Spring and Summer 2020 Drilling Investigation

CONTRACT NO.: W912DQ-18-D-3008
DELIVERY ORDER NO.: W912DQ19F3048

700 South 1600 East PCE Plume Site Salt Lake City, Utah

U.S. Army Corps of Engineers Kansas City District



Department of Veterans Affairs Veterans Health Administration Salt Lake City Health Care System



July 7, 2021



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Acronyms and Abbreviations

amsl above mean sea level

CDM Smith CDM Federal Programs Corporation

DSR data summary report

DQCR data quality control reports

EPA U.S. Environmental Protection Agency

ESS East Side Springs

ft bgs feet below ground surface IDW investigation-derived waste Jacobs Ingineering Group Inc.

mg/kg milligram per kilogram

OU operable unit PCE tetrachloroethene

PID photoionization detector

ppm parts per million PVC polyvinyl chloride

QAPP quality assurance project plan QCSR quality control summary report

RI remedial investigation

ROW right-of-way

SOP standard operating procedure

SVP soil vapor probe TCE trichloroethene

UDEQ Utah Department of Environmental Quality

USACE U.S. Army Corps of Engineers
VAMC Veterans Affairs Medical Center
VHA Veterans Health Administration
VOC volatile organic compound

ZIST zone isolation sampling technology

μg/L micrograms per liter





Section 1

Introduction

Under the U.S. Army Corps of Engineers (USACE), Kansas City District, Contract No. W912DQ-18-D-3008, Task Order No. W912DQ19F3048, CDM Federal Programs Corporation (CDM Smith) was directed to perform a remedial investigation (RI) for Operable Unit (OU) 1 of the 700 South 1600 East Tetrachloroethene (PCE) Plume Superfund Site in Salt Lake City, Utah. This data summary report (DSR) was prepared by CDM Smith to present the results of the spring and summer 2020 drilling investigation as part of the RI field characterization activities.

1.1 Background

The Salt Lake City Healthcare System George E. Wahlen Veterans Affairs Medical Center (VAMC) is in Salt Lake City, Utah (**Figure 1**). PCE contamination was first identified in groundwater in 1990 at the nearby Mt. Olivet Cemetery irrigation well during routine monitoring by the Salt Lake City Department of Public Utilities. This led to U.S. Environmental Protection Agency (EPA) and Utah Department of Environmental Quality (UDEQ) involvement at the site and the preliminary determination that the source of PCE in groundwater was the historic dry cleaning facility at the VAMC. The Veterans Health Administration (VHA) operated a part-time dry cleaning operation that used PCE over a 6-year period in the late 1970s and early 1980s. During this period, dry cleaning residuals were disposed in the sanitary sewer. The PCE plume is present beneath the VAMC property and in areas hydraulically downgradient, extending to the East Side Springs (ESS) neighborhood.

In 2018, as part of the former OU2 RI, 18 shallow monitoring wells (including 7 monitoring well pairs and 4 individual wells) were constructed at the site. Additionally, two deep monitoring wells were installed; MW-03R on the VAMC campus as a multilevel completion with four screened intervals and MW-08 installed on 700 South near 1300 East as a multilevel completion with three screened intervals (Jacobs 2019).

Soil vapor investigations and surface and groundwater sampling were also conducted as part of the RI effort. The soil vapor investigation identified elevated PCE concentrations around Buildings 6 and 7 on the VAMC campus and along the sanitary sewer line that runs from Building 7 through Sunnyside Park to the main sewer line on Sunnyside Ave, specifically near a manhole in Sunnyside Park (Jacobs 2019).

1.2 Purpose and Scope

The purpose of this DSR is to discuss the field work conducted and data collected during the spring and summer 2020 groundwater monitoring well installation event. Groundwater monitoring wells were installed at 11 boring locations. The boring locations were selected to evaluate subsurface conditions near suspected source areas to vertically and spatially delineate the extent of the plume. The boring investigation information will further define the hydrogeology and hydrostratigraphy characteristics for the plume. Seven boring locations (MW-23 through MW-29) were selected to evaluate conditions in and immediately downgradient of



suspected source areas. Four boring locations (MW-30, MW-31, MW-32, and MW-34) were advanced to laterally and vertically delineate the plume. Soil profiling included field screening of soil cores using a photoionization detector (PID) and collection of soil samples for laboratory analysis. Push-ahead groundwater samples were collected and screened using AQ Colortec and submitted for laboratory volatile organic compound (VOC) analysis to evaluate the vertical distribution of VOCs in the aquifer (CDM Smith 2019a). This report summarizes the field work conducted and presents the analytical and field data collected during the event. **Appendix A** includes the Daily Quality Control Reports (DQCR) submitted to USACE and VHA daily during the event. **Appendix B** includes copies of field logbook notes for the field work.



Section 2

Monitoring Well Installation

The following sections outline the field activities completed during the spring and summer 2020 drilling event. The field activities were conducted per the Agency-approved OU2 RI Work Plan (CH2M 2018, Section 5.2), OU2 RI Quality Assurance Project Plan (QAPP) (CDM Smith 2019a, Section 2.3, Sections 3 through 5), Modification #3 to the OU2 RI Work Plan and Sampling and Analysis Plan (CDM Smith 2019b), and Addendum A to Modification #3 (CDM Smith 2020).

2.1 Utility Clearance and Permitting

Prior to drilling, all locations were surveyed for utilities using geophysical survey methods. Location clearance requests were submitted to Blue Stakes of Utah, and the utility location notifications were updated as required during the drilling event. TWS Environmental conducted the geophysical surveys for the boring locations on the VAMC campus, Sunnyside Park, and 600 South. DPS conducted the geophysical survey for MW-34 at the Rowland Hall-St. Mark's School. Utility locate reports are included in **Appendix C.**

2.1.1 Hydrovac Excavation

Prior to drilling, all of the boring locations were hydrovac-excavated. Excavation to 15 feet below ground surface (ft bgs) was attempted on the VAMC campus. VHA safety approved the locations prior to drilling. The Sunnyside Park, 600 South, and Rowland Hall-St. Mark's School boring locations were excavated to at least 5 ft bgs. Hydrovac cuttings were managed as soil and water investigation-derived waste (IDW).

Table 1 summarizes the well locations, dates, depths, and issues/comments encountered during the hydrovac excavation.

Table 1 Hydrovac Summary

Well ID	Date	Depth (ft bgs)	Issues/Comments
MW-28	3/10/2020	10	Unable to advance to 15 feet bgs. Approved by VHA Safety.
MW-23	3/11/2020	14	Unable to advance to 15 feet bgs. Approved by VHA Safety.
MW-27	3/20/2020	12.9	The proposed MW-27 location encountered refusal at 2 feet bgs and was offset approximately 8 feet to the west. Unable to advance to 15 feet bgs. Approved by VHA Safety.
MW-26	4/10/2020	9	The proposed MW-24 location encountered an abandoned utility at approximately 7 feet bgs and was offset approximately 3 feet to the northwest. Unable to advance to 15 feet bgs. Approved by VHA Safety.
MW-25	4/15/2020	10	Unable to advance to 15 feet bgs. Approved by VHA Safety.
MW-24	5/6/2020	11	Unable to advance to 15 feet bgs. Approved by VHA Safety.
MW-30	5/6/2020	9.5	Unable to advance to 15 feet bgs. Approved by VHA Safety.
MW-29	5/26/2020	8.5	Off campus well located in Sunnyside Park.
MW-31	5/26/2020	10	Off campus well located in Sunnyside Park



Well ID	Date	Depth (ft bgs)	Issues/Comments
MW-32	6/15/2020	8	Off campus well located on 600 South.
MW-34	7/1/2020	8	The proposed MW-34 location encountered utilities and the location was moved approximately 2 feet to the north, leaving 10 feet between the utility and borehole location. Off campus well located on Rowland Hall-St. Mark's School property.

2.1.2 Permitting

The Salt Lake City Corporation Engineering Division issued a Right-of-Way (ROW) Permit for MW-32 located on 600 South. A Performance Bond and Certificate of Liability Insurance accompanied the ROW permit application. Utah Barricade created a Traffic Control Plan, included in **Appendix D**, which was submitted to the Salt Lake City Division of Transportation for a Traffic Control Permit along 600 South.

Copies of the ROW Permit, Traffic Control Permit, and associated documents can be found in **Appendix E**. Excavation permits were issued by VHA Safety for the duration of each boring on the VAMC campus. Daily Excavation checklists were completed by CDM Smith and are included in **Appendix F**.

2.2 Drilling

Drilling occurred between March 12, 2020, and July 14, 2020. Seven source area delineation borings were completed as either multilevel wells or single-screen intervals (CDM Smith 2019b). Six source delineation borings (MW-23 through MW-28) are around Buildings 6 and 7 on the VAMC campus. The MW-29 boring is near the Sunnyside Park sanitary sewer manhole that was identified as a potential release point during the soil gas investigation (Jacobs 2019).

Four plume delineation borings were completed as multilevel wells. MW-30 is located in the northwest corner of the VAMC campus. MW-31 is located along Sunnyside Avenue in Sunnyside Park. MW-32 is located on 600 South near 1300 East, which is west and downgradient of Mt. Olivet Cemetery. MW-34 is on the Rowland Hall-St. Mark's School property west of Guardsman Way.

Holt Services used two Terrasonic 150 track mounted mini-rotosonic drill rigs to advance the borings. Continuous soil cores were collected and field screened using a PID. The lithology was logged and photos were taken of the core intervals. Borehole logs are included in **Appendix G** and photos of the soil cores are included in **Appendix H**. Well construction details are discussed in Section 2.4 and presented in **Table 5**. Soil cuttings were managed as IDW.

2.2.1 Source Wells

The source area wells include MW-23 located between Buildings 6 and 7 adjacent to the former dry cleaning operation and near elevated subslab soil vapor concentrations in Building 6 (CDM Smith 2019b). The hydrovac excavation reached 14 feet bgs. The rotosonic boring began on April 7, 2020 and reached a total depth of 360 feet bgs on April 15, 2020. A perched groundwater zone was encountered at approximately 150 feet bgs and groundwater was encountered at



approximately 200 feet bgs. Well construction began on April 17, 2020 and was completed on April 20, 2020. MW-23 was completed as a multilevel well with three screened intervals and a 1-inch polyvinyl chloride (PVC) soil vapor monitoring point.

