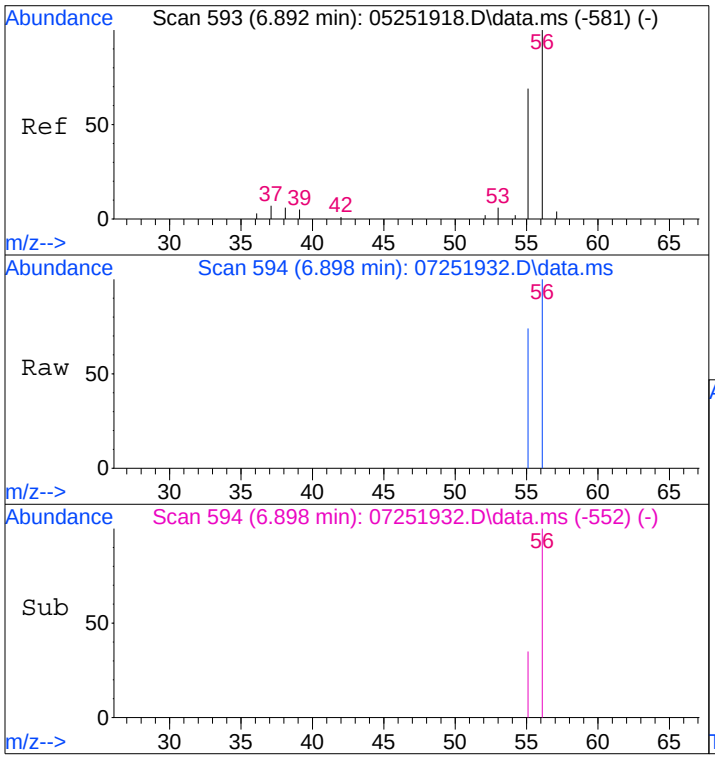


#11
Acetonitrile
Concen: 0.16 ng
RT: 6.70 min Scan# 557
Delta R.T. -0.059 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 41 Resp: 3400

Ion	Ratio	Lower	Upper
41	100		
40	45.7	32.5	72.5

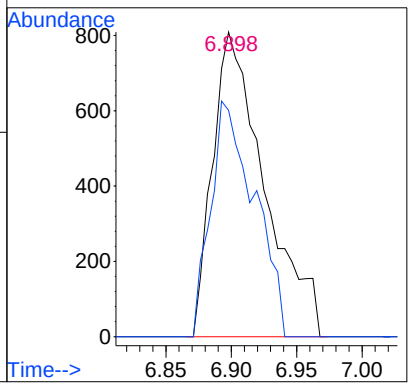


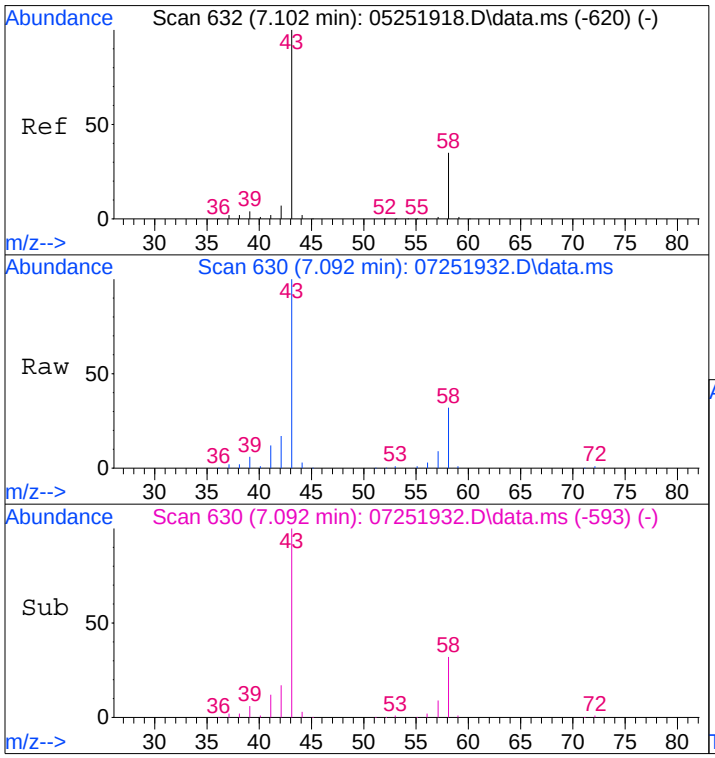


#12
Acrolein
Concen: 0.35 ng
RT: 6.90 min Scan# 594
Delta R.T. -0.021 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 56 Resp: 2231

Ion	Ratio	Lower	Upper
56	100		
55	65.3	48.1	88.1

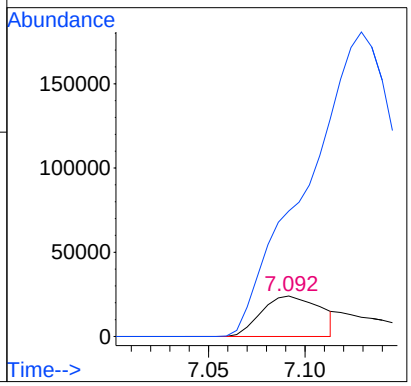


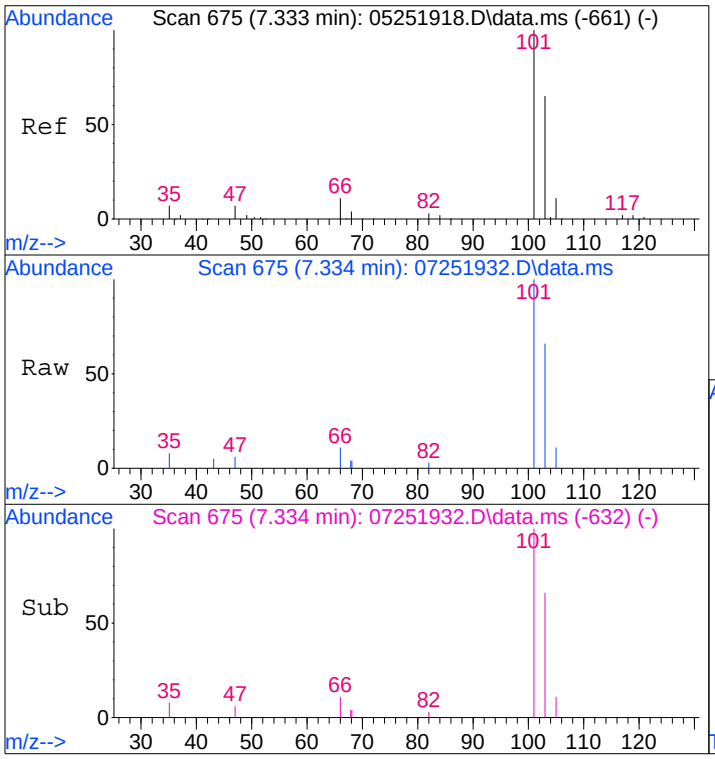


#13
Acetone
Concen: 5.98 ng m
RT: 7.09 min Scan# 630
Delta R.T. -0.053 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 58 Resp: 51400

Ion	Ratio	Lower	Upper
58	100		
43	1175.6	260.9	320.9#

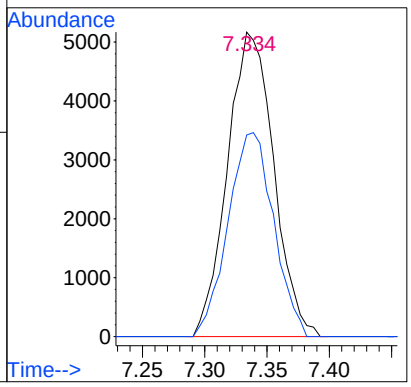


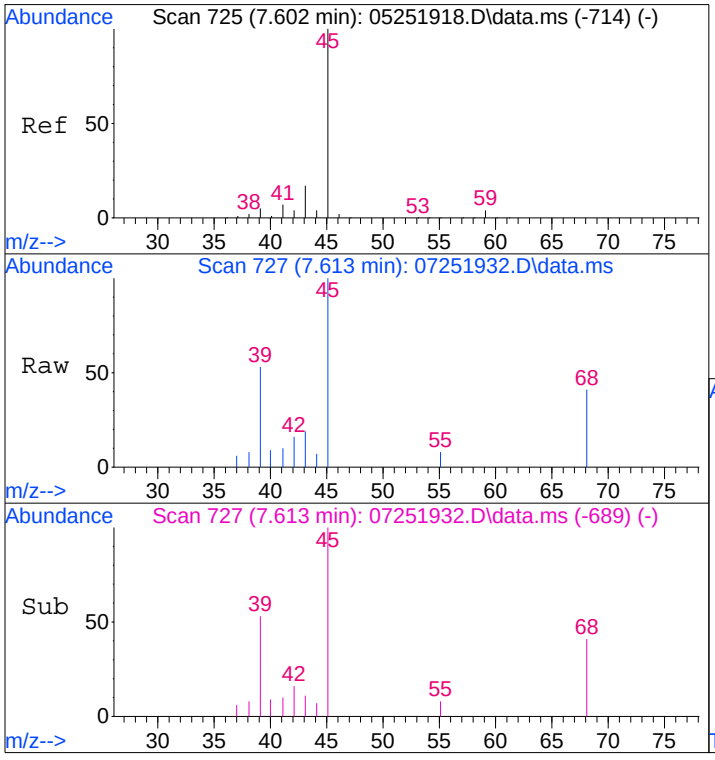


#14
Trichlorofluoromethane
Concen: 0.82 ng
RT: 7.33 min Scan# 675
Delta R.T. -0.016 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:101 Resp: 13361

Ion	Ratio	Lower	Upper
101	100		
103	65.9	44.7	84.7

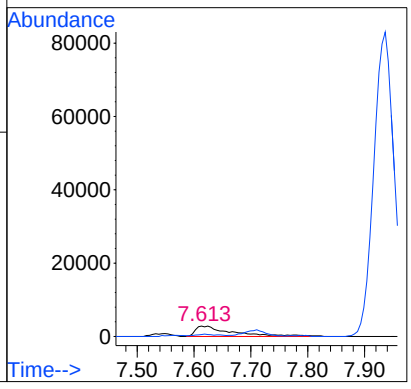


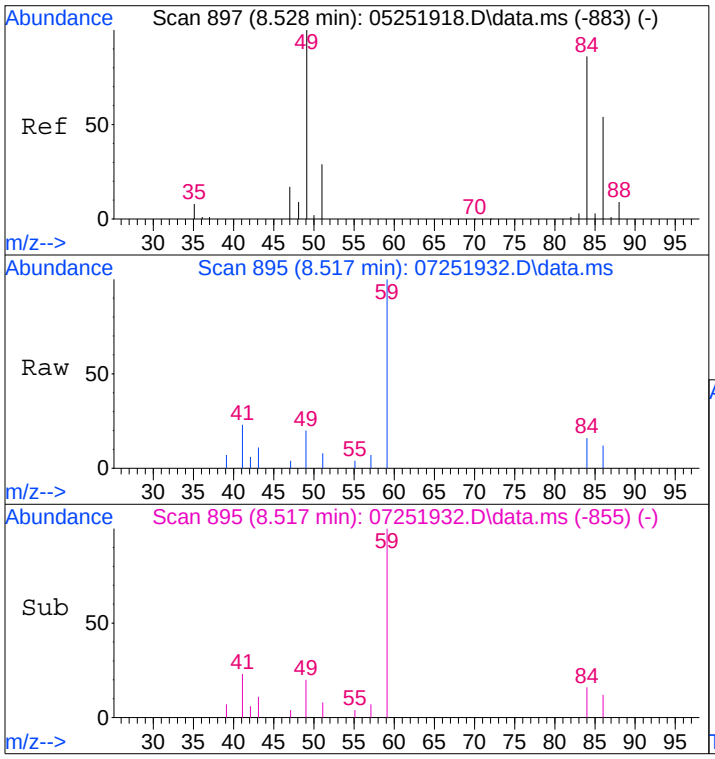


#15
2-Propanol (Isopropanol)
Concen: 0.44 ng
RT: 7.61 min Scan# 727
Delta R.T. -0.043 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 45 Resp: 12958

Ion	Ratio	Lower	Upper
45	100		
43	20.7	0.0	37.6

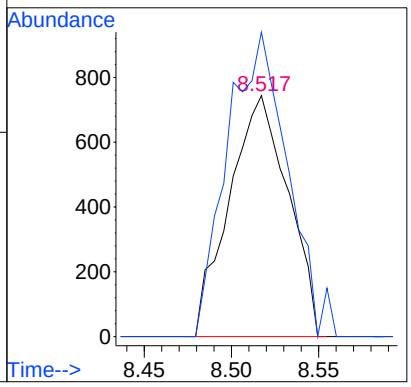


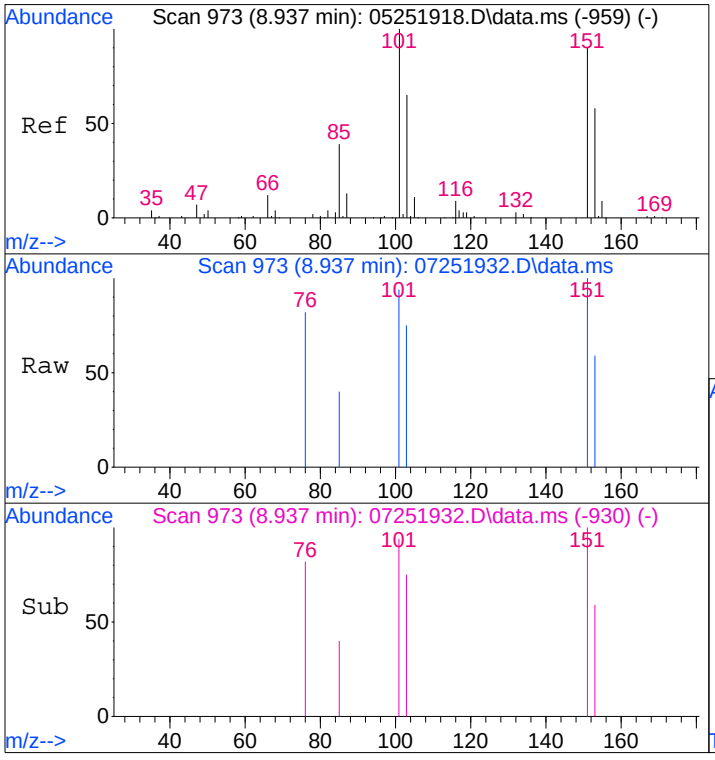


#19
Methylene Chloride
Concen: 0.16 ng
RT: 8.52 min Scan# 895
Delta R.T. -0.032 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 84 Resp: 1744

Ion	Ratio	Lower	Upper
84	100		
49	129.4	92.3	142.3

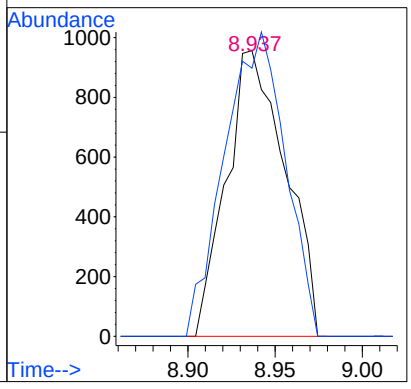


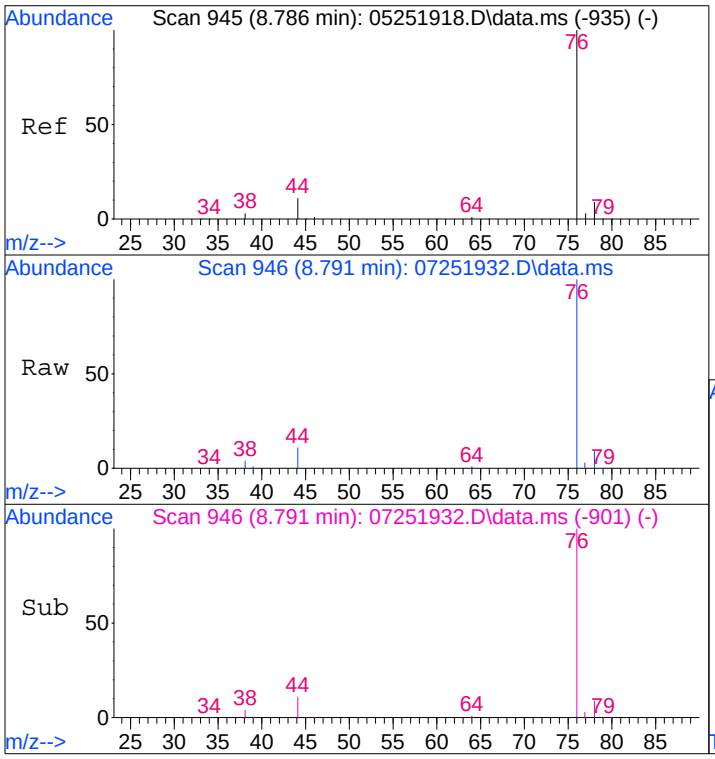


#21
Trichlorotrifluoroethane
Concen: 0.21 ng
RT: 8.94 min Scan# 973
Delta R.T. -0.016 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:151 Resp: 2253

Ion	Ratio	Lower	Upper
151	100		
101	109.8	92.2	132.2

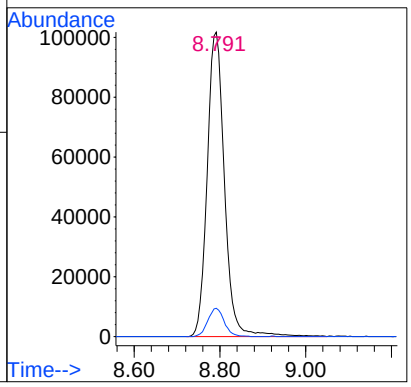


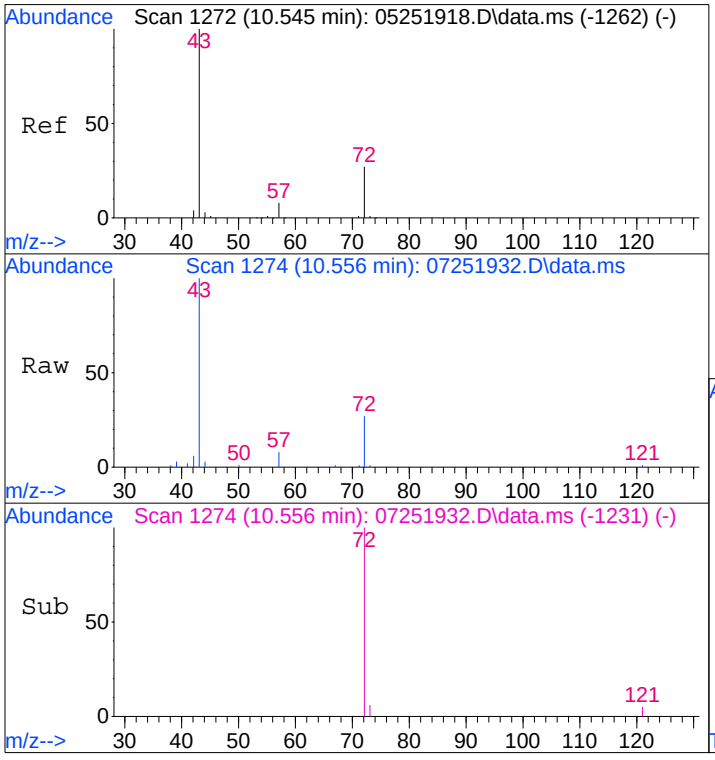


#22
Carbon Disulfide
Concen: 7.59 ng
RT: 8.79 min Scan# 946
Delta R.T. -0.011 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 76 Resp: 285156

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

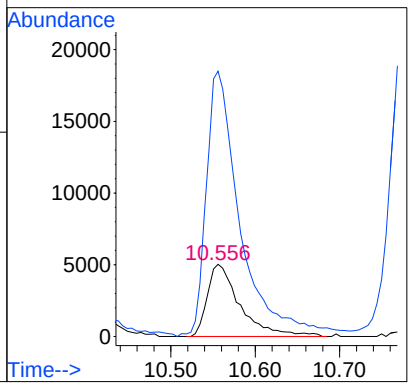


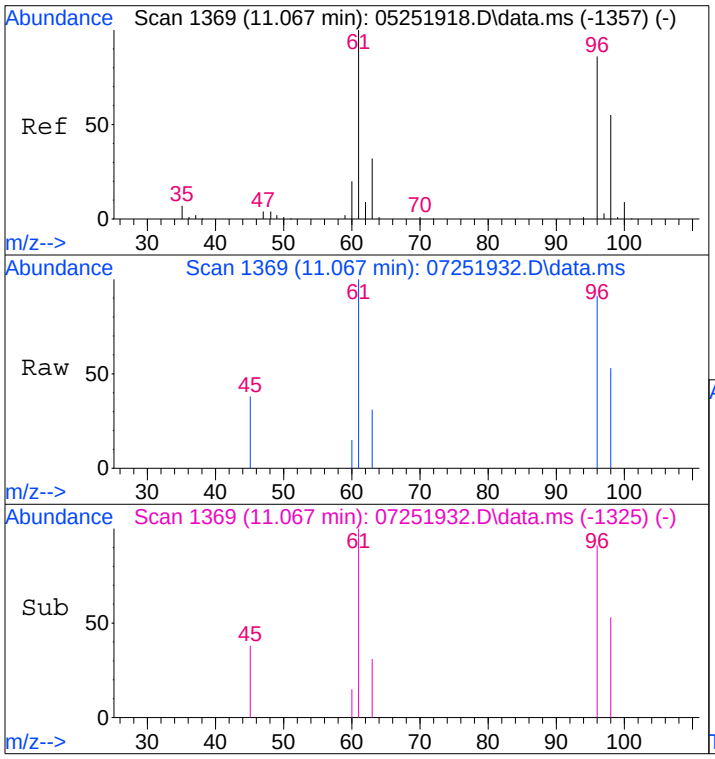


#27
2-Butanone (MEK)
Concen: 1.84 ng
RT: 10.56 min Scan# 1274
Delta R.T. -0.016 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 72 Resp: 13556

Ion	Ratio	Lower	Upper
72	100		
43	383.9	346.9	386.9

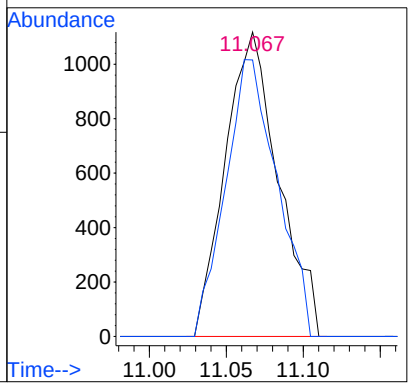


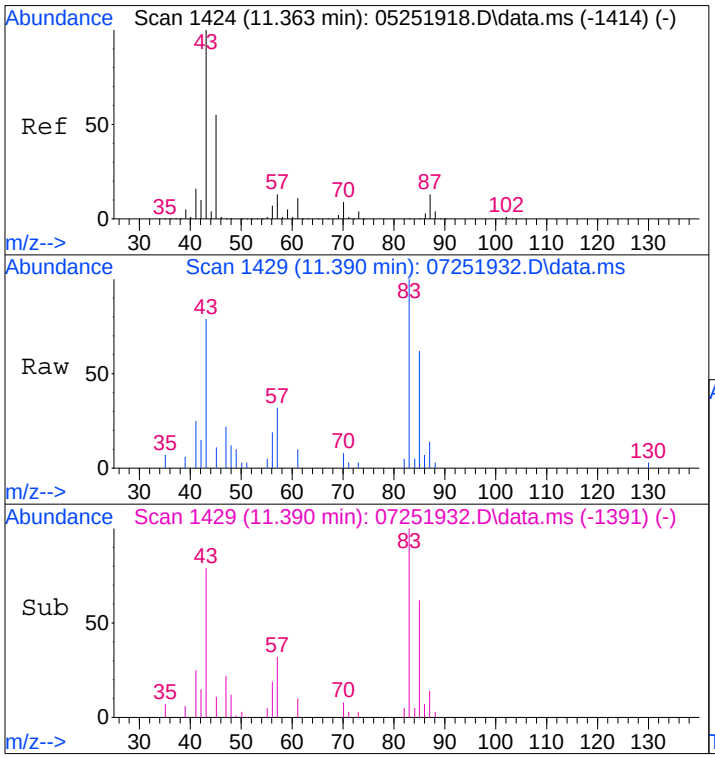


#28
cis-1,2-Dichloroethene
Concen: 0.19 ng
RT: 11.07 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 61 Resp: 2686

Ion	Ratio	Lower	Upper
61	100		
96	88.4	65.6	105.6

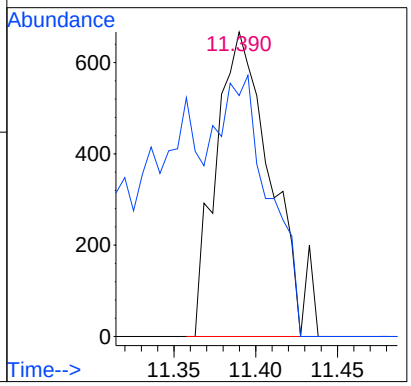


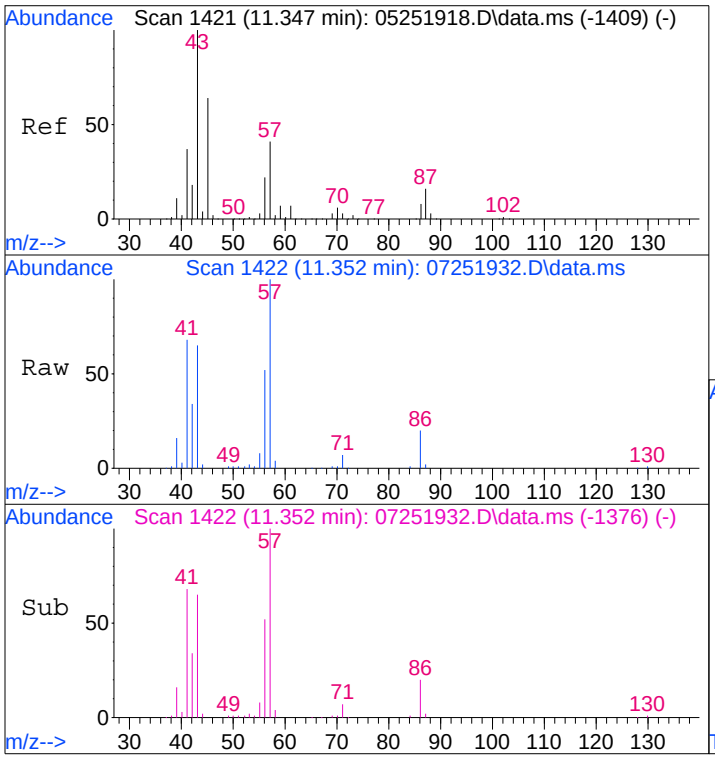


#30
Ethyl Acetate
Concen: 0.44 ng
RT: 11.39 min Scan# 1429
Delta R.T. 0.006 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 61 Resp: 1571

Ion	Ratio	Lower	Upper
61	100		
70	82.4	64.6	104.6

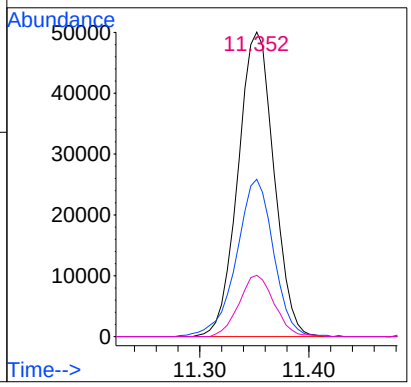


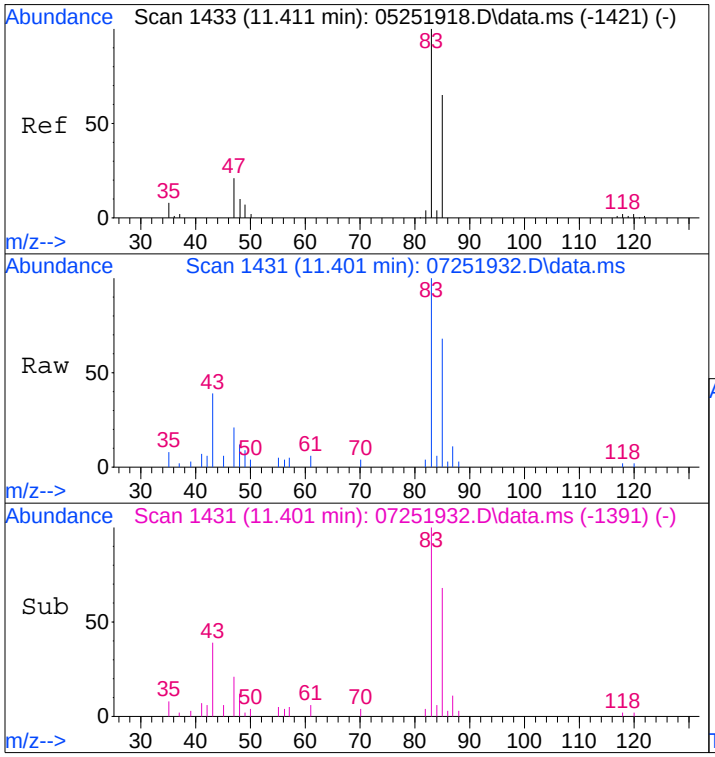


#31
n-Hexane
Concen: 6.10 ng
RT: 11.35 min Scan# 1422
Delta R.T. 0.000 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 57 Resp: 114415

Ion	Ratio	Lower	Upper
57	100		
56	53.5	41.1	61.7
86	19.8	16.4	24.6

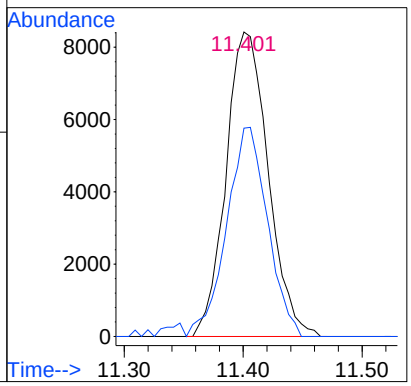


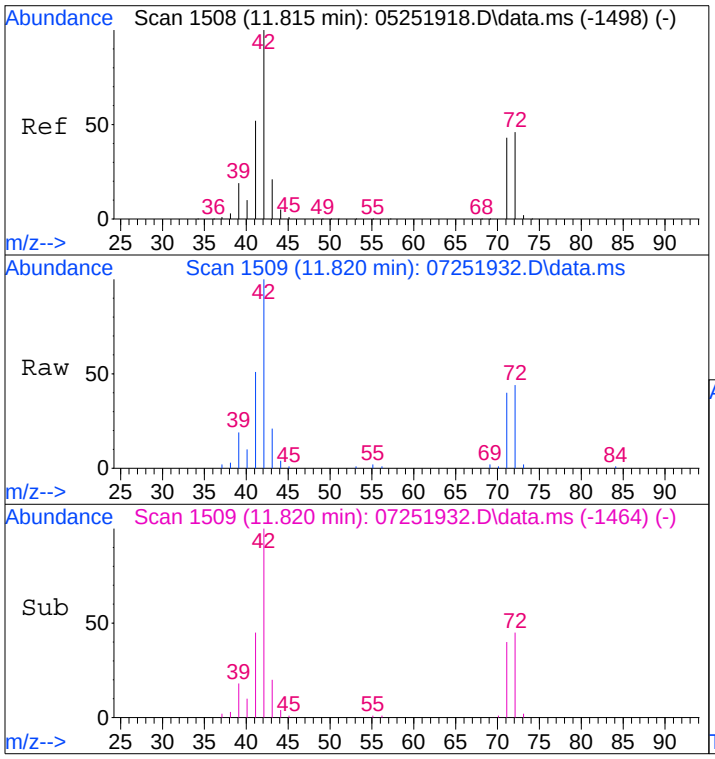


#32
Chloroform
Concen: 1.20 ng
RT: 11.40 min Scan# 1431
Delta R.T. -0.032 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 83 Resp: 20834

Ion	Ratio	Lower	Upper
83	100		
85	66.4	45.3	85.3

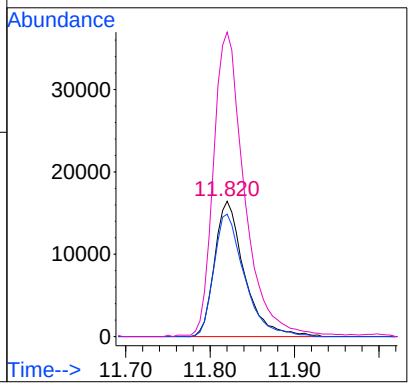


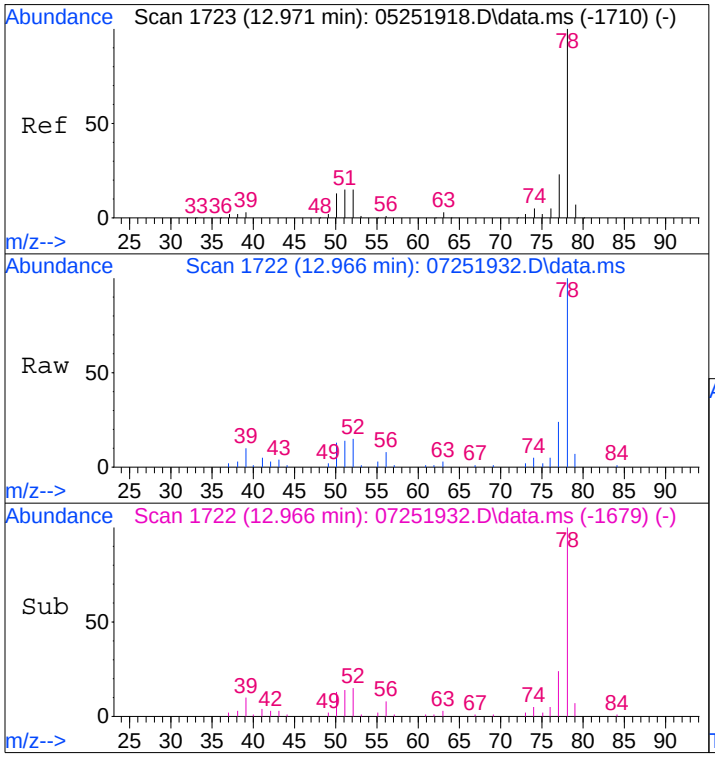


#34
Tetrahydrofuran (THF)
Concen: 4.96 ng
RT: 11.82 min Scan# 1509
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 72 Resp: 40462

Ion	Ratio	Lower	Upper
72	100		
71	92.5	73.9	113.9
42	235.3	201.9	241.9

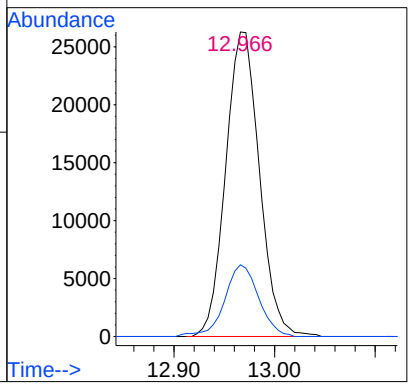


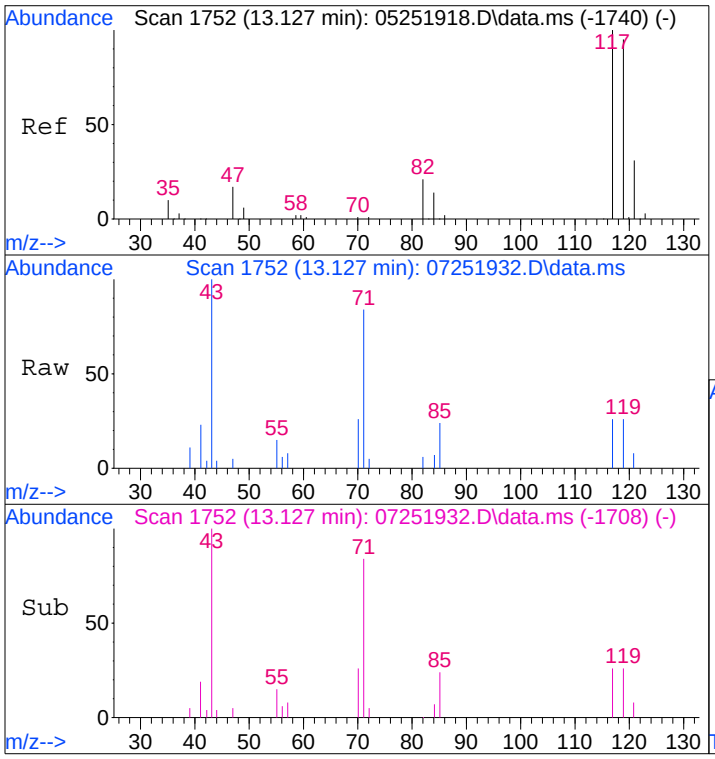


#41
Benzene
Concen: 1.27 ng
RT: 12.97 min Scan# 1722
Delta R.T. -0.016 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 78 Resp: 61259

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.2	43.2

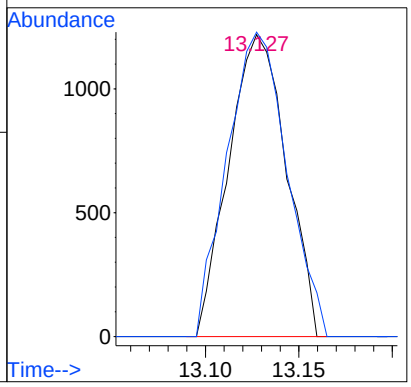


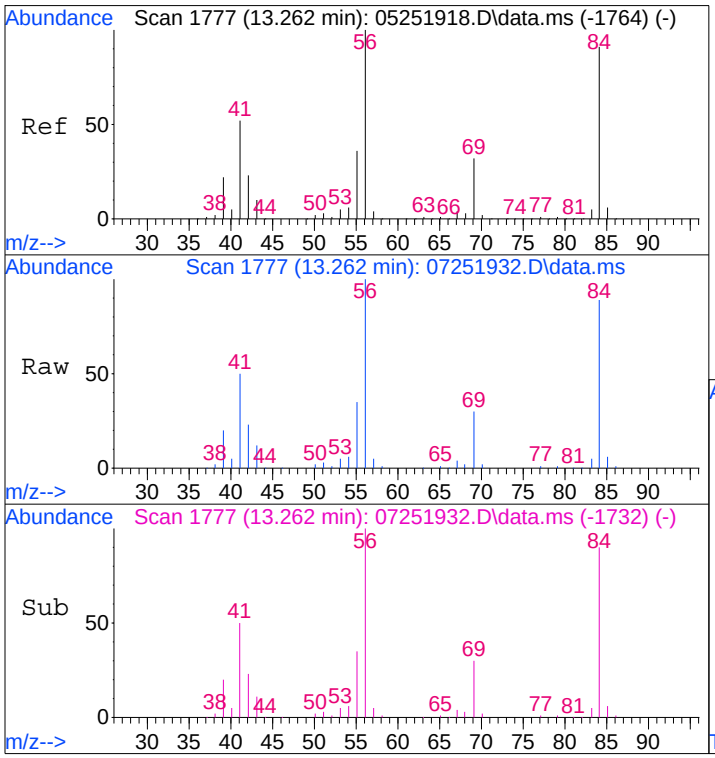


#42
Carbon Tetrachloride
Concen: 0.19 ng
RT: 13.13 min Scan# 1752
Delta R.T. -0.011 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:117 Resp: 2610

Ion	Ratio	Lower	Upper
117	100		
119	105.0	76.4	116.4

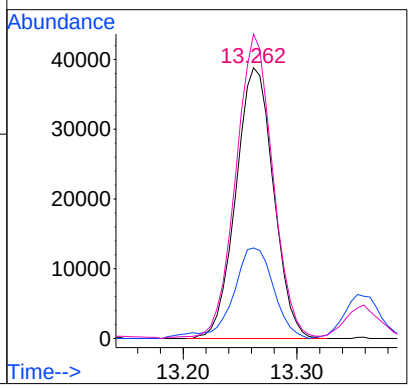


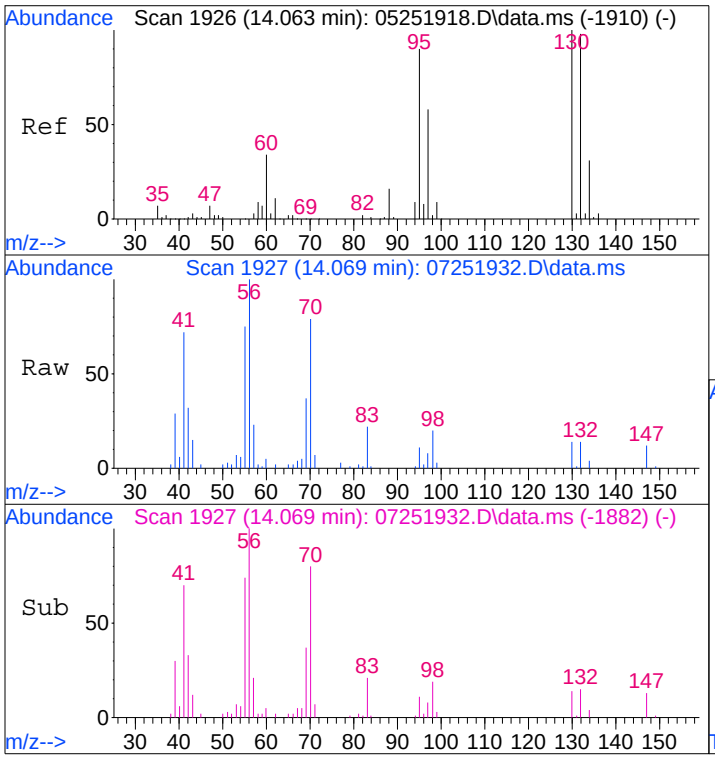


#43
Cyclohexane
Concen: 4.30 ng
RT: 13.26 min Scan# 1777
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 84 Resp: 89216

Ion	Ratio	Lower	Upper
84	100		
69	36.2	14.8	54.8
56	110.8	90.2	130.2

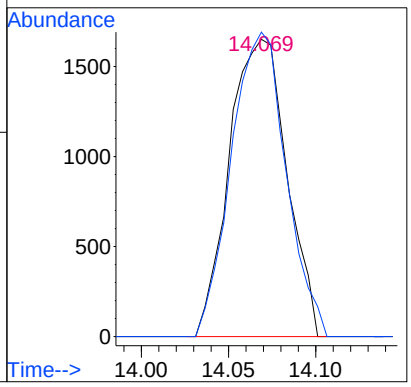


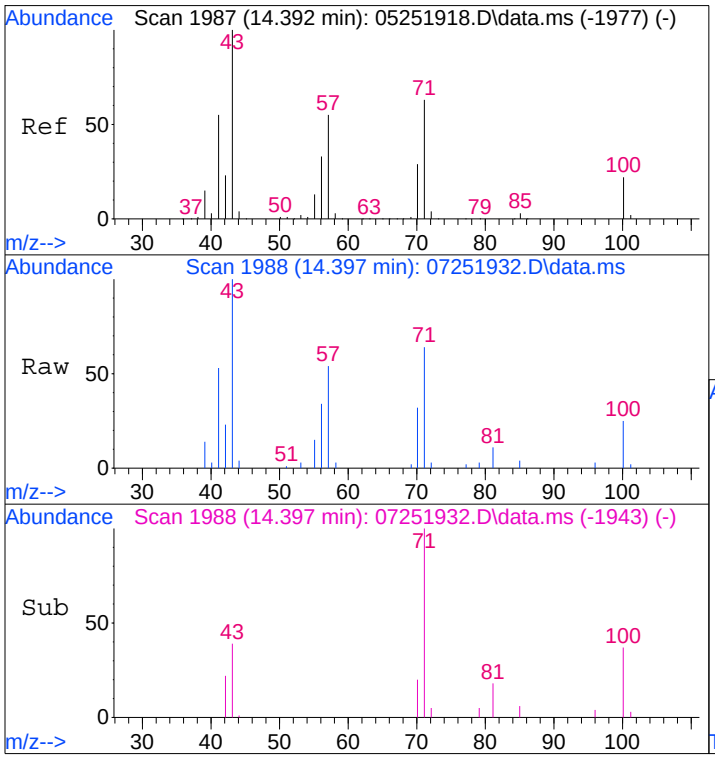


#47
Trichloroethene
Concen: 0.29 ng
RT: 14.07 min Scan# 1927
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:130 Resp: 3773