MW-24 is southwest of Building 6. This location is potentially downgradient of Building 6, where elevated subslab soil vapor concentrations were encountered. The hydrovac excavation encountered refusal at 11 feet bgs. The rotosonic boring began on May 11, 2020 and reached a total depth of 250 feet bgs on May 14, 2020. A perched groundwater zone was encountered at approximately 160 feet bgs and groundwater was encountered at approximately 200 feet bgs. MW-24 was completed as a single well completion with four soil vapor monitoring points. Well construction was completed on May 20, 2020.

MW-25 is west of Building 6, potentially downgradient of Building 6. The hydrovac excavation encountered refusal at 10 feet bgs. The rotosonic boring began on April 29, 2020 and reached a total depth of 320 feet bgs on May 6, 2020. A perched groundwater zone was encountered at approximately 165 feet bgs and groundwater was encountered at approximately 200 feet below bgs. MW-25 was completed on May 10, 2020, as a multilevel well with three screened intervals and two soil vapor points.

MW-26 is northwest of Buildings 6 and 7 and potentially downgradient from the former dry cleaning operations. The hydrovac excavation encountered refusal at 9 feet bgs. The rotosonic boring began on April 22, 2020 and reached a total depth of 360 feet bgs on May 11, 2020. Groundwater was encountered at approximately 190 feet bgs. MW-26 was completed as a multilevel well with four screened intervals on May 18, 2020.

MW-27 is between Buildings 6 and 7, near the former dry cleaning operations and near areas containing high soil vapor concentrations. The hydrovac excavation encountered refusal at 12.9 feet bgs. The rotosonic drilling began on March 22, 2020 and reached a total depth of 220 ft bgs on March 24, 2020. A perched groundwater zone was encountered at approximately 150 feet bgs and groundwater was encountered at approximately 190 feet bgs. MW-27 was completed with a single screen interval and five soil vapor points on March 26, 2020.

MW-28 is adjacent to the Building 7 loading dock near an area with elevated soil gas readings and potential former storage of chemicals, and near the sanitary sewer. The hydrovac excavation encountered refusal at 10 feet bgs. The rotosonic drilling began on March 12, 2020 and reached a total depth of 210 feet bgs on March 18, 2020. A perched groundwater zone was encountered at approximately 150 feet bgs and groundwater was encountered at approximately 185 feet bgs. MW-28 was installed as a single well with three soil vapor points on March 20, 2020.

MW-29 is near the Sunnyside Park sanitary sewer manhole. The hydrovac excavation was completed to a depth of 8.5 feet bgs. The rotosonic drilling began on May 27, 2020 and reached a total depth of 340 feet bgs on June 4, 2020. Groundwater was encountered at approximately 115 feet bgs. MW-29 was completed with three screen intervals and three soil vapor points on June 7, 2020.



2.2.2 Plume Delineation Wells

The plume delineation wells include MW-30, located in the northwest corner of the VAMC campus near Foothill Drive, north of MW-03R, and is part of the Guardsman Way transect to delineate the plume to the north. The hydrovac excavation encountered refusal at 9.5 feet bgs. The rotosonic drilling began May 22, 2020 and reached a total depth of 350 feet bgs on June 8, 2020. MW-30 was installed with three well screens and one soil vapor point on June 15, 2020. Groundwater was encountered at approximately 240 feet bgs. During development at MW-30 zones A and B, there was difficulty getting the pumps to depth and sediment prevented sufficient development. A downhole camera was deployed in MW-30 zones A and B, showing sediment to depth of the screen and indicating the wells were damaged during installation. A memorandum summarizing the issues related to MW-30 is included in **Appendix I**.

MW-31, in Sunnyside Park, is part of the Guardsman Way transect to delineate the plume to the south. The hydrovac excavation was completed to 10 feet bgs. The rotosonic drilling began on June 9, 2020 and reached a total depth of 290 feet bgs on June 12, 2020. Groundwater was encountered at approximately 130 feet bgs. MW-31 was completed with three screen intervals and no soil vapor points.

MW-32, on 600 South, north of MW-08 and west of Mt. Olivet Cemetery, is part of the 1400 East transect to delineate the plume to the north. The hydrovac excavation was completed to 8 feet bgs. The rotosonic drilling began on June 22, 2020 and reached a total depth of 272 feet bgs on June 28, 2020. Groundwater was encountered at approximately 95 feet bgs. MW-32 was completed with three screen intervals and one soil vapor point on July 1, 2020.

MW-34, on the Rowland-Hall St. Mark's School property, is south of Mt. Olivet Cemetery, west of Guardsmen Way, and east of 1400 East. The hydrovac excavation was completed to 8 feet bgs. The rotosonic drilling began on July 7, 2020 and reached a total depth of 350 feet bgs on July 12, 2020. Groundwater was encountered at approximately 130 feet bgs. MW-34 was completed with four screened intervals and one soil vapor point on July 14, 2020.

Plume delineation well MW-33, planned north of MW-32, was not installed during the spring and summer drilling event. Per discussions with EPA and UDEQ in December 2020, MW-33 will be installed during the next phase of drilling if PCE concentrations at MW-32 suggest an additional well is needed to define the northern boundary of the plume along the 1400 East transect.

2.3 Soil and Groundwater Sampling

2.3.1 Soil Sample Analysis

Soil samples were collected from the soil cores using Encore samplers and submitted to EMAX Laboratories in Torrance, California for VOC analysis. The soil cores were screened using the PID prior to opening the core bags. The interval with the highest PID VOC concentration was selected for sampling. If those intervals were gravel dominated, then the matrix surrounding the gravel was sampled. If there wasn't sufficient matrix to sample, the closest interval with finer-grained material was sampled.

Quality control samples were collected in accordance with the QAPP (CDM Smith 2019a). One quality control sample per ten normal soil samples was collected for duplicate analysis, and one



per twenty soil samples was collected for matrix spike/matrix spike duplicates. Complete laboratory packages and data validation are included in the Quality Control Summary Report (QCSR) in **Appendix J**. Soil sample detections of PCE and trichloroethene (TCE) are discussed below and presented in **Table 2**. Complete soil sample results are attached and included in **Table 3**. All of the soil sample PCE detections were below the laboratory reporting limit.

- The MW-23 boring had 34 soil samples, seven of which had PCE detections. TCE was not detected in any of the MW-23 soil samples.
- The MW-24 boring had 23 soil samples with no detections of PCE or TCE.
- The MW-25 boring had 31 soil samples with no detections of PCE or TCE.
- The MW-26 boring had 36 soil samples with no detections of PCE or TCE.
- The MW-27 boring had 23 soil samples, seven of which had PCE detections. TCE was not detected in any of the MW-27 soil samples.
- The MW-28 boring had 19 soil samples, one of which had PCE detections. TCE was not detected in any of the MW-28 samples.
- The MW-29 boring had 33 soil samples with no detections of PCE or TCE.
- The MW-30 boring had 20 soil samples with no detections of PCE or TCE.
- The MW-31 boring had 16 soil samples with no detections of PCE or TCE.
- The MW-32 boring had 12 soil samples with no detections of PCE or TCE.
- The MW-34 boring had 11 soil samples, two of which had PCE detections. TCE was not detected in any of the MW-34 samples.

Table 2 Soil Detection Summary

Well	Depth (ft bgs)	PCE Concentration (mg/kg)^					
Screening Level (Protection of G	roundwater Soil Screening Level)*	0.046					
MW-23	30	0.0038 J					
MW-23	54	0.0014 J					
MW-23	63	0.0025 J					
MW-23	75	0.0045 J					
MW-23	85	0.005 J					
MW-23	93	0.0016 J					
MW-23	107	0.0025 J					
MW-27	40	0.0026 J					
MW-27	54.5	0.0014 J					
MW-27	75	0.0018 J					
MW-27	88	0.0011 J					
MW-27	96	0.0024 J					



Well	Depth (ft bgs)	PCE Concentration (mg/kg)^
Screening Level (Protection of G		0.046
MW-27	114	0.0014 J
MW-27	122	0.0016 J
MW-28	86	0.0015 J
MW-34	165	0.0039 J
MW-34	189	0.0014 J

Notes:

Highlight indicates values greater than the screening level.

- * Soil screening level for groundwater protection using a dilution attenuation factor of 20 and soil saturation level corresponding to an excess lifetime cancer risk of 1 x 10-6 and a hazard quotient of 1 (EPA November 2019).
- ^ Laboratory reporting limit is 0.005 mg/kg and laboratory method detection limit is 0.001 mg/kg.

ft bgs = feet below ground surface

mg/kg = milligrams per kilogram

J = qualifier indicates estimated value

PCE = tetrachloroethene

2.3.2 Push-Ahead Groundwater Sampling

Push-ahead groundwater samples were collected in the water-bearing zones at approximately 20-foot intervals (CDM Smith 2019a). If a sample could not be collected because of lithology or moisture content, a sample was attempted in the next 10-foot interval. Push-ahead groundwater samples were collected for field screening by AQ Colortec and laboratory VOC analysis. AQ Colortec is a colorimetric indicator of total chlorinated compounds with a detection limit of approximately 10 micrograms per liter (μ g/L) of total chlorinated compounds (CDM Smith 2020). Field screening of all groundwater samples were below AQ Colortec detection limits. Sample MW32-GW062420-120 had a detect in the initial sample but was not detected in the duplicate sample. Groundwater grab samples collected for laboratory analysis were submitted for a 24-hour turnaround. PCE was detected in 23 out of 49 samples, with concentrations ranging from 0.16 J μ g/L to 14 μ g/L. TCE was detected in 5 out of 49 samples, with concentrations ranging from 0.11 J μ g/L to 0.36 J μ g/L. Groundwater sample detections of PCE and TCE are discussed below and presented in **Table 4**. Results are further discussed in Section 2.4 Well Construction and all results are presented in **Table 5**. Complete laboratory packages for these data are included in the QCSR (**Appendix J**).