Ion	Ratio	Lower	Upper
130	100		
132	97.8	76.1	116.1

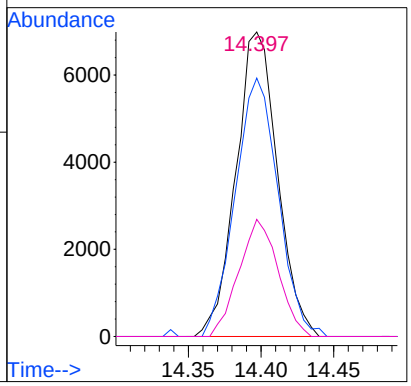


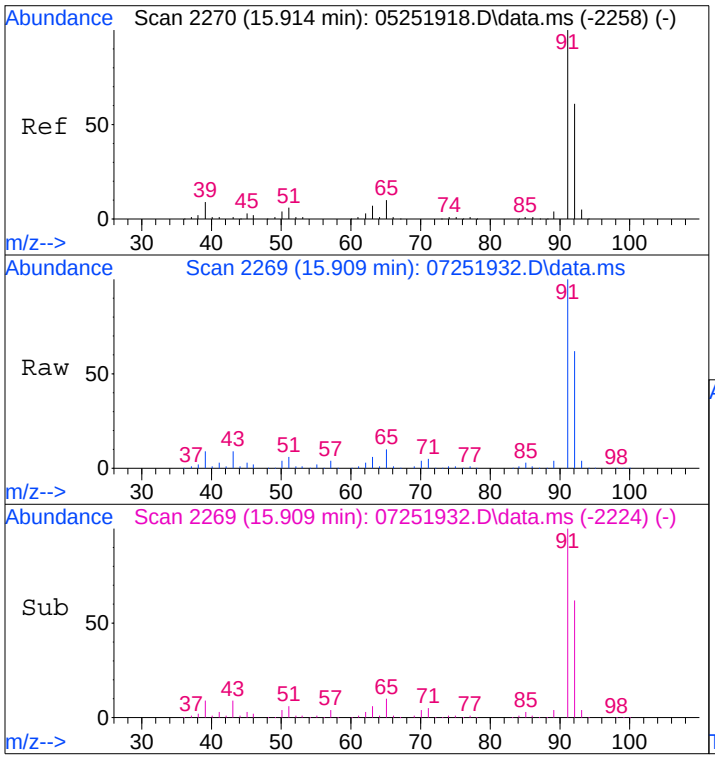


#51
n-Heptane
Concen: 1.06 ng
RT: 14.40 min Scan# 1988
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 71 Resp: 13938

Ion	Ratio	Lower	Upper
71	100		
57	87.4	66.0	106.0
100	36.2	16.3	56.3

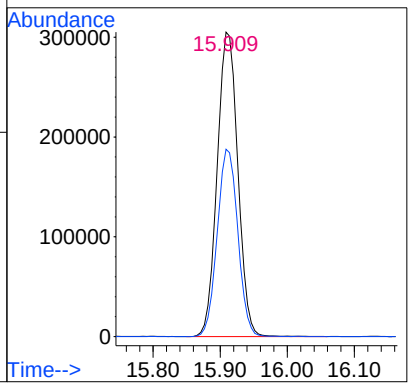


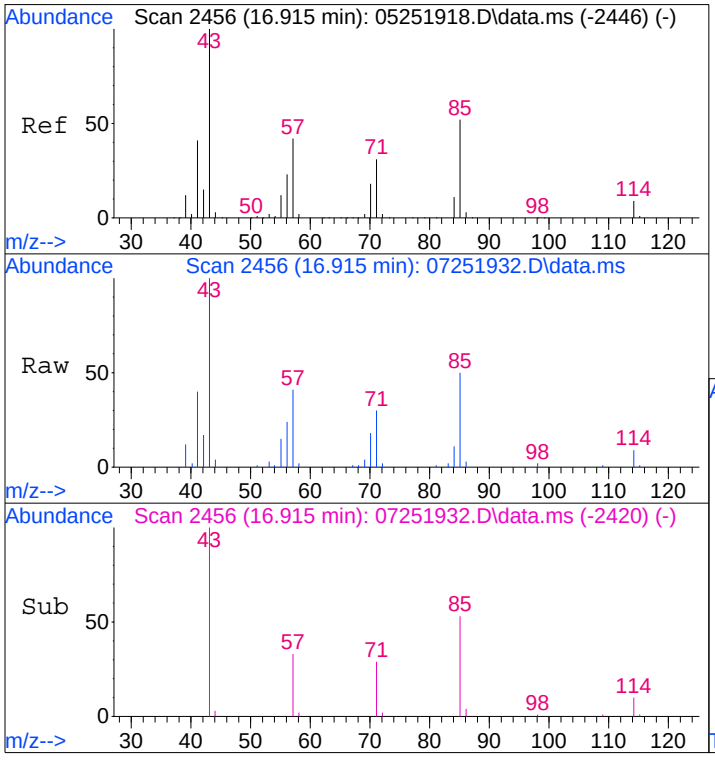


#58
Toluene
Concen: 12.11 ng
RT: 15.91 min Scan# 2269
Delta R.T. -0.010 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 91 Resp: 652577

Ion	Ratio	Lower	Upper
91	100		
92	61.3	41.2	81.2

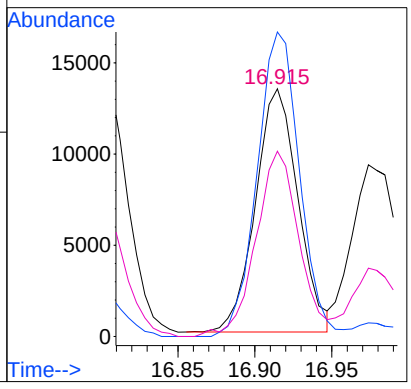


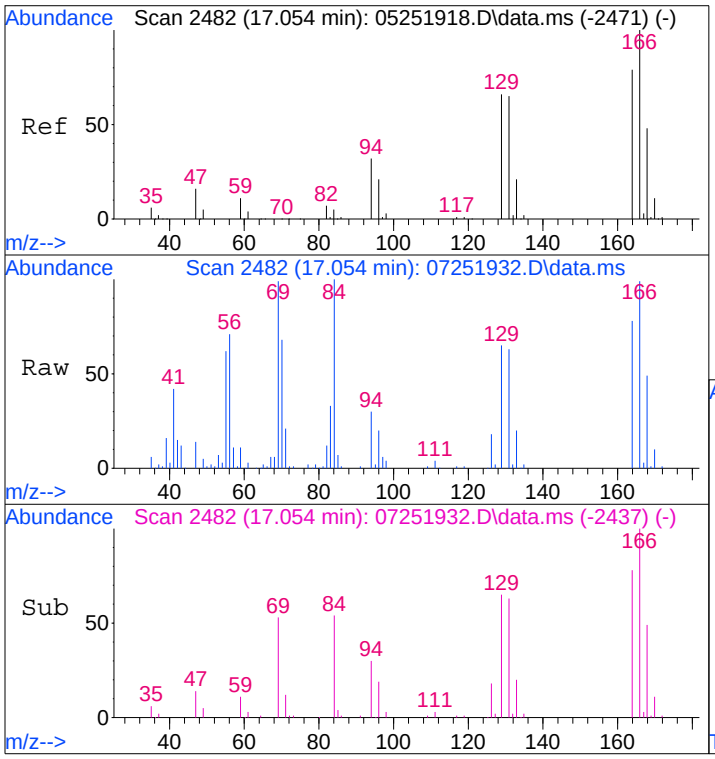


#63
n-Octane
Concen: 2.14 ng
RT: 16.91 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 57 Resp: 25627

Ion	Ratio	Lower	Upper
57	100		
85	124.6	100.3	150.5
71	76.3	59.8	89.6

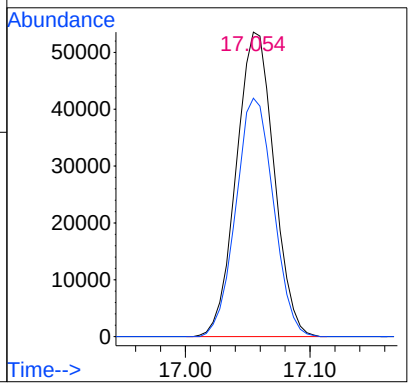


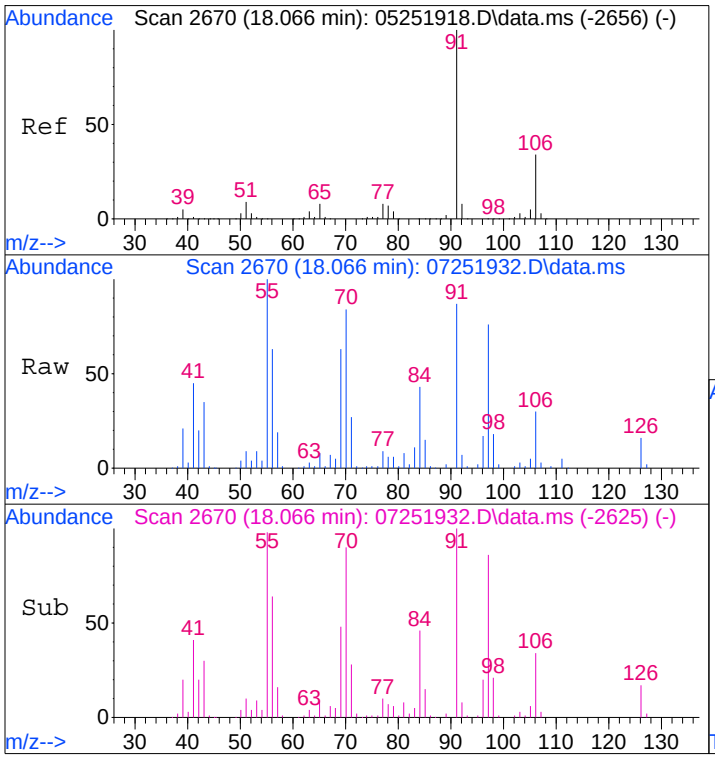


#64
Tetrachloroethene
Concen: 6.85 ng
RT: 17.05 min Scan# 2482
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:166 Resp: 112750

Ion	Ratio	Lower	Upper
166	100		
164	77.9	58.4	98.4

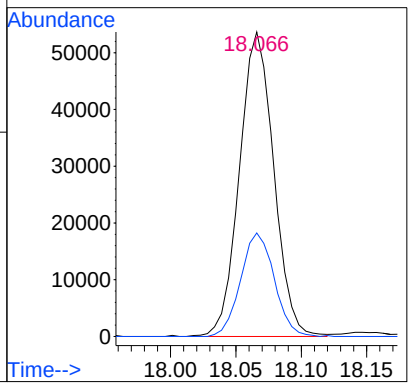


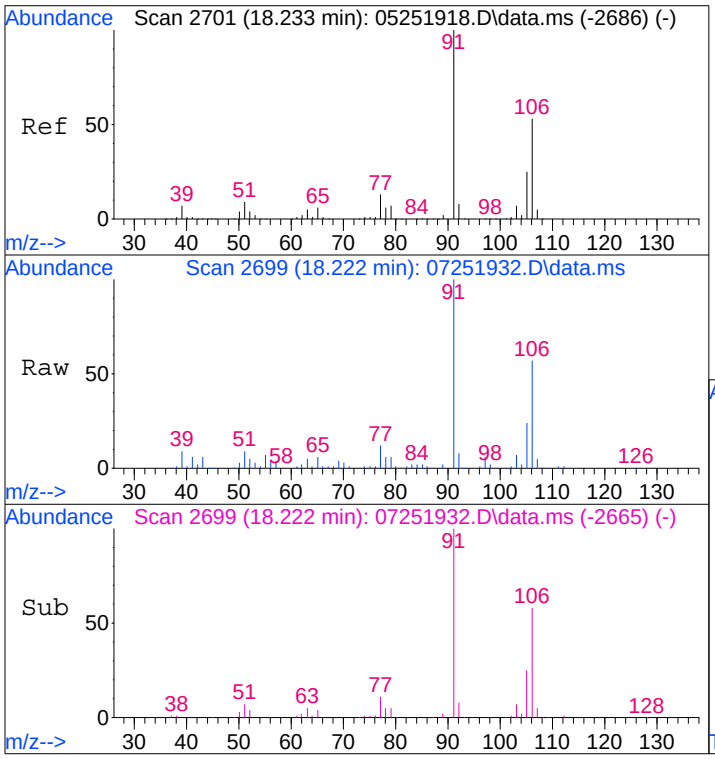


#66
Ethylbenzene
Concen: 1.52 ng
RT: 18.07 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 91 Resp: 98075

Ion	Ratio	Lower	Upper
91	100		
106	33.3	13.4	53.4

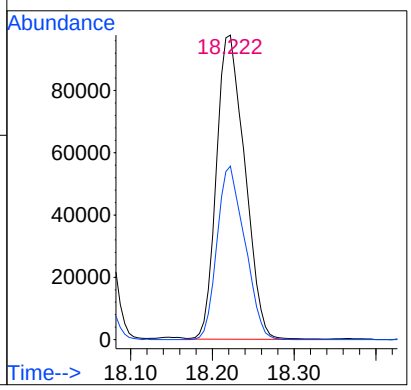


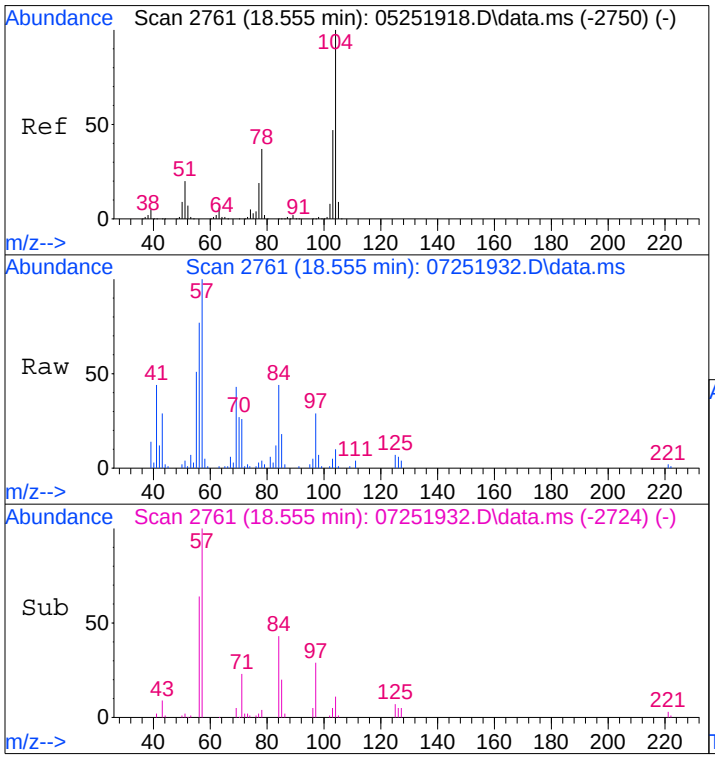


#67
m- & p-Xylenes
Concen: 4.88 ng
RT: 18.22 min Scan# 2699
Delta R.T. -0.016 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 91 Resp: 235499

Ion	Ratio	Lower	Upper
91	100		
106	55.7	33.4	73.4

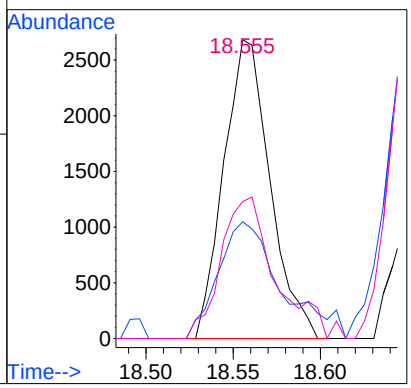


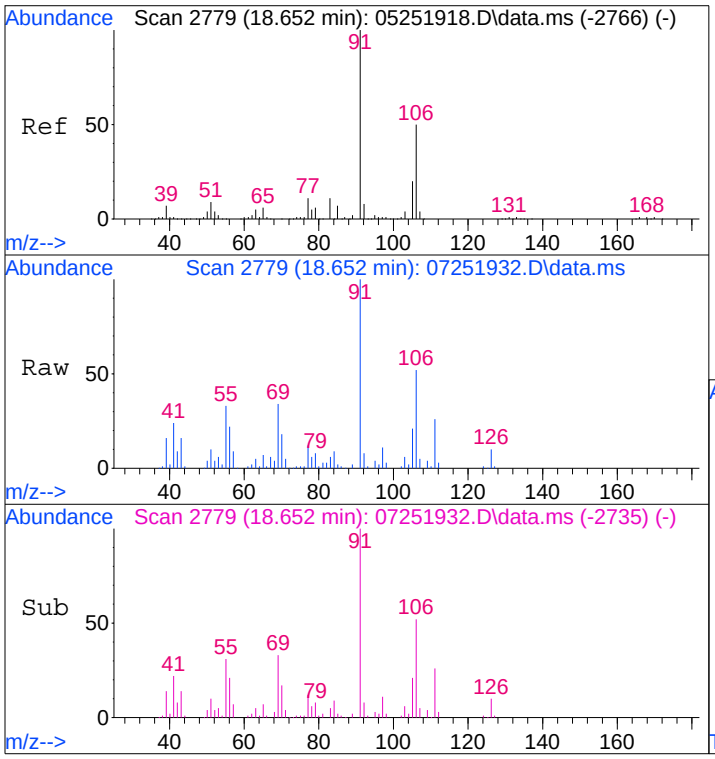


#69
Styrene
Concen: 0.13 ng
RT: 18.56 min Scan# 2761
Delta R.T. 0.000 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:104 Resp: 4951

Ion	Ratio	Lower	Upper
104	100		
78	53.0	18.1	58.1
103	56.0	26.6	66.6

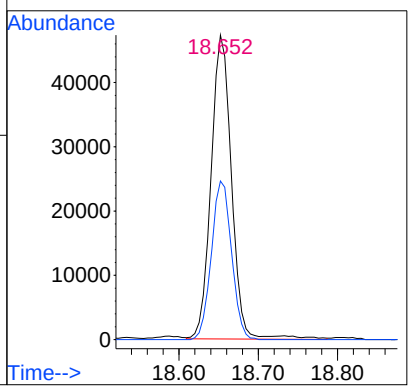


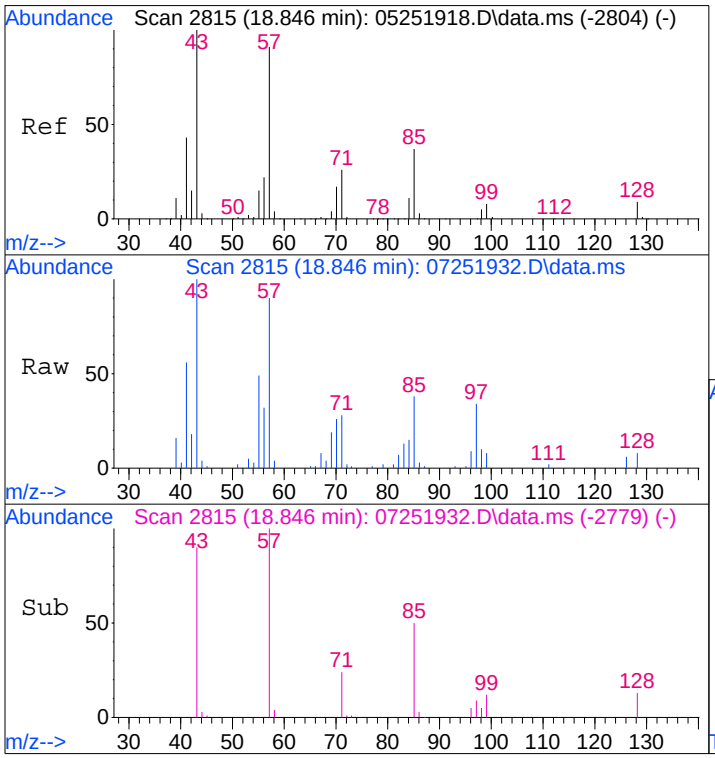


#70
o-Xylene
Concen: 1.73 ng
RT: 18.65 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 91 Resp: 84827

Ion	Ratio	Lower	Upper
91	100		
106	51.2	30.6	70.6

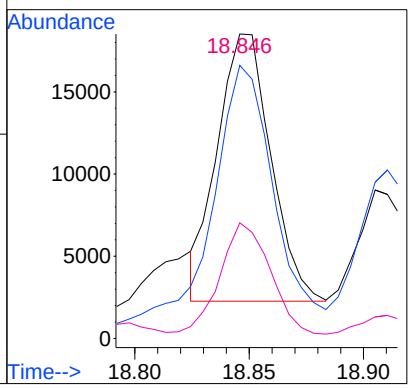


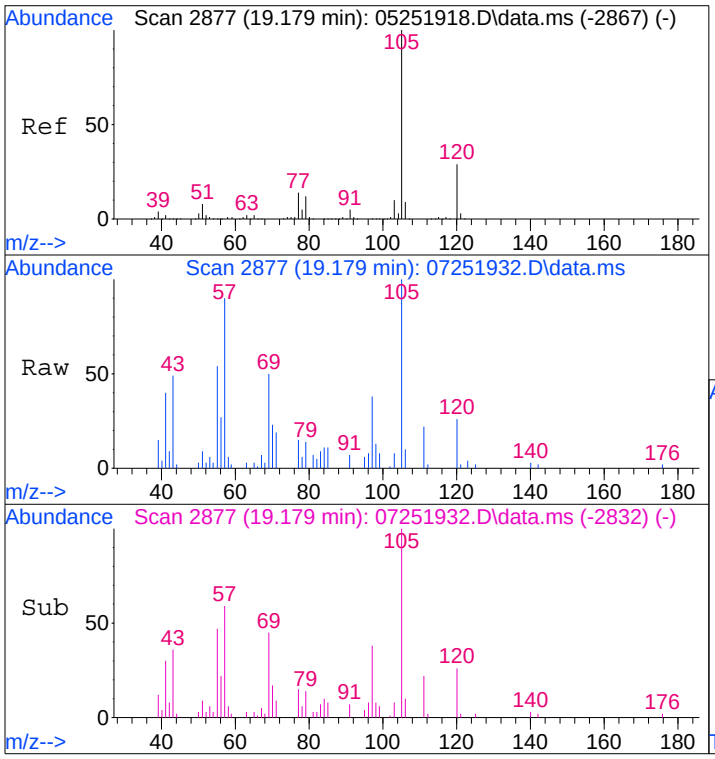


#71
n-Nonane
Concen: 0.96 ng m
RT: 18.85 min Scan# 2815
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 43 Resp: 26484

Ion	Ratio	Lower	Upper
43	100		
57	107.1	71.7	111.7
85	38.9	18.7	58.7

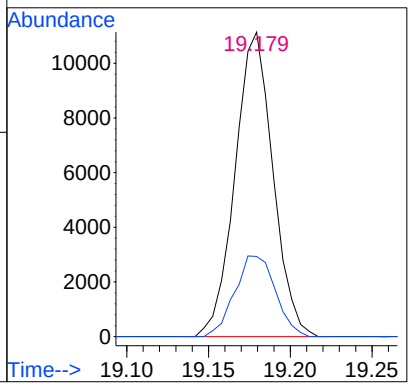


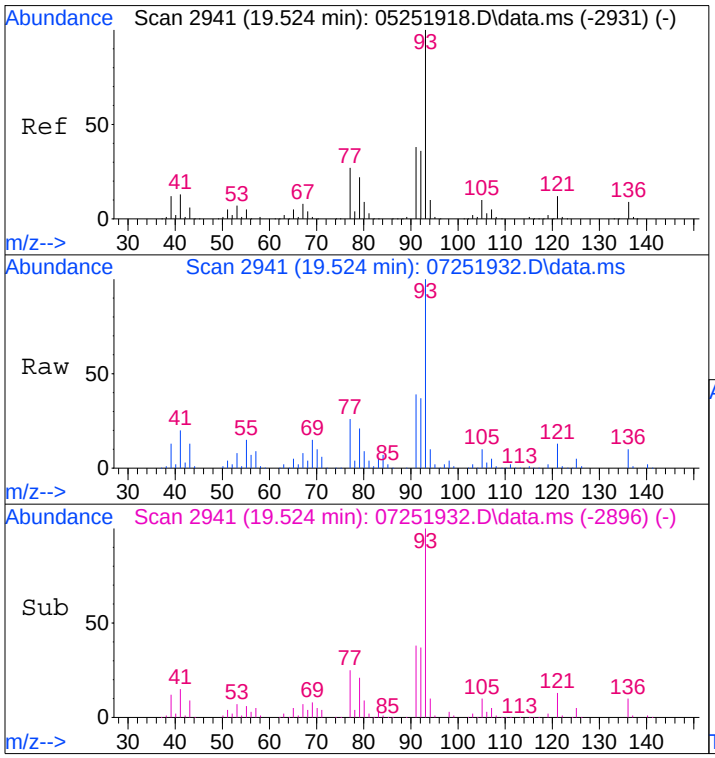


#74
Cumene
Concen: 0.27 ng
RT: 19.18 min Scan# 2877
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:105 Resp: 18022

Ion	Ratio	Lower	Upper
105	100		
120	28.4	8.5	48.5

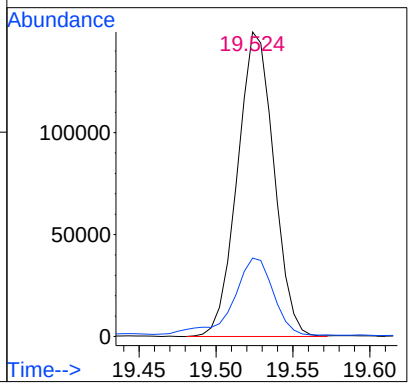


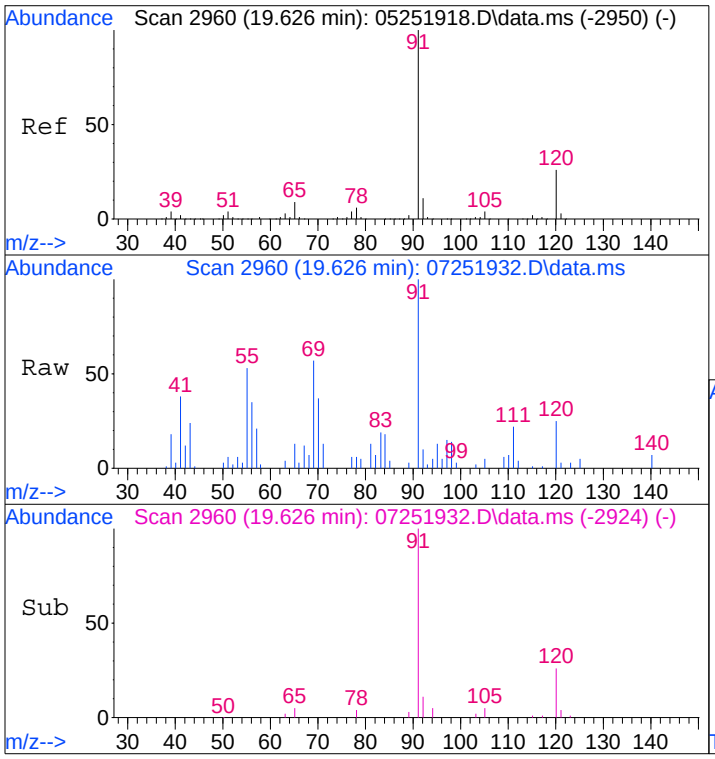


#75
alpha-Pinene
Concen: 7.79 ng
RT: 19.52 min Scan# 2941
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 93 Resp: 245973

Ion	Ratio	Lower	Upper
93	100		
77	28.8	7.0	47.0

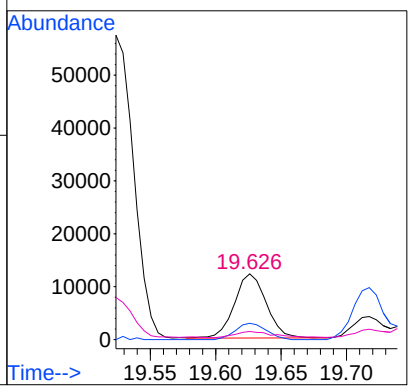


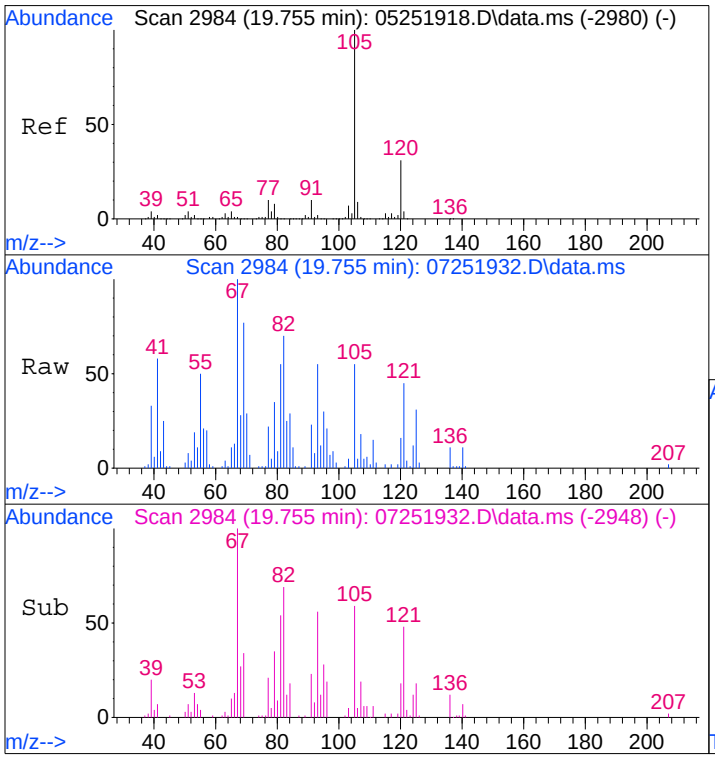


#76
n-Propylbenzene
Concen: 0.28 ng
RT: 19.63 min Scan# 2960
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 91 Resp: 20553

Ion	Ratio	Lower	Upper
91	100		
120	24.7	5.3	45.3
65	12.7	0.0	29.3

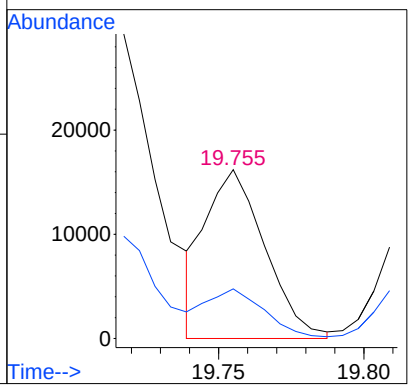


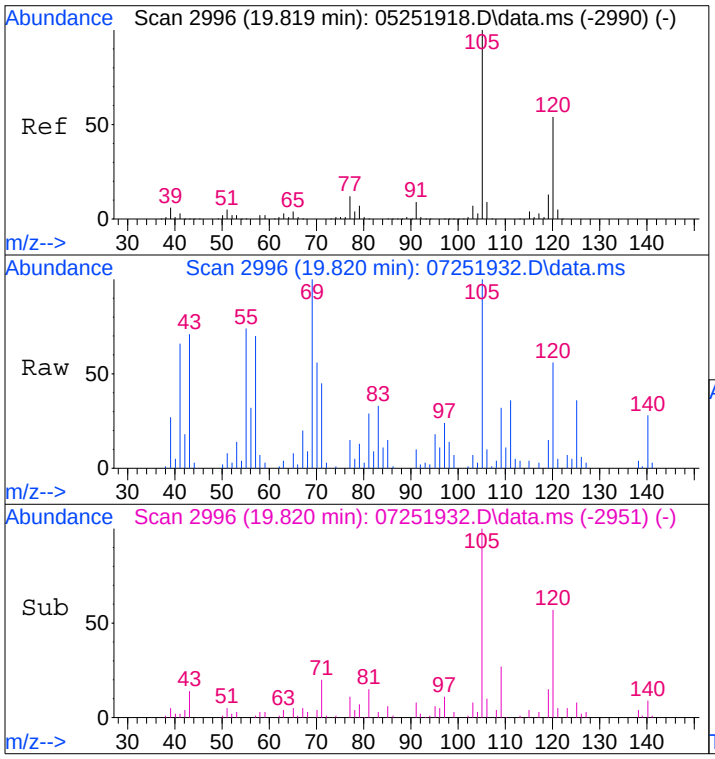


#78
4-Ethyltoluene
Concen: 0.40 ng
RT: 19.76 min Scan# 2984
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:105 Resp: 23076

Ion	Ratio	Lower	Upper
105	100		
120	29.6	11.7	51.7

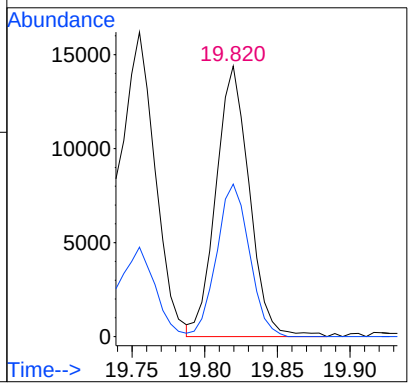


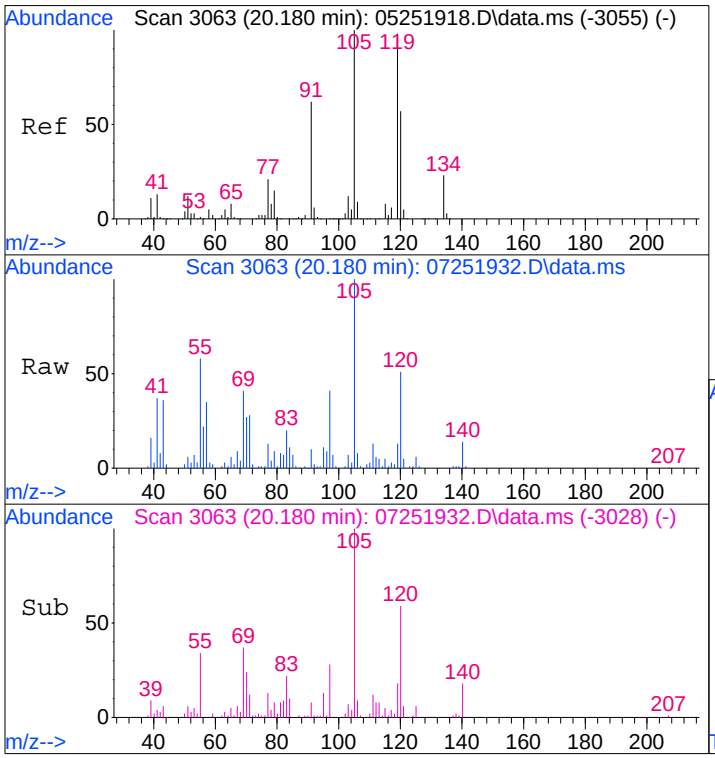


#79
1,3,5-Trimethylbenzene
Concen: 0.44 ng
RT: 19.82 min Scan# 2996
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:105 Resp: 22946

Ion	Ratio	Lower	Upper
105	100		
120	55.4	34.0	74.0

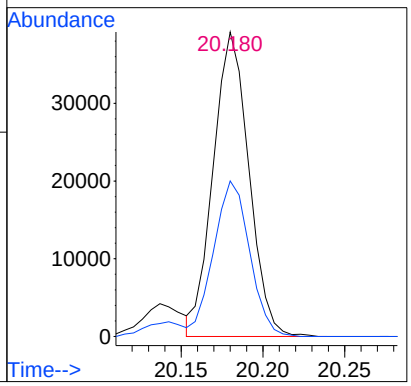


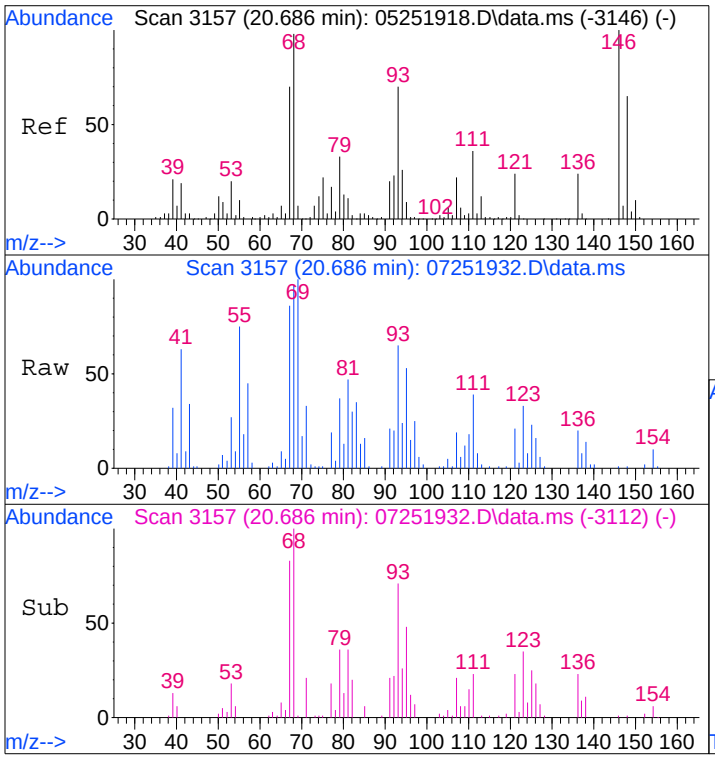


#82
1,2,4-Trimethylbenzene
Concen: 1.21 ng
RT: 20.18 min Scan# 3063
Delta R.T. -0.011 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:105 Resp: 59428

Ion	Ratio	Lower	Upper
105	100		
120	51.5	37.4	77.4

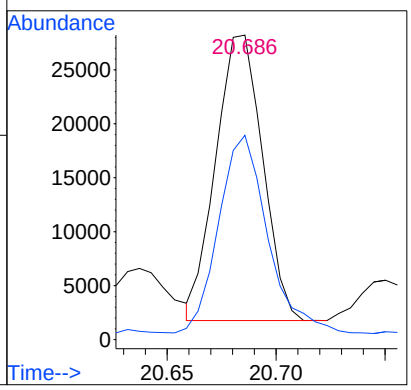


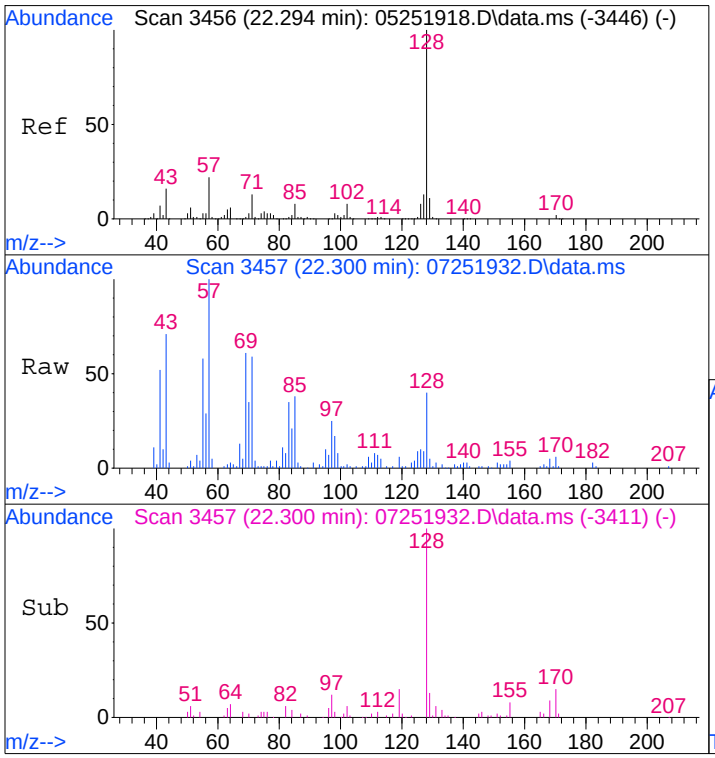


#91
d-Limonene
Concen: 2.08 ng
RT: 20.69 min Scan# 3157
Delta R.T. -0.005 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion: 68 Resp: 39510

Ion	Ratio	Lower	Upper
68	100		
93	73.8	50.9	90.9

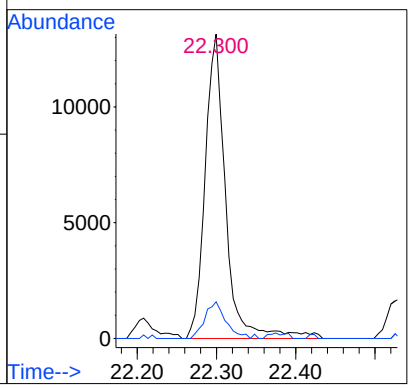




#95
Naphthalene
Concen: 0.43 ng
RT: 22.30 min Scan# 3457
Delta R.T. 0.000 min
Lab File: 07251932.D
Acq: 25 Jul 2019 23:02

Tgt Ion:128 Resp: 23692

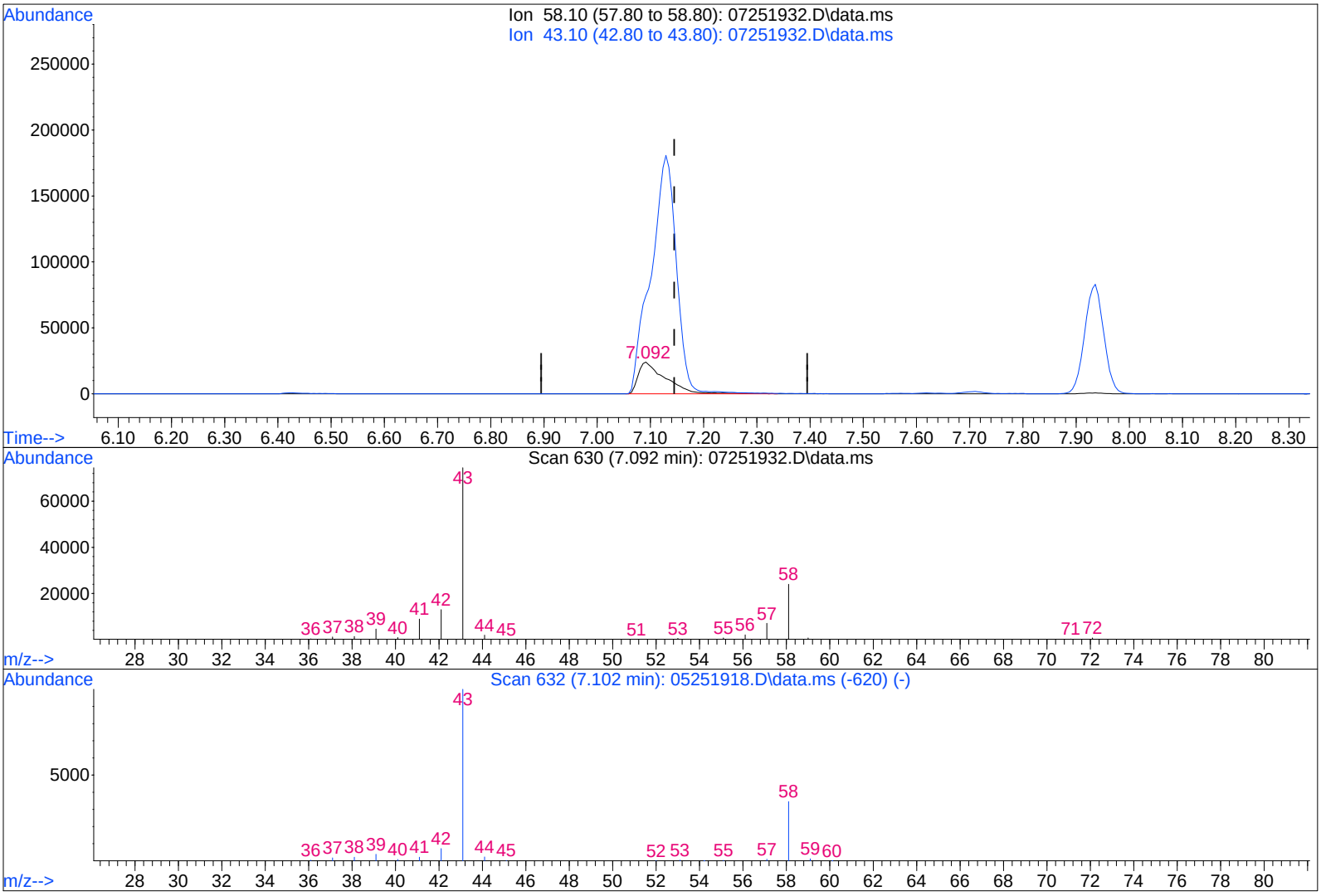
Ion	Ratio	Lower	Upper
128	100		
129	12.4	0.0	31.1



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:45 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251932.D\data.ms

(13) Acetone (T)

7.092min (-0.053) 9.90ng

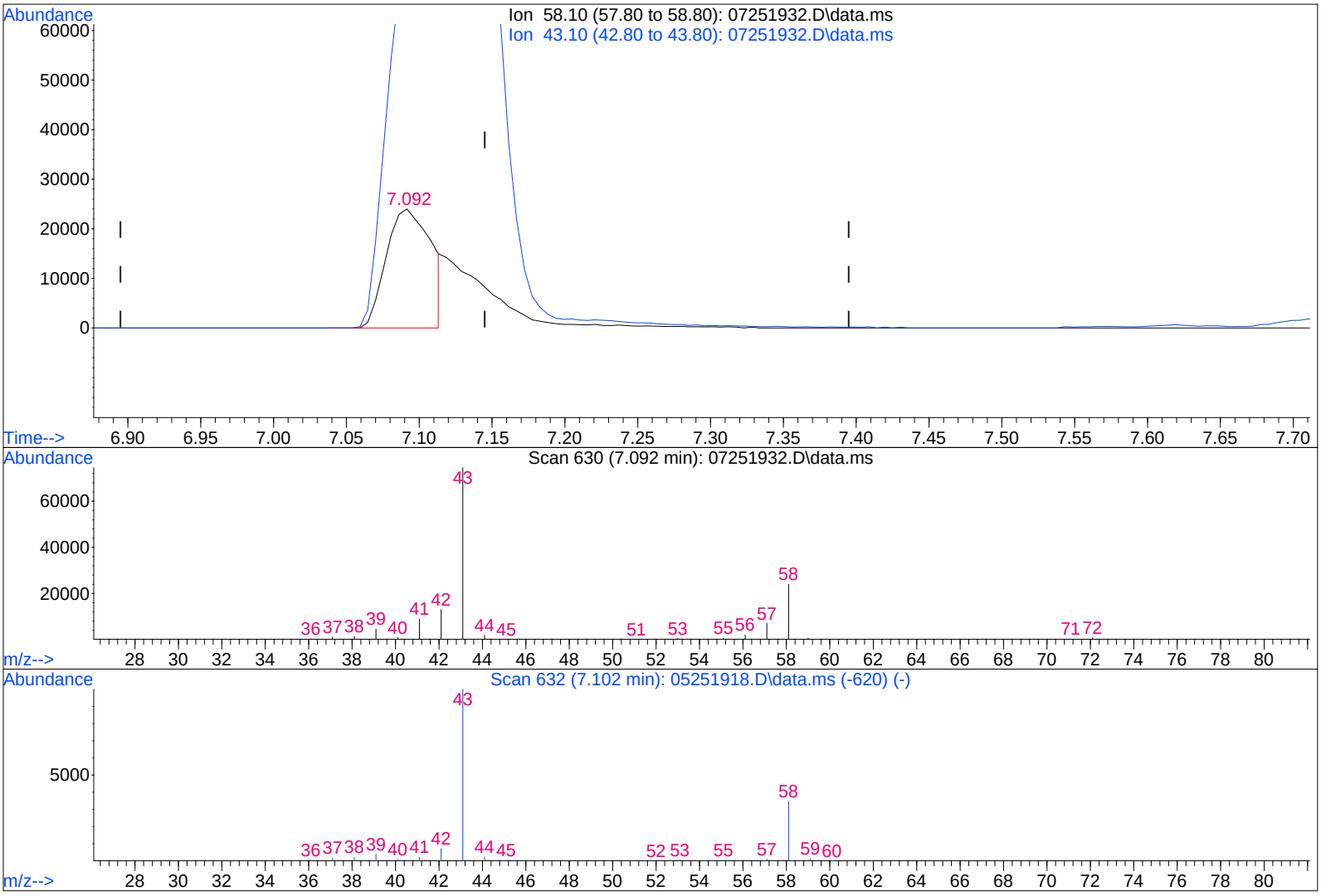
response 85076

Ion	Exp%	Act%
58.10	100	100
43.10	290.90	710.28#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:45 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251932.D\data.ms

(13) Acetone (T)

7.092min (-0.053) 5.98ng m

response 51400

IPC

RS 8/1/19

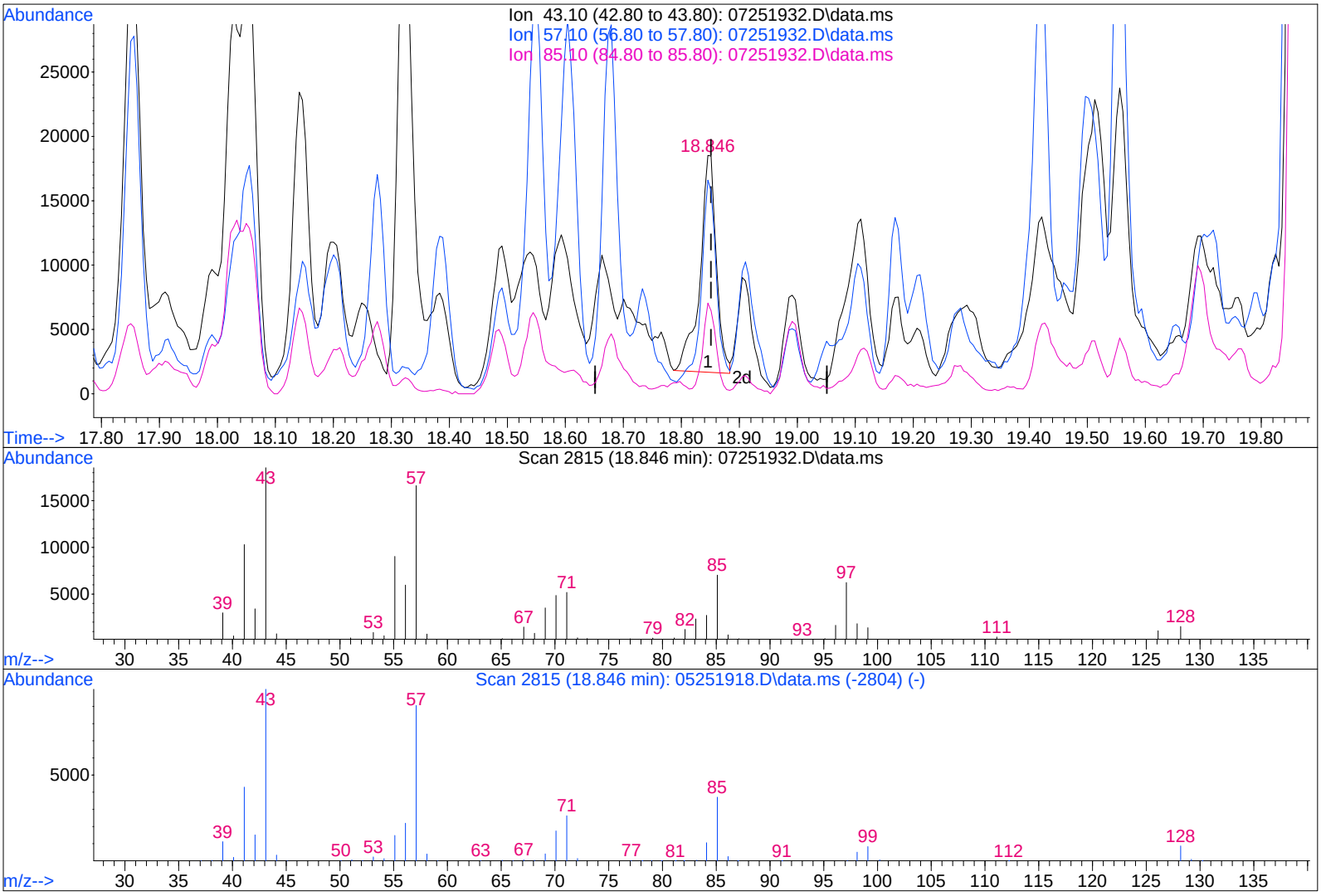
8/2/19

Ion	Exp%	Act%
58.10	100	100
43.10	290.90	1175.65#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:45 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251932.D\data.ms

(71) n-Nonane (T)

18.846min (-0.005) 1.21ng

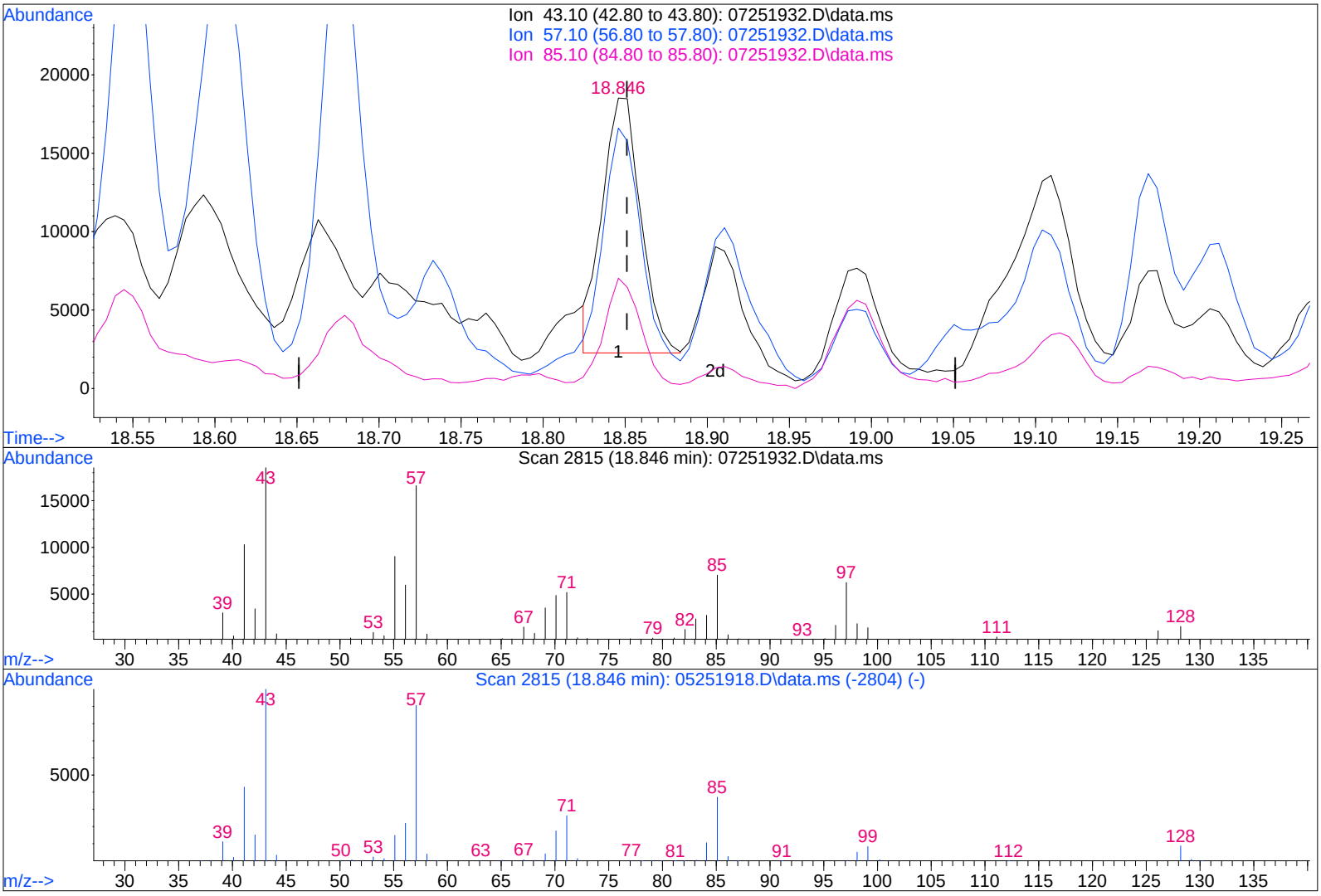
response 33281

Ion	Exp%	Act%
43.10	100	100
57.10	91.70	85.19
85.10	38.70	30.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251932.D
Sample : P1904286-011 (400mL) Inst : MS08
Acq On : 25 Jul 2019 23:02 Operator: RS
Misc : S31-07111901
ALS Vial : 16 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:17:45 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251932.D\data.ms

(71) n-Nonane (T)

18.846min (-0.005) 0.96ng m

response 26484

IPC

RS 8/1/19

8/2/19

Ion	Exp%	Act%
43.10	100	100
57.10	91.70	107.05
85.10	38.70	38.90
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251904.D
Sample : MB R8072519 1000mL Inst : MS08
Acq On : 25 Jul 2019 6:10 Operator: RS
Misc : S31-07111901AS00703
ALS Vial : 1 Sample Multiplier: 1

RS 7/25/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:34:56 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	142645	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	640749	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	285048	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	168483	11.883	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.81	98	694735	11.850	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
73) Bromofluorobenzene (SS3)	19.06	174	263520	13.685	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.44%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.16	58	1259	0.153	ng	#	23
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.80	76	11590	0.322	ng		93
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	0.00	78	0	N.D.	d		
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.	d		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File: I:\MS08\Data\2019 07\25\07251904.D
Sample : MB R8072519 1000mL Inst : MS08
Acq On : 25 Jul 2019 6:10 Operator: RS
Misc : S31-07111901AS00703
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:34:56 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

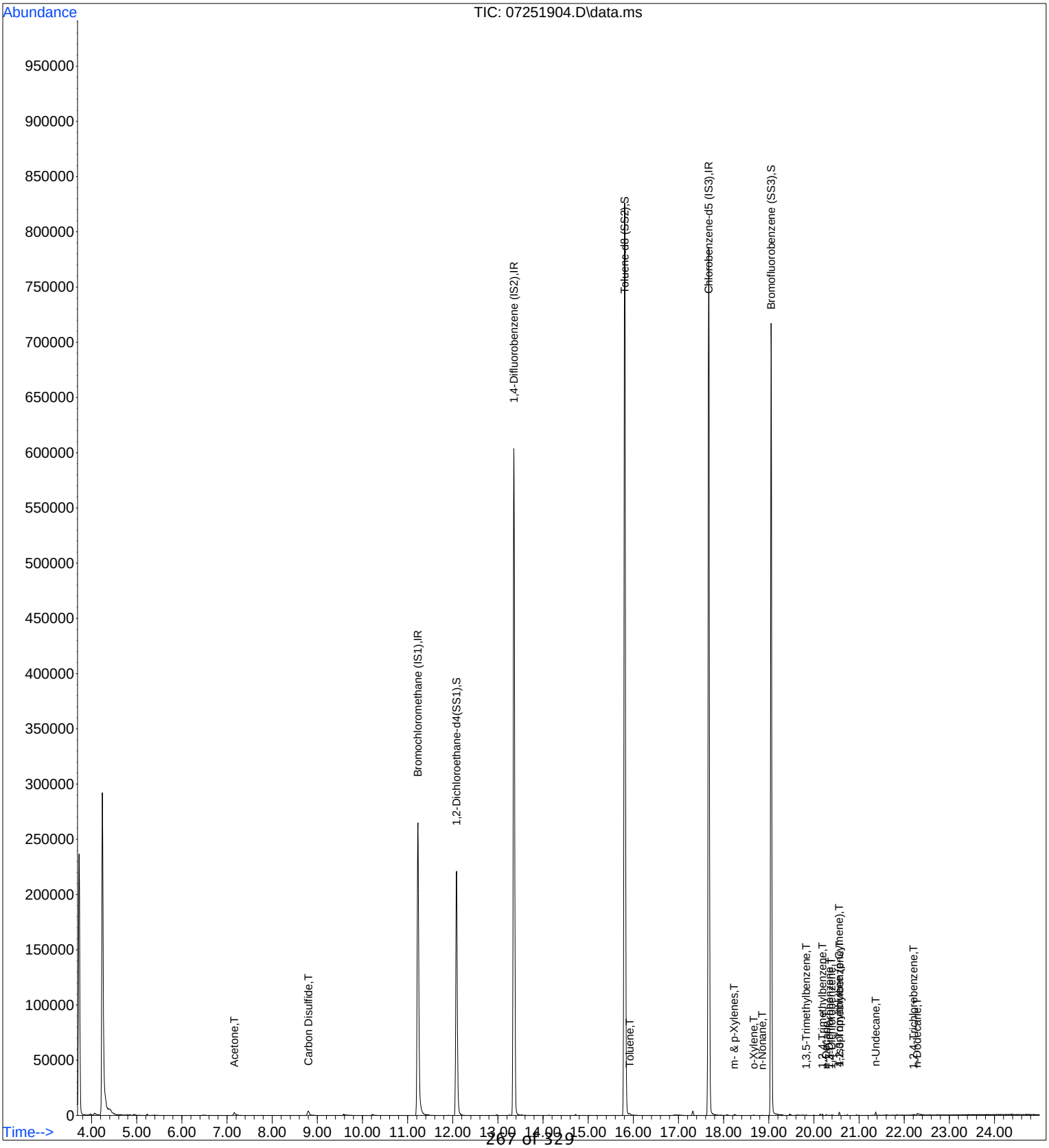
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.92	91	1556	0.031 ng		86
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	0.00	91	0	N.D. d		
67) m- & p-Xylenes	18.23	91	1461	0.033 ng	#	69
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.67	91	506	0.011 ng	#	59
71) n-Nonane	18.85	43	106	0.004 ng	#	13
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D. d		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	0.00	105	0	N.D. d		
79) 1,3,5-Trimethylbenzene	19.82	105	740	0.015 ng	#	47
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.19	105	704	0.016 ng	#	58
83) n-Decane	20.27	57	488	0.019 ng	#	38
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.34	146	274	0.010 ng		78
86) 1,4-Dichlorobenzene	20.39	146	659	0.024 ng	#	66
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	20.56	119	2074	0.035 ng		88
89) 1,2,3-Trimethylbenzene	20.57	105	548	0.011 ng		94
90) 1,2-Dichlorobenzene	0.00	146	0	N.D. d		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.37	57	1334	0.053 ng		94
94) 1,2,4-Trichlorobenzene	22.20	180	498	0.029 ng	#	76
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	22.29	57	588	0.038 ng	#	76
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251904.D
Sample : MB R8072519 1000mL Inst : MS08
Acq On : 25 Jul 2019 6:10 Operator: RS
Misc : S31-07111901AS00703
ALS Vial : 1 Sample Multiplier: 1

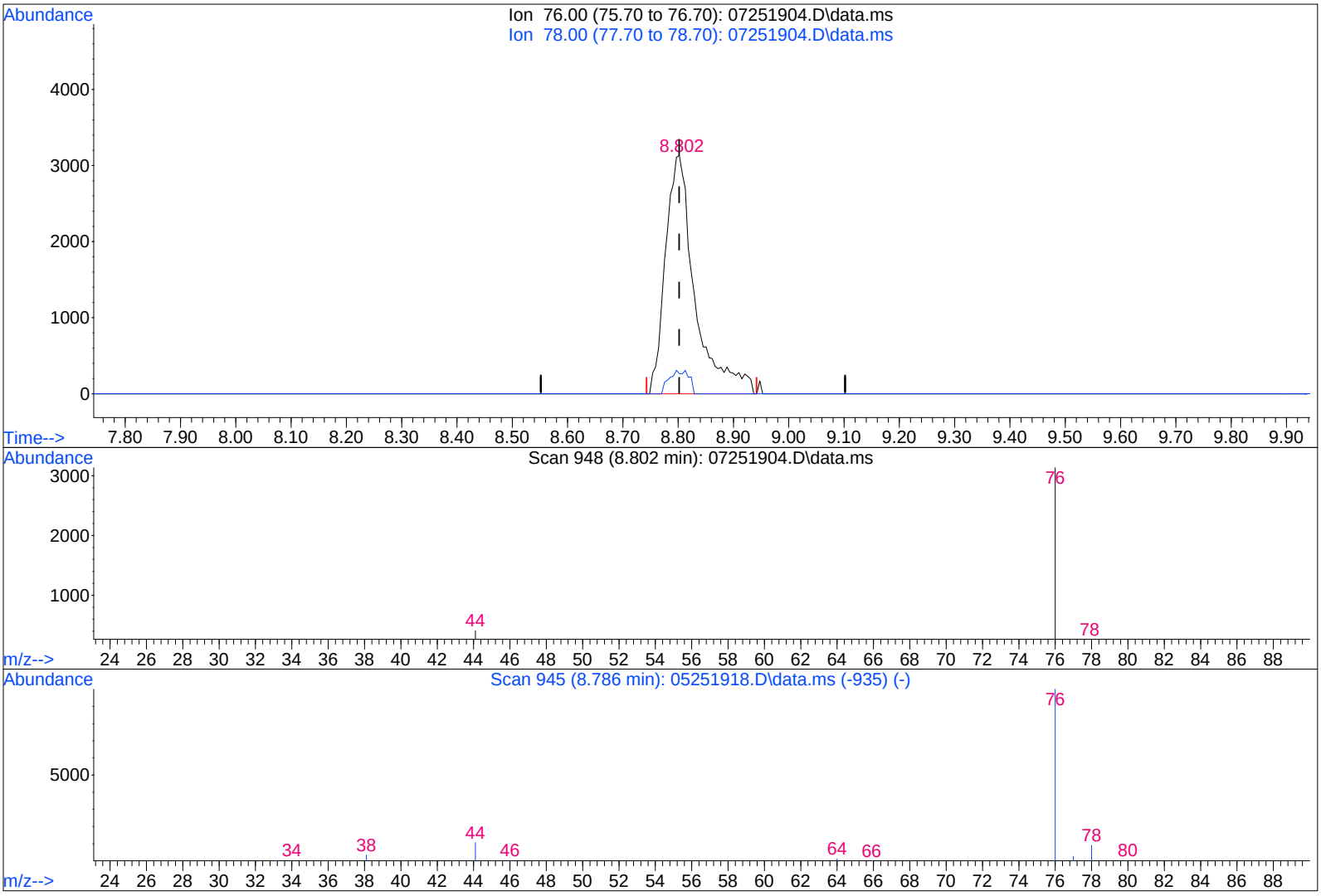
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:34:56 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\25\07251904.D
Sample : MB R8072519 1000mL Inst : MS08
Acq On : 25 Jul 2019 6:10 Operator: RS
Misc : S31-07111901AS00703
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:34:56 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07251904.D\data.ms

(22) Carbon Disulfide (T)

8.802min (+0.000) 0.32ng

response 11590

Ion	Exp%	Act%
76.00	100	100
78.00	9.20	6.59
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261904.D
Sample : MB R8072619 1000mL Inst : MS08
Acq On : 26 Jul 2019 5:10 Operator: RS RS 7/26/19
Misc : S31-07111901AS00703
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:42:54 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	148641	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.35	114	656067	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.67	82	293943	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	173461	11.741	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	15.81	98	711050	11.762	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
73) Bromofluorobenzene (SS3)	19.06	174	267232	13.458	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.68%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D. d			
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.17	58	1505	0.175	ng	#	57
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.79	76	16061	0.428	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	0.00	78	0	N.D. d			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File: I:\MS08\Data\2019 07\26\07261904.D
Sample : MB R8072619 1000mL Inst : MS08
Acq On : 26 Jul 2019 5:10 Operator: RS
Misc : S31-07111901AS00703
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:42:54 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

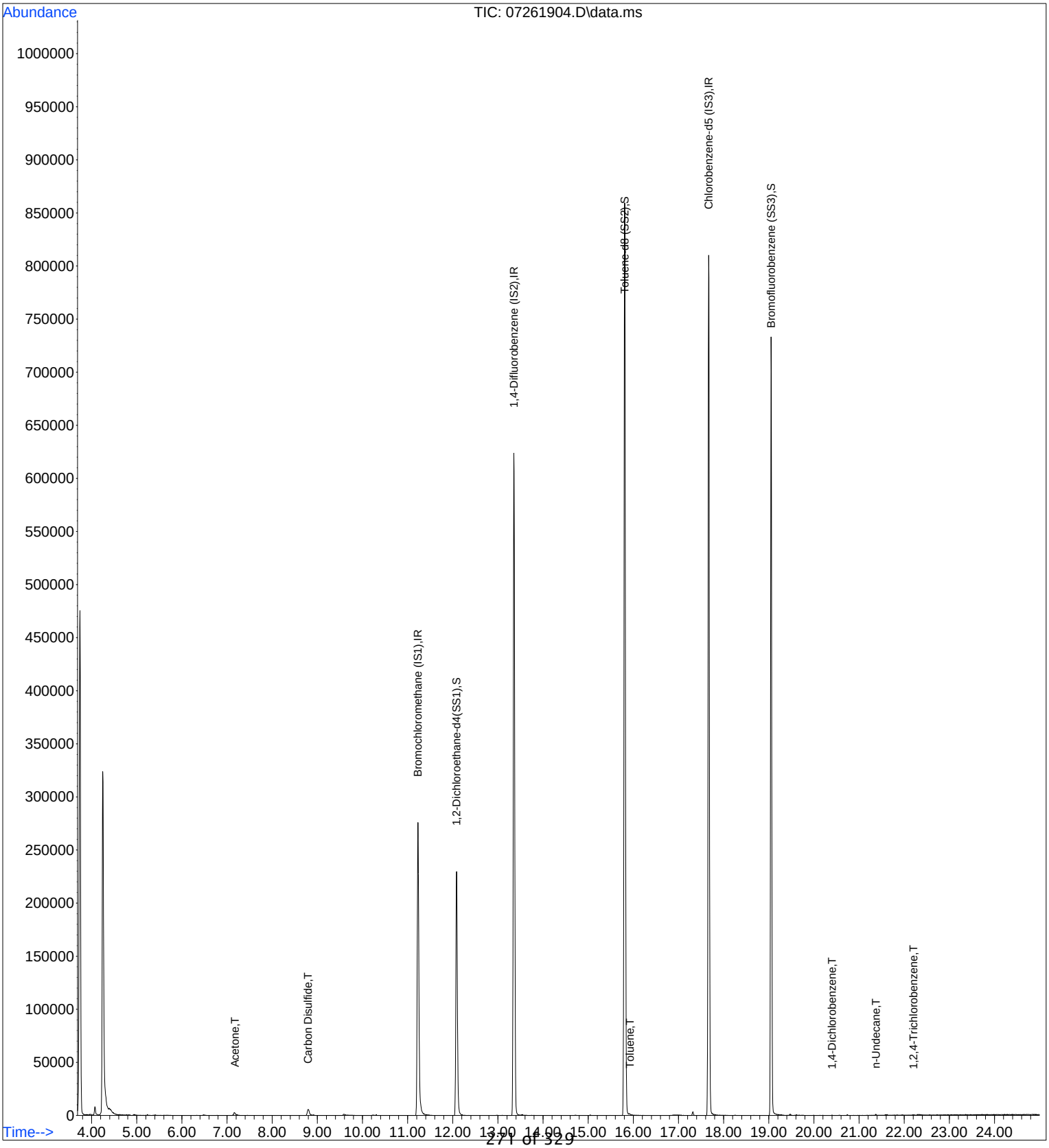
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.92	91	988	0.019 ng #	70
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	0.00	91	0	N.D. d	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	0.00	105	0	N.D. d	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D. d	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
83) n-Decane	0.00	57	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D. d	
86) 1,4-Dichlorobenzene	20.40	146	134	0.005 ng #	18
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.37	57	467	0.018 ng #	73
94) 1,2,4-Trichlorobenzene	22.21	180	141	0.008 ng #	69
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261904.D
Sample : MB R8072619 1000mL Inst : MS08
Acq On : 26 Jul 2019 5:10 Operator: RS
Misc : S31-07111901AS00703
ALS Vial : 1 Sample Multiplier: 1

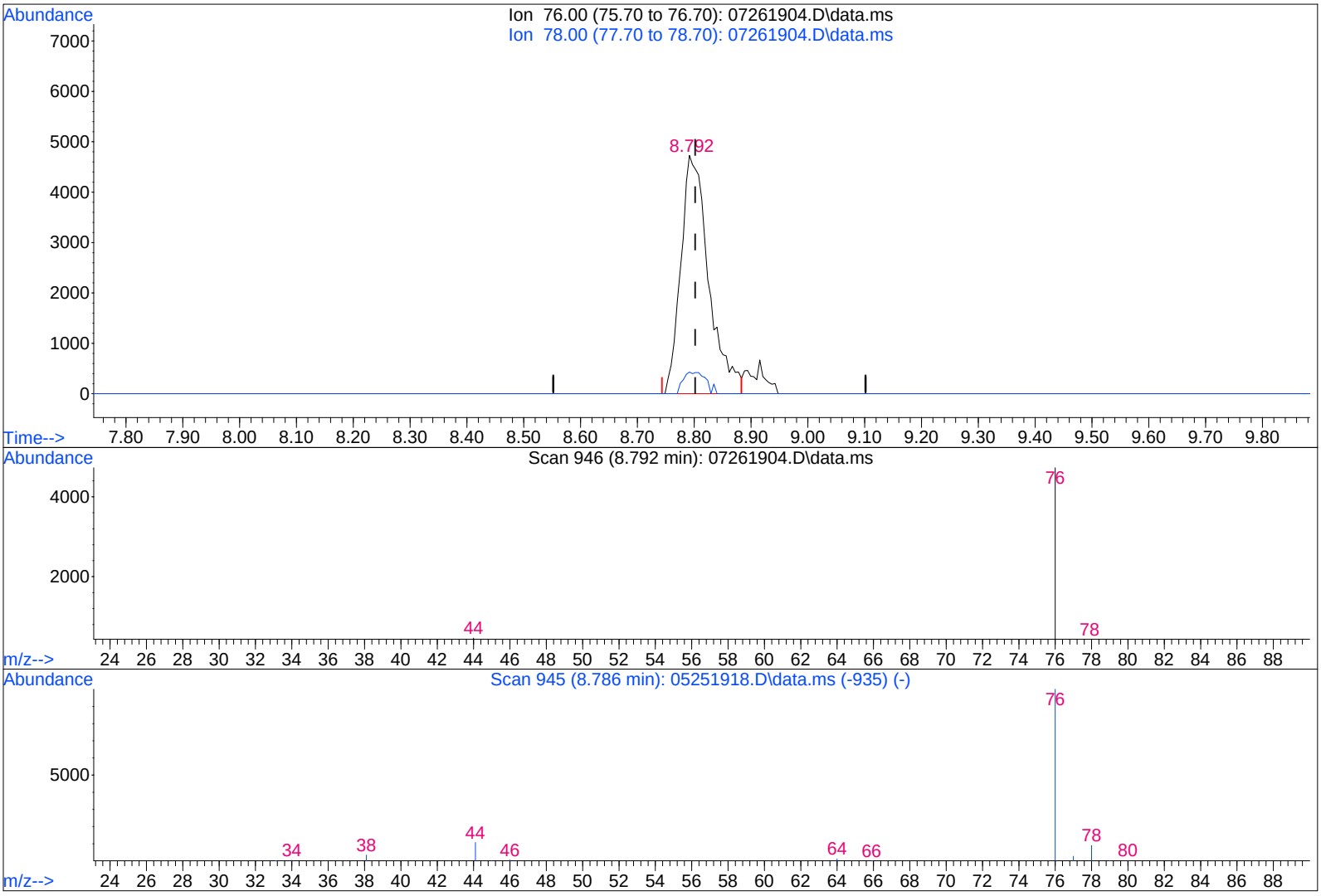
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:42:54 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2019 07\26\07261904.D
Sample : MB R8072619 1000mL Inst : MS08
Acq On : 26 Jul 2019 5:10 Operator: RS
Misc : S31-07111901AS00703
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:42:54 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



TIC: 07261904.D\data.ms

(22) Carbon Disulfide (T)

8.792min (-0.010) 0.43ng

response 16061

Ion	Exp%	Act%
76.00	100	100
78.00	9.20	7.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251905.D
Sample : LCS R8072519 25ng Inst : MS08
Acq On : 25 Jul 2019 6:43 Operator: RS
Misc : S31-07111901/S31-07151909 (8/13)
ALS Vial : 1 Sample Multiplier: 1

RS 7/25/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:28:42 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.24	130	154359	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.36	114	670090	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	299060	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.09	65	177296	11.556	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%				
57) Toluene-d8 (SS2)	15.81	98	727630	11.830	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
73) Bromofluorobenzene (SS3)	19.06	174	277528	13.737	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.92%				
Target Compounds							Qvalue
2) Propene	4.16	42	281107	22.243	ng		98
3) Dichlorodifluoromethan...	4.32	85	392152	19.899	ng		100
4) Chloromethane	4.61	50	304952	20.520	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.87	135	242424	21.760	ng		100
6) Vinyl Chloride	5.03	62	343088	23.459	ng		100
7) 1,3-Butadiene	5.30	54	280466	23.872	ng		97
8) Bromomethane	5.74	94	216229	21.774	ng		99
9) Chloroethane	6.07	64	195873	21.380	ng		99
10) Ethanol	6.47	45	949031	106.150	ng		99
11) Acetonitrile	6.71	41	510876	22.500	ng		99
12) Acrolein	6.90	56	162284	24.582	ng		99
13) Acetone	7.11	58	988229	110.865	ng		91
14) Trichlorofluoromethane	7.34	101	336673	19.890	ng		100
15) 2-Propanol (Isopropanol)	7.60	45	1313483	42.981	ng		98
16) Acrylonitrile	7.86	53	354372	26.703	ng		98
17) 1,1-Dichloroethene	8.30	96	245291	21.592	ng		96
18) 2-Methyl-2-Propanol (t...	8.47	59	1277378	44.773	ng		99
19) Methylene Chloride	8.53	84	250817	22.156	ng		100
20) 3-Chloro-1-propene (Al...	8.69	41	406982	23.522	ng		100
21) Trichlorotrifluoroethane	8.94	151	233757	21.005	ng		99
22) Carbon Disulfide	8.79	76	889931	22.853	ng		100
23) trans-1,2-Dichloroethene	9.80	61	334734	22.572	ng		99
24) 1,1-Dichloroethane	10.05	63	416882	21.017	ng		100
25) Methyl tert-Butyl Ether	10.15	73	763892	21.280	ng		99
26) Vinyl Acetate	10.31	86	390987	132.510	ng	#	95
27) 2-Butanone (MEK)	10.55	72	198797	26.078	ng		99
28) cis-1,2-Dichloroethene	11.07	61	315337	20.969	ng		99
29) Diisopropyl Ether	11.36	87	263355	22.296	ng		97
30) Ethyl Acetate	11.37	61	189313	51.531	ng		100
31) n-Hexane	11.35	57	437093	22.463	ng		99
32) Chloroform	11.41	83	370055	20.586	ng		100
34) Tetrahydrofuran (THF)	11.81	72	186605	22.053	ng		98
35) Ethyl tert-Butyl Ether	11.95	87	331858	21.736	ng		99
36) 1,2-Dichloroethane	12.21	62	263195	19.985	ng		99
38) 1,1,1-Trichloroethane	12.49	97	327745	20.779	ng		100
39) Isopropyl Acetate	12.92	61	337721	44.593	ng		97
40) 1-Butanol	12.94	56	595185	59.211	ng		95
41) Benzene	12.97	78	1016222	21.101	ng		100
42) Carbon Tetrachloride	13.13	117	283710	20.819	ng		100
43) Cyclohexane	13.26	84	861864	41.481	ng		99
44) tert-Amyl Methyl Ether	13.61	73	746324	22.345	ng		99
45) 1,2-Dichloropropane	13.82	63	248983	22.204	ng		100
46) Bromodichloromethane	14.01	83	299843	22.646	ng		100
47) Trichloroethene	14.06	130	287553	22.176	ng		100
48) 1,4-Dioxane	14.04	88	240383	25.050	ng		100
49) 2,2,4-Trimethylpentane...	14.13	57	1119300	21.061	ng		98
50) Methyl Methacrylate	14.27	100	258625	52.933	ng		98

Data File: I:\MS08\Data\2019 07\25\07251905.D
Sample : LCS R8072519 25ng Inst : MS08
Acq On : 25 Jul 2019 6:43 Operator: RS
Misc : S31-07111901/S31-07151909 (8/13)
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:28:42 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

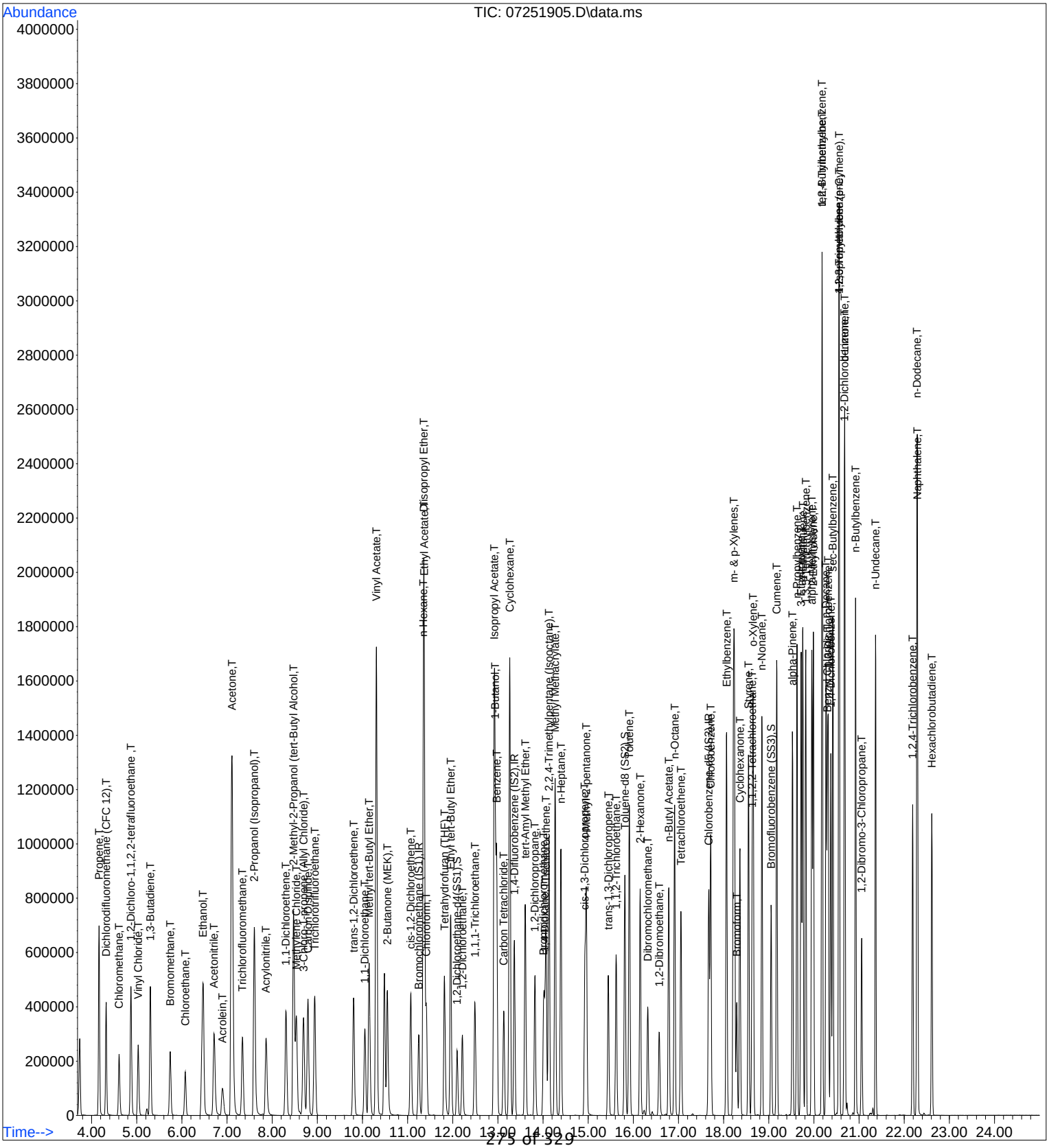
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.40	71	296989	22.525	ng	99
52) cis-1,3-Dichloropropene	14.92	75	404372	24.811	ng	99
53) 4-Methyl-2-pentanone	14.96	58	263712	26.930	ng	99
54) trans-1,3-Dichloropropene	15.45	75	353110	25.875	ng	100
55) 1,1,2-Trichloroethane	15.62	97	248367	22.706	ng	100
58) Toluene	15.91	91	1057763	20.326	ng	100
59) 2-Hexanone	16.15	43	645443	26.182	ng	99
60) Dibromochloromethane	16.32	129	281094	22.231	ng	100
61) 1,2-Dibromoethane	16.58	107	280182	22.168	ng	100
62) n-Butyl Acetate	16.79	43	712233	26.434	ng	99
63) n-Octane	16.91	57	236218	20.459	ng	99
64) Tetrachloroethene	17.05	166	312161	19.653	ng	99
65) Chlorobenzene	17.71	112	723828	19.889	ng	100
66) Ethylbenzene	18.07	91	1195201	19.187	ng	98
67) m- & p-Xylenes	18.23	91	1815148	38.994	ng	99
68) Bromoform	18.29	173	244880	22.800	ng	99
69) Styrene	18.55	104	799168	22.141	ng	98
70) o-Xylene	18.65	91	908790	19.218	ng	97
71) n-Nonane	18.85	43	532520	20.013	ng	100
72) 1,1,2,2-Tetrachloroethane	18.63	83	421581	20.474	ng	100
74) Cumene	19.17	105	1231680	19.274	ng	99
75) alpha-Pinene	19.52	93	622973	20.438	ng	98
76) n-Propylbenzene	19.63	91	1430042	20.034	ng	98
77) 3-Ethyltoluene	19.72	105	1204091	19.341	ng	98
78) 4-Ethyltoluene	19.76	105	1193697	21.474	ng	98
79) 1,3,5-Trimethylbenzene	19.82	105	990734	19.668	ng	98
80) alpha-Methylstyrene	19.95	118	596648	23.430	ng	98
81) 2-Ethyltoluene	19.99	105	1192368	20.364	ng	98
82) 1,2,4-Trimethylbenzene	20.18	105	961401	20.237	ng	97
83) n-Decane	20.27	57	562998	20.582	ng	100
84) Benzyl Chloride	20.30	91	770540	25.075	ng	98
85) 1,3-Dichlorobenzene	20.31	146	608490	21.437	ng	100
86) 1,4-Dichlorobenzene	20.37	146	616579	21.806	ng	100
87) sec-Butylbenzene	20.42	105	1368389	20.445	ng	99
88) 4-Isopropyltoluene (p-...	20.56	119	1252145	19.895	ng	98
89) 1,2,3-Trimethylbenzene	20.56	105	981526	19.355	ng	97
90) 1,2-Dichlorobenzene	20.67	146	569015	22.753	ng	100
91) d-Limonene	20.68	68	396921	21.659	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.06	157	225416	24.003	ng	97
93) n-Undecane	21.36	57	570322	21.459	ng	100
94) 1,2,4-Trichlorobenzene	22.19	180	417670	22.788	ng	100
95) Naphthalene	22.29	128	1284164	24.179	ng	100
96) n-Dodecane	22.28	57	477052	29.552	ng	99
97) Hexachlorobutadiene	22.61	225	250433	18.826	ng	99
98) Cyclohexanone	18.36	55	452977	25.485	ng	99
99) tert-Butylbenzene	20.18	119	983264	20.119	ng	98
100) n-Butylbenzene	20.92	91	1048246	20.403	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251905.D
Sample : LCS R8072519 25ng Inst : MS08
Acq On : 25 Jul 2019 6:43 Operator: RS
Misc : S31-07111901/S31-07151909 (8/13)
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:28:42 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261905.D
Sample : LCS R8072619 25ng Inst : MS08
Acq On : 26 Jul 2019 5:43 Operator: RS
Misc : S31-07111901/S31-07151909 (8/13)
ALS Vial : 1 Sample Multiplier: 1