- The MW-23 boring had six groundwater grab samples, three of which had PCE detections. TCE was not detected in any of the MW-23 groundwater samples.
- The MW-24 boring had two groundwater grab samples, both of which had PCE detections. TCE was not detected in any of the MW-24 groundwater samples.
- The MW-25 boring had seven groundwater grab samples, four of which had PCE detections. TCE was not detected in any of the MW-25 groundwater samples.
- The MW-26 boring had six groundwater grab samples with no detections of PCE or TCE.



- The MW-27 boring had three groundwater grab samples, one of which had a PCE detection. TCE was not detected in any of the MW-27 groundwater samples.
- The MW-28 boring had one groundwater grab sample with no PCE or TCE detections.
- The MW-29 boring had four groundwater grab samples, two of which had PCE and TCE detections.
- The MW-30 boring had five groundwater grab samples; two had PCE detections and one had a TCE detection.
- The MW-31 boring had three groundwater grab samples, two of which had PCE detections. TCE was not detected in any of the MW-31 groundwater samples.
- The MW-32 boring had five groundwater grab samples, one of which had a PCE detection.
 TCE was not detected in any of the MW-32 groundwater samples.
- The MW-34 boring had seven groundwater grab samples, six of which had PCE detections and two of which had TCE detections.

Table 4 Analytical Groundwater Detection Summary

Well	Depth (ft bgs)	Analyte	Concentration (μg/L)
	eximum Contaminant Le		Concentration (μg/L)
	1	-	
MW-23	150	PCE	6
MW-23	220	PCE	0.2 J
MW-23	260	PCE	0.22 J
MW-24	160	PCE	1.2 J
MW-24	220	PCE	0.23 J
MW-25	212	PCE	0.83 J
MW-25	252	PCE	0.18 J
MW-25	272	PCE	0.22 J
MW-25	292	PCE	0.56 J
MW-27	168	PCE	9.1
1414/20	120	PCE	9.2
MW-29	120	TCE	0.17 J
NAVA / 20	101	PCE	6.1
MW-29	191	TCE	0.11 J
MW-30	280	TCE	0.13 J
MW-30	320	PCE	0.2 J
MW-30	340	PCE	0.16 J
MW-31	138	PCE	0.59 J
MW-31	190	PCE	0.2 J
MW-32	175	PCE	0.2 J



Well	Depth (ft bgs)	Analyte	Concentration (μg/L)
Screening Level (Max	rel)	5	
MW-34	150	PCE	6.7
10100-54	130	TCE	0.12 J
MW-34	180	PCE	14
10100-54	160	TCE	0.36 J
MW-34	210	PCE	1.5
MW-34	230	PCE	1.6
MW-34	320	PCE	0.43 J

Notes:

Highlight indicates values greater than the screening level.

ft bgs = feet below ground surface

μg/L = micrograms per liter

J = qualifier indicates estimated value

PCE = tetrachloroethene

TCE = trichloroethene

2.4 Well Construction

Final well construction designs were determined via teleconference with the CDM Smith field team leader, project technical leader, and project manager; USACE; and VHA following review of lithology and the push-ahead sample results. A summary of the well construction information for the wells installed during this event is presented in **Table 6**. PVC well casings (1-inch-diameter zone isolation sampling technology [ZIST] wells, or 2- or 4-inch-diameter conventional wells, depending on location) were installed with the rotosonic drill casing in place. Wells were installed according to the RI Work Plan (CH2M Hill 2018) and modification #3 (CDM Smith 2019b). Screens consisted of a 0.02-inch slot screen in 10- to 30-foot intervals. The filter pack was constructed using 10/20 silica sand and extended 2 to 3 feet above the top of the screened intervals. At locations where multilevel wells were installed, 3/8-inch coated bentonite pellets and chips were installed between filter pack intervals to seal the borehole between intervals. Bentonite grout was installed above the shallowest hydrated bentonite interval to approximately 3 ft bgs.

Soil vapor probes (SVPs) were installed at locations where elevated PID readings were observed in subsurface soil to support future pilot testing activities, or coarse grained intervals. SVPs are AMS, 6-inch-long, double-woven stainless-steel wire screens (0.0057-inch pore) with Swagelok fittings connected to 0.25-inch outer-diameter Teflon-lined tubing. SVPs were installed within a 5- to 6-foot sand pack using 10/20 silica sand.

Each monitoring well location was completed at the surface with a flush-mounted manhole vault. MW-32 required a Salt Lake City-approved concrete batch mix for the surface completion because the location was in the ROW. Well completion diagrams, including screen, sand, and bentonite intervals, and SVP depths, are included on the boring logs in **Appendix G**. Survey data for the well locations are presented in **Appendix K**.



2.4.1 MW-23

The MW-23 well design consists of three ZIST wells to allow for monitoring groundwater chemistry and water levels at three discrete intervals, and one 1-inch-diameter ZIST casing screened in the vadose zone, as follows:

- 130 to 140 ft bgs: 1-inch ZIST well screen was installed in the shallow interval for a vadose vapor monitoring point that can be sampled or used for vacuum monitoring and testing for future evaluation of potential vadose zone remedies. The perched water zone was encountered at 150 ft bgs, where PCE was detected at 6 μg/L (**Table 4**).
- 210 to 220 ft bgs: 1-inch ZIST monitoring well screened in the water producing zone with PID readings from 17.6 to 37.7 parts per million (ppm) and where PCE was detected at 0.2 J µg/L in groundwater.
- 250 to 260 ft bgs: 1-inch ZIST monitoring well installed in a water-bearing interval that with a PID reading of 470 ppm, where PCE was detected at 0.22 J μ g/L, benzene was detected at 11 μ g/L, and toluene was detected at 8.8 μ g/L.
- 348 to 358 ft bgs: 1-inch ZIST monitoring well installed in the deepest water-bearing zone observed in the borehole.

2.4.2 MW-24

The well design at MW-24 consists of one 4-inch conventional well and four SVPs installed at the following intervals:

• 209.5 to 239.5 ft bgs: 4-inch monitoring well screened across transmissive intervals encountered 210 to 212 ft bgs, 215 to 219 ft bgs, 230 to 232 ft bgs, and 236 to 239 ft bgs. PCE was detected at 0.23 J μ g/L at 220 ft bgs.

SVPs

- 32 ft bgs: installed in a sandy interval above silt that contained a PID reading of 13.8 ppm.
- 60 ft bgs: installed in a sandy interval above a gravely silt/clay that contained a PID reading of 12.0 ppm.
- 104 ft bgs: installed in a sand/gravel interval above a silty gravel that contained a PID reading of 35.0 ppm.
- 130 ft bgs: installed in a sandy gravel above the perched water zone that contained a PID reading of 24.7 ppm.

2.4.3 MW-25

The well design at MW-25 consists of three ZIST wells and two SVPs installed at the following intervals:

• 201 to 211 ft bgs: 1-inch ZIST monitoring well installed in the shallowest water-bearing zone where PCE was detected at 0.83 J μg/L.



- 231 to 241 ft bgs: 1-inch ZIST monitoring well installed in a water-bearing zone above a clay unit where PCE was not detected.
- 308 to 318 ft bgs: 1-inch ZIST monitoring well installed in the deepest water-bearing zone observed in the borehole where PCE was not detected.

SVPs

- 28 ft bgs: installed in a gravelly sand unit above a silty/clayey unit that contained a PID reading of 54 ppm.
- 100 ft bgs: installed in a gravelly unit above clay that contained the highest PID readings in the vadose zone (280 ppm).

2.4.4 MW-26

The well design at MW-26 consists of four multilevel ZIST groundwater wells, as follows:

- 205 to 215 ft bgs: 1-inch ZIST monitoring well installed in the shallowest water-bearing zone where PCE was not detected.
- 235 to 245 ft bgs: 1-inch ZIST monitoring well installed in a water-bearing zone above the clay unit where PCE was not detected.
- 315 to 325 ft bgs: 1-inch ZIST monitoring well installed in a water-bearing zone below the clay unit where PCE was not detected.
- 347.5 to 357.5 ft bgs: 1-inch ZIST monitoring well installed in the deepest water-bearing zone observed in the borehole where PCE was not detected.

2.4.5 MW-27

The well design at MW-27 consists of one 4-inch conventional well with five SVPs installed at the following intervals:

200 to 220 ft bgs: 4-inch monitoring well screened in the transmissive zone. PCE was not detected in this transmissive zone but was detected at 9.1 μg/L in the perched zone (approximately 150 ft bgs).

SVPs

- 28 ft bgs: installed in a sand with gravel below a clayey layer.
- 48 ft bgs: installed in a clayey gravel with an elevated PID reading (44 ppm).
- 75 ft bgs: installed in gravelly clay with an elevated PID reading (20.9 ppm).
- 113 ft bgs: installed in gravelly sand with an elevated PID reading (103 ppm).
- 155 ft bgs: installed in a clay layer above a perched groundwater zone.



2.4.6 MW-28

The well design at MW-28 consists of one 4-inch conventional well with three SVPs installed at the following intervals:

• 190 to 210 ft bgs: 4-inch monitoring well screened in the transmissive zone. PCE was not detected in the transmissive zone.

SVPs

- 24 ft bgs: installed in a silty gravel with an elevated PID reading (48 ppm).
- 48 ft bgs: installed in a sandy gravel with an elevated PID reading (27.9 ppm).
- 118 ft bgs: installed in a sandy gravel with an elevated PID reading (130 ppm).

2.4.7 MW-29

The well design at MW-29 consists of three ZIST wells and three SVPs installed at the following intervals:

- 120 to 130 ft bgs: 1-inch ZIST monitoring well installed in the shallowest water-bearing zone (potentially a perched zone) where PCE was detected at 9.2 μg/L.
- 190 to 200 ft bgs: 1-inch ZIST well installed in an intermediate water-bearing zone where PCE was detected at 6.1 μg/L.
- 230 to 240 ft bgs: 1-inch ZIST monitoring well installed in the deepest water-bearing zone observed in the borehole where PCE was not detected. A groundwater sample was also collected at 260 ft bgs (PCE was not detected), however, a water-bearing zone was not observed at this depth and a well was not installed.

SVPs

- 42 ft bgs: installed approximately 15 feet below the deepest vapor point completion at SG 42. The highest PID reading was 92.5 ppm.
- 66 ft bgs: highest PID reading observed was 27.9 ppm.
- 98 ft bgs: highest PID reading observed was 29.4 ppm. SVP is approximately 20 feet above the first water-bearing zone.

2.4.8 MW-30

MW-30 was completed with three ZIST wells with one SVP installed at the following intervals:

- 240 to 250 ft bgs: 1-inch ZIST monitoring well installed in the shallowest water-bearing zone where PCE was not detected.
- 282 to 292 ft bgs: 1-inch ZIST monitoring well installed in an intermediate water-bearing zone where PCE was not detected.



• 317 to 327 ft bgs: 1-inch ZIST well installed in the deepest water-bearing zone observed in the borehole where PCE was detected at 0.2 J μ g/L. A groundwater sample was also collected at 340 ft bgs (0.16 J μ g/L), however, a water-bearing zone was not observed in the lithologic log at this depth. As the lack of a water-bearing zone suggests there would not be adequate groundwater recharge for future sampling events, a well was not installed at this depth.

SVP

• 30 ft bgs: installed to evaluate soil vapor in the shallow subsurface.

2.4.9 MW-31

MW-31 was completed with three ZIST wells, as follows:

- 138 to 148 ft bgs: 1-inch ZIST monitoring well installed in the shallowest water-bearing zone where PCE was detected at 0.59 J μg/L.
- 190 to 200 ft bgs: 1-inch ZIST monitoring well installed in an intermediate water-bearing zone where PCE was detected at 0.2 J μg/L.
- 228 to 238 ft bgs: 1-inch ZIST monitoring well installed in the deepest water-bearing zone observed in the borehole.

2.4.10 MW-32

The well design at MW-32 consists of one 2-inch-diameter conventional well, two ZIST wells, and one SVP installed at the following intervals:

- 114 to 124 ft bgs: 2-inch monitoring well installed. This elevation generally correlates with the interval screened in MW-08A.
- 170 to 180 ft bgs: 1-inch ZIST monitoring well installed in the intermediate water-bearing zone. This location correlates with the interval screened in MW-08B. PCE was detected at 0.2 J μg/L.
- 260 to 270 ft bgs: 1-inch ZIST monitoring well installed in the deepest water-bearing zone observed in the borehole.

SVP

• 20 ft bgs: installed to evaluate soil vapor in the shallow subsurface.

2.4.11 MW-34

The well design at MW-34 consists of four multilevel ZIST groundwater wells and one SVP, as follows:

- 140 to 150 ft bgs: 1-inch ZIST monitoring well installed in the shallowest water-bearing zone where PCE was detected at 6.7 μg/L.
- 175 to 185 ft bgs: 1-inch ZIST monitoring well installed in an intermediate water-bearing zone where PCE was detected at 14 μg/L.



- 250 to 260 ft bgs: 1-inch ZIST monitoring well installed in an intermediate water-bearing zone where PCE was detected at 0.66 J μg/L.
- 315 to 325 ft bgs: 1-inch ZIST monitoring well installed in the deepest water-bearing zone observed in the borehole where PCE was detected at 0.43 J μg/L.

SVP

18 ft bgs: installed to evaluate soil vapor in the shallow subsurface.

2.5 Well Development

The boreholes completed as 4-inch monitoring wells, MW-24, MW-27, and MW-28, were developed by Holt Services. Holt Services used a bailer and swab to remove sediment from the screened interval, then pumped the wells following the methods described in Section 5.1.8 of the RI Work Plan (CH2M Hill 2018). A minimum volume was calculated prior to pumping, and the wells were purged until the minimum volume had been removed from the well and parameter stabilization occurred and turbidity requirements were met. Well development field forms are included in **Appendix L**. The development water was handled as IDW.

The ZIST wells were developed in accordance with manufacturer recommendations (**Appendix L**), using a gas lifting method with compressed nitrogen to purge water and sediment from the well casing while simultaneously surging the well to remove sediment from the filter pack. The gas lifting method consists of lowering a stinger tube to approximately the center of the water column above the well screen, which delivers nitrogen to the water column and lifts the water in the well casing to the surface and into a tote. As ZIST wells have a receiver that restricts the placement of any objects into the well screen, surging refers to the agitation that occurs during gas lifting. Gas lifting continued until visible clearing of the extracted water. Water quality parameters were not measured during gas lifting because of the disturbance to the water during the process.

Gas lifting was only attempted at wells where sediment accumulation within the well casing and sump was observed based on total depth measurements. Gas lifting development was attempted at locations MW-23C, MW-25B, MW-26D, MW-29C, MW-30C, MW-31C, MW-32B, MW-32C, MW-34C, and MW-34D. Additionally, MW-32A was developed by purging the well with an SS-Hurricane pump.

For ZIST wells where sediment was not observed to have accumulated in the well, the pumps were installed and purged to determine appropriate pump settings for future sampling.

2.6 Decontamination and Investigation-Derived Waste

All decontamination waste produced during the drilling effort was collected and managed in accordance with Standard Operating Procedure (SOP) 4-5 *Field Equipment Decontamination at Nonradioactive Sites* (CDM Smith 2019a, Appendix D). Waste was produced from decontaminating all downhole drilling equipment prior to drilling activities, between boreholes, and after the drilling investigation, and the decontamination of the push-ahead groundwater sampler after each use. Additional equipment decontaminated after each use include the drilling tag line, water level meters, development pump, swab, and nondedicated bailer.



All IDW was handled per SOP 2-2, *Guide to Handling Investigation-Derived Waste* (CDM Smith 2019a, Appendix D). All decontamination water, hydrovac water, and purge/development water was transferred to the holding tanks on the VAMC Campus IDW yard. The excavated soils were placed in lined roll-off bins. Prior to disposal, groundwater and soil were characterized and determined to be nonhazardous. Approximately 7,000 gallons of decontamination and IDW water and approximately 103 tons of soil, contained in eight soil roll-off bins, was disposed off-site at Wasatch Regional Landfill.

Waste profiles and nonhazardous manifests are included in Appendix M.

2.7 Deviations from the Quality Assurance Project Plan

Minor deviations from field procedures were encountered during sampling activities associated with the drilling effort. Sample preparation and analyses were conducted within the method-specified holding times except for a few Encore samples, which were frozen approximately 40 minutes outside of holding times once received at the laboratory. This situation occurred because the laboratory had additional safety precautions in place for sample receipt because of COVID-19. The samples affected are MW23-SB041220-261 and MW25-SB050320-216.

Samples in one cooler arrived late to the laboratory because of a FedEx shipping delay. The following Encore samples were therefore frozen past the required holding time criteria: MW26-SB051020-299, MW26-SB051020-308, MW26-SB051020-314, MW26-SB051120-329, and MW26-SB051120-334. These deviations did not impact investigation results or data quality objectives.

Ten nondetect analyte results were rejected during validation as discussed in the QCSR: 2-butanone in two equipment blank samples and two trip blank samples; and 1,2-dibromo-3-chloropropane, bromodichloromethane, bromoform, cis-1,3-dichloropropene, dibromochloromethane, and trans-1,3-dichloropropene in sample MW25-SB050620-312. These results are not usable for project decisions but do not effect data quality objectives as they are not analytes of concern and completeness goals were met for both the number of samples collected and the number of measurements judged to be valid.

For this sampling event, validation was performed for the soil samples, equipment blanks, trip blanks, and select groundwater samples. Validation of groundwater grab samples collected during drilling was not required and this data is considered screening-level only.

Monitoring well MW-32A was developed by purging with a submersible pump. A well development form was not completed during development of this well. Purging was conducted until the water was clear. Approximately 35 gallons of water was purged during development. Well development forms were also not completed during development of the ZIST wells; a summary is provided in **Appendix L**. Because of limitations of applying gas lifting to wells without a sufficient water column, only wells with measurable sediment accumulation were developed.

For the vertical profiling sampling, the push-ahead groundwater samples were collected in the water-bearing zones at approximately 20-foot intervals (CDM Smith 2019a). If a sample could not be collected because of lithology or moisture content, a sample was attempted in the next 10-foot



interval. There were intervals in which the samples were not collected because lithology was too dense to deploy the sampler properly, there were no indications of water bearing zones, or the sampler did not function because of silt and clay clogging the screen. There was also a missed interval at MW-23 at 210 feet bgs where the soil core from 205–210 feet bgs slid out of the core barrel and the core was retrieved during the 210–220 feet bgs run. The groundwater sample was collected at 220 feet bgs instead of 210 feet bgs.



Section 3

Summary

This report presents the results from the spring and summer 2020 groundwater monitoring well installation event. Additional wells are planned to be installed in late fall 2020. Further analysis and evaluation of these results will be presented in the RI report.

Six source evaluation borings were completed around Buildings 6 and 7. MW-24, MW-27, and MW-28 were completed as conventional 4-inch groundwater monitoring wells. MW-23, MW-25, and MW-26 were completed as multilevel wells using the ZIST system for groundwater zone isolation. All the wells around Buildings 6 and 7 include soil vapor monitoring points except MW-26. MW-29 was installed near the Sunnyside Park manhole, which was identified as a possible release point from the 2018 soil vapor investigation. MW-29 was completed as a multilevel ZIST well with soil vapor monitoring points.

Four plume delineation borings were installed as part of this investigation. MW-30 was installed near Foothill Drive on the VAMC campus. MW-31 was installed in Sunnyside Park, and MW-32 was installed on 600 South, west of Mt. Olivet Cemetery. MW-34 was installed on the Rowland Hall-St. Mark's School property west of Guardsman Way and north of Sunnyside Avenue. The four plume delineation wells were installed as multilevel monitoring wells with an SVP except for MW-31, which does not have an SVP.

The addition of these 29 sampling points at 11 locations will lead to a better understanding of the groundwater gradients, lateral and vertical extent of the PCE plume, and the potential release points. Data collected during this investigation will be evaluated further to refine the conceptual site model and will be summarized in the RI report.



Section 4

References

CDM Smith. 2020. Addendum A to Modification #3 to *OU-2 Remedial Investigation Work Plan and Sampling and Analysis Plan, 700 South 1600 East PCE Plume, Salt Lake City, Utah.* Prepared for the U.S. Army Corps of Engineers.

CDM Smith. 2019a. *Quality Assurance Project Plan, Operable Unit 2 Remedial Investigation, 700 South 1600 East PCE Plume, Salt Lake City, Utah*. Prepared for the U.S. Army Corps of Engineers.