RS 7/26/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:15:29 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.24	130	156539	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.36	114	690057	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	305155	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.09	65	182636	11.738	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%			
57) Toluene-d8 (SS2)	15.81	98	745666	11.881	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%			
73) Bromofluorobenzene (SS3)	19.06	174	281769	13.668	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%			
Target Compounds						Qvalue
2) Propene	4.15	42	283652	22.132	ng	98
3) Dichlorodifluoromethan...	4.31	85	393938	19.711	ng	100
4) Chloromethane	4.60	50	301409	19.999	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.86	135	242038	21.422	ng	99
6) Vinyl Chloride	5.02	62	343243	23.143	ng	100
7) 1,3-Butadiene	5.29	54	277801	23.316	ng	98
8) Bromomethane	5.73	94	216039	21.452	ng	100
9) Chloroethane	6.06	64	199748	21.499	ng	100
10) Ethanol	6.46	45	959534	105.830	ng	99
11) Acetonitrile	6.71	41	512584	22.261	ng	99
12) Acrolein	6.89	56	162082	24.210	ng	99
13) Acetone	7.10	58	991273	109.658	ng	92
14) Trichlorofluoromethane	7.33	101	339334	19.768	ng	100
15) 2-Propanol (Isopropanol)	7.60	45	1329882	42.911	ng	98
16) Acrylonitrile	7.86	53	355023	26.380	ng	98
17) 1,1-Dichloroethene	8.30	96	245206	21.284	ng	97
18) 2-Methyl-2-Propanol (t...	8.47	59	1280712	44.265	ng	99
19) Methylene Chloride	8.53	84	250840	21.850	ng	99
20) 3-Chloro-1-propene (Al...	8.69	41	411222	23.436	ng	100
21) Trichlorotrifluoroethane	8.94	151	233057	20.650	ng	99
22) Carbon Disulfide	8.79	76	900427	22.801	ng	100
23) trans-1,2-Dichloroethene	9.80	61	336497	22.374	ng	99
24) 1,1-Dichloroethane	10.05	63	421857	20.972	ng	100
25) Methyl tert-Butyl Ether	10.14	73	763540	20.974	ng	99
26) Vinyl Acetate	10.30	86	391741	130.916	ng	97
27) 2-Butanone (MEK)	10.55	72	199776	25.842	ng	100
28) cis-1,2-Dichloroethene	11.07	61	317549	20.822	ng	100
29) Diisopropyl Ether	11.36	87	264796	22.106	ng	97
30) Ethyl Acetate	11.37	61	191553	51.415	ng	99
31) n-Hexane	11.35	57	438320	22.212	ng	99
32) Chloroform	11.41	83	370651	20.332	ng	100
34) Tetrahydrofuran (THF)	11.81	72	187077	21.801	ng	98
35) Ethyl tert-Butyl Ether	11.95	87	331477	21.409	ng	99
36) 1,2-Dichloroethane	12.21	62	264555	19.809	ng	99
38) 1,1,1-Trichloroethane	12.49	97	328123	20.201	ng	99
39) Isopropyl Acetate	12.92	61	337732	43.304	ng	97
40) 1-Butanol	12.94	56	593203	57.306	ng	96
41) Benzene	12.97	78	1013762	20.441	ng	100
42) Carbon Tetrachloride	13.13	117	285612	20.352	ng	100
43) Cyclohexane	13.26	84	862331	40.302	ng	99
44) tert-Amyl Methyl Ether	13.61	73	744165	21.636	ng	99
45) 1,2-Dichloropropane	13.82	63	251305	21.763	ng	100
46) Bromodichloromethane	14.01	83	300406	22.032	ng	99
47) Trichloroethene	14.06	130	287913	21.562	ng	100
48) 1,4-Dioxane	14.04	88	241076	24.395	ng	99
49) 2,2,4-Trimethylpentane...	14.13	57	1121479	20.491	ng	98
50) Methyl Methacrylate	14.27	100	258646	51.406	ng	98

Data File: I:\MS08\Data\2019 07\26\07261905.D
Sample : LCS R8072619 25ng Inst : MS08
Acq On : 26 Jul 2019 5:43 Operator: RS
Misc : S31-07111901/S31-07151909 (8/13)
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:15:29 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

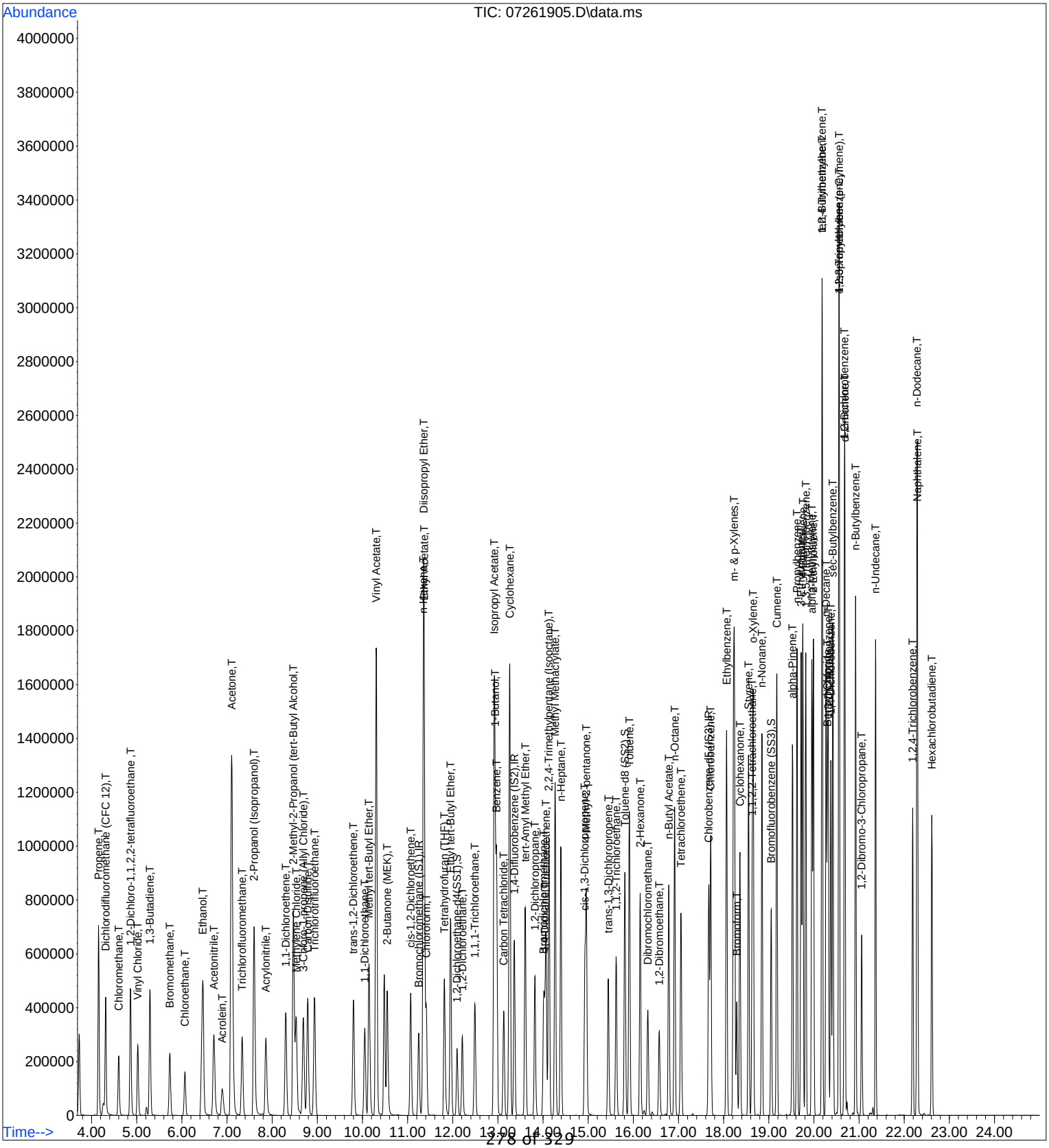
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.40	71	297638	21.921	ng	100
52) cis-1,3-Dichloropropene	14.92	75	404914	24.125	ng	100
53) 4-Methyl-2-pentanone	14.96	58	264173	26.196	ng	100
54) trans-1,3-Dichloropropene	15.45	75	349679	24.883	ng	99
55) 1,1,2-Trichloroethane	15.62	97	247968	22.014	ng	100
58) Toluene	15.91	91	1055339	19.874	ng	99
59) 2-Hexanone	16.15	43	644739	25.631	ng	99
60) Dibromochloromethane	16.32	129	279430	21.658	ng	99
61) 1,2-Dibromoethane	16.58	107	280127	21.721	ng	99
62) n-Butyl Acetate	16.79	43	716177	26.050	ng	99
63) n-Octane	16.91	57	236902	20.109	ng	99
64) Tetrachloroethene	17.05	166	312442	19.278	ng	100
65) Chlorobenzene	17.71	112	721121	19.419	ng	100
66) Ethylbenzene	18.07	91	1190915	18.737	ng	99
67) m- & p-Xylenes	18.23	91	1775136	37.373	ng	97
68) Bromoform	18.29	173	243241	22.195	ng	100
69) Styrene	18.55	104	795461	21.598	ng	98
70) o-Xylene	18.65	91	908522	18.829	ng	97
71) n-Nonane	18.85	43	537640	19.802	ng	100
72) 1,1,2,2-Tetrachloroethane	18.63	83	421636	20.068	ng	100
74) Cumene	19.18	105	1236070	18.956	ng	99
75) alpha-Pinene	19.52	93	614068	19.743	ng	99
76) n-Propylbenzene	19.63	91	1424635	19.560	ng	98
77) 3-Ethyltoluene	19.72	105	1197083	18.844	ng	98
78) 4-Ethyltoluene	19.75	105	1200726	21.169	ng	99
79) 1,3,5-Trimethylbenzene	19.82	105	991640	19.293	ng	98
80) alpha-Methylstyrene	19.95	118	592051	22.785	ng	98
81) 2-Ethyltoluene	19.99	105	1195849	20.016	ng	98
82) 1,2,4-Trimethylbenzene	20.18	105	960786	19.820	ng	97
83) n-Decane	20.27	57	562689	20.160	ng	99
84) Benzyl Chloride	20.30	91	736117	23.476	ng	98
85) 1,3-Dichlorobenzene	20.32	146	607323	20.969	ng	100
86) 1,4-Dichlorobenzene	20.37	146	620259	21.498	ng	100
87) sec-Butylbenzene	20.42	105	1365009	19.987	ng	99
88) 4-Isopropyltoluene (p-...	20.56	119	1254337	19.532	ng	98
89) 1,2,3-Trimethylbenzene	20.56	105	980903	18.956	ng	97
90) 1,2-Dichlorobenzene	20.67	146	568553	22.280	ng	100
91) d-Limonene	20.69	68	394707	21.108	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.06	157	225854	23.569	ng	97
93) n-Undecane	21.36	57	569538	21.002	ng	100
94) 1,2,4-Trichlorobenzene	22.19	180	415095	22.196	ng	100
95) Naphthalene	22.29	128	1282216	23.660	ng	100
96) n-Dodecane	22.28	57	475518	28.868	ng	99
97) Hexachlorobutadiene	22.61	225	251244	18.509	ng	99
98) Cyclohexanone	18.36	55	449035	24.759	ng	99
99) tert-Butylbenzene	20.18	119	988125	19.815	ng	98
100) n-Butylbenzene	20.92	91	1045544	19.944	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261905.D
Sample : LCS R8072619 25ng Inst : MS08
Acq On : 26 Jul 2019 5:43 Operator: RS
Misc : S31-07111901/S31-07151909 (8/13)
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:15:29 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Response Factor Report MS08

RS 5/28/19

Method Path : I:\MS08\Methods\
Method File : R8052519.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 28 07:57:28 2019
Response Via : Initial Calibration

Calibration Files
0.1 =05251913.D 0.2 =05251914.D 0.5 =05251915.D 1.0 =05251916.D 5.0 =05251917.D 25 =05251918.D 50 =05251919.D
100 =05251920.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene		1.217	1.192	1.158	0.979	0.927	0.856	0.835	1.023	15.89
3)	T	Dichlorodifluo...	2.091	1.778	1.785	1.723	1.459	1.406	1.314	1.210	1.596	18.54
4)	T	Chloromethane	1.616	1.378	1.376	1.289	1.047	1.080	1.021	0.821	1.203	21.25
5)	T	1,2-Dichloro-1...	1.204	1.036	0.980	0.917	0.807	0.788	0.769	0.716	0.902	18.25
6)	T	Vinyl Chloride	1.472	1.261	1.275	1.265	1.082	1.072	1.058	0.988	1.184	13.57
7)	T	1,3-Butadiene	0.985	0.935	0.992	1.040	0.936	0.947	0.920	0.858	0.951	5.73
8)	T	Bromomethane	0.977	0.890	0.870	0.868	0.738	0.747	0.712	0.631	0.804	14.23
9)	T	Chloroethane	0.913	0.836	0.819	0.780	0.681	0.672	0.635	0.600	0.742	14.90
10)	T	Ethanol	0.998	0.851	0.776	0.756	0.636	0.642	0.591	0.543	0.724	20.88
11)	T	Acetonitrile	2.149	2.061	1.925	1.897	1.686	1.732	1.666	1.594	1.839	10.90
12)	T	Acrolein		0.482	0.462	0.556	0.529	0.598	0.573	0.542	0.535	9.03
13)	T	Acetone		0.913	0.872	0.826	0.700	0.646	0.583	0.513	0.722	21.08
14)	T	Trichlorofluor...	1.754	1.482	1.525	1.483	1.257	1.229	1.151	1.085	1.371	16.51
15)	T	2-Propanol (Is...	3.121	2.746	2.699	2.610	2.319	2.303	2.142	1.858	2.475	16.06
16)	T	Acrylonitrile	0.517	0.903	1.162	1.295	1.190	1.229	1.177	1.124	1.075	23.50
17)	T	1,1-Dichloroet...	1.127	1.043	0.981	0.974	0.843	0.847	0.798	0.746	0.920	14.30
18)	T	2-Methyl-2-Pro...	2.590	2.446	2.603	2.502	2.256	2.206	2.043	1.836	2.310	11.91
19)	T	Methylene Chlo...	1.120	0.953	0.973	1.024	0.877	0.863	0.807	0.717	0.917	13.89
20)	T	3-Chloro-1-pro...	1.530	1.492	1.540	1.423	1.316	1.386	1.310	1.212	1.401	8.36
21)	T	Trichlorotrifl...	1.084	1.034	0.999	0.978	0.833	0.809	0.763	0.708	0.901	15.47
22)	T	Carbon Disulfide			3.900	3.406	3.113	3.032	2.839	2.632	3.153	14.24
23)	T	trans-1,2-Dich...	1.227	1.198	1.316	1.328	1.186	1.187	1.120	1.046	1.201	7.78
24)	T	1,1-Dichloroet...	1.961	1.783	1.750	1.745	1.489	1.457	1.376	1.289	1.606	14.63
25)	T	Methyl tert-Bu...	3.541	3.221	3.195	3.142	2.738	2.653	2.476	2.290	2.907	14.82
26)	T	Vinyl Acetate	0.180	0.235	0.261	0.271	0.259	0.262	0.237	0.207	0.239	13.19
27)	T	2-Butanone (MEK)		0.478	0.578	0.663	0.684	0.680	0.641	0.597	0.617	11.88
28)	T	cis-1,2-Dichlo...	1.398	1.361	1.336	1.302	1.145	1.133	1.069	0.997	1.218	12.32
29)	T	Diisopropyl Ether	1.149	1.106	1.157	1.111	0.959	0.881	0.691	0.598	0.956	22.64
30)	T	Ethyl Acetate		0.267	0.327	0.358	0.327	0.301	0.271	0.232	0.298	14.53
31)	T	n-Hexane		1.950	1.915	1.864	1.568	1.384	1.250	1.099	1.576	21.80
32)	T	Chloroform	1.764	1.587	1.618	1.589	1.360	1.329	1.248	1.150	1.456	14.66
33)	S	1,2-Dichloroet...	1.238	1.236	1.243	1.256	1.261	1.243	1.240	1.222	1.242	0.98
34)	T	Tetrahydrofura...	0.804	0.772	0.730	0.745	0.642	0.636	0.597	0.556	0.685	13.06
35)	T	Ethyl tert-But...	1.414	1.336	1.377	1.353	1.194	1.149	1.075	0.992	1.236	12.60
36)	T	1,2-Dichloroet...	1.326	1.198	1.117	1.140	0.995	0.981	0.917	0.857	1.066	14.67
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.359	0.324	0.325	0.305	0.271	0.274	0.258	0.239	0.294	13.80
39)	T	Isopropyl Acetate	0.163	0.158	0.160	0.159	0.138	0.130	0.118	0.105	0.141	15.81
40)	T	1-Butanol	0.129	0.174	0.182	0.214	0.209	0.219	0.199	0.175	0.188	15.69
41)	T	Benzene	1.186	1.070	1.013	0.968	0.830	0.794	0.720	0.606	0.898	21.57
42)	T	Carbon Tetrach...	0.304	0.276	0.273	0.261	0.234	0.243	0.229	0.212	0.254	11.75

Method Path : I:\MS08\Methods\
Method File : R8052519.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.527	0.459	0.439	0.419	0.354	0.336	0.305	0.262	0.388	22.78
44)	T	tert-Amyl Meth...	0.722	0.679	0.695	0.668	0.594	0.583	0.544	0.500	0.623	12.69
45)	T	1,2-Dichloropr...	0.254	0.235	0.226	0.230	0.193	0.190	0.179	0.166	0.209	14.80
46)	T	Bromodichlorom...	0.260	0.264	0.264	0.262	0.240	0.244	0.230	0.212	0.247	7.78
47)	T	Trichloroethene	0.287	0.275	0.264	0.265	0.226	0.223	0.208	0.186	0.242	14.89
48)	T	1,4-Dioxane	0.164	0.196	0.197	0.203	0.178	0.179	0.166	0.149	0.179	10.51
49)	T	2,2,4-Trimethy...	1.341	1.161	1.095	1.067	0.897	0.868	0.798	0.705	0.991	21.25
50)	T	Methyl Methacr...	0.077	0.083	0.097	0.107	0.097	0.097	0.090	0.080	0.091	11.23
51)	T	n-Heptane	0.317	0.270	0.289	0.265	0.227	0.217	0.202	0.181	0.246	18.93
52)	T	cis-1,3-Dichlo...	0.278	0.282	0.332	0.326	0.314	0.321	0.302	0.277	0.304	7.40
53)	T	4-Methyl-2-pen...	0.121	0.170	0.208	0.217	0.199	0.197	0.183	0.166	0.183	16.75
54)	T	trans-1,3-Dich...		0.185	0.238	0.262	0.271	0.291	0.278	0.258	0.255	13.68
55)	T	1,1,2-Trichlor...	0.242	0.213	0.222	0.221	0.193	0.194	0.182	0.167	0.204	11.92
56)	IR	Chlorobenzene-d5 (...	----------	ISTD	----------							
57)	S	Toluene-d8 (SS2)	2.604	2.610	2.605	2.589	2.569	2.536	2.516	2.538	2.571	1.42
58)	T	Toluene		2.650	2.574	2.445	2.083	2.006	1.827	1.641	2.175	17.80
59)	T	2-Hexanone		0.862	1.121	1.166	1.078	1.079	0.996	0.911	1.030	10.86
60)	T	Dibromochlorom...	0.535	0.538	0.554	0.571	0.521	0.538	0.505	0.467	0.529	6.01
61)	T	1,2-Dibromoethane	0.498	0.565	0.563	0.583	0.521	0.533	0.499	0.464	0.528	7.67
62)	T	n-Butyl Acetate	0.895	1.072	1.241	1.240	1.182	1.223	1.132	1.025	1.126	10.89
63)	T	n-Octane	0.589	0.557	0.563	0.526	0.450	0.432	0.392	0.352	0.483	18.21
64)	T	Tetrachloroethene	0.841	0.774	0.747	0.729	0.604	0.589	0.540	0.487	0.664	18.97
65)	T	Chlorobenzene	1.995	1.785	1.719	1.620	1.371	1.346	1.232	1.102	1.521	20.12
66)	T	Ethylbenzene	3.393	2.942	2.944	2.814	2.406	2.339	2.119	1.871	2.604	19.36
67)	T	m- & p-Xylenes	2.549	2.283	2.229	2.147	1.767	1.715	1.527	1.347	1.946	21.44
68)	T	Bromoform	0.444	0.427	0.455	0.460	0.454	0.486	0.452	0.415	0.449	4.79
69)	T	Styrene	1.771	1.583	1.612	1.556	1.456	1.512	1.370	1.208	1.509	11.20
70)	T	o-Xylene	2.622	2.285	2.260	2.157	1.816	1.754	1.564	1.355	1.977	21.44
71)	T	n-Nonane	1.444	1.283	1.306	1.213	1.026	0.983	0.878	0.765	1.112	21.13
72)	T	1,1,2,2-Tetrac...	1.024	0.922	0.966	0.942	0.825	0.814	0.741	0.651	0.861	14.56
73)	S	Bromofluoroben...	0.847	0.845	0.848	0.846	0.848	0.845	0.841	0.837	0.844	0.45
74)	T	Cumene	3.613	3.099	3.030	2.903	2.458	2.355	2.102	1.807	2.671	22.23
75)	T	alpha-Pinene	1.535	1.415	1.407	1.369	1.229	1.187	1.085	0.966	1.274	14.98
76)	T	n-Propylbenzene	3.864	3.426	3.413	3.262	2.780	2.680	2.387	2.055	2.984	20.36
77)	T	3-Ethyltoluene	3.377	3.084	2.875	2.820	2.447	2.297	2.159	1.758	2.602	20.45
78)	T	4-Ethyltoluene		2.707	2.827	2.710	2.262	2.232	1.851	1.675	2.323	19.31
79)	T	1,3,5-Trimethy...		2.679	2.562	2.390	2.004	1.914	1.717	1.472	2.105	21.39
80)	T	alpha-Methylst...	1.225	1.151	1.125	1.108	1.018	1.083	0.971	0.833	1.064	11.43
81)	T	2-Ethyltoluene		3.077	2.965	2.795	2.355	2.249	1.992	1.699	2.447	21.10
82)	T	1,2,4-Trimethy...		2.497	2.410	2.320	1.955	1.838	1.586	1.294	1.986	22.65
83)	T	n-Decane	1.440	1.370	1.330	1.247	1.063	1.025	0.903	0.769	1.143	20.99
84)	T	Benzyl Chloride	1.130	1.068	1.101	1.189	1.329	1.650	1.502	1.305	1.284	16.03
85)	T	1,3-Dichlorobe...	1.416	1.410	1.328	1.280	1.111	1.117	0.996	0.833	1.186	17.52
86)	T	1,4-Dichlorobe...		1.476	1.369	1.279	1.091	1.150	1.016	0.892	1.182	17.35
87)	T	sec-Butylbenzene		3.482	3.369	3.229	2.733	2.579	2.272	1.918	2.798	21.06
88)	T	4-Isopropyltol...		3.413	3.322	3.144	2.597	2.361	1.989	1.588	2.631	26.54
89)	T	1,2,3-Trimethy...	2.828	2.586	2.481	2.356	1.975	1.849	1.586	1.297	2.120	24.98
90)	T	1,2-Dichlorobe...			1.278	1.237	1.075	1.045	0.901	0.735	1.045	19.53
91)	T	d-Limonene	0.861	0.865	0.847	0.842	0.760	0.744	0.661	0.549	0.766	14.80
92)	T	1,2-Dibromo-3-...	0.317	0.346	0.398	0.414	0.417	0.452	0.419	0.377	0.393	11.18
93)	T	n-Undecane	1.413	1.322	1.154	1.143	1.020	1.073	0.950	0.812	1.111	17.47
94)	T	1,2,4-Trichlor...	0.869	0.853	0.714	0.713	0.677	0.849	0.775	0.679	0.766	10.60

Method Path : I:\MS08\Methods\
Method File : R8052519.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene	2.258	2.692	1.950	2.031	1.927	2.654	2.318	1.930	2.220	14.25
96)	T	n-Dodecane			0.541	0.608	0.577	0.895	0.780	0.648	0.675	20.09
97)	T	Hexachlorobuta...	0.701	0.641	0.604	0.600	0.511	0.517	0.464	0.410	0.556	17.43
98)	T	Cyclohexanone	0.816	0.825	0.752	0.776	0.718	0.743	0.688	0.626	0.743	8.92
99)	T	tert-Butylbenzene		2.613	2.560	2.421	2.022	1.837	1.570	1.276	2.043	25.20
100)	T	n-Butylbenzene	2.638	2.425	2.404	2.365	2.023	2.011	1.789	1.524	2.147	17.44

(#) = Out of Range

RS 5/29/19

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S31-05201907
20ng/L Std. ID: S31-05081902
200ng/L Std. ID: S31-05201908

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.125	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.031	206.2	20.62	4.124	1.031		0.1031	0.2062	0.5155	1.031	5.155	25.775	51.55	103.1
Dichlorodifluoromethane	1.045	209.0	20.90	4.180	1.045		0.1045	0.2090	0.5225	1.045	5.225	26.125	52.25	104.5
Chloromethane	1.008	201.6	20.16	4.032	1.008		0.1008	0.2016	0.5040	1.008	5.040	25.200	50.40	100.8
Freon-114	1.028	205.6	20.56	4.112	1.028		0.1028	0.2056	0.5140	1.028	5.140	25.700	51.40	102.8
Vinyl Chloride	1.051	210.2	21.02	4.204	1.051		0.1051	0.2102	0.5255	1.051	5.255	26.275	52.55	105.1
1,3-Butadiene	1.049	209.8	20.98	4.196	1.049		0.1049	0.2098	0.5245	1.049	5.245	26.225	52.45	104.9
Bromomethane	1.009	201.8	20.18	4.036	1.009		0.1009	0.2018	0.5045	1.009	5.045	25.225	50.45	100.9
Chloroethane	1.022	204.4	20.44	4.088	1.022		0.1022	0.2044	0.5110	1.022	5.110	25.550	51.10	102.2
Ethanol	5.140	1028.0	102.80	20.560	5.140		0.5140	1.0280	2.5700	5.140	25.700	128.500	257.00	514.0
Acetonitrile	1.033	206.6	20.66	4.132	1.033		0.1033	0.2066	0.5165	1.033	5.165	25.825	51.65	103.3
Acrolein	1.028	205.6	20.56	4.112	1.028		0.1028	0.2056	0.5140	1.028	5.140	25.700	51.40	102.8
Acetone	5.370	1074.0	107.40	21.480	5.370		0.5370	1.0740	2.6850	5.370	26.850	134.250	268.50	537.0
Trichlorofluoromethane	1.060	212.0	21.20	4.240	1.060		0.1060	0.2120	0.5300	1.060	5.300	26.500	53.00	106.0
Isopropanol	2.063	412.6	41.26	8.252	2.063		0.2063	0.4126	1.0315	2.063	10.315	51.575	103.15	206.3
Acrylonitrile	1.034	206.8	20.68	4.136	1.034		0.1034	0.2068	0.5170	1.034	5.170	25.850	51.70	103.4
1,1-Dichloroethene	1.074	214.8	21.48	4.296	1.074		0.1074	0.2148	0.5370	1.074	5.370	26.850	53.70	107.4
tert-Butanol	2.144	428.8	42.88	8.576	2.144		0.2144	0.4288	1.0720	2.144	10.720	53.600	107.20	214.4
Methylene Chloride	1.070	214.0	21.40	4.280	1.070		0.1070	0.2140	0.5350	1.070	5.350	26.750	53.50	107.0
Allyl Chloride	1.067	213.4	21.34	4.268	1.067		0.1067	0.2134	0.5335	1.067	5.335	26.675	53.35	106.7
Trichlorotrifluoroethane	1.065	213.0	21.30	4.260	1.065		0.1065	0.2130	0.5325	1.065	5.325	26.625	53.25	106.5
Carbon Disulfide	1.075	215.0	21.50	4.300	1.075		0.1075	0.2150	0.5375	1.075	5.375	26.875	53.75	107.5
trans-1,2-Dichloroethene	1.062	212.4	21.24	4.248	1.062		0.1062	0.2124	0.5310	1.062	5.310	26.550	53.10	106.2
1,1-Dichloroethane	1.030	206.0	20.60	4.120	1.030		0.1030	0.2060	0.5150	1.030	5.150	25.750	51.50	103.0
Methyl tert-Butyl Ether	1.089	217.8	21.78	4.356	1.089		0.1089	0.2178	0.5445	1.089	5.445	27.225	54.45	108.9
Vinyl Acetate	5.252	1050.4	105.04	21.008	5.252		0.5252	1.0504	2.6260	5.252	26.260	131.300	262.60	525.2
2-Butanone	1.027	205.4	20.54	4.108	1.027		0.1027	0.2054	0.5135	1.027	5.135	25.675	51.35	102.7
cis-1,2-Dichloroethene	1.054	210.8	21.08	4.216	1.054		0.1054	0.2108	0.5270	1.054	5.270	26.350	52.70	105.4
Diisopropyl Ether	1.081	216.2	21.62	4.324	1.081		0.1081	0.2162	0.5405	1.081	5.405	27.025	54.05	108.1
Ethyl Acetate	2.166	433.2	43.32	8.664	2.166		0.2166	0.4332	1.0830	2.166	10.830	54.150	108.30	216.6
n-Hexane	1.082	216.4	21.64	4.328	1.082		0.1082	0.2164	0.5410	1.082	5.410	27.050	54.10	108.2
Chloroform	1.077	215.4	21.54	4.308	1.077		0.1077	0.2154	0.5385	1.077	5.385	26.925	53.85	107.7
Tetrahydrofuran	1.068	213.6	21.36	4.272	1.068		0.1068	0.2136	0.5340	1.068	5.340	26.700	53.40	106.8
Ethyl tert-Butyl Ether	1.060	212.0	21.20	4.240	1.060		0.1060	0.2120	0.5300	1.060	5.300	26.500	53.00	106.0
1,2-Dichloroethane	1.061	212.2	21.22	4.244	1.061		0.1061	0.2122	0.5305	1.061	5.305	26.525	53.05	106.1
1,1,1-Trichloroethane	1.081	216.2	21.62	4.324	1.081		0.1081	0.2162	0.5405	1.081	5.405	27.025	54.05	108.1
Isopropyl Acetate	2.066	413.2	41.32	8.264	2.066		0.2066	0.4132	1.0330	2.066	10.330	51.650	103.30	206.6
1-Butanol	2.067	413.4	41.34	8.268	2.067		0.2067	0.4134	1.0335	2.067	10.335	51.675	103.35	206.7
Benzene	1.033	206.6	20.66	4.132	1.033		0.1033	0.2066	0.5165	1.033	5.165	25.825	51.65	103.3
Carbon Tetrachloride	1.036	207.2	20.72	4.144	1.036		0.1036	0.2072	0.5180	1.036	5.180	25.900	51.80	103.6
Cyclohexane	2.087	417.4	41.74	8.348	2.087		0.2087	0.4174	1.0435	2.087	10.435	52.175	104.35	208.7
tert-Amyl Methyl Ether	1.074	214.8	21.48	4.296	1.074		0.1074	0.2148	0.5370	1.074	5.370	26.850	53.70	107.4
1,2-Dichloropropane	1.073	214.6	21.46	4.292	1.073		0.1073	0.2146	0.5365	1.073	5.365	26.825	53.65	107.3
Bromodichloromethane	1.068	213.6	21.36	4.272	1.068		0.1068	0.2136	0.5340	1.068	5.340	26.700	53.40	106.8
Trichloroethene	1.062	212.4	21.24	4.248	1.062		0.1062	0.2124	0.5310	1.062	5.310	26.550	53.10	106.2
1,4-Dioxane	1.064	212.8	21.28	4.256	1.064		0.1064	0.2128	0.5320	1.064	5.320	26.600	53.20	106.4
Isooctane	1.061	212.2	21.22	4.244	1.061		0.1061	0.2122	0.5305	1.061	5.305	26.525	53.05	106.1
Methyl Methacrylate	2.135	427.0	42.70	8.540	2.135		0.2135	0.4270	1.0675	2.135	10.675	53.375	106.75	213.5
n-Heptane	1.076	215.2	21.52	4.304	1.076		0.1076	0.2152	0.5380	1.076	5.380	26.900	53.80	107.6

Q:\TO15 Std. Concentrations\MS08 Std. Conc\2019\R8052519.M\CAL Conc. (Primary Source)

Date Updated: 08/22/18
Version: 0

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S31-05201907
20ng/L Std. ID: S31-05081902
200ng/L Std. ID: S31-05201908

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.125	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.120	224.0	22.40	4.480	1.120		0.1120	0.2240	0.5600	1.120	5.600	28.000	56.00	112.0
4-Methyl-2-pentanone	1.060	212.0	21.20	4.240	1.060		0.1060	0.2120	0.5300	1.060	5.300	26.500	53.00	106.0
trans-1,3-Dichloropropene	1.055	211.0	21.10	4.220	1.055		0.1055	0.2110	0.5275	1.055	5.275	26.375	52.75	105.5
1,1,2-Trichloroethane	1.076	215.2	21.52	4.304	1.076		0.1076	0.2152	0.5380	1.076	5.380	26.900	53.80	107.6
Toluene	1.052	210.4	21.04	4.208	1.052		0.1052	0.2104	0.5260	1.052	5.260	26.300	52.60	105.2
2-Hexanone	1.074	214.8	21.48	4.296	1.074		0.1074	0.2148	0.5370	1.074	5.370	26.850	53.70	107.4
Dibromochloromethane	1.075	215.0	21.50	4.300	1.075		0.1075	0.2150	0.5375	1.075	5.375	26.875	53.75	107.5
1,2-Dibromoethane	1.076	215.2	21.52	4.304	1.076		0.1076	0.2152	0.5380	1.076	5.380	26.900	53.80	107.6
n-Butyl Acetate	1.085	217.0	21.70	4.340	1.085		0.1085	0.2170	0.5425	1.085	5.425	27.125	54.25	108.5
n-Octane	1.076	215.2	21.52	4.304	1.076		0.1076	0.2152	0.5380	1.076	5.380	26.900	53.80	107.6
Tetrachloroethene	1.058	211.6	21.16	4.232	1.058		0.1058	0.2116	0.5290	1.058	5.290	26.450	52.90	105.8
Chlorobenzene	1.066	213.2	21.32	4.264	1.066		0.1066	0.2132	0.5330	1.066	5.330	26.650	53.30	106.6
Ethylbenzene	1.033	206.6	20.66	4.132	1.033		0.1033	0.2066	0.5165	1.033	5.165	25.825	51.65	103.3
m-&p-Xylene	2.123	424.6	42.46	8.492	2.123		0.2123	0.4246	1.0615	2.123	10.615	53.075	106.15	212.3
Bromoform	1.063	212.6	21.26	4.252	1.063		0.1063	0.2126	0.5315	1.063	5.315	26.575	53.15	106.3
Styrene	1.060	212.0	21.20	4.240	1.060		0.1060	0.2120	0.5300	1.060	5.300	26.500	53.00	106.0
o-Xylene	1.062	212.4	21.24	4.248	1.062		0.1062	0.2124	0.5310	1.062	5.310	26.550	53.10	106.2
n-Nonane	1.071	214.2	21.42	4.284	1.071		0.1071	0.2142	0.5355	1.071	5.355	26.775	53.55	107.1
1,1,2,2-Tetrachloroethane	1.064	212.8	21.28	4.256	1.064		0.1064	0.2128	0.5320	1.064	5.320	26.600	53.20	106.4
Cumene	1.057	211.4	21.14	4.228	1.057		0.1057	0.2114	0.5285	1.057	5.285	26.425	52.85	105.7
alpha-Pinene	1.035	207.0	20.70	4.140	1.035		0.1035	0.2070	0.5175	1.035	5.175	25.875	51.75	103.5
n-Propylbenzene	1.076	215.2	21.52	4.304	1.076		0.1076	0.2152	0.5380	1.076	5.380	26.900	53.80	107.6
3-Ethyltoluene	1.062	212.4	21.24	4.248	1.062		0.1062	0.2124	0.5310	1.062	5.310	26.550	53.10	106.2
4-Ethyltoluene	1.061	212.2	21.22	4.244	1.061		0.1061	0.2122	0.5305	1.061	5.305	26.525	53.05	106.1
1,3,5-Trimethylbenzene	1.057	211.4	21.14	4.228	1.057		0.1057	0.2114	0.5285	1.057	5.285	26.425	52.85	105.7
alpha-Methylstyrene	1.058	211.6	21.16	4.232	1.058		0.1058	0.2116	0.5290	1.058	5.290	26.450	52.90	105.8
2-Ethyltoluene	1.072	214.4	21.44	4.288	1.072		0.1072	0.2144	0.5360	1.072	5.360	26.800	53.60	107.2
1,2,4-Trimethylbenzene	1.068	213.6	21.36	4.272	1.068		0.1068	0.2136	0.5340	1.068	5.340	26.700	53.40	106.8
n-Decane	1.076	215.2	21.52	4.304	1.076		0.1076	0.2152	0.5380	1.076	5.380	26.900	53.80	107.6
Benzyl Chloride	1.051	210.2	21.02	4.204	1.051		0.1051	0.2102	0.5255	1.051	5.255	26.275	52.55	105.1
1,3-Dichlorobenzene	1.080	216.0	21.60	4.320	1.080		0.1080	0.2160	0.5400	1.080	5.400	27.000	54.00	108.0
1,4-Dichlorobenzene	1.081	216.2	21.62	4.324	1.081		0.1081	0.2162	0.5405	1.081	5.405	27.025	54.05	108.1
sec-Butylbenzene	1.063	212.6	21.26	4.252	1.063		0.1063	0.2126	0.5315	1.063	5.315	26.575	53.15	106.3
p-Isopropyltoluene	1.042	208.4	20.84	4.168	1.042		0.1042	0.2084	0.5210	1.042	5.210	26.050	52.10	104.2
1,2,3-Trimethylbenzene	1.042	208.4	20.84	4.168	1.042		0.1042	0.2084	0.5210	1.042	5.210	26.050	52.10	104.2
1,2-Dichlorobenzene	1.089	217.8	21.78	4.356	1.089		0.1089	0.2178	0.5445	1.089	5.445	27.225	54.45	108.9
d-Limonene	1.010	202.0	20.20	4.040	1.010		0.1010	0.2020	0.5050	1.010	5.050	25.250	50.50	101.0
1,2-Dibromo-3-chloropropane	1.042	208.4	20.84	4.168	1.042		0.1042	0.2084	0.5210	1.042	5.210	26.050	52.10	104.2
n-Undecane	1.057	211.4	21.14	4.228	1.057		0.1057	0.2114	0.5285	1.057	5.285	26.425	52.85	105.7
1,2,4-Trichlorobenzene	1.064	212.8	21.28	4.256	1.064		0.1064	0.2128	0.5320	1.064	5.320	26.600	53.20	106.4
Naphthalene	1.025	205.0	20.50	4.100	1.025		0.1025	0.2050	0.5125	1.025	5.125	25.625	51.25	102.5
n-Dodecane	1.031	206.2	20.62	4.124	1.031		0.1031	0.2062	0.5155	1.031	5.155	25.775	51.55	103.1
Hexachloro-1,3-butadiene	1.053	210.6	21.06	4.212	1.053		0.1053	0.2106	0.5265	1.053	5.265	26.325	52.65	105.3
Methacrylonitrile	1.041	208.2	20.82	4.164	1.041		0.1041	0.2082	0.5205	1.041	5.205	26.025	52.05	104.1
Cyclohexanone	0.982	196.4	19.64	3.928	0.982		0.0982	0.1964	0.4910	0.982	4.910	24.550	49.10	98.2
tert-Butylbenzene	1.067	213.4	21.34	4.268	1.067		0.1067	0.2134	0.5335	1.067	5.335	26.675	53.35	106.7
n-Butylbenzene	1.064	212.8	21.28	4.256	1.064		0.1064	0.2128	0.5320	1.064	5.320	26.600	53.20	106.4

Calibration Status Report MS08

Method : I:\MS08\Methods\R8052519.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS08\Data\2019_05\25\05251913.D
2	0.2	0	13	I:\MS08\Data\2019_05\25\05251914.D
3	0.5	1	13	I:\MS08\Data\2019_05\25\05251915.D
4	1.0	1	13	I:\MS08\Data\2019_05\25\05251916.D
5	5.0	5	13	I:\MS08\Data\2019_05\25\05251917.D
6	25	26	13	I:\MS08\Data\2019_05\25\05251918.D
7	50	52	13	I:\MS08\Data\2019_05\25\05251919.D
8	100	103	13	I:\MS08\Data\2019_05\25\05251920.D