CDM Smith. 2019b. Modification #3 to *OU-2 Remedial Investigation Work Plan and Sampling and Analysis Plan, 700 South 1600 East PCE Plume, Salt Lake City, Utah*. Prepared for the U.S. Army Corps of Engineers.

CH2M Hill Inc. 2018. *Remedial Investigation Work Plan, OU-2 Remedial Investigation, 700 South 1600 East PCE Plume, Salt Lake City, Utah.* Prepared for the U.S. Army Corps of Engineers.

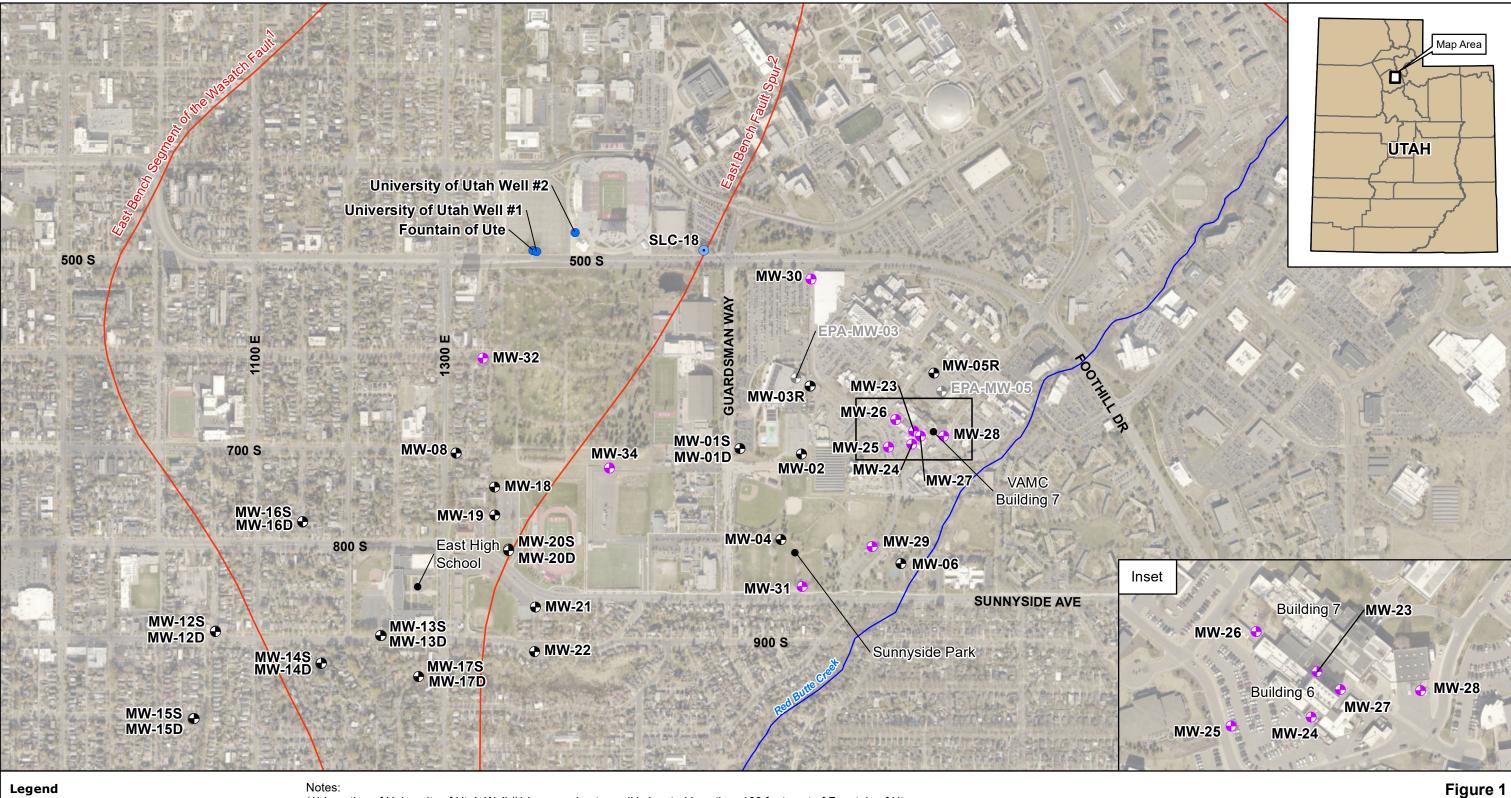
U.S. Environmental Protection Agency (EPA). 2020. *Regional Screening Levels (RSLs) Generic Tables*. November. Available online at https://www.epa.gov/risk/regional-screening-levels-rslsgeneric-tables.

Jacobs. 2019. 2018 *OU-2 Data Summary Report, Operable Unit 2 Remedial Investigation 700 South 1600 East PCE Plume, Salt Lake City, Utah.* Prepared for the U.S. Army Corps of Engineers.



Figures





- Monitoring Well
- Monitoring Well installed Spring/Summer 2020
- Abandoned Monitoring Well
- Drinking Water Supply Well
- Irrigation Well
- Landmark
- ~~~ Red Butte Creek

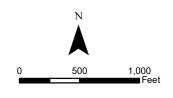
(1) Location of University of Utah Well #1 is approximate; well is located less than 100 feet east of Fountain of Ute.

OU = operable unit

PCE = tetrachloroethene

VAMC = Veterans Affairs Medical Center

² Personius, S.F. and Scott, W.E. 2009. Surficial Geologic Map of the Salt Lake City Segment and Parts of Adjacent Segments of the Wasatch Fault Zone, Davis, Salt Lake, and Utah Counties, Utah





Site Location Map

Spring/Summer 2020 Drilling Data Summary Report OU1 700 South 1600 East PCE Plume Salt Lake City, Utah

¹ Davis, F.D. 1983. Geologic Map of the Central Wasatch Front, Utah. Utah Geological and Mineral Survey. Map 54-A – Wasatch Front Series. May.

Tables



Table 3 Soil VOC Analytical Results

	Location	MW-23	MW-23	MW-23	MW	-23	MW-23		MW-23		MW-23	MW-23		MW-23		MW-23		MW-23
	Sample Date	2020-04-07	2020-04-07	2020-04-07	2020-		2020-04-07		2020-04-07		2020-04-07	2020-04-0	7	2020-04-07		2020-04-07		2020-04-07
	Sample Name	MW23-SB040720-16	MW23-SB040720-24	MW23-SB040720-30	_		MW23-SB040720-5	54	MW23-SB040720-63	3 IV	/W23-SB040720-75	MW23-SB0407		MW23-SB040720-93	3	MW23-SB040720-	-97	MW23-SB040720-107
Analyte	Units	Result Q	Result Q		Q Resu			Q		Q	Result C		Q	Result	Q	Result	Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,1-DICHLOROETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,1-DICHLOROETHENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,2-DIBROMOETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,2-DICHLOROBENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,2-DICHLOROETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,2-DICHLOROPROPANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,3,5-Trimethylbenzene	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U		U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,3-DICHLOROBENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
1,4-DICHLOROBENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
2-Butanone (MEK)	mg/kg	0.022 U	0.035 U	0.02	U 0.029	U	0.022	U	0.019	U	0.021 L	J 0.02	U	0.024	U	0.022	U	0.021 U
2-Hexanone	mg/kg	0.022 U	0.035 U	0.02	U 0.029	U	0.022	U	0.019	U	0.021 L	J 0.02	U	0.024	U	0.022	U	0.021 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.022 U	0.035 U	0.02	U 0.029	U	0.022	U	0.019	U	0.021 L	J 0.02	U	0.024	U	0.022	U	0.021 U
ACETONE	mg/kg	0.022 U	0.035 U	0.02	U 0.029	U	0.022	U		U	0.021 L	J 0.02	U	0.024	U	0.022	U	0.021 U
BENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
Bromochloromethane	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
BROMODICHLOROMETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
BROMOFORM	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
BROMOMETHANE	mg/kg	0.011 U	0.017 U	0.01	U 0.015	U	0.011	U	0.0097	U	0.011 L	J 0.01	U	0.012	U	0.011	U	0.011 U
CARBON DISULFIDE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
CARBON TETRACHLORIDE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
CHLOROBENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
CHLOROETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
CHLOROFORM	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
CHLOROMETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
DIBROMOCHLOROMETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
ETHYLBENZENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
Isopropylbenzene	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
M,P-XYLENE	mg/kg	0.011 U	0.017 U	0.01	U 0.015	U	0.011	U	0.0097	U	0.011 L	J 0.01	U	0.012	U	0.011	U	0.011 U
METHYL ACETATE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
METHYLENE CHLORIDE	mg/kg	0.011 UJ	0.017 UJ	0.01	UJ 0.015	U.	0.011	UJ	0.0097	UJ	0.011 U	JJ 0.01	UJ	0.012	UJ	0.011	UJ	0.011 U
O-XYLENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
STYRENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
TETRACHLOROETHENE	mg/kg	0.0056 U	0.0086 U	0.0038	J 0.007	3 U	0.0014	J	0.0025	J	0.0045 J	J 0.005	J	0.0016	J	0.0054	U	0.0025 J
TOLUENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
TRICHLOROETHENE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
TRICHLOROFLUOROMETHANE	mg/kg	0.0056 U	0.0086 U		U 0.007	3 U		U	0.0048	U	0.0053 L		U	0.0059	U	0.0054	U	0.0053 U
VINYL ACETATE	mg/kg	0.0056 U	0.0086 U		U 0.007	3 U	0.0054	U		U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
VINYL CHLORIDE	mg/kg	0.0056 U	0.0086 U	0.005	U 0.007	3 U	0.0054	U	0.0048	U	0.0053 L	J 0.0051	U	0.0059	U	0.0054	U	0.0053 U
	, o, o					1 -		1 - 1		1			1 - 1				1 - 1	

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-23		MW-23		MW-23	MW-23		MW-23		MW-23	MW-23		MW-23	MW-23	MW-23	MW-23
	Sample Date	2020-04-08		2020-04-08		2020-04-08	2020-04-08	Ť	2020-04-08		2020-04-09	2020-04-09		2020-04-09	2020-04-09	2020-04-09	2020-04-09
	Sample Name	MW23-SB040820-1	10	MW23-SB040820-12	24	MW23-SB040820-133	MW23-SB040820-143	T	MW23-SB040820-155		MW23-SB040920-169	MW23-SB040920-17	75	MW23-SB040920-184	MW23-SB040920-199	MW23-SB040920-208	MW23-SB040920-218
Analyte	Units	Result	Q	Result	Q	Result Q	Result C	Q	Result (Q	Result Q	Result	Q	Result Q	Result Q	Result	Result
1,1,1-TRICHLOROETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 l	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 l	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,1,2-TRICHLOROETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 l	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,1-DICHLOROETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,1-DICHLOROETHENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,2,3-TRICHLOROBENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	_	0.0067 U	0.0053	U	0.0055 U		0.0055	0.0053
1,2,4-TRICHLOROBENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,2-Dibromo-3-Chloropropane	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,2-DIBROMOETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,2-DICHLOROBENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
1,2-DICHLOROETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
1,2-DICHLOROPROPANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	0.0053
1,3,5-Trimethylbenzene	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	_	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
1,3-DICHLOROBENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	+
1,4-DICHLOROBENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
2-Butanone (MEK)	mg/kg	0.023	U	0.028	U	0.021 U	0.029 L	J		U	0.027 U	0.021	U	0.022 U	0.018 U	0.022	0.021
2-Hexanone	mg/kg	0.023	U	0.028	U	0.021 U	0.029 L	J	0.02 U	U	0.027 U	0.021	U	0.022 U	0.018 U	0.022	0.021
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.023	U	0.028	U	0.021 U	+	J	0.02 U	_	0.027 U		U	0.022 U		0.022	
ACETONE	mg/kg	0.023	U	0.028	U	0.021 U	0.029 L	J		U	0.027 U		U	0.022 U	0.018 U	0.022	
BENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
Bromochloromethane	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U		0.0055	0.0053
BROMODICHLOROMETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
BROMOFORM	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
BROMOMETHANE	mg/kg	0.011	U	0.014	U	0.011 U	0.014 L	J		U	0.013 U		U	0.011 U	0.0091 U	0.011	
CARBON DISULFIDE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	+
CARBON TETRACHLORIDE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	_	0.0067 U		U	0.0055 U	0.0045 U	0.0055	0.0053
CHLOROBENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
CHLOROETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	0.0053
CHLOROFORM	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
CHLOROMETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	_	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
CIS-1,2-DICHLOROETHENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
DIBROMOCHLOROMETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
DICHLORODIFLUOROMETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
ETHYLBENZENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
Isopropylbenzene	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U	0.0053	U	0.0055 U	0.0045 U	0.0055	0.0053
M,P-XYLENE	mg/kg	0.011	U	0.014	U	0.011 U	0.014 L	J	0.01 U	U	0.013 U	0.011	U	0.011 U	0.0091 U	0.011	0.011
METHYL ACETATE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	_	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
METHYL TERT-BUTYL ETHER	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
METHYLENE CHLORIDE	mg/kg	0.011	U	0.014	U	0.011 U	0.014 L	J	0.01 l	U	0.013 U	0.011	U	0.011 U	0.0091 U	0.011	0.011
O-XYLENE	mg/kg	0.0057	U	0.007	U	0.0053 U	_	J	0.005 U	_	0.0067 U		U	0.0055 U			
STYRENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J	0.005 U	U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	0.0053
TETRACHLOROETHENE	mg/kg	0.0057	U	0.007	U	0.0015 J		J	0.005 U	_	0.0067 U		U	0.0055 U			
TOLUENE	mg/kg	0.0057	U	0.007	U	0.0053 U	+	J	0.005 U	_	0.0067 U		U	0.0055 U			
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071 L	J		U	0.0067 U		U	0.0055 U	0.0045 U	0.0055	
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0057	U	0.007	U	0.0053 U	1	J		U	0.0067 U		U	0.0055 U			
TRICHLOROETHENE	mg/kg	0.0057	U	0.007	U	0.0053 U	+	J	0.005 U	_	0.0067 U		U	0.0055 U			
TRICHLOROFLUOROMETHANE	mg/kg	0.0057	U	0.007	U	0.0053 U	+	J		U	0.0067 U		U	0.0055 U			
VINYL ACETATE	mg/kg	0.0057	U	0.007	U	0.0053 U	0.0071	ار		U	0.0067 U		U	0.0055 U		0.0055	
VINYL CHLORIDE	mg/kg	0.0057	IJ	0.007	U	0.0053 U	1	J		U	0.0067 U		U	0.0055 U			
	۵٬۱/۵۰۰۰	0.0007		3.307		0.0000	0.0071		0.000	- [0.0007	0.0000	<u>, </u>	0.0000	0.0040	0.0000	0.0000

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-23	MW-23 MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23	MW-23
	Sample Date	2020-04-10	2020-04-10 2020-04-10	2020-04-10	2020-04-12	2020-04-12	2020-04-12	2020-04-13	2020-04-13	2020-04-14	2020-04-14