RS 5/28/19

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 28 07:56 2019	May 28 07:35 2019	25 May 2019 12:57
2	0.2	May 28 07:56 2019	May 28 07:29 2019	25 May 2019 13:30
3	0.5	May 28 07:56 2019	May 28 07:29 2019	25 May 2019 14:03
4	1.0	May 28 07:57 2019	May 28 07:29 2019	25 May 2019 14:36
5	5.0	May 28 07:57 2019	May 28 07:29 2019	25 May 2019 15:09
6	25	May 28 07:57 2019	May 28 07:29 2019	25 May 2019 15:42
7	50	May 28 07:57 2019	May 28 07:29 2019	25 May 2019 16:15
8	100	May 28 07:57 2019	May 28 07:29 2019	25 May 2019 16:49

R8052519.M Tue May 28 15:38:20 2019

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251913.D
Sample : 0.1ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 12:57 Operator: SC
Misc : S31-05251901/S31-05201907 (6/18)
ALS Vial : 5 Sample Multiplier: 1

RS 5/28/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:35:13 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:43 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	137480	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.35	114	615103	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	246840	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	170267	10.915	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.28%				
57) Toluene-d8 (SS2)	15.81	98	642666	13.604	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
73) Bromofluorobenzene (SS3)	19.05	174	209060	12.637	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
2) Propene	4.21	42	1698	0.145	ng		91
3) Dichlorodifluoromethan...	4.35	85	2403	0.153	ng	#	91
4) Chloromethane	4.64	50	1792	0.156	ng		80
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	1361	0.156	ng		78
6) Vinyl Chloride	5.06	62	1702	0.137	ng		85
7) 1,3-Butadiene	5.33	54	1136	0.111	ng		96
8) Bromomethane	5.76	94	1084	0.147	ng		95
9) Chloroethane	6.09	64	1026	0.144	ng	#	62
10) Ethanol	6.45	45	5640	0.720	ng		98
11) Acetonitrile	6.73	41	2442	0.120	ng		82
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	7.13	58	6387	0.797	ng		93
14) Trichlorofluoromethane	7.34	101	2045	0.151	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	7082	0.286	ng		92
16) Acrylonitrile	7.90	53	588	0.046	ng	#	33
17) 1,1-Dichloroethene	8.31	96	1331	0.160	ng		97
18) 2-Methyl-2-Propanol (t...	8.55	59	6108	0.268	ng		86
19) Methylene Chloride	8.52	84	1318	0.154	ng		97
20) 3-Chloro-1-propene (Al...	8.69	41	1795	0.122	ng		93
21) Trichlorotrifluoroethane	8.95	151	1270	0.160	ng		91
22) Carbon Disulfide	8.80	76	5931	0.179	ng		85
23) trans-1,2-Dichloroethene	9.81	61	1433	0.124	ng		84
24) 1,1-Dichloroethane	10.04	63	2221	0.142	ng		82
25) Methyl tert-Butyl Ether	10.19	73	4241	0.155	ng		94
26) Vinyl Acetate	10.33	86	1039	0.402	ng	#	1
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	11.06	61	1621	0.136	ng		100
29) Diisopropyl Ether	11.39	87	1366	0.154	ng	#	84
30) Ethyl Acetate	11.41	61	326	0.107	ng		91
31) n-Hexane	11.35	57	2849	0.174	ng	#	91
32) Chloroform	11.40	83	2090	0.151	ng		97
34) Tetrahydrofuran (THF)	11.87	72	944	0.154	ng	#	83
35) Ethyl tert-Butyl Ether	11.97	87	1649	0.141	ng		98
36) 1,2-Dichloroethane	12.21	62	1547	0.145	ng		72
38) 1,1,1-Trichloroethane	12.49	97	1911	0.153	ng		98
39) Isopropyl Acetate	12.94	61	1662	0.274	ng		93
40) 1-Butanol	13.00	56	1312	0.133	ng		85
41) Benzene	12.97	78	6030	0.165	ng		94
42) Carbon Tetrachloride	13.12	117	1551	0.147	ng		95
43) Cyclohexane	13.26	84	5409	0.339	ng		98
44) tert-Amyl Methyl Ether	13.62	73	3814	0.145	ng		95
45) 1,2-Dichloropropane	13.82	63	1339	0.149	ng		94
46) Bromodichloromethane	14.01	83	1365	0.129	ng		98
47) Trichloroethene	14.07	130	1502	0.154	ng		95
48) 1,4-Dioxane	14.08	88	858	0.114	ng		97
49) 2,2,4-Trimethylpentane...	14.13	57	7001	0.164	ng		98
50) Methyl Methacrylate	14.29	100	809	0.204	ng		94

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251913.D
Sample : 0.1ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 12:57 Operator: SC
Misc : S31-05251901/S31-05201907 (6/18)
ALS Vial : 5 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:35:13 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:43 2019
Response via : Initial Calibration

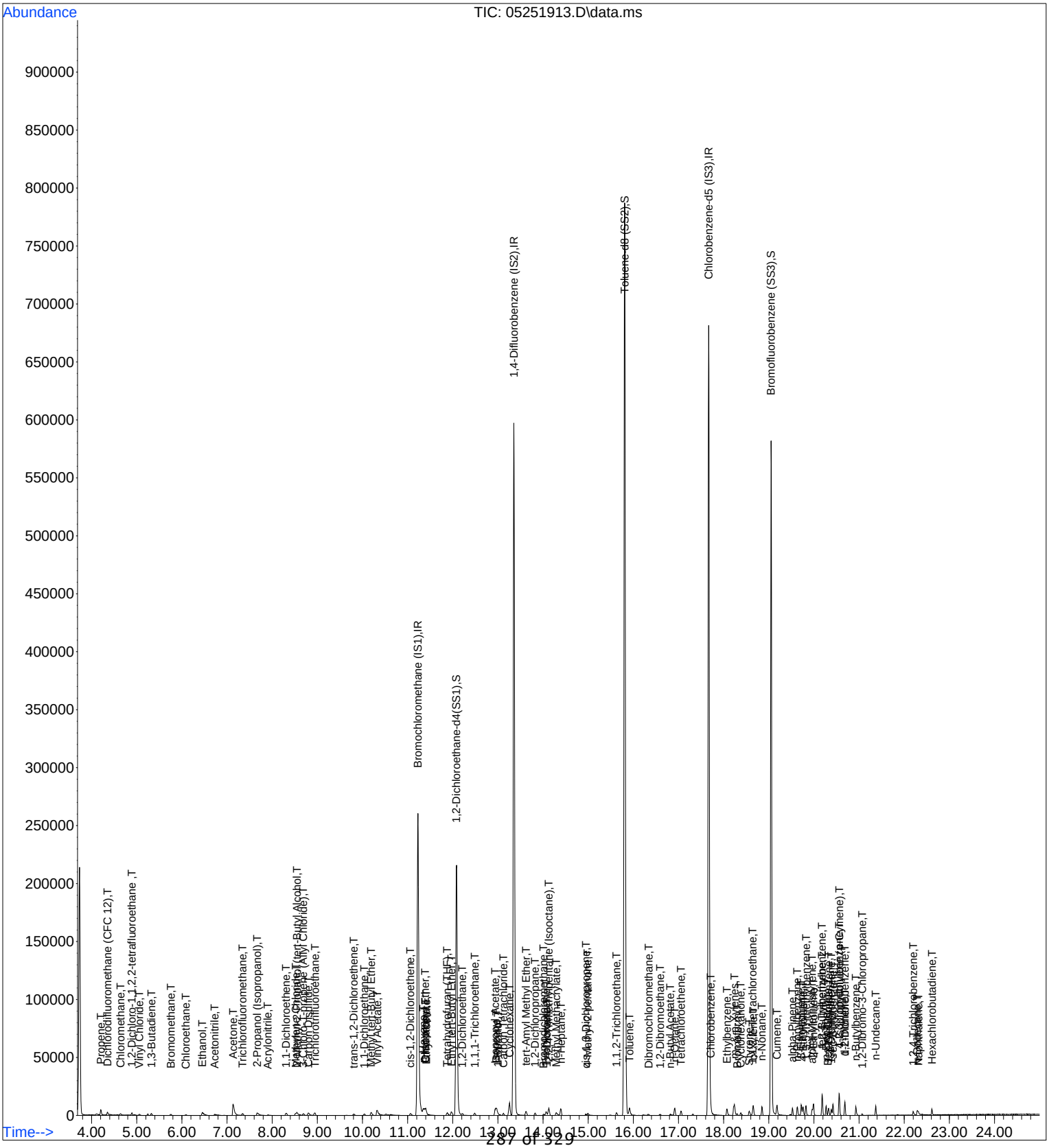
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.40	71	1676	0.161 ng		100
52) cis-1,3-Dichloropropene	14.95	75	1534	0.110 ng	#	63
53) 4-Methyl-2-pentanone	14.99	58	632	0.072 ng	#	7
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	15.62	97	1279	0.157 ng		88
58) Toluene	15.91	91	6711	0.202 ng		98
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.34	129	1136	0.152 ng		100
61) 1,2-Dibromoethane	16.59	107	1059	0.138 ng		94
62) n-Butyl Acetate	16.82	43	1918	0.096 ng	#	75
63) n-Octane	16.92	57	1252	0.168 ng		92
64) Tetrachloroethene	17.05	166	1758	0.191 ng		100
65) Chlorobenzene	17.72	112	4199	0.191 ng		98
66) Ethylbenzene	18.08	91	6921	0.184 ng		93
67) m- & p-Xylenes	18.24	91	10688	0.379 ng		99
68) Bromoform	18.30	173	932	0.148 ng		91
69) Styrene	18.57	104	3708	0.173 ng		90
70) o-Xylene	18.66	91	5499	0.194 ng		99
71) n-Nonane	18.85	43	3054	0.167 ng		96
72) 1,1,2,2-Tetrachloroethane	18.64	83	2152	0.173 ng		92
74) Cumene	19.18	105	7542	0.200 ng		97
75) alpha-Pinene	19.52	93	3137	0.169 ng		95
76) n-Propylbenzene	19.63	91	8211	0.192 ng		95
77) 3-Ethyltoluene	19.72	105	7083	0.194 ng		97
78) 4-Ethyltoluene	19.76	105	6925	0.199 ng		95
79) 1,3,5-Trimethylbenzene	19.82	105	6389	0.207 ng		94
80) alpha-Methylstyrene	19.96	118	2560	0.168 ng		98
81) 2-Ethyltoluene	19.99	105	7461	0.206 ng		97
82) 1,2,4-Trimethylbenzene	20.18	105	5709	0.195 ng		94
83) n-Decane	20.27	57	3059	0.177 ng		95
84) Benzyl Chloride	20.31	91	2346	0.109 ng		79
85) 1,3-Dichlorobenzene	20.33	146	3019	0.180 ng		94
86) 1,4-Dichlorobenzene	20.38	146	3642	0.211 ng		100
87) sec-Butylbenzene	20.42	105	8052	0.195 ng		98
88) 4-Isopropyltoluene (p-...	20.56	119	7953	0.207 ng		100
89) 1,2,3-Trimethylbenzene	20.56	105	5819	0.197 ng		97
90) 1,2-Dichlorobenzene	20.69	146	3307	0.207 ng		90
91) d-Limonene	20.69	68	1718	0.151 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.07	157	652	0.111 ng		98
93) n-Undecane	21.37	57	2949	0.180 ng		92
94) 1,2,4-Trichlorobenzene	22.20	180	1826	0.158 ng	#	95
95) Naphthalene	22.32	128	4571	0.126 ng		81
96) n-Dodecane	22.29	57	1981	0.164 ng		91
97) Hexachlorobutadiene	22.62	225	1458	0.196 ng		95
98) Cyclohexanone	18.38	55	1582	0.134 ng		93
99) tert-Butylbenzene	20.18	119	6122	0.203 ng		99
100) n-Butylbenzene	20.93	91	5543	0.180 ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251913.D
Sample : 0.1ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 12:57 Operator: SC
Misc : S31-05251901/S31-05201907 (6/18)
ALS Vial : 5 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:35:13 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:43 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251914.D
Sample : 0.2ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 13:30 Operator: SC
Misc : S31-05251901/S31-05201907 (6/18)
ALS Vial : 5 Sample Multiplier: 1

RS 5/28/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:26 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	136858	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.35	114	611556	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	246745	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	169166	10.894	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.12%				
57) Toluene-d8 (SS2)	15.81	98	643933	13.636	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.12%				
73) Bromofluorobenzene (SS3)	19.06	174	208509	12.608	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	4.19	42	2748	0.236	ng		94
3) Dichlorodifluoromethan...	4.34	85	4069	0.260	ng	#	97
4) Chloromethane	4.62	50	3041	0.266	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.89	135	2333	0.269	ng		91
6) Vinyl Chloride	5.05	62	2901	0.234	ng		89
7) 1,3-Butadiene	5.31	54	2147	0.210	ng		95
8) Bromomethane	5.74	94	1967	0.267	ng		94
9) Chloroethane	6.07	64	1870	0.263	ng		80
10) Ethanol	6.44	45	9582	1.229	ng		96
11) Acetonitrile	6.71	41	4661	0.230	ng		93
12) Acrolein	6.91	56	1086	0.190	ng		94
13) Acetone	7.11	58	10732	1.346	ng		94
14) Trichlorofluoromethane	7.34	101	3441	0.255	ng		98
15) 2-Propanol (Isopropanol)	7.64	45	12406	0.503	ng		97
16) Acrylonitrile	7.89	53	2045	0.162	ng		98
17) 1,1-Dichloroethene	8.30	96	2453	0.297	ng		96
18) 2-Methyl-2-Propanol (t...	8.52	59	11483	0.506	ng		94
19) Methylene Chloride	8.51	84	2232	0.262	ng		92
20) 3-Chloro-1-propene (Al...	8.68	41	3486	0.238	ng		93
21) Trichlorotrifluoroethane	8.94	151	2412	0.305	ng		96
22) Carbon Disulfide	8.79	76	9680	0.294	ng		93
23) trans-1,2-Dichloroethene	9.80	61	2786	0.241	ng		94
24) 1,1-Dichloroethane	10.04	63	4022	0.259	ng		93
25) Methyl tert-Butyl Ether	10.18	73	7680	0.282	ng		94
26) Vinyl Acetate	10.31	86	2706	1.052	ng	#	62
27) 2-Butanone (MEK)	10.59	72	1076	0.164	ng	#	1
28) cis-1,2-Dichloroethene	11.06	61	3141	0.265	ng		98
29) Diisopropyl Ether	11.37	87	2618	0.296	ng	#	92
30) Ethyl Acetate	11.40	61	1267	0.417	ng		90
31) n-Hexane	11.35	57	4621	0.284	ng		96
32) Chloroform	11.40	83	3743	0.272	ng		98
34) Tetrahydrofuran (THF)	11.86	72	1806	0.296	ng		94
35) Ethyl tert-Butyl Ether	11.97	87	3101	0.266	ng		95
36) 1,2-Dichloroethane	12.21	62	2784	0.263	ng		77
38) 1,1,1-Trichloroethane	12.49	97	3426	0.277	ng		95
39) Isopropyl Acetate	12.93	61	3195	0.530	ng		96
40) 1-Butanol	12.98	56	3515	0.358	ng	#	69
41) Benzene	12.97	78	10814	0.298	ng		94
42) Carbon Tetrachloride	13.12	117	2799	0.267	ng		100
43) Cyclohexane	13.26	84	9365	0.591	ng		100
44) tert-Amyl Methyl Ether	13.62	73	7136	0.273	ng		98
45) 1,2-Dichloropropane	13.82	63	2467	0.276	ng		99
46) Bromodichloromethane	14.00	83	2764	0.263	ng		93
47) Trichloroethene	14.06	130	2858	0.294	ng		99
48) 1,4-Dioxane	14.07	88	2044	0.274	ng		90
49) 2,2,4-Trimethylpentane...	14.13	57	12052	0.285	ng		99
50) Methyl Methacrylate	14.28	100	1744	0.443	ng		89

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251914.D
Sample : 0.2ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 13:30 Operator: SC
Misc : S31-05251901/S31-05201907 (6/18)
ALS Vial : 5 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:26 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

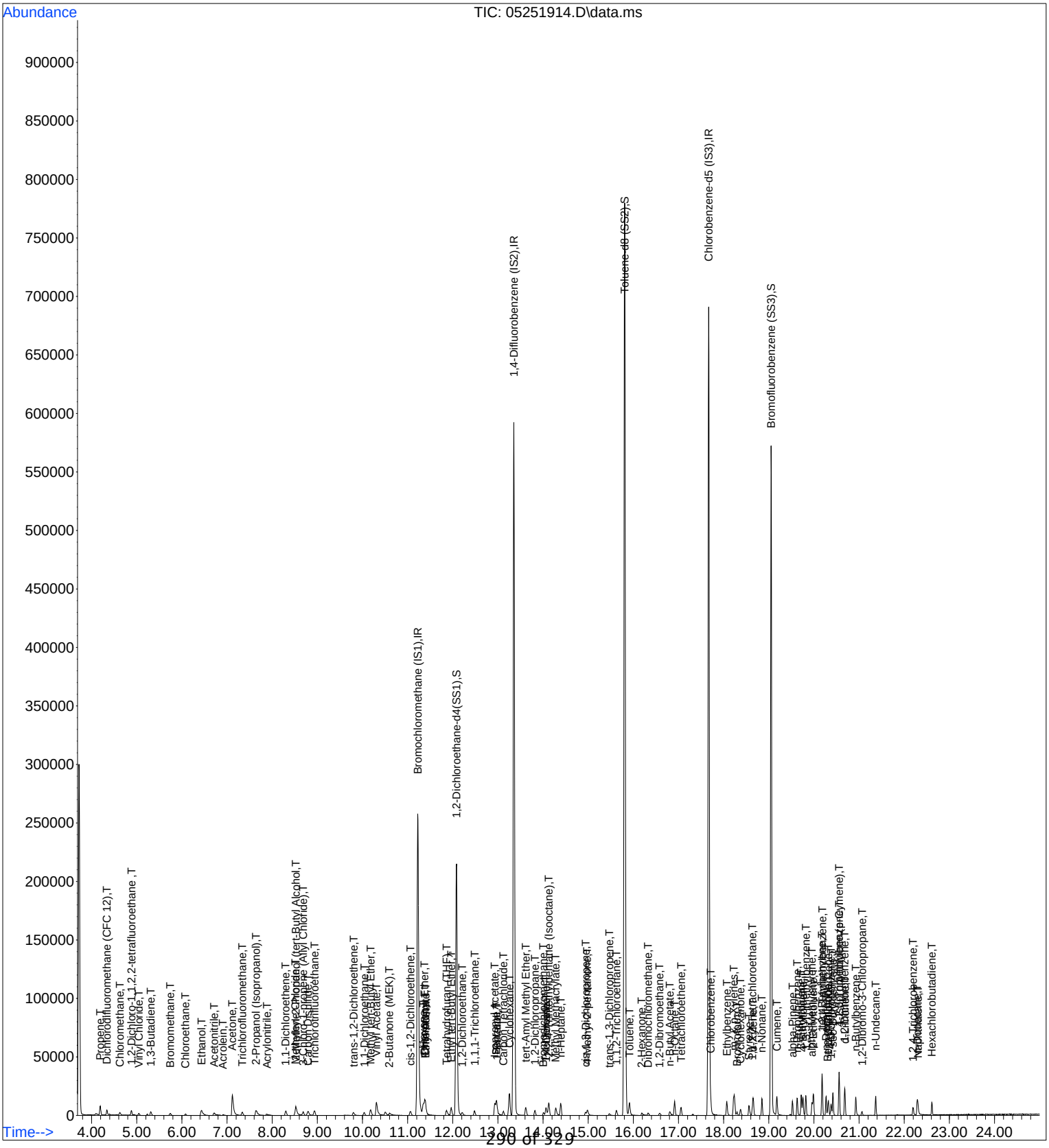
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.39	71	2846	0.274	ng		93
52) cis-1,3-Dichloropropene	14.95	75	3090	0.224	ng		93
53) 4-Methyl-2-pentanone	14.98	58	1761	0.203	ng	#	74
54) trans-1,3-Dichloropropene	15.47	75	1911	0.158	ng		84
55) 1,1,2-Trichloroethane	15.62	97	2239	0.277	ng		100
58) Toluene	15.91	91	11005	0.332	ng		97
59) 2-Hexanone	16.18	43	3654	0.198	ng		84
60) Dibromochloromethane	16.33	129	2284	0.305	ng		94
61) 1,2-Dibromoethane	16.58	107	2398	0.314	ng		92
62) n-Butyl Acetate	16.81	43	4591	0.230	ng		95
63) n-Octane	16.91	57	2364	0.317	ng		98
64) Tetrachloroethene	17.06	166	3233	0.351	ng		99
65) Chlorobenzene	17.72	112	7513	0.343	ng		99
66) Ethylbenzene	18.07	91	12000	0.319	ng		99
67) m- & p-Xylenes	18.23	91	19135	0.678	ng		98
68) Bromoform	18.30	173	1790	0.285	ng		97
69) Styrene	18.56	104	6625	0.310	ng		96
70) o-Xylene	18.65	91	9580	0.338	ng		100
71) n-Nonane	18.85	43	5426	0.297	ng		97
72) 1,1,2,2-Tetrachloroethane	18.64	83	3872	0.311	ng		99
74) Cumene	19.18	105	12934	0.343	ng		99
75) alpha-Pinene	19.53	93	5782	0.311	ng		96
76) n-Propylbenzene	19.63	91	14553	0.340	ng		99
77) 3-Ethyltoluene	19.72	105	12929	0.354	ng		99
78) 4-Ethyltoluene	19.75	105	11340	0.326	ng		97
79) 1,3,5-Trimethylbenzene	19.82	105	11179	0.363	ng		97
80) alpha-Methylstyrene	19.95	118	4809	0.316	ng		95
81) 2-Ethyltoluene	19.99	105	13021	0.359	ng		97
82) 1,2,4-Trimethylbenzene	20.19	105	10527	0.359	ng		95
83) n-Decane	20.27	57	5821	0.337	ng		96
84) Benzyl Chloride	20.30	91	4431	0.207	ng		93
85) 1,3-Dichlorobenzene	20.32	146	6011	0.358	ng		98
86) 1,4-Dichlorobenzene	20.38	146	6301	0.364	ng		97
87) sec-Butylbenzene	20.42	105	14614	0.355	ng		97
88) 4-Isopropyltoluene (p-...	20.56	119	14041	0.366	ng		99
89) 1,2,3-Trimethylbenzene	20.56	105	10640	0.361	ng		99
90) 1,2-Dichlorobenzene	20.68	146	6091	0.382	ng		96
91) d-Limonene	20.69	68	3448	0.304	ng		96
92) 1,2-Dibromo-3-Chloropr...	21.07	157	1423	0.242	ng		86
93) n-Undecane	21.37	57	5518	0.336	ng		93
94) 1,2,4-Trichlorobenzene	22.19	180	3582	0.311	ng		98
95) Naphthalene	22.30	128	10892	0.299	ng		90
96) n-Dodecane	22.29	57	4614	0.382	ng		89
97) Hexachlorobutadiene	22.61	225	2663	0.358	ng		94
98) Cyclohexanone	18.37	55	3200	0.270	ng		99
99) tert-Butylbenzene	20.18	119	11007	0.366	ng		99
100) n-Butylbenzene	20.93	91	10187	0.330	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251914.D
Sample : 0.2ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 13:30 Operator: SC
Misc : S31-05251901/S31-05201907 (6/18)
ALS Vial : 5 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:26 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251915.D
Sample : 0.5ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 14:03 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

RS 5/28/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:28 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	136465	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.35	114	610657	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	245916	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	169641	10.956	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%				
57) Toluene-d8 (SS2)	15.81	98	640553	13.610	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
73) Bromofluorobenzene (SS3)	19.06	174	208479	12.649	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	4.19	42	6707	0.578	ng		99
3) Dichlorodifluoromethan...	4.33	85	10183	0.654	ng		99
4) Chloromethane	4.62	50	7571	0.664	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.88	135	5501	0.636	ng		100
6) Vinyl Chloride	5.04	62	7317	0.592	ng		95
7) 1,3-Butadiene	5.31	54	5681	0.558	ng		97
8) Bromomethane	5.74	94	4789	0.653	ng		99
9) Chloroethane	6.07	64	4568	0.644	ng		94
10) Ethanol	6.41	45	21766	2.799	ng		97
11) Acetonitrile	6.70	41	10857	0.538	ng		93
12) Acrolein	6.91	56	2594	0.454	ng		96
13) Acetone	7.10	58	25566	3.215	ng		98
14) Trichlorofluoromethane	7.33	101	8821	0.656	ng		99
15) 2-Propanol (Isopropanol)	7.60	45	30392	1.236	ng		98
16) Acrylonitrile	7.86	53	6560	0.522	ng		94
17) 1,1-Dichloroethene	8.30	96	5753	0.699	ng		97
18) 2-Methyl-2-Propanol (t...	8.50	59	30468	1.348	ng		98
19) Methylene Chloride	8.51	84	5685	0.670	ng		95
20) 3-Chloro-1-propene (Al...	8.68	41	8970	0.615	ng		94
21) Trichlorotrifluoroethane	8.94	151	5808	0.737	ng		100
22) Carbon Disulfide	8.79	76	22883	0.697	ng		96
23) trans-1,2-Dichloroethene	9.79	61	7629	0.663	ng		99
24) 1,1-Dichloroethane	10.03	63	9841	0.635	ng		100
25) Methyl tert-Butyl Ether	10.17	73	18994	0.698	ng		99
26) Vinyl Acetate	10.30	86	7476	2.916	ng	#	81
27) 2-Butanone (MEK)	10.58	72	3241	0.495	ng	#	61
28) cis-1,2-Dichloroethene	11.06	61	7687	0.651	ng		99
29) Diisopropyl Ether	11.36	87	6826	0.775	ng		98
30) Ethyl Acetate	11.38	61	3862	1.274	ng		94
31) n-Hexane	11.35	57	11308	0.697	ng		99
32) Chloroform	11.40	83	9515	0.692	ng		100
34) Tetrahydrofuran (THF)	11.85	72	4257	0.700	ng	#	89
35) Ethyl tert-Butyl Ether	11.95	87	7967	0.685	ng		97
36) 1,2-Dichloroethane	12.21	62	6471	0.612	ng		97
38) 1,1,1-Trichloroethane	12.48	97	8574	0.693	ng		99
39) Isopropyl Acetate	12.92	61	8091	1.344	ng		98
40) 1-Butanol	12.96	56	9203	0.939	ng		80
41) Benzene	12.97	78	25561	0.704	ng		97
42) Carbon Tetrachloride	13.12	117	6902	0.661	ng		99
43) Cyclohexane	13.25	84	22384	1.415	ng		97
44) tert-Amyl Methyl Ether	13.61	73	18233	0.698	ng		99
45) 1,2-Dichloropropane	13.82	63	5935	0.666	ng		96
46) Bromodichloromethane	14.01	83	6882	0.656	ng		96
47) Trichloroethene	14.06	130	6848	0.705	ng		99
48) 1,4-Dioxane	14.06	88	5112	0.686	ng		98
49) 2,2,4-Trimethylpentane...	14.13	57	28370	0.671	ng		100
50) Methyl Methacrylate	14.27	100	5054	1.286	ng		89

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251915.D
Sample : 0.5ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 14:03 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:28 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

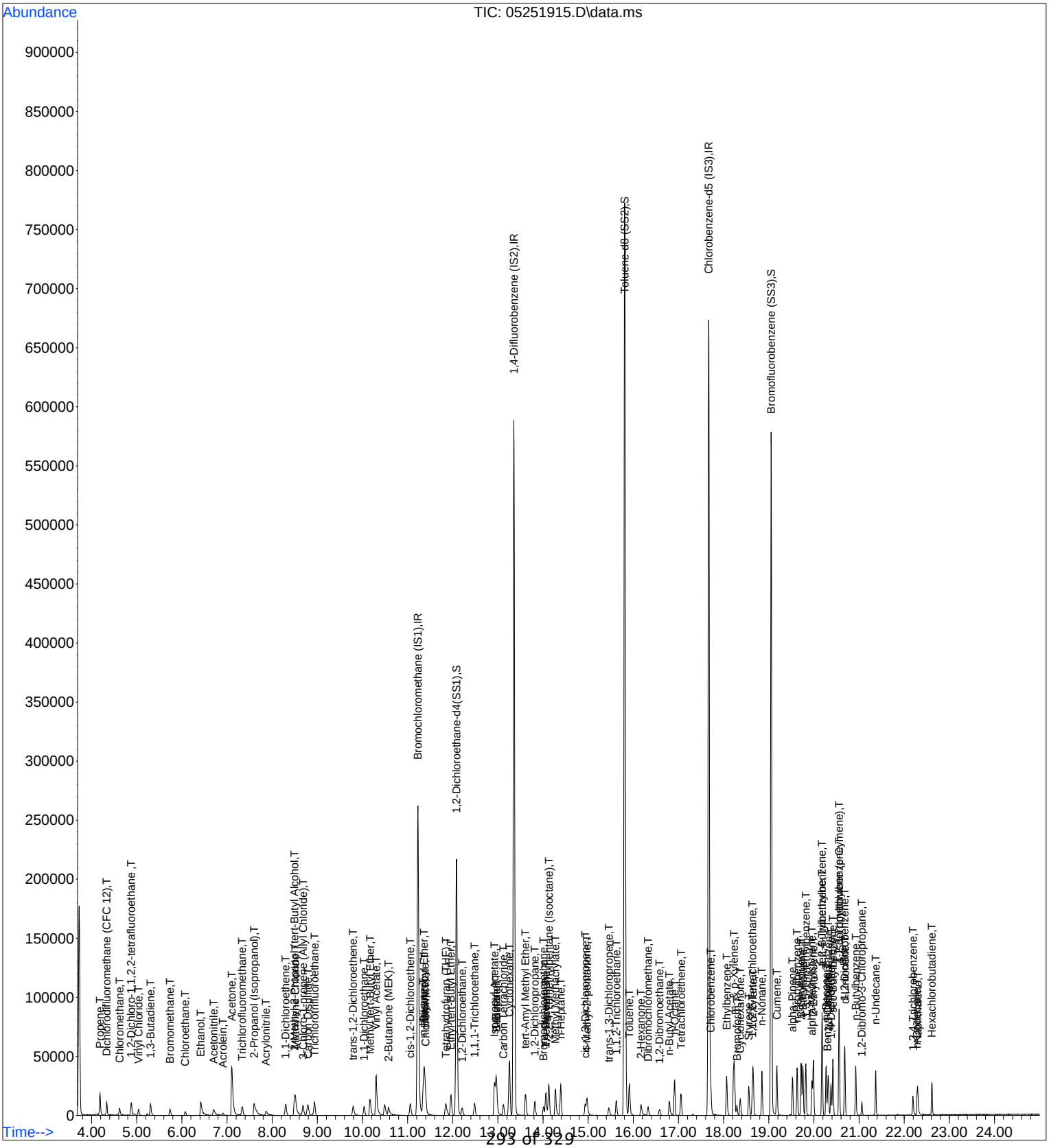
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.39	71	7602	0.734	ng	98
52) cis-1,3-Dichloropropene	14.93	75	9085	0.659	ng	92
53) 4-Methyl-2-pentanone	14.97	58	5392	0.622	ng	88
54) trans-1,3-Dichloropropene	15.46	75	6128	0.506	ng	96
55) 1,1,2-Trichloroethane	15.62	97	5826	0.721	ng	99
58) Toluene	15.91	91	26631	0.806	ng	100
59) 2-Hexanone	16.17	43	11840	0.644	ng	91
60) Dibromochloromethane	16.32	129	5856	0.785	ng	97
61) 1,2-Dibromoethane	16.58	107	5964	0.783	ng	99
62) n-Butyl Acetate	16.80	43	13250	0.666	ng	95
63) n-Octane	16.91	57	5960	0.803	ng	99
64) Tetrachloroethene	17.06	166	7777	0.846	ng	100
65) Chlorobenzene	17.71	112	18023	0.824	ng	99
66) Ethylbenzene	18.07	91	29913	0.799	ng	100
67) m- & p-Xylenes	18.23	91	46545	1.655	ng	99
68) Bromoform	18.30	173	4753	0.760	ng	98
69) Styrene	18.56	104	16809	0.789	ng	97
70) o-Xylene	18.65	91	23611	0.836	ng	100
71) n-Nonane	18.85	43	13754	0.756	ng	98
72) 1,1,2,2-Tetrachloroethane	18.64	83	10106	0.815	ng	99
74) Cumene	19.18	105	31500	0.838	ng	99
75) alpha-Pinene	19.52	93	14326	0.773	ng	99
76) n-Propylbenzene	19.63	91	36125	0.847	ng	99
77) 3-Ethyltoluene	19.72	105	30037	0.825	ng	100
78) 4-Ethyltoluene	19.75	105	29506	0.852	ng	100
79) 1,3,5-Trimethylbenzene	19.82	105	26638	0.867	ng	98
80) alpha-Methylstyrene	19.95	118	11708	0.772	ng	99
81) 2-Ethyltoluene	19.99	105	31265	0.865	ng	100
82) 1,2,4-Trimethylbenzene	20.18	105	25322	0.867	ng	98
83) n-Decane	20.27	57	14078	0.817	ng	98
84) Benzyl Chloride	20.30	91	11386	0.533	ng	95
85) 1,3-Dichlorobenzene	20.32	146	14112	0.844	ng	99
86) 1,4-Dichlorobenzene	20.38	146	14560	0.845	ng	96
87) sec-Butylbenzene	20.42	105	35226	0.858	ng	100
88) 4-Isopropyltoluene (p-...	20.56	119	34051	0.891	ng	98
89) 1,2,3-Trimethylbenzene	20.56	105	25427	0.866	ng	100
90) 1,2-Dichlorobenzene	20.68	146	13685	0.861	ng	98
91) d-Limonene	20.69	68	8412	0.743	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.06	157	4079	0.697	ng	95
93) n-Undecane	21.37	57	11996	0.734	ng	99
94) 1,2,4-Trichlorobenzene	22.19	180	7468	0.651	ng	98
95) Naphthalene	22.30	128	19666	0.543	ng	93
96) n-Dodecane	22.28	57	5486	0.456	ng	97
97) Hexachlorobutadiene	22.61	225	6261	0.846	ng	100
98) Cyclohexanone	18.37	55	7266	0.616	ng	99
99) tert-Butylbenzene	20.18	119	26872	0.896	ng	100
100) n-Butylbenzene	20.93	91	25157	0.818	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251915.D
Sample : 0.5ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 14:03 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:28 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251916.D
Sample : 1.0ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 14:36 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

RS 5/28/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:30 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	135287	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.35	114	608118	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.67	82	247058	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.08	65	169937	11.070	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
57) Toluene-d8 (SS2)	15.81	98	639611	13.527	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.24%				
73) Bromofluorobenzene (SS3)	19.06	174	208922	12.617	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
Target Compounds							Qvalue
2) Propene	4.18	42	12916	1.123	ng		98
3) Dichlorodifluoromethan...	4.33	85	19490	1.262	ng		99
4) Chloromethane	4.61	50	14067	1.244	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.88	135	10199	1.190	ng		97
6) Vinyl Chloride	5.04	62	14391	1.174	ng		94
7) 1,3-Butadiene	5.30	54	11802	1.168	ng		99
8) Bromomethane	5.73	94	9481	1.303	ng		97
9) Chloroethane	6.07	64	8629	1.227	ng		100
10) Ethanol	6.41	45	42058	5.456	ng		99
11) Acetonitrile	6.69	41	21206	1.059	ng		96
12) Acrolein	6.90	56	6187	1.093	ng		94
13) Acetone	7.10	58	47987	6.087	ng		100
14) Trichlorofluoromethane	7.33	101	17010	1.277	ng		99
15) 2-Propanol (Isopropanol)	7.58	45	58275	2.390	ng		99
16) Acrylonitrile	7.86	53	14488	1.163	ng		95
17) 1,1-Dichloroethene	8.30	96	11327	1.388	ng		99
18) 2-Methyl-2-Propanol (t...	8.46	59	58065	2.591	ng		97
19) Methylene Chloride	8.51	84	11855	1.408	ng		97
20) 3-Chloro-1-propene (Al...	8.68	41	16438	1.136	ng		99
21) Trichlorotrifluoroethane	8.94	151	11278	1.444	ng		99
22) Carbon Disulfide	8.79	76	39626	1.217	ng		100
23) trans-1,2-Dichloroethene	9.79	61	15265	1.338	ng		100
24) 1,1-Dichloroethane	10.03	63	19451	1.266	ng		100
25) Methyl tert-Butyl Ether	10.16	73	37038	1.374	ng		99
26) Vinyl Acetate	10.30	86	15385	6.053	ng	#	85
27) 2-Butanone (MEK)	10.57	72	7364	1.135	ng	#	85
28) cis-1,2-Dichloroethene	11.06	61	14858	1.269	ng		98
29) Diisopropyl Ether	11.36	87	13001	1.489	ng		95
30) Ethyl Acetate	11.37	61	8382	2.789	ng		97
31) n-Hexane	11.34	57	21830	1.358	ng		99
32) Chloroform	11.40	83	18520	1.359	ng		99
34) Tetrahydrofuran (THF)	11.84	72	8613	1.429	ng		98
35) Ethyl tert-Butyl Ether	11.95	87	15523	1.345	ng		97
36) 1,2-Dichloroethane	12.21	62	13094	1.250	ng		97
38) 1,1,1-Trichloroethane	12.48	97	16040	1.302	ng		99
39) Isopropyl Acetate	12.92	61	15955	2.661	ng		95
40) 1-Butanol	12.94	56	21476	2.201	ng		90
41) Benzene	12.97	78	48632	1.345	ng		99
42) Carbon Tetrachloride	13.12	117	13154	1.264	ng		100
43) Cyclohexane	13.25	84	42585	2.703	ng		99
44) tert-Amyl Methyl Ether	13.61	73	34892	1.341	ng		99
45) 1,2-Dichloropropane	13.82	63	11989	1.350	ng		99
46) Bromodichloromethane	14.00	83	13617	1.303	ng		100
47) Trichloroethene	14.06	130	13717	1.418	ng		98
48) 1,4-Dioxane	14.05	88	10496	1.415	ng		95
49) 2,2,4-Trimethylpentane...	14.13	57	55077	1.308	ng		100
50) Methyl Methacrylate	14.27	100	11079	2.831	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251916.D
Sample : 1.0ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 14:36 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:30 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

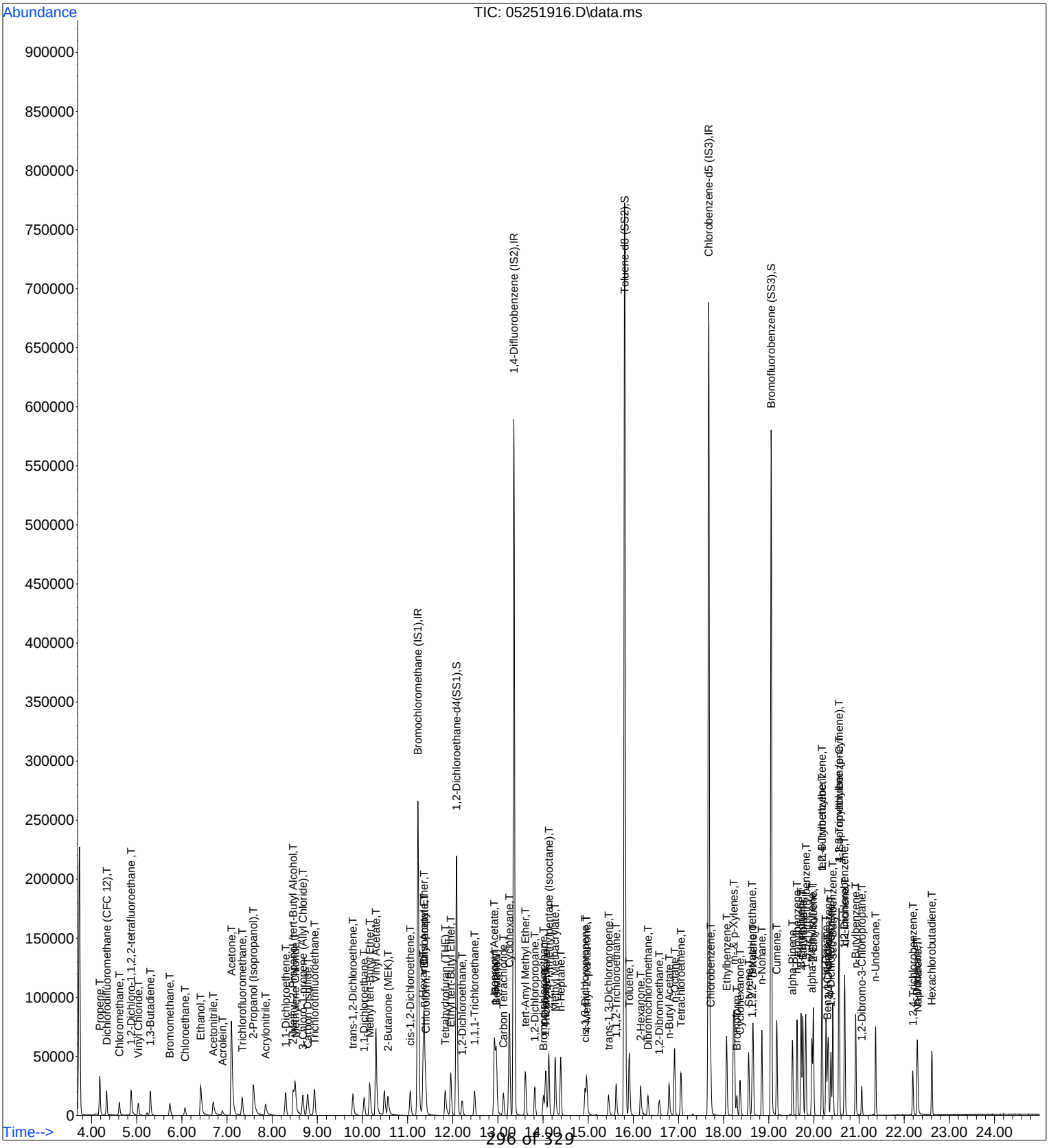
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.39	71	13860	1.344	ng	99
52) cis-1,3-Dichloropropene	14.93	75	17765	1.294	ng	99
53) 4-Methyl-2-pentanone	14.97	58	11192	1.297	ng	99
54) trans-1,3-Dichloropropene	15.45	75	13429	1.113	ng	95
55) 1,1,2-Trichloroethane	15.62	97	11548	1.434	ng	100
58) Toluene	15.91	91	50835	1.532	ng	100
59) 2-Hexanone	16.16	43	24756	1.341	ng	95
60) Dibromochloromethane	16.32	129	12124	1.618	ng	100
61) 1,2-Dibromoethane	16.58	107	12398	1.620	ng	100
62) n-Butyl Acetate	16.80	43	26581	1.329	ng	99
63) n-Octane	16.91	57	11181	1.499	ng	97
64) Tetrachloroethene	17.05	166	15254	1.653	ng	99
65) Chlorobenzene	17.71	112	34126	1.554	ng	99
66) Ethylbenzene	18.07	91	57460	1.528	ng	99
67) m- & p-Xylenes	18.23	91	90092	3.189	ng	99
68) Bromoform	18.29	173	9657	1.537	ng	99
69) Styrene	18.56	104	32609	1.524	ng	99
70) o-Xylene	18.65	91	45269	1.595	ng	100
71) n-Nonane	18.85	43	25682	1.405	ng	99
72) 1,1,2,2-Tetrachloroethane	18.63	83	19815	1.591	ng	98
74) Cumene	19.17	105	60652	1.606	ng	100
75) alpha-Pinene	19.52	93	28007	1.504	ng	97
76) n-Propylbenzene	19.63	91	69367	1.619	ng	99
77) 3-Ethyltoluene	19.72	105	59196	1.618	ng	100
78) 4-Ethyltoluene	19.75	105	56834	1.633	ng	99
79) 1,3,5-Trimethylbenzene	19.82	105	49926	1.618	ng	99
80) alpha-Methylstyrene	19.95	118	23162	1.521	ng	98
81) 2-Ethyltoluene	19.99	105	59213	1.631	ng	99
82) 1,2,4-Trimethylbenzene	20.18	105	48969	1.668	ng	98
83) n-Decane	20.27	57	26510	1.532	ng	99
84) Benzyl Chloride	20.30	91	24705	1.150	ng	97
85) 1,3-Dichlorobenzene	20.32	146	27314	1.626	ng	100
86) 1,4-Dichlorobenzene	20.37	146	27329	1.578	ng	100
87) sec-Butylbenzene	20.42	105	67851	1.645	ng	99
88) 4-Isopropyltoluene (p-...	20.56	119	64752	1.687	ng	99
89) 1,2,3-Trimethylbenzene	20.56	105	48518	1.644	ng	99
90) 1,2-Dichlorobenzene	20.67	146	26632	1.667	ng	99
91) d-Limonene	20.69	68	16802	1.477	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.06	157	8536	1.452	ng	96
93) n-Undecane	21.36	57	23875	1.453	ng	99
94) 1,2,4-Trichlorobenzene	22.19	180	15004	1.301	ng	96
95) Naphthalene	22.30	128	41146	1.130	ng	98
96) n-Dodecane	22.28	57	12388	1.024	ng	98
97) Hexachlorobutadiene	22.61	225	12487	1.679	ng	99
98) Cyclohexanone	18.36	55	15058	1.270	ng	99
99) tert-Butylbenzene	20.18	119	51050	1.695	ng	99
100) n-Butylbenzene	20.92	91	49736	1.610	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251916.D
Sample : 1.0ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 14:36 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:30 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251917.D
Sample : 5.0ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 15:09 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