	Sample Name					MW23-SB041220-280	MW23-SB041220-307		MW23-SB041320-324		MW23-SB041420-340
Analyte	Units	Result Q		Q Result (Q Result Q	Result Q	Result O	Result C	Result O	Result O	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L	0.0041 U	0.0047 U	0.0052 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L	0.0041 U	0.0047 U	0.0052 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L	0.0041 U	0.0047 U	0.0052 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L	0.0041 U	0.0047 U	0.0052 U
1,1-DICHLOROETHANE	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L		0.0047 U	0.0052 U
1,1-DICHLOROETHENE	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L	0.0041 U	0.0047 U	0.0052 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U				0.0052 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L			0.0052 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	 			0.0052 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0059 U		U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	 	+		0.0052 U
1.2-DIBROMOETHANE	mg/kg	0.0059 U		U 0.0055	J 0.0047 U	0.0049 U	0.0048 U				0.0052 U
1,2-DICHLOROBENZENE	mg/kg	0.0059 U	h h h	U 0.0055	J 0.0047 U	0.0049 U	0.0048 U				0.0052 U
1,2-DICHLOROETHANE	mg/kg	0.0059 U	h h h	U 0.0055	J 0.0047 U	0.0049 U	0.0048 U				0.0052 U
1.2-DICHLOROPROPANE	mg/kg	0.0059 U		U 0.0055	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L			0.0052 U
1,3,5-Trimethylbenzene	mg/kg	0.0059 U		U 0.0055	J 0.0047 U	0.0049 U	0.0048 U				0.0052 U
1.3-DICHLOROBENZENE	mg/kg	0.0059 U		U 0.0055	J 0.0047 U	0.0049 U	0.0048 U				0.0052 U
1,4-DICHLOROBENZENE	mg/kg	0.0059 U		U 0.0055	J 0.0047 U	0.0049 U	0.0048 U		1 1 1 1		0.0052 U
2-Butanone (MEK)	mg/kg	0.024 U		U 0.048	0.019 U	0.0049 U	0.019 U		0.0041 J		0.0032 J
2-Hexanone	mg/kg	0.024 U		U 0.01	J 0.019 U	0.02 U	0.019 U	0.019		*****	0.0070 J
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.024 U		U 0.022	J 0.019 U	0.02 U	0.019 U	0.019			0.021 U
ACETONE	mg/kg	0.0073 J		U 0.13	0.009 J	0.02 U	0.019 U		0.0087 J		0.021 U
BENZENE	mg/kg	0.0073 J		U 0.0055	J 0.0047 U	0.002 U	0.019 U	0.014 J	+		0.0052 U
	mg/kg	0.0059 U		U 0.0055	J 0.0047 U	0.0049 U	0.0048 U				0.0052 U
Bromochloromethane BROMODICHLOROMETHANE	U, U	0.0059 U		U 0.0055	J 0.0047 UJ	0.0049 U	0.0048 U		1 1 1 1		0.0052 U
BROMOFORM	mg/kg	0.0059 U		U 0.0055	J 0.0047 UJ	0.0049 U	0.0048 U	0.0048 U	1 1 1 1		0.0052 U
BROMOMETHANE	mg/kg	0.0039 U			J 0.0094 U	0.0049 U	0.0048 U	0.0048 C	+		0.0032 U
	mg/kg	*****		U 0.011 U 0.0055	+	l			+		0.001 U
CARBON TETRACHIORIDE	mg/kg				J 0.0018 J	0.0049 U	0.0048 U				1 1 1 1
CARBON TETRACHLORIDE	mg/kg	0.0059 U 0.0059 U		U 0.0055 U	J 0.0047 U 0.0047 U	0.0049 U 0.0049 U	0.0048 U 0.0048 U	 			0.0052 U
CHLOROSTUANS	mg/kg			U 0.0055 U		<u> </u>					0.0052 U
CHLOROETHANE	mg/kg			U 0.0055 U		l		 	+	+	0.0052 U
CHLOROFORM	mg/kg	0.0059 U		U 0.0055 U	U 0.0047 U	0.0049 U	0.0048 U	0.0048 U	+	0.00	0.0052 U
CHLOROMETHANE	mg/kg	0.0059 U		U 0.0055 U	U 0.0047 U	0.0049 U	0.0048 U				0.0052 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0059 U		U 0.0055 U	U 0.0047 U	0.0049 U	0.0048 U	0.0048 U		+	0.0052 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0059 U		U 0.0055 U	J 0.0047 UJ	0.0049 U	0.0048 U		+		0.0052 U
DIBROMOCHLOROMETHANE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 UJ	0.0049 U	0.0048 U				0.0052 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0059 U		U 0.0055 U	U 0.0047 U	0.0049 U	0.0048 U			+	0.0052 U
ETHYLBENZENE	mg/kg	0.0059 U		U 0.0055 U	U 0.0047 U	0.0049 U	0.0048 U				0.0052 U
Isopropylbenzene	mg/kg	0.0059 U		U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 U			0.0052 U
M,P-XYLENE	mg/kg	0.012 U		U 0.011 U	J 0.0094 U	0.0099 U	0.0095 U	0.0034 J		0.0093 U	0.01 U
METHYL ACETATE	mg/kg	0.0059 U		U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L			0.0052 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L		0.0017	0.0052 U
METHYLENE CHLORIDE	mg/kg	0.012 U	h h h		J 0.0094 U	<u> </u>	0.0095 U				0.01 U
O-XYLENE	mg/kg	0.0059 U		U 0.0055 U	J 0.0047 U		0.0048 U		+		0.0052 U
STYRENE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 U		0.0048 U				0.0052 U
TETRACHLOROETHENE	mg/kg	0.0059 U		U 0.0055 U	J 0.0047 U	<u> </u>	0.0048 U				
TOLUENE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 U		0.0048 U			0.0027 J	
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U		+		0.0052 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 UJ	<u> </u>	0.0048 U		+		0.0052 U
TRICHLOROETHENE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 U	l	0.0048 U				0.0052 U
TRICHLOROFLUOROMETHANE	mg/kg	0.0059 U	h h h	U 0.0055 U	J 0.0047 U		0.0048 U				0.0052 U
VINYL ACETATE	mg/kg	0.0059 U		U 0.0055 U	J 0.0047 U	0.0049 U	0.0048 U		+		0.0052 U
VINYL CHLORIDE	mg/kg	0.0059 U	0.0049 U 0.0048	U 0.0055 L	J 0.0047 U	0.0049 U	0.0048 U	0.0048 L	0.0041 U	0.0047 U	0.0052 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-23	MW-24	MW-24	MW-24	MW-24	MW-24	MW-24	MW-24	MW-24	MW-24	MW-24
	Sample Date	2020-04-15	2020-05-11	2020-05-11	2020-05-11	2020-05-12	2020-05-12	2020-05-12	2020-05-12	2020-05-12	2020-05-12	2020-05-12
	Sample Name	MW23-SB041520-346	MW24-SB051120-14	MW24-SB051120-22	MW24-SB051120-34	MW24-SB051220-43	MW24-SB051220-56	MW24-SB051220-61	MW24-SB051220-71	MW24-SB051220-84	MW24-SB051220-104	MW24-SB051220-119
Analyte	Units	Result (Result C	Result C	Q Result Q	Result	Q Result	Q Result C	Result Q	Result C	Q Result C	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0042 l	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0042 l	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0042 l	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0042 U	J 0.0054 L	0.0057 L	U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,1-DICHLOROETHANE	mg/kg	0.0042 U	J 0.0054 L	0.0057 L	U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,1-DICHLOROETHENE	mg/kg	0.0042 U	J 0.0054 L	0.0057 L	U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0042 U	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0042 U	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.01	0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0042 l	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,2-DIBROMOETHANE	mg/kg	0.0042 l	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,2-DICHLOROBENZENE	mg/kg	0.0042 l	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,2-DICHLOROETHANE	mg/kg	0.0042 l	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,2-DICHLOROPROPANE	mg/kg	0.0042 L	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,3,5-Trimethylbenzene	mg/kg	0.0042 U	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,3-DICHLOROBENZENE	mg/kg	0.0042 U	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
1,4-DICHLOROBENZENE	mg/kg	0.0042 U	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U
2-Butanone (MEK)	mg/kg	0.12	0.022 L		J 0.021 U	0.026	U 0.023	U 0.022 U	0.022 U	0.025 L		
2-Hexanone	mg/kg	0.044	0.022 L		J 0.021 U	0.026	U 0.023	U 0.022 U	+	0.025 L		ļ
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.017 U	+		J 0.021 U	0.026	U 0.023	U 0.022 U		0.025 L		
ACETONE	mg/kg	0.21	0.022	0.023	J 0.021 U	0.026	U 0.023	U 0.022 U	0.022 U	0.025 L		
BENZENE	mg/kg	0.044	0.0054 L		J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	 	0.0062 L		
Bromochloromethane	mg/kg	0.0042 U			J 0.0053 U	0.0065	U 0.0056	U 0.0054 U		0.0062 L		ļ
BROMODICHLOROMETHANE	mg/kg	0.0042 U		0.0057	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 U		
BROMOFORM	mg/kg	0.0042 U		<u> </u>	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 U		
BROMOMETHANE	mg/kg	0.0084 U			J 0.011 U	0.013	U 0.011	U 0.011 U	 	0.012 U		
CARBON DISULFIDE	mg/kg	0.00088		<u> </u>	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L		
CARBON TETRACHLORIDE	mg/kg	0.0042		0.0057	U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 U		
CHLOROBENZENE	mg/kg	0.0042 U		<u> </u>	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	 	0.0062 U		
CHLOROETHANE	mg/kg	0.0042 U			J 0.0053 U	0.0065	U 0.0056	U 0.0054 U		0.0062 U		
CHLOROFORM	mg/kg	0.0042 U			U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 U		
CHLOROMETHANE	mg/kg	0.0042			U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 U		
CIS-1,2-DICHLOROETHENE	mg/kg	0.0042		0.0007	+	0.0065	U 0.0056	U 0.0054 U	 	0.0062 U		
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0042		0.0057	U 0.0053 U	0.0065	U 0.0056	U 0.0054 U		0.0062 U		
DIBROMOCHLOROMETHANE	mg/kg	0.0042		0.0057	U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 U		
DICHLORODIFLUOROMETHANE	mg/kg	0.0042			J 0.0053 U	0.0065	U 0.0056	U 0.0054 U		0.0062 U		
ETHYLBENZENE	mg/kg	0.021	0.0054 U		J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0000	0.0062 U		
Isopropylbenzene	mg/kg	0.0042 U	+		J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 U		
M,P-XYLENE	mg/kg	0.023	0.011	0.0037	J 0.011 U	0.003	U 0.011	U 0.011 U	0.0030 U	0.0002	+	· · · · · · · · · · · · · · · · · · ·
METHYL ACETATE	mg/kg	0.0042 U	+	<u> </u>	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	<u> </u>	0.012 C	0.022	
METHYL TERT-BUTYL ETHER	mg/kg	0.0042 U		<u> </u>	+	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 C		
METHYLENE CHLORIDE	mg/kg	0.0042 C	0.0054			0.003	U 0.011	U 0.011 U		0.0002 C	0.0007	0.0000
O-XYLENE	mg/kg	0.0084	0.0054		J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0011 U	0.0062		
					+			U 0.0054 U	+			
STYRENE	mg/kg					0.0065	U 0.0056					
TOLLIENE	mg/kg	0.0042 U	0.0054 U		J 0.0053 U J 0.0053 U	0.0065 0.0065	U 0.0056 U 0.0056	U 0.0054 U 0.0054 U	0.0056 U 0.0056 U	0.0062 U		
TOLUENE	mg/kg	0.058										
TRANS 1.2 DICHLOROETHENE	mg/kg	0.0042 U		0.0007	0.0055	0.0065	U 0.0056					
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0042 L			0.0000	0.0065	U 0.0056	U 0.0054 U		0.0062 U		· · · · · · · · · · · · · · · · · · ·
TRICHLOROETHENE	mg/kg	0.0042 U			U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 U		