RS 5/28/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.23	130	148437	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.36	114	667169	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	273610	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.09	65	187195	11.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%				
57) Toluene-d8 (SS2)	15.81	98	702999	13.425	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.36%				
73) Bromofluorobenzene (SS3)	19.06	174	231942	12.648	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	4.16	42	59940	4.749	ng		100
3) Dichlorodifluoromethan...	4.32	85	90513	5.342	ng		99
4) Chloromethane	4.60	50	62652	5.050	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.86	135	49287	5.243	ng		99
6) Vinyl Chloride	5.02	62	67541	5.023	ng		100
7) 1,3-Butadiene	5.29	54	58316	5.261	ng		98
8) Bromomethane	5.73	94	44235	5.541	ng		98
9) Chloroethane	6.06	64	41316	5.354	ng		100
10) Ethanol	6.42	45	193992	22.936	ng		100
11) Acetonitrile	6.69	41	103394	4.707	ng		100
12) Acrolein	6.88	56	32292	5.200	ng		100
13) Acetone	7.09	58	223221	25.805	ng		98
14) Trichlorofluoromethane	7.33	101	79090	5.410	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	284055	10.618	ng		99
16) Acrylonitrile	7.84	53	73036	5.344	ng		99
17) 1,1-Dichloroethene	8.30	96	53738	6.001	ng		98
18) 2-Methyl-2-Propanol (t...	8.45	59	287187	11.678	ng		99
19) Methylene Chloride	8.52	84	55697	6.030	ng		99
20) 3-Chloro-1-propene (Al...	8.68	41	83390	5.254	ng		99
21) Trichlorotrifluoroethane	8.94	151	52644	6.142	ng		99
22) Carbon Disulfide	8.78	76	198694	5.560	ng		100
23) trans-1,2-Dichloroethene	9.79	61	74768	5.975	ng		100
24) 1,1-Dichloroethane	10.04	63	91076	5.402	ng		100
25) Methyl tert-Butyl Ether	10.15	73	177009	5.983	ng		100
26) Vinyl Acetate	10.30	86	80658	28.924	ng	#	93
27) 2-Butanone (MEK)	10.55	72	41728	5.860	ng		99
28) cis-1,2-Dichloroethene	11.06	61	71634	5.574	ng		100
29) Diisopropyl Ether	11.36	87	61562	6.426	ng		98
30) Ethyl Acetate	11.36	61	42024	12.746	ng		99
31) n-Hexane	11.34	57	100712	5.709	ng		100
32) Chloroform	11.40	83	86970	5.817	ng		100
34) Tetrahydrofuran (THF)	11.82	72	40722	6.157	ng		98
35) Ethyl tert-Butyl Ether	11.95	87	75135	5.935	ng		99
36) 1,2-Dichloroethane	12.21	62	62701	5.454	ng		99
38) 1,1,1-Trichloroethane	12.48	97	78270	5.792	ng		100
39) Isopropyl Acetate	12.91	61	75874	11.535	ng		97
40) 1-Butanol	12.93	56	115435	10.782	ng		97
41) Benzene	12.97	78	228920	5.773	ng		99
42) Carbon Tetrachloride	13.12	117	64761	5.673	ng		99
43) Cyclohexane	13.26	84	197340	11.417	ng		100
44) tert-Amyl Methyl Ether	13.60	73	170110	5.958	ng		99
45) 1,2-Dichloropropane	13.82	63	55150	5.660	ng		100
46) Bromodichloromethane	14.00	83	68530	5.976	ng		100
47) Trichloroethene	14.06	130	63963	6.029	ng		100
48) 1,4-Dioxane	14.04	88	50631	6.222	ng		100
49) 2,2,4-Trimethylpentane...	14.13	57	253886	5.497	ng		100
50) Methyl Methacrylate	14.27	100	55547	12.939	ng		100

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251917.D
Sample : 5.0ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 15:09 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

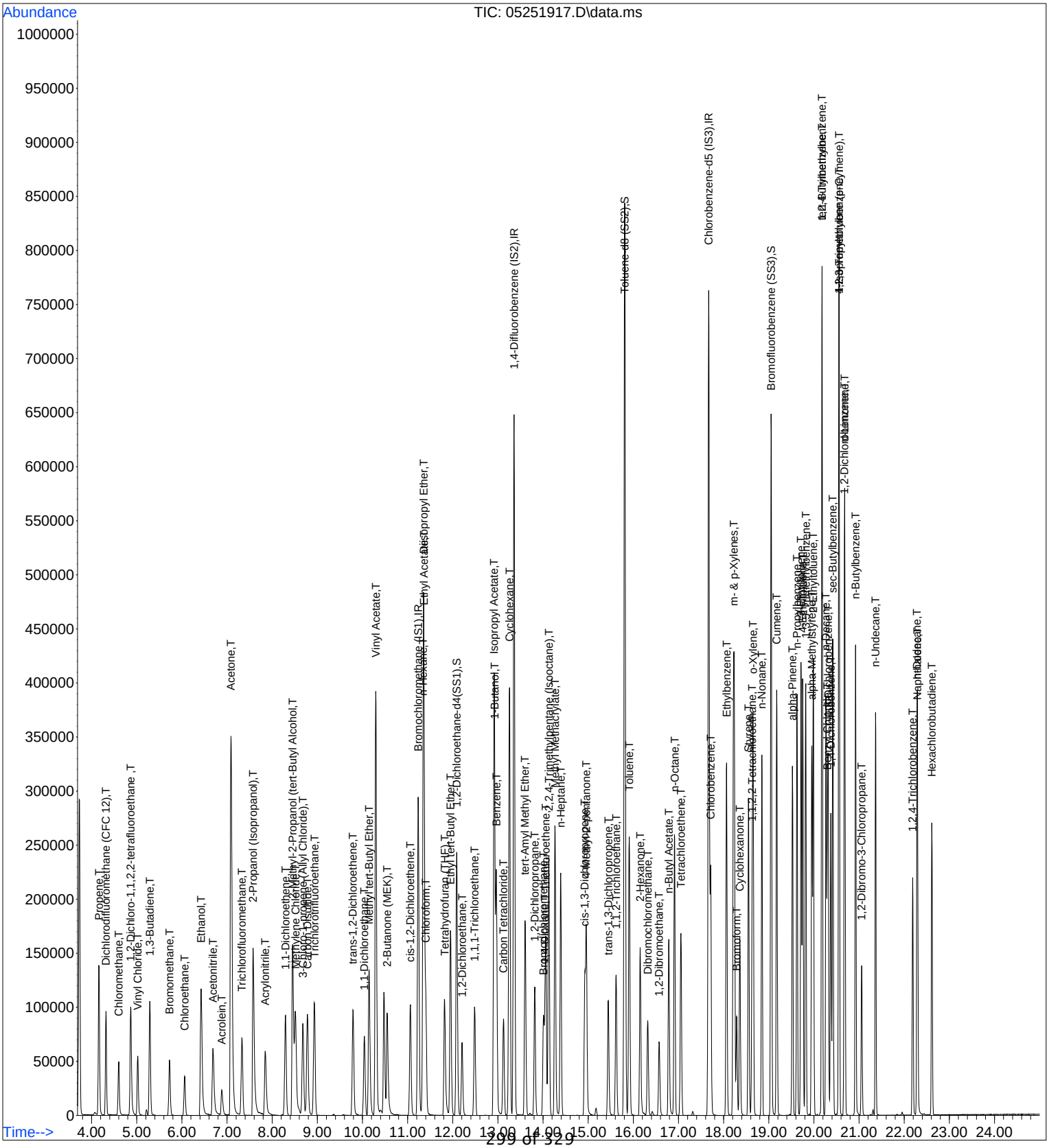
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.39	71	65098	5.755	ng	99
52) cis-1,3-Dichloropropene	14.92	75	93750	6.225	ng	99
53) 4-Methyl-2-pentanone	14.96	58	56280	5.943	ng	98
54) trans-1,3-Dichloropropene	15.45	75	76236	5.759	ng	99
55) 1,1,2-Trichloroethane	15.62	97	55426	6.275	ng	100
58) Toluene	15.91	91	239791	6.526	ng	100
59) 2-Hexanone	16.15	43	126740	6.198	ng	98
60) Dibromochloromethane	16.32	129	61291	7.384	ng	99
61) 1,2-Dibromoethane	16.57	107	61353	7.238	ng	100
62) n-Butyl Acetate	16.79	43	140365	6.339	ng	100
63) n-Octane	16.91	57	52965	6.410	ng	100
64) Tetrachloroethene	17.05	166	69894	6.838	ng	100
65) Chlorobenzene	17.71	112	159905	6.575	ng	100
66) Ethylbenzene	18.07	91	272059	6.532	ng	100
67) m- & p-Xylenes	18.23	91	410659	13.125	ng	99
68) Bromoform	18.29	173	52810	7.589	ng	100
69) Styrene	18.55	104	168936	7.128	ng	100
70) o-Xylene	18.65	91	211031	6.712	ng	99
71) n-Nonane	18.85	43	120228	5.940	ng	100
72) 1,1,2,2-Tetrachloroethane	18.63	83	96118	6.969	ng	99
74) Cumene	19.17	105	284362	6.798	ng	99
75) alpha-Pinene	19.52	93	139232	6.753	ng	99
76) n-Propylbenzene	19.63	91	327411	6.899	ng	100
77) 3-Ethyltoluene	19.71	105	284400	7.017	ng	100
78) 4-Ethyltoluene	19.75	105	262689	6.814	ng	100
79) 1,3,5-Trimethylbenzene	19.82	105	231832	6.782	ng	99
80) alpha-Methylstyrene	19.95	118	117887	6.990	ng	99
81) 2-Ethyltoluene	19.99	105	276314	6.874	ng	99
82) 1,2,4-Trimethylbenzene	20.18	105	228488	7.029	ng	98
83) n-Decane	20.27	57	125133	6.528	ng	100
84) Benzyl Chloride	20.30	91	152898	6.427	ng	99
85) 1,3-Dichlorobenzene	20.31	146	131335	7.059	ng	100
86) 1,4-Dichlorobenzene	20.37	146	129019	6.728	ng	100
87) sec-Butylbenzene	20.42	105	317907	6.962	ng	100
88) 4-Isopropyltoluene (p-...	20.56	119	296117	6.968	ng	99
89) 1,2,3-Trimethylbenzene	20.56	105	225203	6.891	ng	98
90) 1,2-Dichlorobenzene	20.67	146	128116	7.240	ng	98
91) d-Limonene	20.68	68	83966	6.665	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.06	157	47523	7.300	ng	99
93) n-Undecane	21.36	57	118012	6.487	ng	99
94) 1,2,4-Trichlorobenzene	22.19	180	78807	6.171	ng	100
95) Naphthalene	22.29	128	216120	5.359	ng	99
96) n-Dodecane	22.28	57	65148	4.862	ng	100
97) Hexachlorobutadiene	22.61	225	58886	7.147	ng	98
98) Cyclohexanone	18.36	55	77161	5.876	ng	99
99) tert-Butylbenzene	20.18	119	236116	7.079	ng	99
100) n-Butylbenzene	20.92	91	235630	6.886	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251917.D
Sample : 5.0ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 15:09 Operator: SC
Misc : S31-05251901/S31-05081902 (6/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:32 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251918.D
Sample : 25ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 15:42 Operator: SC
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

RS 5/28/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:34 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.25	130	153348	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.36	114	674568	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	280023	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.09	65	190616	10.955	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%			
57) Toluene-d8 (SS2)	15.81	98	710276	13.253	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%			
73) Bromofluorobenzene (SS3)	19.06	174	236534	12.603	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%			
Target Compounds						Qvalue
2) Propene	4.15	42	293241	22.490	ng	100
3) Dichlorodifluoromethan...	4.31	85	450751	25.752	ng	100
4) Chloromethane	4.60	50	333896	26.049	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.86	135	248415	25.578	ng	100
6) Vinyl Chloride	5.02	62	345652	24.883	ng	100
7) 1,3-Butadiene	5.29	54	304514	26.594	ng	100
8) Bromomethane	5.73	94	231213	28.036	ng	100
9) Chloroethane	6.06	64	210632	26.422	ng	100
10) Ethanol	6.46	45	1011892	115.808	ng	100
11) Acetonitrile	6.71	41	548573	24.174	ng	100
12) Acrolein	6.89	56	188583	29.393	ng	100
13) Acetone	7.10	58	1064421	119.108	ng	100
14) Trichlorofluoromethane	7.33	101	399400	26.447	ng	100
15) 2-Propanol (Isopropanol)	7.60	45	1457111	52.722	ng	100
16) Acrylonitrile	7.86	53	389754	27.602	ng	100
17) 1,1-Dichloroethene	8.30	96	279116	30.172	ng	100
18) 2-Methyl-2-Propanol (t...	8.47	59	1450598	57.099	ng	100
19) Methylene Chloride	8.53	84	283118	29.671	ng	100
20) 3-Chloro-1-propene (Al...	8.69	41	453519	27.658	ng	100
21) Trichlorotrifluoroethane	8.94	151	264393	29.858	ng	100
22) Carbon Disulfide	8.79	76	999541	27.075	ng	100
23) trans-1,2-Dichloroethene	9.80	61	386476	29.893	ng	100
24) 1,1-Dichloroethane	10.05	63	460415	26.436	ng	100
25) Methyl tert-Butyl Ether	10.14	73	886083	28.993	ng	100
26) Vinyl Acetate	10.31	86	422666	146.715	ng	100
27) 2-Butanone (MEK)	10.55	72	214130	29.106	ng	100
28) cis-1,2-Dichloroethene	11.07	61	366377	27.597	ng	100
29) Diisopropyl Ether	11.36	87	292143	29.517	ng	100
30) Ethyl Acetate	11.36	61	200207	58.780	ng	100
31) n-Hexane	11.35	57	459229	25.199	ng	100
32) Chloroform	11.41	83	438869	28.416	ng	100
34) Tetrahydrofuran (THF)	11.81	72	208209	30.474	ng	100
35) Ethyl tert-Butyl Ether	11.95	87	373520	28.559	ng	100
36) 1,2-Dichloroethane	12.21	62	319246	26.880	ng	100
38) 1,1,1-Trichloroethane	12.49	97	398950	29.200	ng	100
39) Isopropyl Acetate	12.92	61	361247	54.319	ng	100
40) 1-Butanol	12.93	56	609454	56.301	ng	100
41) Benzene	12.97	78	1106322	27.593	ng	100
42) Carbon Tetrachloride	13.13	117	340271	29.478	ng	100
43) Cyclohexane	13.26	84	946915	54.181	ng	100
44) tert-Amyl Methyl Ether	13.61	73	844235	29.244	ng	100
45) 1,2-Dichloropropane	13.82	63	275755	27.992	ng	100
46) Bromodichloromethane	14.01	83	351806	30.342	ng	100
47) Trichloroethene	14.06	130	320209	29.850	ng	100
48) 1,4-Dioxane	14.04	88	257184	31.260	ng	100
49) 2,2,4-Trimethylpentane...	14.13	57	1241881	26.595	ng	100
50) Methyl Methacrylate	14.27	100	279796	64.458	ng	100

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251918.D
Sample : 25ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 15:42 Operator: SC
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:34 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

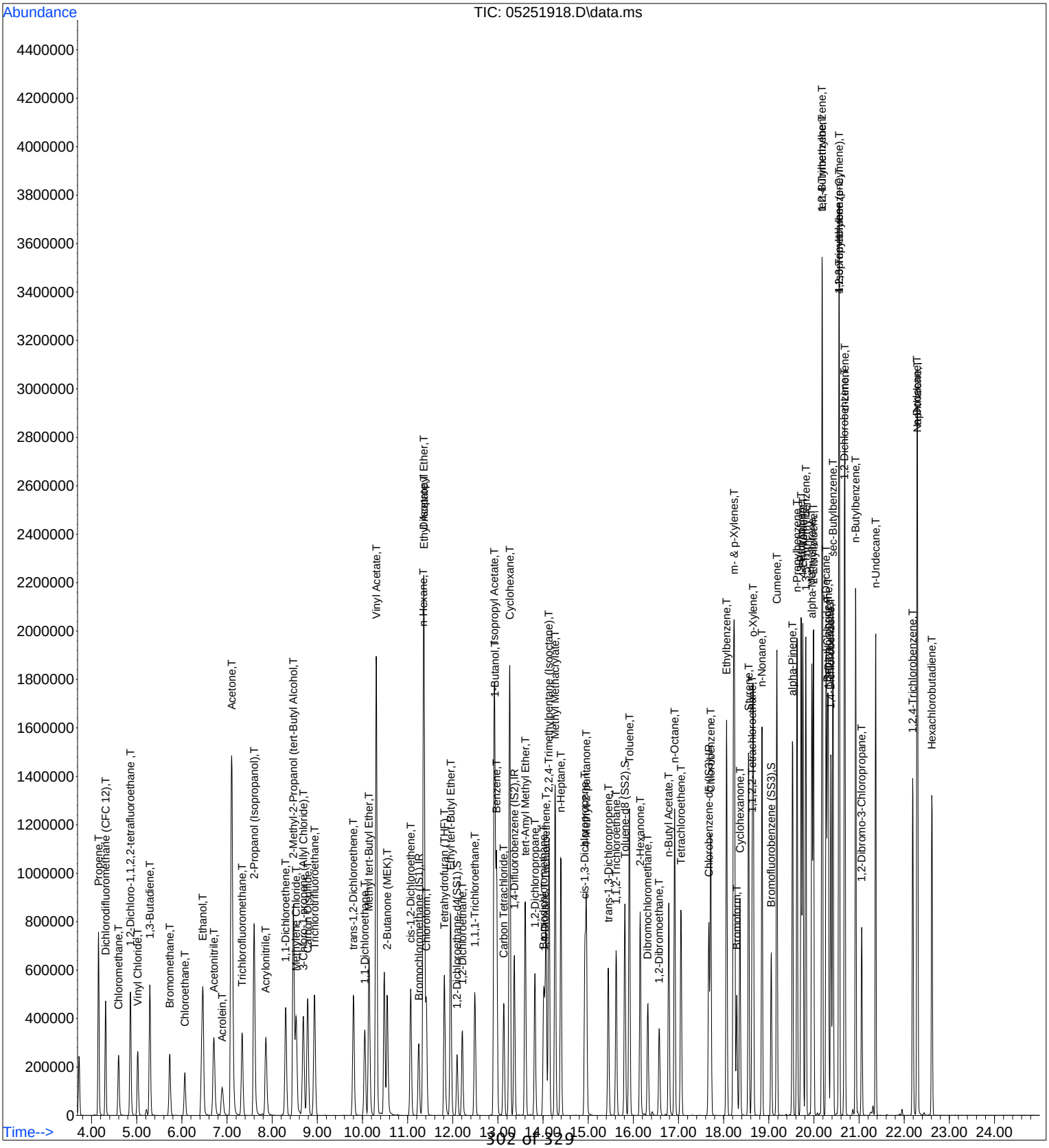
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.39	71	315341	27.572	ng	100
52) cis-1,3-Dichloropropene	14.92	75	485425	31.878	ng	100
53) 4-Methyl-2-pentanone	14.96	58	282176	29.469	ng	100
54) trans-1,3-Dichloropropene	15.45	75	413589	30.903	ng	100
55) 1,1,2-Trichloroethane	15.62	97	281335	31.504	ng	100
58) Toluene	15.91	91	1182134	31.435	ng	100
59) 2-Hexanone	16.15	43	648920	31.009	ng	100
60) Dibromochloromethane	16.32	129	323853	38.122	ng	100
61) 1,2-Dibromoethane	16.57	107	321178	37.020	ng	100
62) n-Butyl Acetate	16.79	43	743097	32.791	ng	100
63) n-Octane	16.91	57	260387	30.793	ng	100
64) Tetrachloroethene	17.05	166	348822	33.343	ng	100
65) Chlorobenzene	17.72	112	803519	32.281	ng	100
66) Ethylbenzene	18.07	91	1353115	31.742	ng	100
67) m- & p-Xylenes	18.23	91	2039612	63.693	ng	100
68) Bromoform	18.29	173	289395	40.637	ng	100
69) Styrene	18.56	104	897665	37.010	ng	100
70) o-Xylene	18.65	91	1043017	32.414	ng	100
71) n-Nonane	18.85	43	589565	28.460	ng	100
72) 1,1,2,2-Tetrachloroethane	18.63	83	485165	34.372	ng	100
74) Cumene	19.18	105	1393993	32.561	ng	100
75) alpha-Pinene	19.52	93	687803	32.595	ng	100
76) n-Propylbenzene	19.63	91	1615133	33.252	ng	100
77) 3-Ethyltoluene	19.72	105	1366253	32.939	ng	100
78) 4-Ethyltoluene	19.75	105	1326018	33.609	ng	100
79) 1,3,5-Trimethylbenzene	19.82	105	1133278	32.394	ng	100
80) alpha-Methylstyrene	19.95	118	641858	37.186	ng	100
81) 2-Ethyltoluene	19.99	105	1350112	32.817	ng	100
82) 1,2,4-Trimethylbenzene	20.18	105	1099590	33.053	ng	100
83) n-Decane	20.27	57	617949	31.499	ng	100
84) Benzyl Chloride	20.30	91	971432	39.899	ng	100
85) 1,3-Dichlorobenzene	20.32	146	675788	35.489	ng	100
86) 1,4-Dichlorobenzene	20.37	146	696240	35.476	ng	100
87) sec-Butylbenzene	20.42	105	1535614	32.857	ng	100
88) 4-Isopropyltoluene (p-...	20.56	119	1377684	31.675	ng	100
89) 1,2,3-Trimethylbenzene	20.56	105	1078853	32.254	ng	100
90) 1,2-Dichlorobenzene	20.67	146	637394	35.197	ng	100
91) d-Limonene	20.69	68	420970	32.652	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.06	157	263952	39.615	ng	100
93) n-Undecane	21.37	57	635266	34.118	ng	100
94) 1,2,4-Trichlorobenzene	22.19	180	505982	38.713	ng	100
95) Naphthalene	22.29	128	1523372	36.906	ng	100
96) n-Dodecane	22.28	57	516506	37.663	ng	100
97) Hexachlorobutadiene	22.61	225	304630	36.128	ng	100
98) Cyclohexanone	18.36	55	408649	30.405	ng	100
99) tert-Butylbenzene	20.18	119	1097750	32.160	ng	100
100) n-Butylbenzene	20.92	91	1198382	34.217	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251918.D
Sample : 25ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 15:42 Operator: SC
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:34 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251919.D
Sample : 50ng TO-15 ICAL STD
Acq On : 25 May 2019 16:15
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

RS 5/28/19

Inst : MS08
Operator: SC

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:36 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.26	130	153841	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.37	114	674164	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	282817	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.10	65	190744	10.927	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
57) Toluene-d8 (SS2)	15.81	98	711650	13.148	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
73) Bromofluorobenzene (SS3)	19.06	174	237880	12.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.16	42	543363	41.539	ng		100
3) Dichlorodifluoromethan...	4.32	85	845232	48.134	ng		100
4) Chloromethane	4.61	50	633242	49.244	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.87	135	486520	49.935	ng		99
6) Vinyl Chloride	5.04	62	684481	49.117	ng		100
7) 1,3-Butadiene	5.31	54	593643	51.679	ng		100
8) Bromomethane	5.75	94	442164	53.444	ng		99
9) Chloroethane	6.08	64	399133	49.907	ng		99
10) Ethanol	6.50	45	1869768	213.303	ng		100
11) Acetonitrile	6.73	41	1059275	46.529	ng		100
12) Acrolein	6.91	56	362169	56.268	ng		100
13) Acetone	7.12	58	1927717	215.019	ng		100
14) Trichlorofluoromethane	7.34	101	750887	49.562	ng		100
15) 2-Propanol (Isopropanol)	7.62	45	2719078	98.067	ng		99
16) Acrylonitrile	7.88	53	748948	52.871	ng		99
17) 1,1-Dichloroethene	8.31	96	527410	56.830	ng		99
18) 2-Methyl-2-Propanol (t...	8.50	59	2695126	105.747	ng		100
19) Methylene Chloride	8.54	84	531612	55.536	ng		100
20) 3-Chloro-1-propene (Al...	8.70	41	860010	52.280	ng		100
21) Trichlorotrifluoroethane	8.95	151	500135	56.300	ng		100
22) Carbon Disulfide	8.80	76	1877915	50.705	ng		100
23) trans-1,2-Dichloroethene	9.81	61	732149	56.449	ng		100
24) 1,1-Dichloroethane	10.06	63	871901	49.902	ng		100
25) Methyl tert-Butyl Ether	10.15	73	1659052	54.111	ng		99
26) Vinyl Acetate	10.32	86	765999	265.040	ng		96
27) 2-Butanone (MEK)	10.56	72	405380	54.925	ng		100
28) cis-1,2-Dichloroethene	11.07	61	693596	52.078	ng		100
29) Diisopropyl Ether	11.36	87	459465	46.274	ng	#	76
30) Ethyl Acetate	11.37	61	360667	105.551	ng		100
31) n-Hexane	11.35	57	832503	45.535	ng		100
32) Chloroform	11.42	83	827316	53.395	ng		100
34) Tetrahydrofuran (THF)	11.82	72	392341	57.241	ng		100
35) Ethyl tert-Butyl Ether	11.95	87	701399	53.456	ng		100
36) 1,2-Dichloroethane	12.22	62	598529	50.234	ng		99
38) 1,1,1-Trichloroethane	12.49	97	751032	55.002	ng		99
39) Isopropyl Acetate	12.92	61	656706	98.804	ng		99
40) 1-Butanol	12.95	56	1109714	102.576	ng		99
41) Benzene	12.98	78	2005023	50.038	ng		100
42) Carbon Tetrachloride	13.13	117	641034	55.566	ng		100
43) Cyclohexane	13.27	84	1714970	98.186	ng		100
44) tert-Amyl Methyl Ether	13.61	73	1576134	54.629	ng		100
45) 1,2-Dichloropropane	13.82	63	518952	52.710	ng		100
46) Bromodichloromethane	14.01	83	661479	57.083	ng		100
47) Trichloroethene	14.07	130	594752	55.476	ng		99
48) 1,4-Dioxane	14.04	88	476130	57.907	ng		100
49) 2,2,4-Trimethylpentane...	14.13	57	2282819	48.916	ng		100
50) Methyl Methacrylate	14.27	100	520465	119.974	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251919.D
Sample : 50ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 16:15 Operator: SC
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:36 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

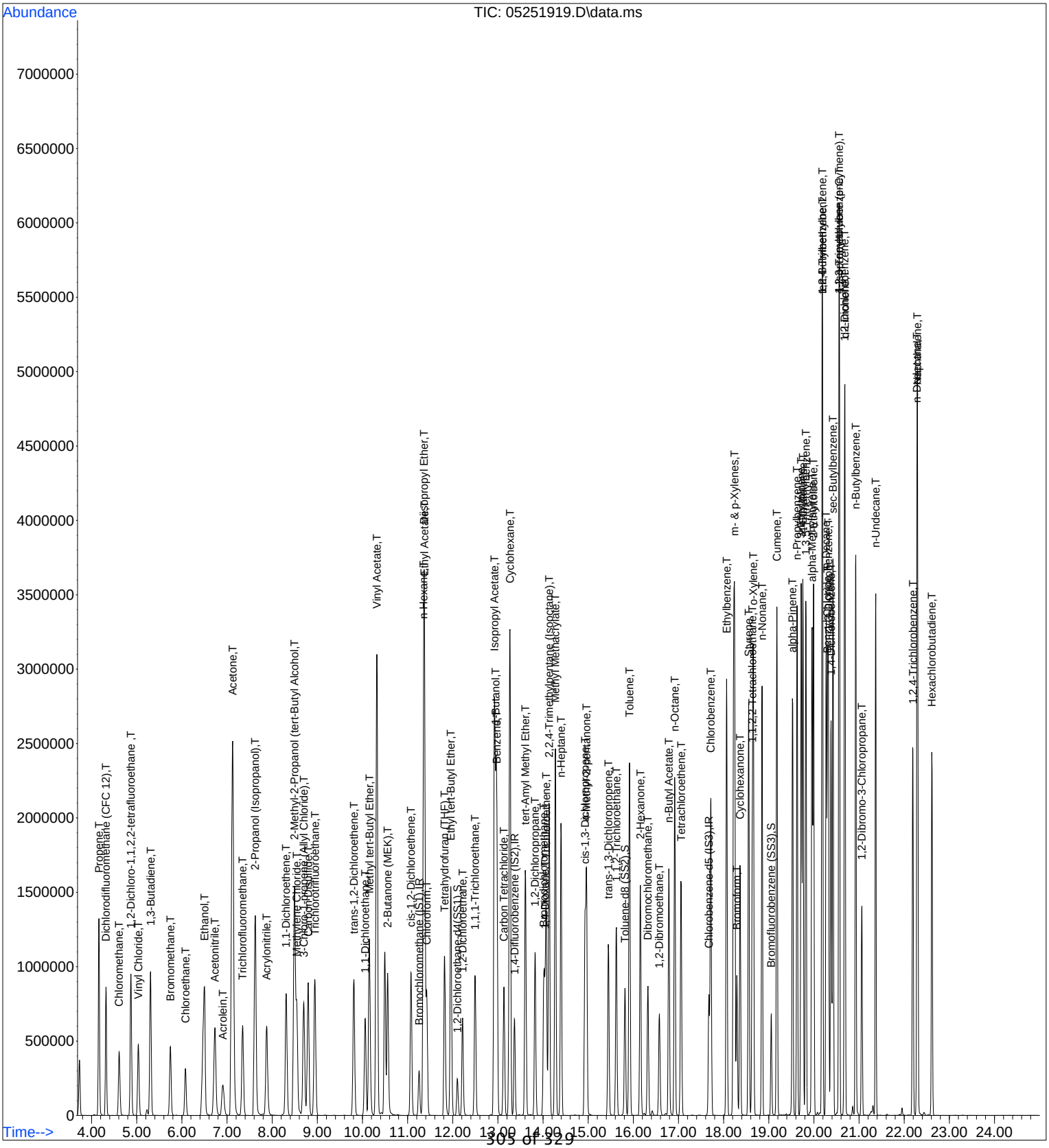
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.40	71	585559	51.229	ng	100
52) cis-1,3-Dichloropropene	14.93	75	911589	59.900	ng	100
53) 4-Methyl-2-pentanone	14.96	58	523673	54.723	ng	100
54) trans-1,3-Dichloropropene	15.45	75	791006	59.139	ng	100
55) 1,1,2-Trichloroethane	15.62	97	527265	59.078	ng	100
58) Toluene	15.91	91	2174695	57.258	ng	100
59) 2-Hexanone	16.16	43	1210262	57.262	ng	100
60) Dibromochloromethane	16.32	129	613547	71.509	ng	100
61) 1,2-Dibromoethane	16.58	107	607069	69.282	ng	100
62) n-Butyl Acetate	16.79	43	1389016	60.689	ng	100
63) n-Octane	16.91	57	477514	55.913	ng	100
64) Tetrachloroethene	17.06	166	646324	61.170	ng	100
65) Chlorobenzene	17.72	112	1486204	59.117	ng	100
66) Ethylbenzene	18.07	91	2476364	57.517	ng	100
67) m- & p-Xylenes	18.24	91	3667699	113.403	ng	100
68) Bromoform	18.29	173	543124	75.513	ng	100
69) Styrene	18.56	104	1642507	67.050	ng	99
70) o-Xylene	18.66	91	1878448	57.799	ng	100
71) n-Nonane	18.85	43	1063806	50.845	ng	100
72) 1,1,2,2-Tetrachloroethane	18.64	83	891871	62.561	ng	100
74) Cumene	19.18	105	2514051	58.143	ng	100
75) alpha-Pinene	19.52	93	1269867	59.584	ng	100
76) n-Propylbenzene	19.63	91	2905781	59.233	ng	100
77) 3-Ethyltoluene	19.72	105	2593866	61.918	ng	100
78) 4-Ethyltoluene	19.75	105	2221526	55.750	ng	100
79) 1,3,5-Trimethylbenzene	19.82	105	2052818	58.099	ng	99
80) alpha-Methylstyrene	19.96	118	1162184	66.666	ng	99
81) 2-Ethyltoluene	19.99	105	2416183	58.149	ng	100
82) 1,2,4-Trimethylbenzene	20.19	105	1916699	57.046	ng	99
83) n-Decane	20.27	57	1099217	55.478	ng	100
84) Benzyl Chloride	20.30	91	1785484	72.610	ng	100
85) 1,3-Dichlorobenzene	20.32	146	1217066	63.283	ng	100
86) 1,4-Dichlorobenzene	20.38	146	1242129	62.665	ng	100
87) sec-Butylbenzene	20.42	105	2732309	57.885	ng	99
88) 4-Isopropyltoluene (p-...	20.56	119	2345063	53.383	ng	99
89) 1,2,3-Trimethylbenzene	20.56	105	1869319	55.333	ng	99
90) 1,2-Dichlorobenzene	20.68	146	1110514	60.718	ng	100
91) d-Limonene	20.69	68	755255	58.002	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.06	157	493602	73.350	ng	100
93) n-Undecane	21.37	57	1135731	60.394	ng	100
94) 1,2,4-Trichlorobenzene	22.19	180	932306	70.626	ng	100
95) Naphthalene	22.29	128	2687275	64.460	ng	100
96) n-Dodecane	22.28	57	909497	65.665	ng	100
97) Hexachlorobutadiene	22.61	225	553061	64.943	ng	99
98) Cyclohexanone	18.36	55	763768	56.267	ng	100
99) tert-Butylbenzene	20.19	119	1895063	54.969	ng	100
100) n-Butylbenzene	20.93	91	2153448	60.879	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251919.D
Sample : 50ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 16:15 Operator: SC
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:36 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251920.D
Sample : 100ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 16:49 Operator: SC
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

RS 5/28/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:38 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.26	130	156318	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	13.37	114	684081	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	285683	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.11	65	190981	10.767	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.16%				
57) Toluene-d8 (SS2)	15.82	98	724963	13.259	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
73) Bromofluorobenzene (SS3)	19.06	174	239007	12.483	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
Target Compounds							Qvalue
2) Propene	4.16	42	1076010	80.955	ng		99
3) Dichlorodifluoromethan...	4.32	85	1581666	88.645	ng		99
4) Chloromethane	4.62	50	1034449	79.170	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.88	135	920397	92.969	ng		99
6) Vinyl Chloride	5.04	62	1298867	91.728	ng		100
7) 1,3-Butadiene	5.31	54	1125338	96.412	ng		100
8) Bromomethane	5.75	94	796202	94.711	ng		99
9) Chloroethane	6.09	64	767236	94.414	ng		99
10) Ethanol	6.54	45	3487175	391.512	ng		100
11) Acetonitrile	6.76	41	2058695	88.996	ng		100
12) Acrolein	6.92	56	696440	106.486	ng		99
13) Acetone	7.15	58	3442301	377.873	ng		100
14) Trichlorofluoromethane	7.35	101	1438873	93.467	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	4792738	170.118	ng		100
16) Acrylonitrile	7.89	53	1453949	101.012	ng		99
17) 1,1-Dichloroethene	8.31	96	1001705	106.226	ng		99
18) 2-Methyl-2-Propanol (t...	8.52	59	4923512	190.121	ng		100
19) Methylene Chloride	8.55	84	959982	98.697	ng		100
20) 3-Chloro-1-propene (Al...	8.71	41	1617364	96.761	ng		99
21) Trichlorotrifluoroethane	8.95	151	943527	104.529	ng		100
22) Carbon Disulfide	8.80	76	3538277	94.023	ng		100
23) trans-1,2-Dichloroethene	9.81	61	1388942	105.392	ng		100
24) 1,1-Dichloroethane	10.07	63	1660176	93.512	ng		100
25) Methyl tert-Butyl Ether	10.16	73	3118822	100.111	ng		99
26) Vinyl Acetate	10.34	86	1358683	462.663	ng	#	92
27) 2-Butanone (MEK)	10.57	72	766152	102.161	ng		99
28) cis-1,2-Dichloroethene	11.08	61	1314156	97.108	ng		100
29) Diisopropyl Ether	11.37	87	808380	80.123	ng	#	79
30) Ethyl Acetate	11.38	61	629591	181.333	ng		99
31) n-Hexane	11.35	57	1487535	80.074	ng		99
32) Chloroform	11.43	83	1548702	98.370	ng		100
34) Tetrahydrofuran (THF)	11.83	72	742118	106.556	ng		100
35) Ethyl tert-Butyl Ether	11.96	87	1315428	98.664	ng		99
36) 1,2-Dichloroethane	12.22	62	1137143	93.927	ng		99
38) 1,1,1-Trichloroethane	12.50	97	1411022	101.839	ng		99
39) Isopropyl Acetate	12.93	61	1181708	175.216	ng		97
40) 1-Butanol	12.97	56	1974742	179.889	ng		98
41) Benzene	12.98	78	3427742	84.304	ng		100
42) Carbon Tetrachloride	13.14	117	1204584	102.903	ng		100
43) Cyclohexane	13.27	84	2987287	168.551	ng		99
44) tert-Amyl Methyl Ether	13.61	73	2941698	100.482	ng		99
45) 1,2-Dichloropropane	13.83	63	976456	97.741	ng		100
46) Bromodichloromethane	14.02	83	1236463	105.156	ng		100
47) Trichloroethene	14.07	130	1082733	99.528	ng		99
48) 1,4-Dioxane	14.05	88	867451	103.971	ng		100
49) 2,2,4-Trimethylpentane...	14.14	57	4096361	86.504	ng		98
50) Methyl Methacrylate	14.28	100	935234	212.456	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251920.D
Sample : 100ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 16:49 Operator: SC
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:38 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration

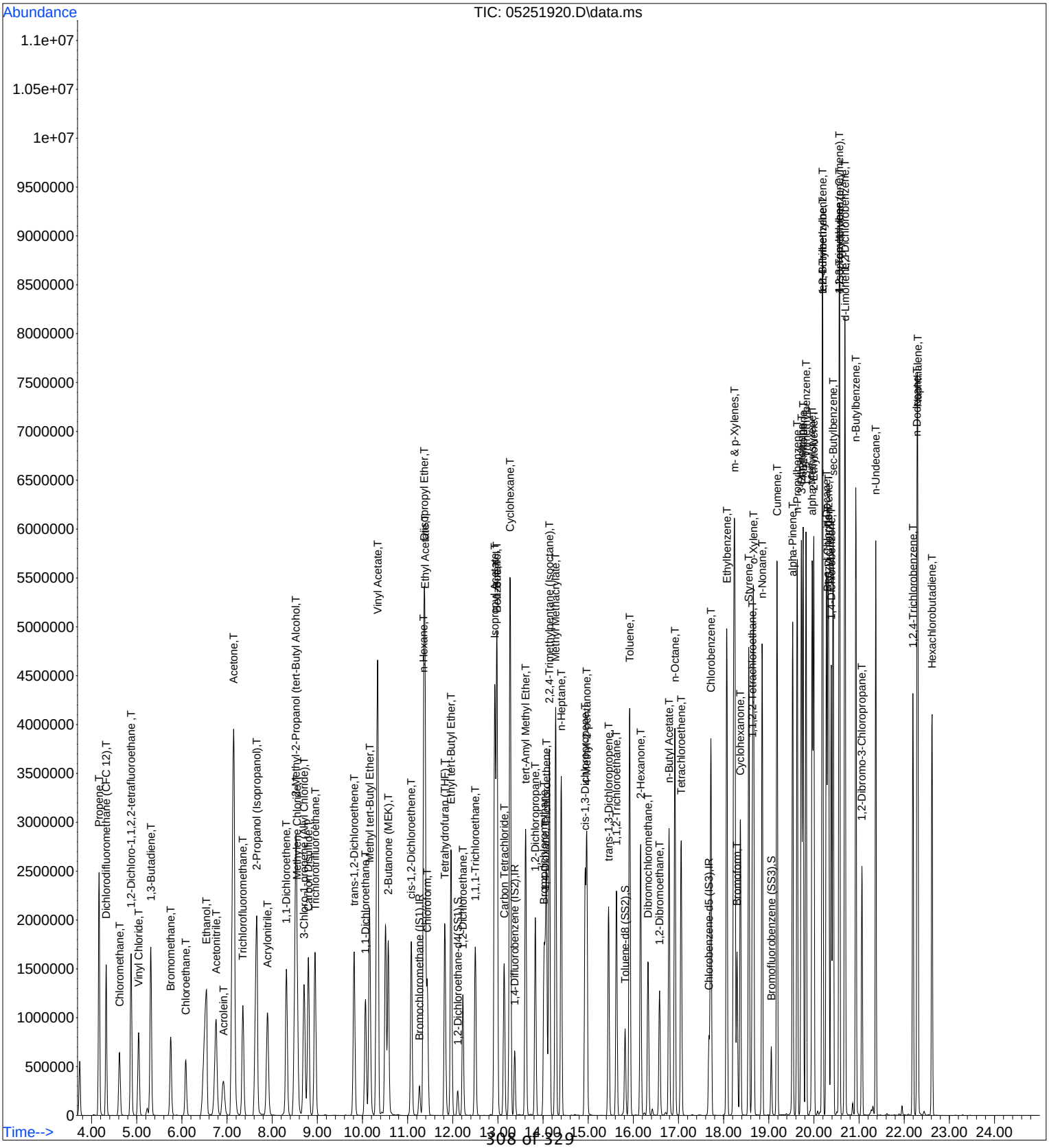
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.40	71	1065780	91.890	ng	100
52) cis-1,3-Dichloropropene	14.93	75	1698327	109.978	ng	100
53) 4-Methyl-2-pentanone	14.97	58	961067	98.975	ng	99
54) trans-1,3-Dichloropropene	15.45	75	1489616	109.755	ng	100
55) 1,1,2-Trichloroethane	15.62	97	985398	108.809	ng	100
58) Toluene	15.92	91	3946648	102.870	ng	100
59) 2-Hexanone	16.16	43	2235519	104.709	ng	100
60) Dibromochloromethane	16.33	129	1147257	132.372	ng	99
61) 1,2-Dibromoethane	16.58	107	1141400	128.955	ng	100
62) n-Butyl Acetate	16.79	43	2541144	109.914	ng	100
63) n-Octane	16.92	57	865476	100.323	ng	100
64) Tetrachloroethene	17.06	166	1176471	110.228	ng	99
65) Chlorobenzene	17.72	112	2683937	105.689	ng	100
66) Ethylbenzene	18.07	91	4417856	101.582	ng	100
67) m- & p-Xylenes	18.24	91	6534562	200.018	ng	97
68) Bromoform	18.30	173	1008229	138.773	ng	100
69) Styrene	18.56	104	2927207	118.296	ng	98
70) o-Xylene	18.66	91	3289469	100.201	ng	99
71) n-Nonane	18.85	43	1872017	88.576	ng	100
72) 1,1,2,2-Tetrachloroethane	18.64	83	1582733	109.908	ng	100
74) Cumene	19.18	105	4366054	99.961	ng	100
75) alpha-Pinene	19.53	93	2285270	106.152	ng	98
76) n-Propylbenzene	19.63	91	5054512	102.000	ng	99
77) 3-Ethyltoluene	19.72	105	4266321	100.819	ng	100
78) 4-Ethyltoluene	19.76	105	4060715	100.882	ng	100
79) 1,3,5-Trimethylbenzene	19.82	105	3556078	99.635	ng	98
80) alpha-Methylstyrene	19.96	118	2015064	114.430	ng	98
81) 2-Ethyltoluene	20.00	105	4161640	99.152	ng	100
82) 1,2,4-Trimethylbenzene	20.19	105	3157467	93.032	ng	98
83) n-Decane	20.28	57	1890852	94.474	ng	100
84) Benzyl Chloride	20.30	91	3134986	126.211	ng	100
85) 1,3-Dichlorobenzene	20.33	146	2057083	105.887	ng	100
86) 1,4-Dichlorobenzene	20.38	146	2203853	110.069	ng	100
87) sec-Butylbenzene	20.43	105	4659735	97.727	ng	99
88) 4-Isopropyltoluene (p-...	20.56	119	3782849	85.249	ng	98
89) 1,2,3-Trimethylbenzene	20.56	105	3088200	90.496	ng	98
90) 1,2-Dichlorobenzene	20.69	146	1830536	99.081	ng	100
91) d-Limonene	20.69	68	1266189	96.265	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.06	157	898529	132.184	ng	99
93) n-Undecane	21.37	57	1961404	103.254	ng	99
94) 1,2,4-Trichlorobenzene	22.19	180	1651950	123.887	ng	100
95) Naphthalene	22.30	128	4520830	107.354	ng	99
96) n-Dodecane	22.28	57	1526537	109.109	ng	99
97) Hexachlorobutadiene	22.62	225	987128	114.750	ng	99
98) Cyclohexanone	18.37	55	1404078	102.400	ng	100
99) tert-Butylbenzene	20.19	119	3112238	89.370	ng	100
100) n-Butylbenzene	20.93	91	3706378	103.730	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251920.D
Sample : 100ng TO-15 ICAL STD Inst : MS08
Acq On : 25 May 2019 16:49 Operator: SC
Misc : S31-05251901/S31-05201908 (6/18)
ALS Vial : 7 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 07:29:38 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:28:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251922.D
Sample : 25ng TO-15 ICV STD Inst : MS08
Acq On : 25 May 2019 17:55 Operator: SC
Misc : S31-05011903/S31-05241902 (6/22)
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) RS 5/28/19
Quant Time: May 28 08:45:19 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.24	130	159693	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.36	114	700808	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	295458	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.09	65	195705	12.330	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%			
57) Toluene-d8 (SS2)	15.81	98	744967	12.260	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%			
73) Bromofluorobenzene (SS3)	19.06	174	251331	12.592	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%			
Target Compounds						Qvalue
2) Propene	4.15	42	304951	23.324	ng	99
3) Dichlorodifluoromethan...	4.31	85	453319	22.234	ng	100
4) Chloromethane	4.60	50	375933	24.451	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.86	135	269959	23.422	ng	99
6) Vinyl Chloride	5.02	62	379478	25.080	ng	100
7) 1,3-Butadiene	5.29	54	321703	26.468	ng	100
8) Bromomethane	5.73	94	252930	24.619	ng	99
9) Chloroethane	6.06	64	226656	23.914	ng	100
10) Ethanol	6.47	45	1073775	116.091	ng	100
11) Acetonitrile	6.71	41	570816	24.300	ng	100
12) Acrolein	6.89	56	195457	28.618	ng	99
13) Acetone	7.10	58	1091403	118.350	ng	98
14) Trichlorofluoromethane	7.33	101	401834	22.947	ng	99
15) 2-Propanol (Isopropanol)	7.60	45	1496526	47.335	ng	99
16) Acrylonitrile	7.86	53	405929	29.567	ng	99
17) 1,1-Dichloroethene	8.30	96	286005	24.335	ng	99
18) 2-Methyl-2-Propanol (t...	8.47	59	1476777	50.033	ng	100
19) Methylene Chloride	8.53	84	288204	24.608	ng	100
20) 3-Chloro-1-propene (Al...	8.69	41	479787	26.803	ng	100
21) Trichlorotrifluoroethane	8.94	151	267498	23.234	ng	100
22) Carbon Disulfide	8.79	76	1029978	25.566	ng	100
23) trans-1,2-Dichloroethene	9.80	61	392593	25.589	ng	100
24) 1,1-Dichloroethane	10.05	63	484035	23.587	ng	100
25) Methyl tert-Butyl Ether	10.15	73	893313	24.054	ng	100
26) Vinyl Acetate	10.30	86	434748	142.419	ng	100
27) 2-Butanone (MEK)	10.55	72	219717	27.860	ng	98
28) cis-1,2-Dichloroethene	11.07	61	369792	23.769	ng	100
29) Diisopropyl Ether	11.36	87	297094	24.313	ng	99
30) Ethyl Acetate	11.37	61	207069	54.482	ng	100
31) n-Hexane	11.35	57	472218	23.457	ng	100
32) Chloroform	11.41	83	441645	23.748	ng	100
34) Tetrahydrofuran (THF)	11.81	72	212360	24.259	ng	100
35) Ethyl tert-Butyl Ether	11.95	87	381382	24.146	ng	99
36) 1,2-Dichloroethane	12.21	62	320453	23.520	ng	99
38) 1,1,1-Trichloroethane	12.49	97	394462	23.912	ng	100
39) Isopropyl Acetate	12.91	61	371299	46.878	ng	99
40) 1-Butanol	12.94	56	623795	59.337	ng	100
41) Benzene	12.97	78	1150611	22.844	ng	100
42) Carbon Tetrachloride	13.13	117	343340	24.090	ng	100
43) Cyclohexane	13.26	84	963129	44.322	ng	100
44) tert-Amyl Methyl Ether	13.61	73	864393	24.746	ng	100
45) 1,2-Dichloropropane	13.82	63	282482	24.087	ng	100
46) Bromodichloromethane	14.01	83	358784	25.910	ng	100
47) Trichloroethene	14.06	130	326256	24.058	ng	100
48) 1,4-Dioxane	14.04	88	261687	26.075	ng	100
49) 2,2,4-Trimethylpentane...	14.13	57	1272823	22.900	ng	100
50) Methyl Methacrylate	14.27	100	290268	56.806	ng	99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251922.D
Sample : 25ng TO-15 ICV STD Inst : MS08
Acq On : 25 May 2019 17:55 Operator: SC
Misc : S31-05011903/S31-05241902 (6/22)
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 08:45:19 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

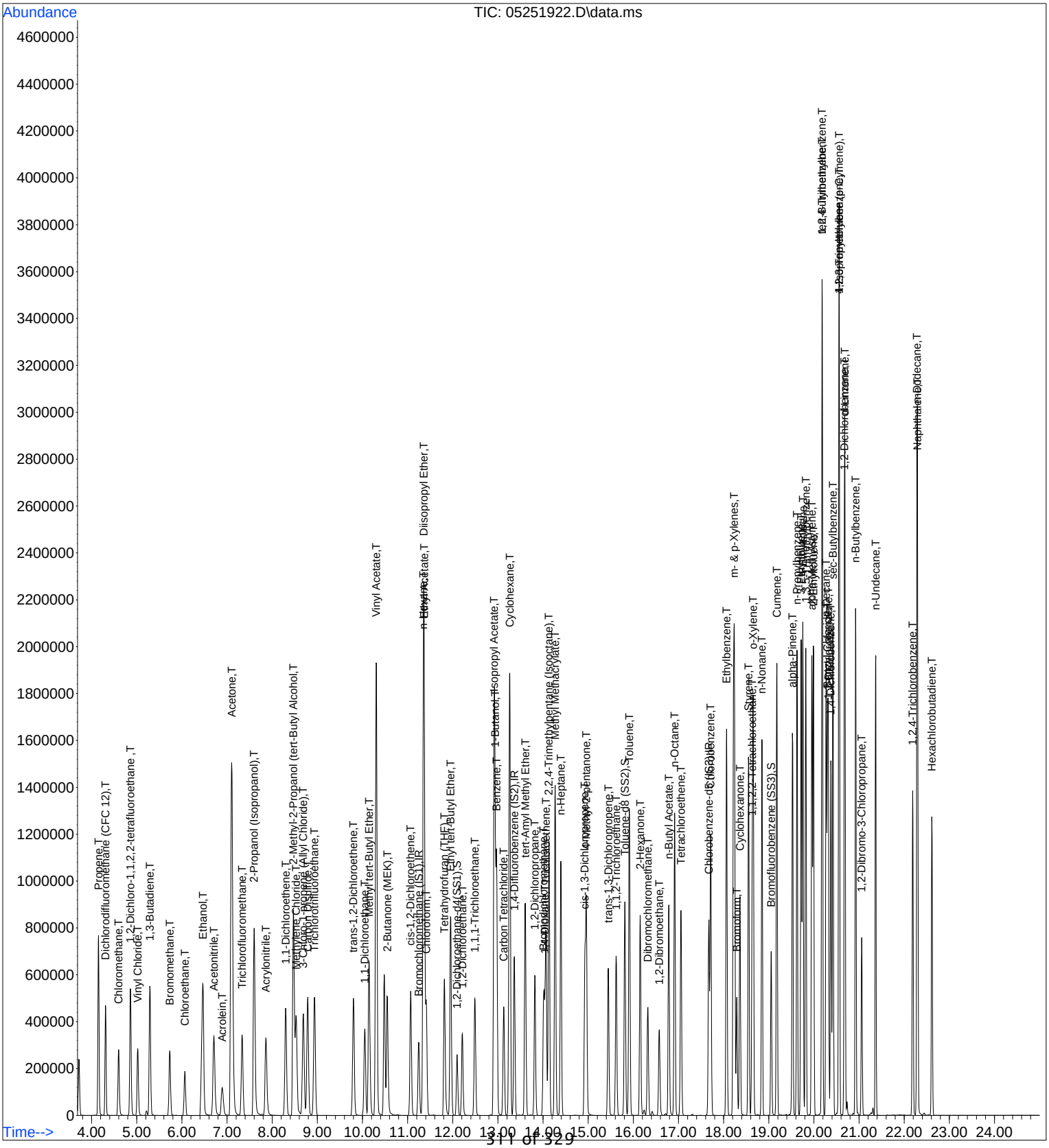
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.39	71	325725	23.622	ng	100
52) cis-1,3-Dichloropropene	14.92	75	473907	27.803	ng	99
53) 4-Methyl-2-pentanone	14.96	58	290624	28.377	ng	99
54) trans-1,3-Dichloropropene	15.45	75	424341	29.732	ng	100
55) 1,1,2-Trichloroethane	15.62	97	286360	25.032	ng	100
58) Toluene	15.91	91	1207793	23.492	ng	99
59) 2-Hexanone	16.15	43	663928	27.261	ng	100
60) Dibromochloromethane	16.32	129	328648	26.308	ng	100
61) 1,2-Dibromoethane	16.58	107	329923	26.422	ng	100
62) n-Butyl Acetate	16.79	43	756950	28.437	ng	100
63) n-Octane	16.91	57	266000	23.320	ng	100
64) Tetrachloroethene	17.05	166	354096	22.565	ng	100
65) Chlorobenzene	17.71	112	821001	22.835	ng	100
66) Ethylbenzene	18.07	91	1375218	22.346	ng	100
67) m- & p-Xylenes	18.23	91	2055792	44.702	ng	99
68) Bromoform	18.29	173	289683	27.300	ng	100
69) Styrene	18.55	104	918676	25.762	ng	100
70) o-Xylene	18.65	91	1056628	22.617	ng	100
71) n-Nonane	18.85	43	602079	22.903	ng	100
72) 1,1,2,2-Tetrachloroethane	18.63	83	485963	23.888	ng	100
74) Cumene	19.18	105	1417307	22.449	ng	100
75) alpha-Pinene	19.52	93	727017	24.142	ng	100
76) n-Propylbenzene	19.63	91	1640480	23.262	ng	100
77) 3-Ethyltoluene	19.72	105	1360582	22.121	ng	100
78) 4-Ethyltoluene	19.76	105	1383256	25.188	ng	100
79) 1,3,5-Trimethylbenzene	19.82	105	1147889	23.066	ng	99
80) alpha-Methylstyrene	19.95	118	673209	26.759	ng	99
81) 2-Ethyltoluene	19.99	105	1360593	23.521	ng	100
82) 1,2,4-Trimethylbenzene	20.18	105	1102180	23.483	ng	99
83) n-Decane	20.27	57	628419	23.254	ng	100
84) Benzyl Chloride	20.30	91	998237	32.881	ng	100
85) 1,3-Dichlorobenzene	20.32	146	684488	24.409	ng	99
86) 1,4-Dichlorobenzene	20.37	146	709302	25.391	ng	100
87) sec-Butylbenzene	20.42	105	1536345	23.234	ng	100
88) 4-Isopropyltoluene (p-...	20.56	119	1398446	22.490	ng	100
89) 1,2,3-Trimethylbenzene	20.56	105	1122919	22.413	ng	100
90) 1,2-Dichlorobenzene	20.67	146	637598	25.806	ng	100
91) d-Limonene	20.69	68	453084	25.025	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.06	157	256709	27.668	ng	99
93) n-Undecane	21.37	57	629459	23.973	ng	100
94) 1,2,4-Trichlorobenzene	22.19	180	505642	27.925	ng	100
95) Naphthalene	22.29	128	1540170	29.353	ng	100
96) n-Dodecane	22.28	57	554781	34.786	ng	100
97) Hexachlorobutadiene	22.61	225	287345	21.864	ng	100
98) Cyclohexanone	18.36	55	424959	24.200	ng	100
99) tert-Butylbenzene	20.18	119	1108900	22.966	ng	100
100) n-Butylbenzene	20.92	91	1192154	23.487	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 05\25\05251922.D
Sample : 25ng TO-15 ICV STD Inst : MS08
Acq On : 25 May 2019 17:55 Operator: SC
Misc : S31-05011903/S31-05241902 (6/22)
ALS Vial : 1 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: May 28 08:45:19 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05251922.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS08\Data\2019_05\25** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S31-05011903/S31-05241902 (**
Date Acquired: **5/25/19 17:55** Instrument Name: **MS08**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.15**	**23.3**	26.43	88	**53**	**112**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.31**	**22.2**	**26.30**	84	**62**	**103**	*	*
4)	**Chloromethane**	**4.60**	**24.5**	**26.38**	93	**51**	**121**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.86**	**23.4**	**26.38**	89	**56**	**111**	*	*
6)	**Vinyl Chloride**	**5.02**	**25.1**	**26.73**	94	**57**	**117**	*	*
7)	**1,3-Butadiene**	**5.29**	**26.5**	**26.28**	101	**53**	**134**	*	*
8)	**Bromomethane**	**5.73**	**24.6**	**26.48**	93	**65**	**110**	*	*
9)	**Chloroethane**	**6.06**	**23.9**	**26.75**	89	**64**	**111**	*	*
10)	**Ethanol**	**6.47**	**116**	**128.10**	91	**57**	**124**	*	*
11)	**Acetonitrile**	**6.71**	**24.3**	**25.73**	94	**57**	**126**	*	*
12)	**Acrolein**	**6.89**	**28.6**	**25.63**	112	**62**	**121**	*	*
13)	**Acetone**	**7.10**	**118**	**132.33**	89	**60**	**113**	*	*
14)	**Trichlorofluoromethane**	**7.33**	**22.9**	**26.40**	87	**63**	**104**	*	*
15)	**2-Propanol (Isopropanol)**	**7.60**	**47.3**	**51.60**	92	**60**	**124**	*	*
16)	**Acrylonitrile**	**7.86**	**29.6**	**25.88**	114	**66**	**125**	*	*
17)	**1,1-Dichloroethene**	**8.30**	**24.3**	**27.23**	89	**68**	**107**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.47	50.0	54.25	92	64	114	*	*
19)	**Methylene Chloride**	**8.53**	**24.6**	**27.08**	91	**66**	**105**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.69**	**26.8**	**27.00**	99	**63**	**127**	*	*
21)	**Trichlorotrifluoroethane**	**8.94**	**23.2**	**26.95**	86	**59**	**109**	*	*
22)	**Carbon Disulfide**	**8.79**	**25.6**	**27.20**	94	**67**	**109**	*	*
23)	**trans-1,2-Dichloroethene**	**9.80**	**25.6**	**26.73**	96	**70**	**115**	*	*
24)	**1,1-Dichloroethane**	**10.05**	**23.6**	**26.95**	88	**66**	**106**	*	*
25)	**Methyl tert-Butyl Ether**	**10.15**	**24.1**	**26.80**	90	**67**	**109**	*	*
26)	**Vinyl Acetate**	**10.30**	**142**	**133.03**	107	**68**	**136**	*	*
27)	**2-Butanone (MEK)**	**10.55**	**27.9**	**25.95**	108	**71**	**116**	*	*
28)	**cis-1,2-Dichloroethene**	**11.07**	**23.8**	**26.35**	90	**67**	**110**	*	*
29)	Diisopropyl Ether	11.36	24.3	27.18	89	62	109	*	*
30)	**Ethyl Acetate**	**11.37**	**54.5**	**54.45**	100	**64**	**127**	*	*
31)	**n-Hexane**	**11.35**	**23.5**	**26.95**	87	**60**	**115**	*	*
32)	**Chloroform**	**11.41**	**23.7**	**27.08**	88	**66**	**105**	*	*
34)	**Tetrahydrofuran (THF)**	**11.81**	**24.3**	**27.00**	90	**65**	**110**	*	*
35)	Ethyl tert-Butyl Ether	11.95	24.1	26.80	90	69	109	*	*
36)	**1,2-Dichloroethane**	**12.21**	**23.5**	**26.85**	88	**60**	**110**	*	*
38)	**1,1,1-Trichloroethane**	**12.49**	**23.9**	**26.90**	89	**64**	**108**	*	*
39)	Isopropyl Acetate	12.91	46.9	51.55	91	66	119	*	*
40)	1-Butanol	12.94	59.3	51.58	115	54	143	*	*
41)	**Benzene**	**12.97**	**22.8**	**26.38**	86	**67**	**106**	*	*
42)	**Carbon Tetrachloride**	**13.13**	**24.1**	**26.45**	91	**64**	**112**	*	*
43)	**Cyclohexane**	**13.26**	**44.3**	**52.05**	85	**67**	**110**	*	*
44)	tert-Amyl Methyl Ether	13.61	24.7	**27.08**	91	68	112	*	*
45)	**1,2-Dichloropropane**	**13.82**	**24.1**	**26.98**	89	**66**	**112**	*	*
46)	**Bromodichloromethane**	**14.01**	**25.9**	**26.83**	97	**67**	**113**	*	*
47)	**Trichloroethene**	**14.06**	**24.1**	**26.68**	90	**66**	**108**	*	*
48)	**1,4-Dioxane**	**14.04**	**26.1**	**26.73**	98	**70**	**116**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.13	22.9	26.65	86	64	113	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05251922.D** **TO15.M**
Data File Path: **I:\MS08\Data\2019_05\25** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S31-05011903/S31-05241902 (**
Date Acquired: **5/25/19** **17:55** Instrument Name: **MS08**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.27**	**56.8**	**53.88**	105	**73**	**118**	*	*
51)	**n-Heptane**	**14.39**	**23.6**	**26.90**	88	**66**	**110**	*	*
52)	**cis-1,3-Dichloropropene**	**14.92**	**27.8**	**26.78**	104	**75**	**120**	*	*
53)	**4-Methyl-2-pentanone**	**14.96**	**28.4**	**26.15**	109	**65**	**124**	*	*
54)	**trans-1,3-Dichloropropene**	**15.45**	**29.7**	**26.60**	112	**77**	**123**	*	*
55)	**1,1,2-Trichloroethane**	**15.62**	**25.0**	**26.85**	93	**68**	**112**	*	*
58)	**Toluene**	**15.91**	**23.5**	**26.50**	89	**62**	**111**	*	*
59)	**2-Hexanone**	**16.15**	**27.3**	**26.78**	102	**59**	**128**	*	*
60)	**Dibromochloromethane**	**16.32**	**26.3**	**26.60**	99	**67**	**123**	*	*
61)	**1,2-Dibromoethane**	**16.58**	**26.4**	**27.03**	98	**66**	**122**	*	*
62)	**n-Butyl Acetate**	**16.79**	**28.4**	**27.35**	104	**64**	**128**	*	*
63)	**n-Octane**	**16.91**	**23.3**	**27.13**	86	**65**	**114**	*	*
64)	**Tetrachloroethene**	**17.05**	**22.6**	**26.60**	85	**55**	**120**	*	*
65)	**Chlorobenzene**	**17.71**	**22.8**	**26.83**	85	**61**	**114**	*	*
66)	**Ethylbenzene**	**18.07**	**22.3**	**26.53**	84	**64**	**113**	*	*
67)	**m- & p-Xylenes**	**18.23**	**44.7**	**53.28**	84	**64**	**114**	*	*
68)	**Bromoform**	**18.29**	**27.3**	**26.68**	102	**65**	**132**	*	*
69)	**Styrene**	**18.55**	**25.8**	**26.50**	97	**67**	**124**	*	*
70)	**o-Xylene**	**18.65**	**22.6**	**26.75**	84	**65**	**114**	*	*
71)	**n-Nonane**	**18.85**	**22.9**	**26.83**	85	**64**	**117**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.63**	**23.9**	**26.80**	89	**66**	**119**	*	*
74)	**Cumene**	**19.18**	**22.4**	**26.80**	84	**61**	**116**	*	*
75)	**alpha-Pinene**	**19.52**	**24.1**	**26.40**	91	**65**	**120**	*	*
76)	**n-Propylbenzene**	**19.63**	**23.3**	**27.23**	86	**63**	**117**	*	*
77)	3-Ethyltoluene	19.72	22.1	26.83	82	60	117	*	*
78)	**4-Ethyltoluene**	**19.76**	**25.2**	**26.80**	**94**	**63**	**124**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.82**	**23.1**	**26.73**	**86**	**60**	**117**	*	*
80)	alpha-Methylstyrene	19.95	26.8	26.75	**100**	64	131	*	*
81)	2-Ethyltoluene	19.99	23.5	27.08	**87**	62	116	*	*
82)	**1,2,4-Trimethylbenzene**	**20.18**	**23.5**	**26.90**	**87**	**61**	**122**	*	*
83)	n-Decane	20.27	23.3	26.88	**87**	67	120	*	*
84)	**Benzyl Chloride**	**20.30**	**32.9**	**27.08**	**122**	**77**	**142**	*	*
85)	**1,3-Dichlorobenzene**	**20.32**	**24.4**	**26.98**	**90**	**61**	**125**	*	*
86)	**1,4-Dichlorobenzene**	**20.37**	**25.4**	**27.00**	**94**	**59**	**123**	*	*
87)	sec-Butylbenzene	20.42	23.2	26.55	**87**	62	117	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.56	22.5	26.95	**83**	58	122	*	*
89)	1,2,3-Trimethylbenzene	20.56	22.4	26.95	**83**	62	124	*	*
90)	**1,2-Dichlorobenzene**	**20.67**	**25.8**	**26.95**	**96**	**61**	**126**	*	*
91)	**d-Limonene**	**20.69**	**25.0**	**26.38**	**95**	**66**	**124**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.06**	**27.7**	**26.15**	**106**	**67**	**138**	*	*
93)	n-Undecane	21.37	24.0	27.03	**89**	68	127	*	*
94)	**1,2,4-Trichlorobenzene**	**22.19**	**27.9**	**26.78**	**104**	**62**	**141**	*	*
95)	**Naphthalene**	**22.29**	**29.4**	**25.38**	**116**	**62**	**145**	*	*
96)	n-Dodecane	22.28	34.8	25.63	**136**	64	152	*	**FAIL**
97)	**Hexachlorobutadiene**	**22.61**	**21.9**	**26.13**	**84**	49	131	*	*
98)	Cyclohexanone	18.36	24.2	24.45	99	61	127	*	*
99)	tert-Butylbenzene	20.18	23.0	26.88	86	58	122	*	*
100)	n-Butylbenzene	20.92	23.5	27.00	87	64	121	*	*

Bold = 75 Compound List

*** = Pass**

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2019 07\25\07251902.D
Sample : CCV R8072519 25ng Inst : MS08
Acq On : 25 Jul 2019 5:03 Operator: RS RS 7/25/19
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:28:35 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	98	-0.01
2	T	Propene	1.023	0.887	13.3	94	0.00
3	T	Dichlorodifluoromethane (CF	1.596	1.213	24.0	85	0.00
4	T	Chloromethane	1.203	0.903	24.9	82	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.902	0.749	17.0	93	0.00
6	T	Vinyl Chloride	1.184	1.042	12.0	95	0.00
7	T	1,3-Butadiene	0.951	0.886	6.8	92	0.00
8	T	Bromomethane	0.804	0.666	17.2	87	-0.01
9	T	Chloroethane	0.742	0.613	17.4	89	-0.01
10	T	Ethanol	0.724	0.590	18.5	90	0.02
11	T	Acetonitrile	1.839	1.610	12.5	91	-0.04
12	T	Acrolein	0.535	0.531	0.7	87	-0.02
13	T	Acetone	0.722	0.589	18.4	89	-0.04
14	T	Trichlorofluoromethane	1.371	1.024	25.3	82	0.00
15	T	2-Propanol (Isopropanol)	2.475	2.051	17.1	87	-0.05
16	T	Acrylonitrile	1.075	1.112	-3.4	89	-0.03
17	T	1,1-Dichloroethene	0.920	0.745	19.0	86	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.310	1.925	16.7	86	-0.05
19	T	Methylene Chloride	0.917	0.758	17.3	86	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.401	1.210	13.6	86	-0.01
21	T	Trichlorotrifluoroethane	0.901	0.711	21.1	86	-0.01
22	T	Carbon Disulfide	3.153	2.696	14.5	87	-0.01
23	T	trans-1,2-Dichloroethene	1.201	1.031	14.2	85	-0.01
24	T	1,1-Dichloroethane	1.606	1.280	20.3	86	-0.01
25	T	Methyl tert-Butyl Ether	2.907	2.279	21.6	84	-0.01
26	T	Vinyl Acetate	0.239	0.241	-0.8	90	-0.03
27	T	2-Butanone (MEK)	0.617	0.612	0.8	88	-0.02
28	T	cis-1,2-Dichloroethene	1.218	0.979	19.6	85	0.00
29	T	Diisopropyl Ether	0.956	0.797	16.6	89	0.00
30	T	Ethyl Acetate	0.298	0.280	6.0	91	-0.02
31	T	n-Hexane	1.576	1.319	16.3	94	0.00
32	T	Chloroform	1.456	1.125	22.7	83	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.242	1.158	6.8	91	-0.01
34	T	Tetrahydrofuran (THF)	0.685	0.569	16.9	88	-0.01
35	T	Ethyl tert-Butyl Ether	1.236	1.019	17.6	87	0.00
36	T	1,2-Dichloroethane	1.066	0.807	24.3	81	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.294	0.229	22.1	82	0.00
39	T	Isopropyl Acetate	0.141	0.121	14.2	91	-0.01
40	T	1-Butanol	0.188	0.208	-10.6	93	-0.03
41	T	Benzene	0.898	0.728	18.9	89	-0.01
42	T	Carbon Tetrachloride	0.254	0.204	19.7	82	0.00
43	T	Cyclohexane	0.388	0.311	19.8	90	0.00
44	T	tert-Amyl Methyl Ether	0.623	0.513	17.7	86	0.00
45	T	1,2-Dichloropropane	0.209	0.174	16.7	89	0.00
46	T	Bromodichloromethane	0.247	0.207	16.2	83	-0.01
47	T	Trichloroethene	0.242	0.202	16.5	88	-0.01
48	T	1,4-Dioxane	0.179	0.162	9.5	88	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.991	0.788	20.5	89	0.00
50	T	Methyl Methacrylate	0.091	0.089	2.2	90	-0.01
51	T	n-Heptane	0.246	0.207	15.9	93	0.00
52	T	cis-1,3-Dichloropropene	0.304	0.286	5.9	87	0.00
53	T	4-Methyl-2-pentanone	0.183	0.181	1.1	89	0.00
54	T	trans-1,3-Dichloropropene	0.255	0.249	2.4	84	0.00
55	T	1,1,2-Trichloroethane	0.204	0.173	15.2	87	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2019 07\25\07251902.D
Sample : CCV R8072519 25ng Inst : MS08
Acq On : 25 Jul 2019 5:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:28:35 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	106	0.00
57	S	Toluene-d8 (SS2)	2.571	2.413	6.1	101	0.00
58	T	Toluene	2.175	1.676	22.9	89	0.00
59	T	2-Hexanone	1.030	0.912	11.5	90	-0.01
60	T	Dibromochloromethane	0.529	0.432	18.3	85	0.00
61	T	1,2-Dibromoethane	0.528	0.432	18.2	86	0.00
62	T	n-Butyl Acetate	1.126	1.021	9.3	88	0.00
63	T	n-Octane	0.483	0.363	24.8	89	0.00
64	T	Tetrachloroethene	0.664	0.488	26.5	88	0.00
65	T	Chlorobenzene	1.521	1.127	25.9	89	0.00
66	T	Ethylbenzene	2.604	1.911	26.6	87	0.00
67	T	m- & p-Xylenes	1.946	1.395	28.3	86	0.00
68	T	Bromoform	0.449	0.386	14.0	84	0.00
69	T	Styrene	1.509	1.262	16.4	88	0.00
70	T	o-Xylene	1.977	1.425	27.9	86	-0.01
71	T	n-Nonane	1.112	0.831	25.3	90	0.00
72	T	1,1,2,2-Tetrachloroethane	0.861	0.674	21.7	88	0.00
73	S	Bromofluorobenzene (SS3)	0.844	0.926	-9.7	116	0.00
74	T	Cumene	2.671	1.929	27.8	87	0.00
75	T	alpha-Pinene	1.274	0.946	25.7	84	0.00
76	T	n-Propylbenzene	2.984	2.200	26.3	87	0.00
77	T	3-Ethyltoluene	2.602	1.896	27.1	87	0.00
78	T	4-Ethyltoluene	2.323	1.842	20.7	87	0.00
79	T	1,3,5-Trimethylbenzene	2.105	1.570	25.4	87	0.00
80	T	alpha-Methylstyrene	1.064	0.893	16.1	87	0.00
81	T	2-Ethyltoluene	2.447	1.852	24.3	87	-0.01
82	T	1,2,4-Trimethylbenzene	1.986	1.510	24.0	87	0.00
83	T	n-Decane	1.143	0.869	24.0	90	0.00
84	T	Benzyl Chloride	1.284	1.262	1.7	81	0.00
85	T	1,3-Dichlorobenzene	1.186	0.957	19.3	91	0.00
86	T	1,4-Dichlorobenzene	1.182	0.979	17.2	90	-0.01
87	T	sec-Butylbenzene	2.798	2.147	23.3	88	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.631	1.981	24.7	89	0.00
89	T	1,2,3-Trimethylbenzene	2.120	1.521	28.3	87	0.00
90	T	1,2-Dichlorobenzene	1.045	0.894	14.4	91	-0.01
91	T	d-Limonene	0.766	0.607	20.8	86	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.393	0.369	6.1	86	0.00
93	T	n-Undecane	1.111	0.934	15.9	92	0.00
94	T	1,2,4-Trichlorobenzene	0.766	0.729	4.8	91	0.00
95	T	Naphthalene	2.220	2.397	-8.0	96	0.00
96	T	n-Dodecane	0.675	0.903	-33.8#	107	0.00
97	T	Hexachlorobutadiene	0.556	0.404	27.3	83	0.00
98	T	Cyclohexanone	0.743	0.621	16.4	89	0.00
99	T	tert-Butylbenzene	2.043	1.530	25.1	88	0.00
100	T	n-Butylbenzene	2.147	1.655	22.9	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251902.D
Sample : CCV R8072519 25ng Inst : MS08
Acq On : 25 Jul 2019 5:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13) RS 7/25/19
ALS Vial : 3 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:28:35 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.25	130	150540	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.36	114	657631	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	296764	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.10	65	174291	11.648	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%			
57) Toluene-d8 (SS2)	15.81	98	716185	11.734	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%			
73) Bromofluorobenzene (SS3)	19.06	174	274825	13.708	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.68%			
Target Compounds						Qvalue
2) Propene	4.16	42	275252	22.332	ng	98
3) Dichlorodifluoromethan...	4.32	85	381597	19.854	ng	99
4) Chloromethane	4.61	50	274060	18.909	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.88	135	231941	21.347	ng	100
6) Vinyl Chloride	5.04	62	329751	23.119	ng	100
7) 1,3-Butadiene	5.31	54	279788	24.419	ng	97
8) Bromomethane	5.74	94	202237	20.882	ng	99
9) Chloroethane	6.07	64	188500	21.097	ng	100
10) Ethanol	6.47	45	913168	104.730	ng	99
11) Acetonitrile	6.71	41	500722	22.612	ng	99
12) Acrolein	6.90	56	164355	25.527	ng	100
13) Acetone	7.11	58	952381	109.554	ng	91
14) Trichlorofluoromethane	7.34	101	326685	19.790	ng	99
15) 2-Propanol (Isopropanol)	7.61	45	1273653	42.735	ng	98
16) Acrylonitrile	7.87	53	346053	26.738	ng	98
17) 1,1-Dichloroethene	8.31	96	240748	21.730	ng	96
18) 2-Methyl-2-Propanol (t...	8.47	59	1242816	44.666	ng	99
19) Methylene Chloride	8.54	84	244249	22.123	ng	100
20) 3-Chloro-1-propene (Al...	8.69	41	388642	23.032	ng	99
21) Trichlorotrifluoroethane	8.94	151	227908	20.999	ng	99
22) Carbon Disulfide	8.79	76	872533	22.975	ng	100
23) trans-1,2-Dichloroethene	9.80	61	329580	22.788	ng	99
24) 1,1-Dichloroethane	10.06	63	396857	20.515	ng	100
25) Methyl tert-Butyl Ether	10.15	73	747293	21.346	ng	98
26) Vinyl Acetate	10.31	86	381088	132.431	ng	96
27) 2-Butanone (MEK)	10.55	72	189303	25.463	ng	99
28) cis-1,2-Dichloroethene	11.07	61	310765	21.189	ng	98
29) Diisopropyl Ether	11.36	87	259510	22.528	ng	99
30) Ethyl Acetate	11.37	61	182797	51.020	ng	99
31) n-Hexane	11.35	57	429628	22.639	ng	100
32) Chloroform	11.42	83	364686	20.802	ng	99
34) Tetrahydrofuran (THF)	11.81	72	182969	22.172	ng	98
35) Ethyl tert-Butyl Ether	11.95	87	325068	21.832	ng	98
36) 1,2-Dichloroethane	12.21	62	257815	20.073	ng	99
38) 1,1,1-Trichloroethane	12.49	97	325707	21.041	ng	100
39) Isopropyl Acetate	12.92	61	329314	44.307	ng	95
40) 1-Butanol	12.94	56	564604	57.232	ng	96
41) Benzene	12.97	78	988701	20.918	ng	100
42) Carbon Tetrachloride	13.13	117	277813	20.772	ng	100
43) Cyclohexane	13.26	84	854546	41.908	ng	99
44) tert-Amyl Methyl Ether	13.61	73	724444	22.101	ng	99
45) 1,2-Dichloropropane	13.82	63	245437	22.303	ng	99
46) Bromodichloromethane	14.01	83	290826	22.381	ng	100
47) Trichloroethene	14.06	130	282820	22.224	ng	100
48) 1,4-Dioxane	14.04	88	226868	24.090	ng	99
49) 2,2,4-Trimethylpentane...	14.13	57	1099837	21.087	ng	98
50) Methyl Methacrylate	14.27	100	251011	52.348	ng	99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251902.D
Sample : CCV R8072519 25ng Inst : MS08
Acq On : 25 Jul 2019 5:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:28:35 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

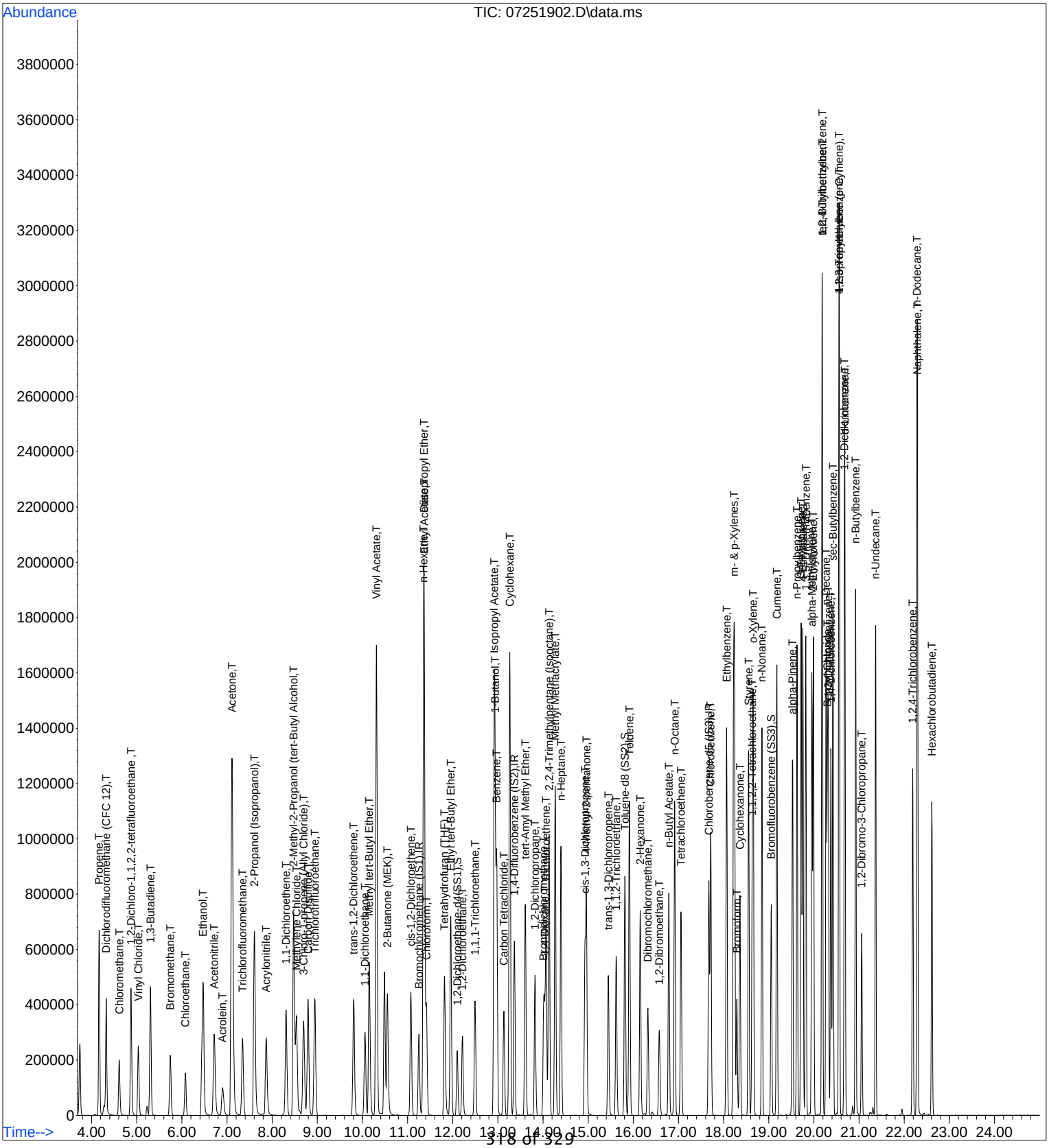
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.40	71	292291	22.589	ng	99
52) cis-1,3-Dichloropropene	14.93	75	421331	26.341	ng	100
53) 4-Methyl-2-pentanone	14.96	58	251863	26.207	ng	100
54) trans-1,3-Dichloropropene	15.45	75	345955	25.831	ng	100
55) 1,1,2-Trichloroethane	15.62	97	244344	22.762	ng	100
58) Toluene	15.91	91	1046294	20.261	ng	100
59) 2-Hexanone	16.15	43	581224	23.760	ng	99
60) Dibromochloromethane	16.32	129	275578	21.963	ng	100
61) 1,2-Dibromoethane	16.58	107	275782	21.989	ng	100
62) n-Butyl Acetate	16.79	43	657379	24.587	ng	99
63) n-Octane	16.91	57	231711	20.224	ng	98
64) Tetrachloroethene	17.05	166	306533	19.448	ng	100
65) Chlorobenzene	17.71	112	713285	19.751	ng	100
66) Ethylbenzene	18.07	91	1171833	18.958	ng	98
67) m- & p-Xylenes	18.23	91	1758196	38.063	ng	97
68) Bromoform	18.29	173	243577	22.854	ng	100
69) Styrene	18.56	104	794249	22.175	ng	98
70) o-Xylene	18.65	91	897986	19.137	ng	97
71) n-Nonane	18.85	43	528470	20.014	ng	100
72) 1,1,2,2-Tetrachloroethane	18.63	83	425613	20.830	ng	100
74) Cumene	19.18	105	1210287	19.086	ng	99
75) alpha-Pinene	19.52	93	581124	19.212	ng	99
76) n-Propylbenzene	19.63	91	1405104	19.837	ng	98
77) 3-Ethyltoluene	19.72	105	1194885	19.341	ng	98
78) 4-Ethyltoluene	19.76	105	1159929	21.028	ng	98
79) 1,3,5-Trimethylbenzene	19.82	105	984918	19.704	ng	98
80) alpha-Methylstyrene	19.95	118	560802	22.193	ng	99
81) 2-Ethyltoluene	19.99	105	1178533	20.284	ng	98
82) 1,2,4-Trimethylbenzene	20.19	105	957269	20.306	ng	97
83) n-Decane	20.27	57	554778	20.438	ng	100
84) Benzyl Chloride	20.30	91	787428	25.823	ng	98
85) 1,3-Dichlorobenzene	20.32	146	613713	21.789	ng	99
86) 1,4-Dichlorobenzene	20.37	146	627920	22.378	ng	100
87) sec-Butylbenzene	20.42	105	1354871	20.399	ng	98
88) 4-Isopropyltoluene (p-...	20.56	119	1225036	19.615	ng	98
89) 1,2,3-Trimethylbenzene	20.56	105	940674	18.693	ng	97
90) 1,2-Dichlorobenzene	20.68	146	577686	23.278	ng	99
91) d-Limonene	20.69	68	363823	20.006	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.06	157	228237	24.491	ng	96
93) n-Undecane	21.36	57	585718	22.209	ng	100
94) 1,2,4-Trichlorobenzene	22.19	180	460216	25.304	ng	100
95) Naphthalene	22.29	128	1458338	27.671	ng	100
96) n-Dodecane	22.28	57	552485	34.490	ng	99
97) Hexachlorobutadiene	22.61	225	252628	19.138	ng	99
98) Cyclohexanone	18.36	55	361808	20.513	ng	99
99) tert-Butylbenzene	20.19	119	969248	19.986	ng	98
100) n-Butylbenzene	20.92	91	1045185	20.501	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\25\07251902.D
Sample : CCV R8072519 25ng Inst : MS08
Acq On : 25 Jul 2019 5:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 25 08:28:35 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2019 07\26\07261902.D
Sample : CCV R8072619 25ng Inst : MS08
Acq On : 26 Jul 2019 4:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

RS 7/26/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:15:23 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	100	-0.02
2	T	Propene	1.023	0.884	13.6	96	-0.01
3	T	Dichlorodifluoromethane (CF	1.596	1.217	23.7	87	-0.01
4	T	Chloromethane	1.203	0.865	28.1	80	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.902	0.740	18.0	94	-0.02
6	T	Vinyl Chloride	1.184	1.037	12.4	97	-0.02
7	T	1,3-Butadiene	0.951	0.872	8.3	92	-0.02
8	T	Bromomethane	0.804	0.657	18.3	88	-0.02
9	T	Chloroethane	0.742	0.604	18.6	90	-0.02
10	T	Ethanol	0.724	0.590	18.5	92	0.01
11	T	Acetonitrile	1.839	1.609	12.5	93	-0.05
12	T	Acrolein	0.535	0.536	-0.2	90	-0.03
13	T	Acetone	0.722	0.589	18.4	91	-0.04
14	T	Trichlorofluoromethane	1.371	1.014	26.0	83	-0.02
15	T	2-Propanol (Isopropanol)	2.475	2.046	17.3	89	-0.06
16	T	Acrylonitrile	1.075	1.096	-2.0	89	-0.04
17	T	1,1-Dichloroethene	0.920	0.734	20.2	87	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.310	1.906	17.5	87	-0.06
19	T	Methylene Chloride	0.917	0.758	17.3	88	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.401	1.197	14.6	87	-0.02
21	T	Trichlorotrifluoroethane	0.901	0.702	22.1	87	-0.02
22	T	Carbon Disulfide	3.153	2.665	15.5	88	-0.02
23	T	trans-1,2-Dichloroethene	1.201	1.028	14.4	87	-0.02
24	T	1,1-Dichloroethane	1.606	1.269	21.0	87	-0.02
25	T	Methyl tert-Butyl Ether	2.907	2.272	21.8	86	-0.02
26	T	Vinyl Acetate	0.239	0.240	-0.4	92	-0.03
27	T	2-Butanone (MEK)	0.617	0.610	1.1	90	-0.03
28	T	cis-1,2-Dichloroethene	1.218	0.971	20.3	86	-0.01
29	T	Diisopropyl Ether	0.956	0.793	17.1	90	-0.01
30	T	Ethyl Acetate	0.298	0.278	6.7	93	-0.02
31	T	n-Hexane	1.576	1.323	16.1	96	0.00
32	T	Chloroform	1.456	1.119	23.1	84	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.242	1.158	6.8	93	-0.02
34	T	Tetrahydrofuran (THF)	0.685	0.561	18.1	89	-0.01
35	T	Ethyl tert-Butyl Ether	1.236	0.999	19.2	87	0.00
36	T	1,2-Dichloroethane	1.066	0.799	25.0	82	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	100	0.00
38	T	1,1,1-Trichloroethane	0.294	0.227	22.8	83	-0.01
39	T	Isopropyl Acetate	0.141	0.120	14.9	92	-0.01
40	T	1-Butanol	0.188	0.205	-9.0	93	-0.04
41	T	Benzene	0.898	0.720	19.8	91	-0.01
42	T	Carbon Tetrachloride	0.254	0.201	20.9	83	-0.01
43	T	Cyclohexane	0.388	0.308	20.6	91	0.00
44	T	tert-Amyl Methyl Ether	0.623	0.503	19.3	86	0.00
45	T	1,2-Dichloropropane	0.209	0.173	17.2	91	-0.01
46	T	Bromodichloromethane	0.247	0.205	17.0	84	-0.01
47	T	Trichloroethene	0.242	0.200	17.4	89	-0.01
48	T	1,4-Dioxane	0.179	0.161	10.1	89	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.991	0.782	21.1	90	-0.01
50	T	Methyl Methacrylate	0.091	0.088	3.3	91	-0.01
51	T	n-Heptane	0.246	0.205	16.7	94	0.00
52	T	cis-1,3-Dichloropropene	0.304	0.282	7.2	88	0.00
53	T	4-Methyl-2-pentanone	0.183	0.178	2.7	90	-0.01
54	T	trans-1,3-Dichloropropene	0.255	0.245	3.9	84	0.00
55	T	1,1,2-Trichloroethane	0.204	0.171	16.2	88	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2019 07\26\07261902.D
Sample : CCV R8072619 25ng Inst : MS08
Acq On : 26 Jul 2019 4:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:15:23 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	108	0.00
57	S	Toluene-d8 (SS2)	2.571	2.414	6.1	103	0.00
58	T	Toluene	2.175	1.666	23.4	90	-0.01
59	T	2-Hexanone	1.030	0.908	11.8	91	-0.01
60	T	Dibromochloromethane	0.529	0.429	18.9	86	0.00
61	T	1,2-Dibromoethane	0.528	0.431	18.4	87	0.00
62	T	n-Butyl Acetate	1.126	1.020	9.4	90	0.00
63	T	n-Octane	0.483	0.361	25.3	90	0.00
64	T	Tetrachloroethene	0.664	0.485	27.0	89	0.00
65	T	Chlorobenzene	1.521	1.123	26.2	90	0.00
66	T	Ethylbenzene	2.604	1.910	26.7	88	0.00
67	T	m- & p-Xylenes	1.946	1.392	28.5	88	0.00
68	T	Bromoform	0.449	0.382	14.9	85	0.00
69	T	Styrene	1.509	1.252	17.0	89	0.00
70	T	o-Xylene	1.977	1.412	28.6	87	-0.01
71	T	n-Nonane	1.112	0.828	25.5	91	0.00
72	T	1,1,2,2-Tetrachloroethane	0.861	0.670	22.2	89	0.00
73	S	Bromofluorobenzene (SS3)	0.844	0.925	-9.6	118	0.00
74	T	Cumene	2.671	1.918	28.2	88	0.00
75	T	alpha-Pinene	1.274	0.935	26.6	85	0.00
76	T	n-Propylbenzene	2.984	2.186	26.7	88	0.00
77	T	3-Ethyltoluene	2.602	1.890	27.4	89	0.00
78	T	4-Ethyltoluene	2.323	1.823	21.5	88	0.00
79	T	1,3,5-Trimethylbenzene	2.105	1.551	26.3	87	0.00
80	T	alpha-Methylstyrene	1.064	0.882	17.1	88	0.00
81	T	2-Ethyltoluene	2.447	1.844	24.6	88	-0.01
82	T	1,2,4-Trimethylbenzene	1.986	1.499	24.5	88	-0.01
83	T	n-Decane	1.143	0.868	24.1	91	0.00
84	T	Benzyl Chloride	1.284	1.193	7.1	78	0.00
85	T	1,3-Dichlorobenzene	1.186	0.952	19.7	92	0.00
86	T	1,4-Dichlorobenzene	1.182	0.970	17.9	91	-0.01
87	T	sec-Butylbenzene	2.798	2.126	24.0	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.631	1.973	25.0	90	0.00
89	T	1,2,3-Trimethylbenzene	2.120	1.508	28.9	88	0.00
90	T	1,2-Dichlorobenzene	1.045	0.886	15.2	91	-0.01
91	T	d-Limonene	0.766	0.603	21.3	87	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.393	0.363	7.6	87	0.00
93	T	n-Undecane	1.111	0.931	16.2	94	0.00
94	T	1,2,4-Trichlorobenzene	0.766	0.722	5.7	92	0.00
95	T	Naphthalene	2.220	2.389	-7.6	97	0.00
96	T	n-Dodecane	0.675	0.898	-33.0#	108	0.00
97	T	Hexachlorobutadiene	0.556	0.404	27.3	84	0.00
98	T	Cyclohexanone	0.743	0.616	17.1	89	0.00
99	T	tert-Butylbenzene	2.043	1.518	25.7	89	-0.01
100	T	n-Butylbenzene	2.147	1.640	23.6	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261902.D
Sample : CCV R8072619 25ng Inst : MS08
Acq On : 26 Jul 2019 4:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

RS 7/26/19

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:15:23 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.24	130	153801	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.36	114	673106	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.67	82	301937	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.09	65	178085	11.649	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%			
57) Toluene-d8 (SS2)	15.81	98	728773	11.736	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%			
73) Bromofluorobenzene (SS3)	19.06	174	279426	13.699	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.60%			
Target Compounds						Qvalue
2) Propene	4.15	42	280375	22.265	ng	97
3) Dichlorodifluoromethan...	4.31	85	391284	19.927	ng	100
4) Chloromethane	4.60	50	268351	18.122	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.86	135	234115	21.090	ng	99
6) Vinyl Chloride	5.02	62	335377	23.015	ng	100
7) 1,3-Butadiene	5.29	54	281451	24.043	ng	98
8) Bromomethane	5.73	94	204020	20.619	ng	99
9) Chloroethane	6.06	64	189971	20.811	ng	100
10) Ethanol	6.46	45	933107	104.747	ng	99
11) Acetonitrile	6.70	41	511367	22.604	ng	99
12) Acrolein	6.89	56	169412	25.755	ng	100
13) Acetone	7.10	58	972296	109.474	ng	92
14) Trichlorofluoromethane	7.33	101	330712	19.609	ng	99
15) 2-Propanol (Isopropanol)	7.60	45	1298445	42.643	ng	98
16) Acrylonitrile	7.86	53	348607	26.364	ng	99
17) 1,1-Dichloroethene	8.30	96	242555	21.429	ng	97
18) 2-Methyl-2-Propanol (t...	8.46	59	1257190	44.225	ng	99
19) Methylene Chloride	8.53	84	249380	22.109	ng	100
20) 3-Chloro-1-propene (Al...	8.69	41	393033	22.798	ng	99
21) Trichlorotrifluoroethane	8.94	151	229893	20.733	ng	100
22) Carbon Disulfide	8.79	76	881131	22.709	ng	100
23) trans-1,2-Dichloroethene	9.80	61	335732	22.721	ng	99
24) 1,1-Dichloroethane	10.05	63	402170	20.349	ng	100
25) Methyl tert-Butyl Ether	10.14	73	761215	21.282	ng	99
26) Vinyl Acetate	10.30	86	387924	131.949	ng	97
27) 2-Butanone (MEK)	10.55	72	192812	25.385	ng	100
28) cis-1,2-Dichloroethene	11.07	61	314704	21.003	ng	98
29) Diisopropyl Ether	11.36	87	263787	22.414	ng	99
30) Ethyl Acetate	11.37	61	185196	50.594	ng	99
31) n-Hexane	11.35	57	440463	22.718	ng	99
32) Chloroform	11.41	83	370735	20.698	ng	99
34) Tetrahydrofuran (THF)	11.81	72	184362	21.867	ng	97
35) Ethyl tert-Butyl Ether	11.95	87	325810	21.418	ng	99
36) 1,2-Dichloroethane	12.21	62	260892	19.882	ng	99
38) 1,1,1-Trichloroethane	12.49	97	330115	20.835	ng	100
39) Isopropyl Acetate	12.92	61	333837	43.883	ng	96
40) 1-Butanol	12.93	56	569413	56.393	ng	96
41) Benzene	12.97	78	1001414	20.700	ng	100
42) Carbon Tetrachloride	13.13	117	280808	20.514	ng	99
43) Cyclohexane	13.26	84	864065	41.400	ng	99
44) tert-Amyl Methyl Ether	13.61	73	727337	21.679	ng	100
45) 1,2-Dichloropropane	13.82	63	249881	22.184	ng	100
46) Bromodichloromethane	14.01	83	294895	22.172	ng	100
47) Trichloroethene	14.06	130	285629	21.929	ng	100
48) 1,4-Dioxane	14.04	88	230162	23.878	ng	99
49) 2,2,4-Trimethylpentane...	14.13	57	1117379	20.931	ng	98
50) Methyl Methacrylate	14.27	100	254072	51.768	ng	99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261902.D
Sample : CCV R8072619 25ng Inst : MS08
Acq On : 26 Jul 2019 4:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:15:23 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration

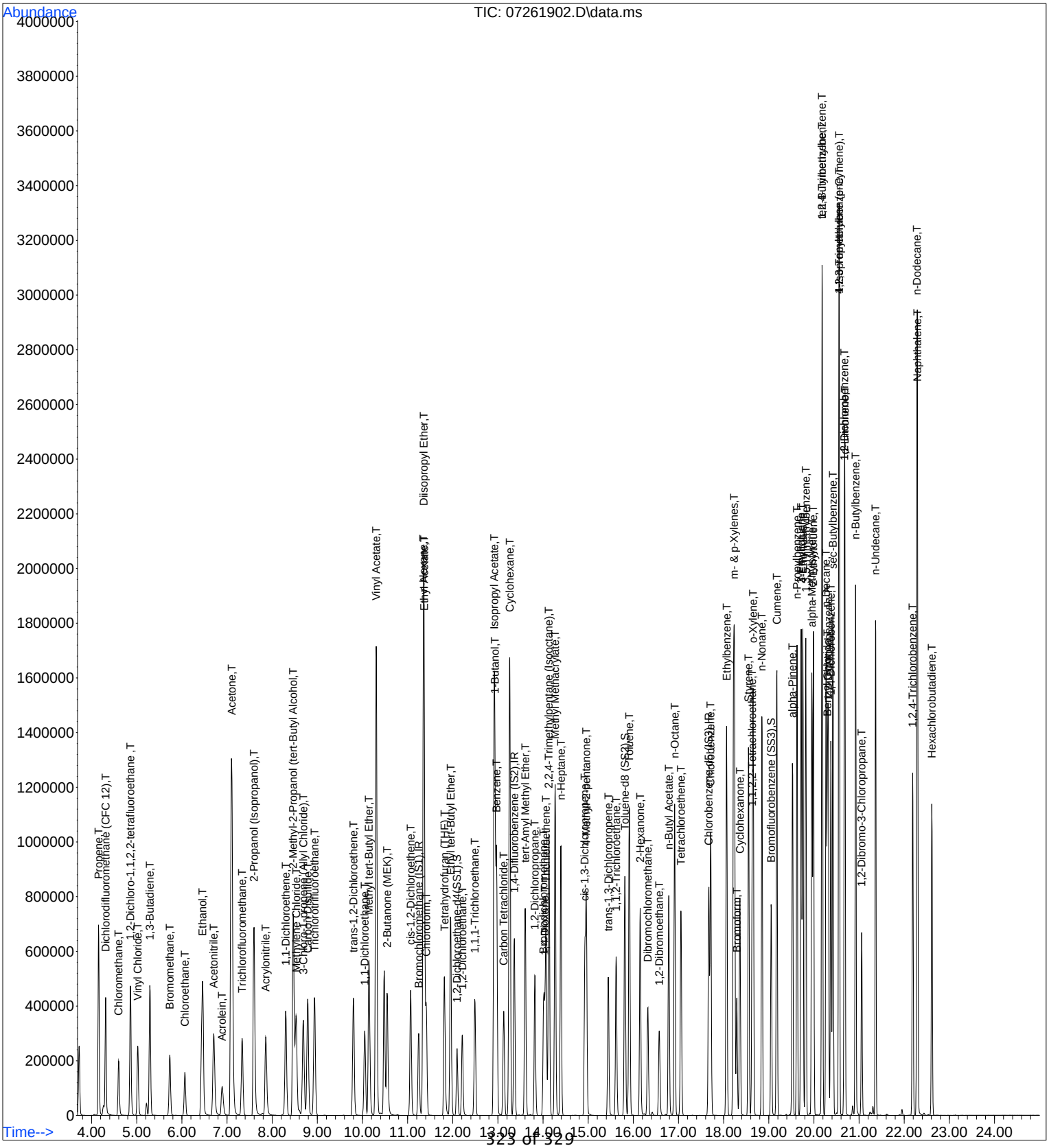
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.40	71	297376	22.454	ng	99
52) cis-1,3-Dichloropropene	14.92	75	425318	25.979	ng	100
53) 4-Methyl-2-pentanone	14.96	58	254141	25.836	ng	99
54) trans-1,3-Dichloropropene	15.45	75	348207	25.402	ng	99
55) 1,1,2-Trichloroethane	15.62	97	247552	22.530	ng	100
58) Toluene	15.91	91	1058245	20.141	ng	100
59) 2-Hexanone	16.15	43	588766	23.656	ng	99
60) Dibromochloromethane	16.32	129	278796	21.839	ng	100
61) 1,2-Dibromoethane	16.58	107	280125	21.953	ng	100
62) n-Butyl Acetate	16.79	43	668004	24.557	ng	99
63) n-Octane	16.91	57	234350	20.104	ng	98
64) Tetrachloroethene	17.05	166	309645	19.309	ng	100
65) Chlorobenzene	17.71	112	722861	19.674	ng	100
66) Ethylbenzene	18.07	91	1191768	18.950	ng	99
67) m- & p-Xylenes	18.23	91	1784874	37.979	ng	97
68) Bromoform	18.29	173	245504	22.640	ng	100
69) Styrene	18.55	104	801683	21.999	ng	98
70) o-Xylene	18.65	91	905695	18.970	ng	97
71) n-Nonane	18.85	43	535300	19.926	ng	100
72) 1,1,2,2-Tetrachloroethane	18.63	83	430190	20.693	ng	99
74) Cumene	19.18	105	1224505	18.979	ng	99
75) alpha-Pinene	19.52	93	584341	18.987	ng	99
76) n-Propylbenzene	19.63	91	1420196	19.707	ng	99
77) 3-Ethyltoluene	19.72	105	1211796	19.279	ng	98
78) 4-Ethyltoluene	19.76	105	1167827	20.809	ng	98
79) 1,3,5-Trimethylbenzene	19.82	105	990267	19.472	ng	97
80) alpha-Methylstyrene	19.95	118	563260	21.908	ng	99
81) 2-Ethyltoluene	19.99	105	1193933	20.197	ng	98
82) 1,2,4-Trimethylbenzene	20.18	105	967083	20.162	ng	97
83) n-Decane	20.27	57	564138	20.427	ng	100
84) Benzyl Chloride	20.30	91	757048	24.401	ng	98
85) 1,3-Dichlorobenzene	20.32	146	621104	21.673	ng	100
86) 1,4-Dichlorobenzene	20.37	146	633107	22.177	ng	100
87) sec-Butylbenzene	20.42	105	1364917	20.199	ng	99
88) 4-Isopropyltoluene (p-...	20.56	119	1241675	19.541	ng	97
89) 1,2,3-Trimethylbenzene	20.56	105	948893	18.533	ng	97
90) 1,2-Dichlorobenzene	20.67	146	582588	23.073	ng	100
91) d-Limonene	20.69	68	367512	19.863	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.06	157	228505	24.100	ng	97
93) n-Undecane	21.36	57	594115	22.142	ng	100
94) 1,2,4-Trichlorobenzene	22.19	180	463934	25.072	ng	100
95) Naphthalene	22.29	128	1478690	27.577	ng	100
96) n-Dodecane	22.28	57	559270	34.315	ng	100
97) Hexachlorobutadiene	22.61	225	256810	19.121	ng	100
98) Cyclohexanone	18.36	55	365336	20.358	ng	99
99) tert-Butylbenzene	20.18	119	978376	19.828	ng	98
100) n-Butylbenzene	20.92	91	1053647	20.312	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2019 07\26\07261902.D
Sample : CCV R8072619 25ng Inst : MS08
Acq On : 26 Jul 2019 4:03 Operator: RS
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

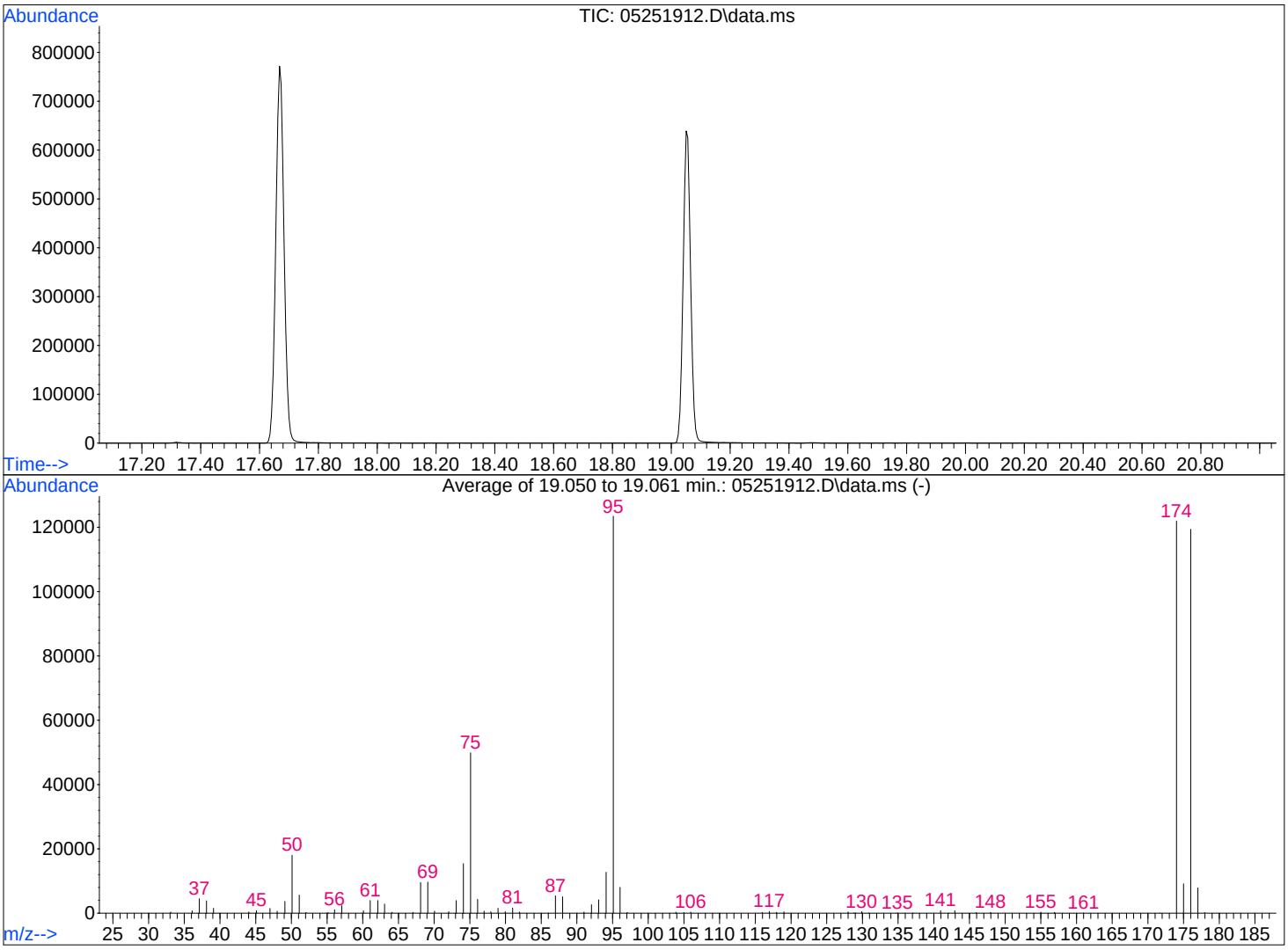
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Quant Time: Jul 26 07:15:23 2019
Quant Method : I:\MS08\Methods\R8052519.M
QLast Update : Tue May 28 07:57:28 2019
Response via : Initial Calibration



Data Path : I:\MS08\Data\2019 05\25\
Data File : 05251912.D
Acq On : 25 May 2019 12:23
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S31-05251901/AS00703
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8052519.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 28 07:57:28 2019



AutoFind: Scans 2853, 2854, 2855; Background Corrected with Scan 2845

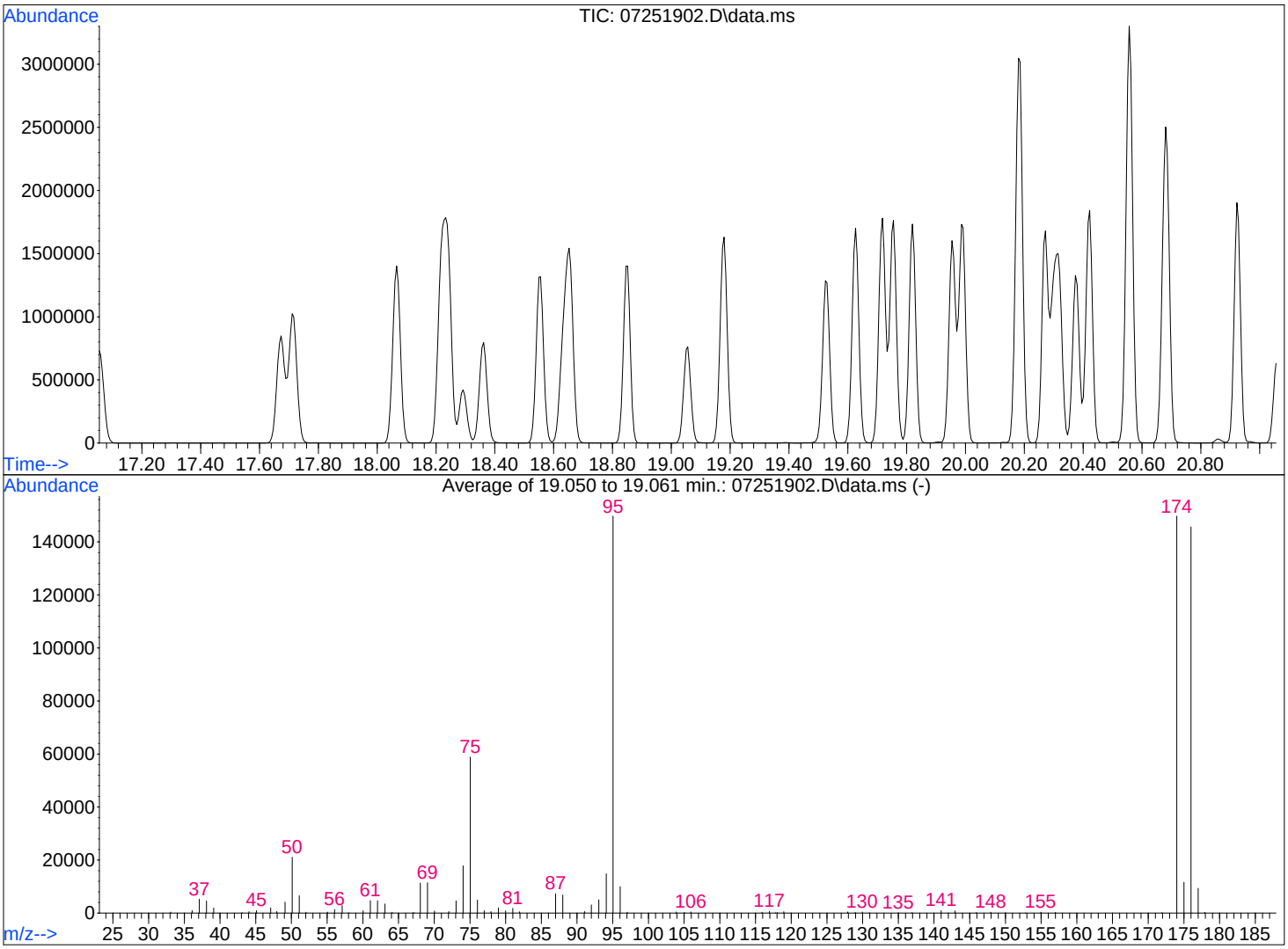
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.6	18022	PASS
75	95	30	66	40.4	49907	PASS
95	95	100	100	100.0	123445	PASS
96	95	5	9	6.5	8061	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.7	121899	PASS
175	174	4	9	7.5	9140	PASS
176	174	93	101	97.9	119384	PASS
177	176	5	9	6.6	7885	PASS

RS 5/28/19

Data Path : I:\MS08\Data\2019 07\25\
Data File : 07251902.D
Acq On : 25 Jul 2019 5:03
Operator : RS
Sample : CCV R8072519 25ng
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8052519.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 28 07:57:28 2019



AutoFind: Scans 2853, 2854, 2855; Background Corrected with Scan 2845

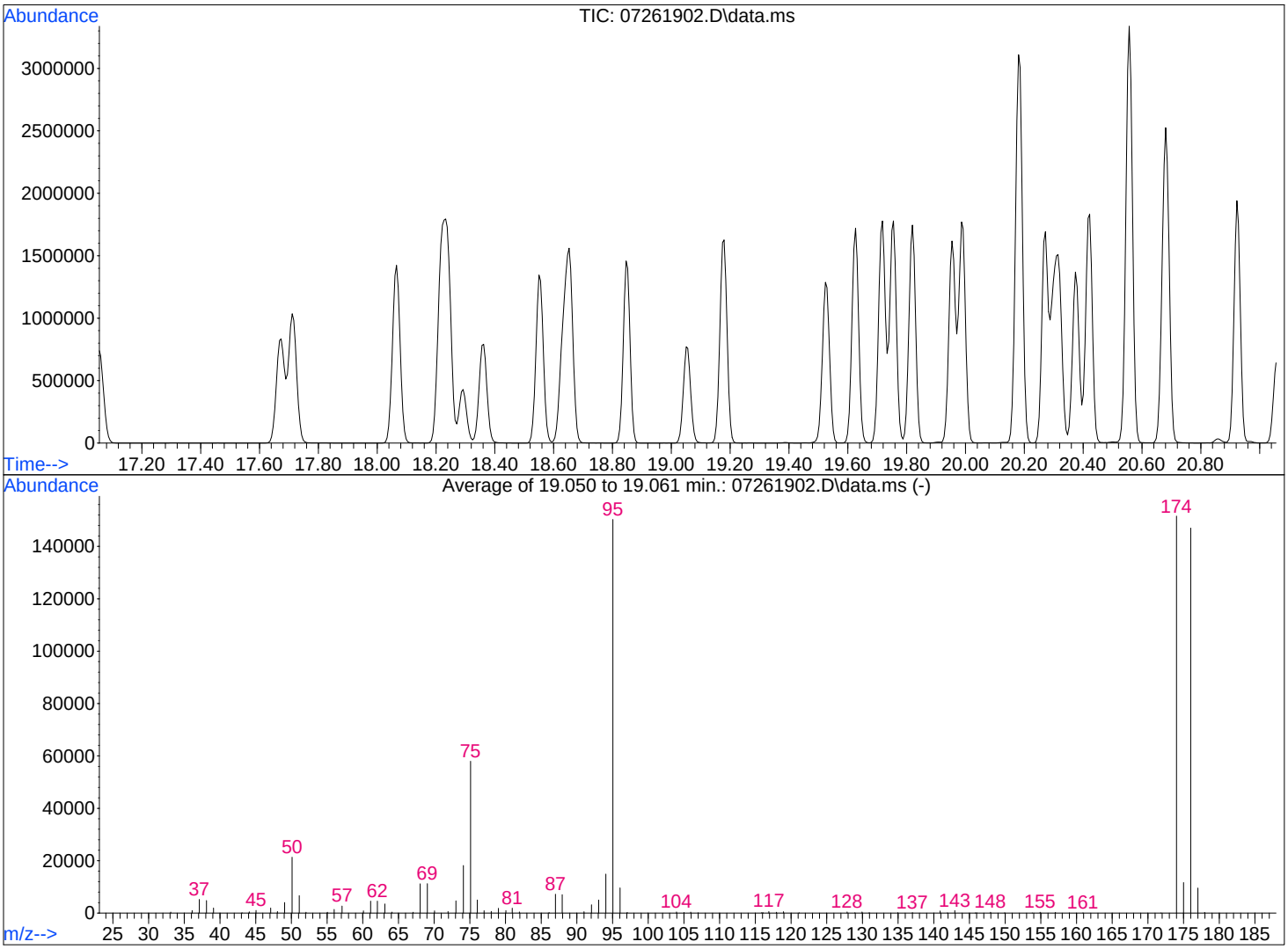
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.1	21101	PASS
75	95	30	66	39.3	58811	PASS
95	95	100	100	100.0	149736	PASS
96	95	5	9	6.7	9990	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.0	149717	PASS
175	174	4	9	7.8	11630	PASS
176	174	93	101	97.3	145664	PASS
177	176	5	9	6.4	9324	PASS

RS 7/25/19

Data Path : I:\MS08\Data\2019 07\26\
Data File : 07261902.D
Acq On : 26 Jul 2019 4:03
Operator : RS
Sample : CCV R8072619 25ng
Misc : S31-07111901/S31-07151905 (8/13)
ALS Vial : 3 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8052519.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue May 28 07:57:28 2019



AutoFind: Scans 2853, 2854, 2855; Background Corrected with Scan 2845

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.2	21320	PASS
75	95	30	66	38.6	57971	PASS
95	95	100	100	100.0	150285	PASS
96	95	5	9	6.4	9639	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.9	151573	PASS
175	174	4	9	7.7	11692	PASS
176	174	93	101	97.0	147021	PASS
177	176	5	9	6.5	9576	PASS

RS 7/26/19

Injection Log

Directory: J:\MS08\Data\2019_05\25\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
12	5/25/19 12:23	05251912.D	12.5ng TO-15 BFB STD	S31-05251901/AS00703	SC	1	*passed*
13	5/25/19 12:57	05251913.D	0.1ng TO-15 ICAL STD	S31-05251901/S31-05201907 (6/18)	SC	5	*R8052519.M*
14	5/25/19 13:30	05251914.D	0.2ng TO-15 ICAL STD	S31-05251901/S31-05201907 (6/18)	SC	5	
15	5/25/19 14:03	05251915.D	0.5ng TO-15 ICAL STD	S31-05251901/S31-05081902 (6/6)	SC	6	
16	5/25/19 14:36	05251916.D	1.0ng TO-15 ICAL STD	S31-05251901/S31-05081902 (6/6)	SC	6	
17	5/25/19 15:09	05251917.D	5.0ng TO-15 ICAL STD	S31-05251901/S31-05081902 (6/6)	SC	6	
18	5/25/19 15:42	05251918.D	25ng TO-15 ICAL STD	S31-05251901/S31-05201908 (6/18)	SC	7	
19	5/25/19 16:15	05251919.D	50ng TO-15 ICAL STD	S31-05251901/S31-05201908 (6/18)	SC	7	
20	5/25/19 16:49	05251920.D	100ng TO-15 ICAL STD	S31-05251901/S31-05201908 (6/18)	SC	7	
21	5/25/19 17:21	05251921.D	Blank (100mL)	S31-05251901/AS00703	SC	1	
22	5/25/19 17:55	05251922.D	25ng TO-15 ICV STD	S31-05011903/S31-05241902 (6/22)	SC	1	*passed*
23	5/25/19 18:28	05251923.D	25ng TO-15 ICV STD	S31-05011903/S31-05241902 (6/22)	SC	1	*not used*
	R8052519.M ranges from 0.1ng --> 100ng Except: propene, acrolein, acetone, MEK, ethyl acetate, hexane, trans-1,3-DCP, toluene, 2-hexanone, 4-ethyltoluene, 1,3,5-TMB,						
	2-ethyltoluene, 1,2,4-TMB, 1,4-DCB, sec-butylbenzene, 4-isopropyltoluene, tert-butylbenzene 0.2ng --> 100ng. CS2, 1,2-DCB and n-dodecane 0.5ng --> 100ng.						

RS *5/29/19*

Injection Log

Directory: I:\MS08\Data\2019_07\25\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/25/19 4:30	07251901.D	CCV C8072519_25ng	S31-07111901/S31-07241902 (8/22)	RS	2	*passed*
2	7/25/19 5:03	07251902.D	CCV R8072519_25ng	S31-07111901/S31-07151905 (8/13)	RS	3	*passed*
3	7/25/19 5:37	07251903.D	blank	S31-07111901	RS	4	
4	7/25/19 6:10	07251904.D	MB R8072519_1000mL	S31-07111901AS00703	RS	1	*passed*
5	7/25/19 6:43	07251905.D	LCS R8072519_25ng	S31-07111901/S31-07151909 (8/13)	RS	1	*passed*
6	7/25/19 7:16	07251906.D	LCSD R8072519_25ng	S31-07111901/S31-07151909 (8/13)	RS	1	*passed*
7	7/25/19 7:49	07251907.D	P1904239-001 (20mL)	S31-07111901	RS	5	
8	7/25/19 8:30	07251908.D	P1904239-001dup (20mL)	S31-07111901	RS	5	*passed*
9	7/25/19 9:03	07251909.D	P1904239-002 (20mL)	S31-07111901	RS	8	
10	7/25/19 9:41	07251910.D	P1904278-001 (1000mL)	S31-07111901	RS	7	
11	7/25/19 11:12	07251911.D	P1904239-002 (15mL)	S31-07111901	RS	8	
12	7/25/19 11:51	07251912.D	P1904140-002 (0.10mL)	S31-07111901	RS	4	
13	7/25/19 12:24	07251913.D	P1904140-010 (0.10mL)	S31-07111901	RS	4	
14	7/25/19 12:57	07251914.D	P1904278-002 (1000mL)	S31-07111901	RS	6	
15	7/25/19 13:29	07251915.D	P1904278-003 (1000mL)	S31-07111901	RS	7	
16	7/25/19 14:06	07251916.D	P1904278-004 (1000mL)	S31-07111901	RS	8	
17	7/25/19 14:39	07251917.D	P1904286-001 (400mL)	S31-07111901	RS	5	
18	7/25/19 15:12	07251918.D	P1904286-004 (15mL)	S31-07111901	RS	11	
19	7/25/19 15:52	07251919.D	P1904286-002 (100mL)	S31-07111901	RS	9	
20	7/25/19 16:25	07251920.D	P1904286-002dil (20mL)	S31-07111901	RS	9	
21	7/25/19 16:58	07251921.D	P1904286-003 (100mL)	S31-07111901	RS	10	
22	7/25/19 17:31	07251922.D	P1904286-003dil (20mL)	S31-07111901	RS	10	
23	7/25/19 18:04	07251923.D	P1904286-004 (400mL)	S31-07111901	RS	11	
24	7/25/19 18:37	07251924.D	P1904286-007 (400mL)	S31-07111901	RS	12	
25	7/25/19 19:10	07251925.D	P1904286-007dil (40mL)	S31-07111901	RS	12	
26	7/25/19 19:43	07251926.D	P1904286-008 (400mL)	S31-07111901	RS	13	
27	7/25/19 20:16	07251927.D	P1904286-008dil (40mL)	S31-07111901	RS	13	
28	7/25/19 20:49	07251928.D	P1904286-009 (150mL)	S31-07111901	RS	14	
29	7/25/19 21:22	07251929.D	P1904286-009dil (50mL)	S31-07111901	RS	14	
30	7/25/19 21:56	07251930.D	P1904286-010 (400mL)	S31-07111901	RS	15	
31	7/25/19 22:29	07251931.D	P1904286-010dil (40mL)	S31-07111901	RS	15	
32	7/25/19 23:02	07251932.D	P1904286-011 (400mL)	S31-07111901	RS	16	
33	7/25/19 23:35	07251933.D	P1904286-011dil (40mL)	S31-07111901	RS	16	

RS 7/26/19

Injection Log

Directory: I:\MS08\Data\2019_07\26\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/26/19 3:30	07261901.D	CCV C8072619_25ng	S31-07111901/S31-07241902 (8/22)	RS	2	*passed*
2	7/26/19 4:03	07261902.D	CCV R8072619_25ng	S31-07111901/S31-07151905 (8/13)	RS	3	*passed*
3	7/26/19 4:36	07261903.D	blank	S31-07111901	RS	4	
4	7/26/19 5:10	07261904.D	MB R8072619_1000mL	S31-07111901AS00703	RS	1	*passed*
5	7/26/19 5:43	07261905.D	LCS R8072619_25ng	S31-07111901/S31-07151909 (8/13)	RS	1	*passed*
6	7/26/19 6:16	07261906.D	LCSD R8072619_25ng	S31-07111901/S31-07151909 (8/13)	RS	1	*passed*
7	7/26/19 7:29	07261907.D	P1904286-005 (10mL)	S31-07111901	RS	4	
8	7/26/19 8:02	07261908.D	P1904286-006 (10mL)	S31-07111901	RS	4	
9	7/26/19 8:59	07261909.D	P1904329-004 (400mL)	S31-07111901	RS	8	
10	7/26/19 9:32	07261910.D	P1904329-004dil (20mL)	S31-07111901	RS	8	
11	7/26/19 10:05	07261911.D	P1904329-001dil (20mL)	S31-07111901	RS	5	
12	7/26/19 10:45	07261912.D	P1904329-001 (400mL)	S31-07111901	RS	5	
13	7/26/19 11:18	07261913.D	P1904329-002 (400mL)	S31-07111901	RS	6	
14	7/26/19 11:51	07261914.D	blank	S31-07111901	RS	4	
15	7/26/19 12:24	07261915.D	P1904329-002dil (20mL)	S31-07111901	RS	6	
16	7/26/19 12:57	07261916.D	P1904329-003 (400mL)	S31-07111901	RS	7	
17	7/26/19 13:30	07261917.D	P1904329-003dil (20mL)	S31-07111901	RS	7	
18	7/26/19 14:08	07261918.D	blank	S31-07111901	RS	4	
19	7/26/19 15:06	07261919.D	P1904229-001 (1000mL)	S31-07111901	RS	5	
20	7/26/19 15:39	07261920.D	P1904229-002 (1000mL)	S31-07111901	RS	6	
21	7/26/19 16:12	07261921.D	P1904229-003 (1000mL)	S31-07111901	RS	7	
22	7/26/19 16:44	07261922.D	P1904229-004 (1000mL)	S31-07111901	RS	8	
23	7/26/19 17:17	07261923.D	P1904229-005 (1000mL)	S31-07111901	RS	9	
24	7/26/19 17:50	07261924.D	P1904229-006 (1000mL)	S31-07111901	RS	10	
25	7/26/19 18:23	07261925.D	P1904229-006dup (1000mL)	S31-07111901	RS	10	*passed*
26	7/26/19 18:56	07261926.D	P1904366-001 (1000mL)	S31-07111901	RS	11	
27	7/26/19 19:30	07261927.D	P1904366-002 (1000mL)	S31-07111901	RS	12	
28	7/26/19 20:03	07261928.D	P1904366-003 (1000mL)	S31-07111901	RS	13	
29	7/26/19 20:37	07261929.D	P1904366-004 (1000mL)	S31-07111901	RS	14	
30	7/26/19 21:10	07261930.D	P1904366-005 (1000mL)	S31-07111901	RS	15	
31	7/26/19 21:43	07261931.D	blank	S31-07111901	RS	1	

RS *8/1/19*