TRICHLOROFLUOROMETHANE	mg/kg	0.0042 U		0.0057 U	U 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0000	0.0062 U		
VINYL ACETATE	mg/kg	0.0042 U			U 0.0053 U	0.0065	U 0.0056	U 0.0054 U		0.0062 U		
VINYL CHLORIDE	mg/kg	0.0042 l	J 0.0054 L	0.0057 L	J 0.0053 U	0.0065	U 0.0056	U 0.0054 U	0.0056 U	0.0062 L	J 0.0057 U	0.0056 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-24		MW-24		MW-24	MW-24		MW-24		MW-24	MW-24	MW-24	MW-24		MW-24	MW-24
	Sample Date	2020-05-13		2020-05-13		2020-05-13	2020-05-13	T	2020-05-13	Ť	2020-05-13	2020-05-14	2020-05-14	2020-05-14		2020-05-14	2020-05-15
	Sample Name	MW24-SB051320-13	32	MW24-SB051320-149	9	MW24-SB051320-152	MW24-SB051320-166		MW24-SB051320-170		MW24-SB051320-186	MW24-SB051420-19	2 MW24-SB051420-20	2 MW24-SB051420-2	215	MW24-SB051420-227	MW24-SB051520-239
Analyte	Units	Result	Q	Result	Q	Result Q	Result (Q	Result	Q	Result Q	Result	Q Result	Q Result	Q	Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,1-DICHLOROETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,1-DICHLOROETHENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,2-DIBROMOETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,2-DICHLOROBENZENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,2-DICHLOROETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,2-DICHLOROPROPANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,3,5-Trimethylbenzene	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,3-DICHLOROBENZENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
1,4-DICHLOROBENZENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
2-Butanone (MEK)	mg/kg	0.019	U	0.018	U	0.021 U	0.025 U	U	0.025	U	0.021 U	0.019	U 0.023	U 0.021	U	0.023 U	0.023 U
2-Hexanone	mg/kg	0.019	U	0.018	U	0.021 U	0.025 U	U	0.025	U	0.021 U	0.019	U 0.023	U 0.021	U	0.023 U	0.023 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.019	U	0.018	U	0.021 U	0.025 l	U	0.025	U	0.021 U	0.019	U 0.023	U 0.021	U	0.023 U	0.023 U
ACETONE	mg/kg	0.019	U	0.018	U	0.021 U	0.025 l	U	0.025	U	0.021 U	0.019	U 0.023	U 0.021	U	0.023 U	0.023 U
BENZENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
Bromochloromethane	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
BROMODICHLOROMETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
BROMOFORM	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
BROMOMETHANE	mg/kg	0.0097	U	0.0092	U	0.011 U	0.012 l	U	0.012	U	0.01 U	0.0095	U 0.011	U 0.01	U	0.011 U	0.011 U
CARBON DISULFIDE	mg/kg	0.0049	U	0.00092	J	0.0053 U	0.0062 l	U		U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0014 J	0.0011 J
CARBON TETRACHLORIDE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
CHLOROBENZENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
CHLOROETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
CHLOROFORM	mg/kg	0.0049	U	0.0040	U	0.0053 U	0.0062 U	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
CHLOROMETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
DIBROMOCHLOROMETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 l	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
ETHYLBENZENE 	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
Isopropylbenzene	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
M,P-XYLENE	mg/kg	0.0097	U	0.0092	U	0.011 U	0.012 U	U		U	0.01 U		U 0.011	U 0.01	U	0.011 U	0.011 U
METHYL ACETATE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		U U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U		-	0.0052 U	0.00.7	0.0007	U 0.0052		0.0056 U	0.0057 U
METHYLENE CHLORIDE	mg/kg	0.0097	U	0.0052	U	0.011 U		U		U	0.01 U 0.0052 U		U 0.011	U 0.01	U	0.011 U	0.011 U
O-XYLENE GTYPENE	mg/kg	0.0049	U	0.0046	U	0.0053 U		U		U			U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
STYRENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	U I		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
TETRACHLOROETHENE	mg/kg	0.0049	U	******	U	0.0053 U		U		U	0.0052 U 0.0052 U		U 0.0057 U 0.0057	U 0.0052	U	0.0056 U 0.0056 U	
TOLUENE TRANS 1.3 DICHLOROETHENE	mg/kg	0.0049	U	0.00.10	U	0.0053 U		<u> </u>		U				U 0.0052			
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 U	<u>' </u>		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	0.0057 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0049	U	0.0040	U	0.0053 U		U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U 0.0056 U	
TRICHLOROFILLOROMETHANIS	mg/kg	0.0049	U	0.0040	U	0.0053 U		U		U	0.0052 U		U 0.0057	U 0.0052	U		
TRICHLOROFLUOROMETHANE	mg/kg	0.0049	U	0.0046	U	0.0053 U		U		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	-
VINYL CHI OPIDE	mg/kg	0.0049	U	0.00.10	-	0.0053 U	0.0062 U	<u>' </u>		U	0.0052 U		U 0.0057	U 0.0052	U	0.0056 U	
VINYL CHLORIDE	mg/kg	0.0049	U	0.0046	U	0.0053 U	0.0062 L	U	0.0062	U	0.0052 U	0.0047	U 0.0057	U 0.0052	U	0.0056 U	0.0057 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-24		MW-25		MW-25	MV	V-25		MW-25		MW-25		MW-25	MW-25	N	/IW-25		MW-25		MW-25
	Sample Date	2020-05-15		2020-04-29	+	2020-04-29		-04-29		2020-04-29	2	2020-04-29	+	2020-04-29	2020-04-29	_	20-04-29		2020-04-29		2020-04-30
	Sample Name	MW24-SB051520-24	48 N	MW25-SB042920-14		MW25-SB042920-29	MW25-SB		5 1	MW25-SB042920-46		5-SB042920-54	+	MW25-SB042920-70	MW25-SB042920-73		SB042920-8	2 IV	1W25-SB042920-94	ı M	W25-SB043020-103
Analyte	Units	Result	Q	Result	0	Result Q			0				0	Result Q	Result O			0		Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg		U	0.0061	U	0.005 U			U				U	0.0064 U				U		U	0.0053 U
1,1,2,2-TETRACHLOROETHANE	mg/kg		U	0.0061	U	0.005 U	0.00		U	0.0053		0.0046 L	U	0.0064 U	0.0062 U			U		U	0.0053 U
1,1,2-TRICHLOROETHANE	mg/kg		U	0.0061	U	0.005 U	0.00		U			0.0046 L	U	0.0064 U	0.0062 U	1		U		U	0.0053 U
1,1,2-Trichlorotrifluoroethane	mg/kg		Ü	0.0061	U	0.005 U			U	0.0053		0.0046 L	U	0.0064 U				Ü		U	0.0053 U
1,1-DICHLOROETHANE	mg/kg		U	0.0061	U	0.005 U	0.00		U	0.0053		0.0046 L	U	0.0064 U	0.0062 U			U		U	0.0053 U
1,1-DICHLOROETHENE	mg/kg		U	0.0061	Ш	0.005 U		-	II	0.0053	_		U	0.0064 U		1	0055	U U		U	0.0053 U
1,2,3-TRICHLOROBENZENE	mg/kg		U	0.0061	Ш	0.005 U			Ш	0.0053	_		U	0.0064 U		1		U		U	0.0053 U
1,2,4-TRICHLOROBENZENE	mg/kg		U	0.0061	Ш	0.005 U	0.00		Ш	0.0053	-	0.0046 L	U .	0.0064 U	0.0062 U			U		U	0.0053 U
1.2.4-TRIMETHYLBENZENE	mg/kg		U	0.0061	П	0.005 U			Ш		_		U	0.0064 U	0.0062 U			U		U	0.0053 U
1,2-Dibromo-3-Chloropropane	mg/kg		U	0.0061	П	0.005 U	0.00	-	Ш			0.0046 L	ıı –	0.0064 U	0.0062 U	1		U		U	0.0053 U
1,2-DIBROMOETHANE	mg/kg		U	0.0061	П	0.005 U			11			0.0046 L	11	0.0064 U				U		U	0.0053 U
1,2-DICHLOROBENZENE	mg/kg		U	0.0061	П	0.005 U	0.00		11				U	0.0064 U	0.0062 U			U		U	0.0053 U
1.2-DICHLOROETHANE	mg/kg		U	0.0061	П	0.005 U			11				U	0.0064 U				U		U	0.0053 U
1,2-DICHLOROPROPANE	mg/kg		U	0.0061	11	0.005 U	0.00	-	11			0.0046 L	-	0.0064 U	0.0062 U			U		U	0.0053 U
· ·	- · · · ·		U	0.0061	U	0.005 U	0.00		11	0.0053		0.0046 C	U	0.0064 U	0.0062 U			U		U	0.0053 U
1,3,5-Trimethylbenzene 1,3-DICHLOROBENZENE	mg/kg		U	0.0061	U	0.005 U	0.00		11			0.0046 C	U	0.0064 U	0.0062 U			U		U	0.0053 U
1.4-DICHLOROBENZENE	mg/kg		U	0.0061	U	0.005 U			11		_		U	0.0064 U				U		U	0.0053 U
,	mg/kg		U	0.0061	U	0.003 U	0.00		11	0.0053 0.021	_		U	0.0064 U	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			U		U	0.0033 U
2-Butanone (MEK)	mg/kg				0				11				U					U		_	
2-Hexanone	mg/kg		U	0.024	U	0.02 U	0.02		U	0.021	_	0.018 L	U	0.025 U	0.025 U	1				U	0.021 U
4-Methyl-2-Pentanone (MIBK)	mg/kg		U	0.024	·	0.02 U			U		_		U	0.025 U				U		U	0.021 U
ACETONE	mg/kg		U	0.01	J	0.0061 J	0.02		U	0.009			U	0.025 U	0.025 U			J		J	0.0000
BENZENE	mg/kg		U	0.0061	U	0.005 U	0.00		U	0.0053		0.0046 L	U	0.0064 U	0.0062 U		0055	U		U	0.0053 U
Bromochloromethane	mg/kg		U	0.0061	U	0.005 U	0.00		U				U	0.0064 U	0.0062 U			U		U	0.0053 U
BROMODICHLOROMETHANE	mg/kg		U	0.0061	U	0.005 U	0.00.		U	0.0053		0.0046 L	U	0.0064 U	0.0062 U			U		U	0.0053 U
BROMOFORM	mg/kg		U	0.0061	U	0.005 U			U		_		U	0.0064 U		1		U		U	0.0053 U
BROMOMETHANE	mg/kg		U	0.012	U	0.0099 U	0.01		U	0.011	_		U	0.013 U	0.012 U	1		U		U	0.011 U
CARBON DISULFIDE	mg/kg		U	0.0061	U	0.005 U	0.00		U	0.0053		0.0046 L	U	0.0064 U	0.0062 U			U		U	0.0053 U
CARBON TETRACHLORIDE	mg/kg		U	0.0061	U	0.005 U			U				U	0.0064 U	0.0062 U			U		U	0.0053 U
CHLOROBENZENE	mg/kg		U	0.0061	U	0.005 U	0.00		U	0.0053			U	0.0064 U	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			U		U	0.0053 U
CHLOROETHANE	mg/kg		U	0.0061	U	0.005 U	0.00	59	U	0.0053	_	0.0046 L	U	0.0064 U	0.0062 U	1	0055	U		U	0.0053 U
CHLOROFORM	mg/kg		U	0.0061	U	0.005 U	0.00	59	U	0.0053			U	0.0064 U		1		U		U	0.0053 U
CHLOROMETHANE	mg/kg		U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (U	0.0064 U	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.0		U		U	0.0053 U
CIS-1,2-DICHLOROETHENE	mg/kg		U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U	0.0062 U	0.0		U	0.0063	U	0.0053 U
CIS-1,3-DICHLOROPROPENE	mg/kg		U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U	0.0062 U	0.0	0055	U		U	0.0053 U
DIBROMOCHLOROMETHANE	mg/kg		U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U	0.0062 U	0.0	0055	U		U	0.0053 U
DICHLORODIFLUOROMETHANE	mg/kg		U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U	0.0062 U	0.0		U		U	0.0053 U
ETHYLBENZENE	mg/kg	0.005	U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U	0.0062 U	0.0	0055	U	0.0063	U	0.0053 U
Isopropylbenzene	mg/kg	0.005	U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U	0.0062 U	0.0	0055	U	0.0063	U	0.0053 U
M,P-XYLENE	mg/kg	0.0099	U	0.012	U	0.0099 U	0.01	.2	U	0.011	U (0.0092 L	U	0.013 U	0.012 U	0.	.011	U	0.013	U	0.011 U
METHYL ACETATE	mg/kg	0.005	U	0.0061	U	0.005 U	0.00	59	U	0.0053	U	0.0046 L	U	0.0064 U	0.0062 U	0.0	0055	U	0.0063	U	0.0053 U
METHYL TERT-BUTYL ETHER	mg/kg	0.005	U	0.0061	U	0.005 U	0.00	59	U	0.0053	U	0.0046 L	U	0.0064 U	0.0062 U	0.0	0055	U	0.0063	U	0.0053 U
METHYLENE CHLORIDE	mg/kg	0.0099	U	0.012	U	0.0099 U	0.01	.2	U	0.011	U	0.0092 L	U	0.013 U	0.012 U	0.	.011	U	0.013	U	0.011 U
O-XYLENE	mg/kg	0.005	U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U	0.0062 U	0.0	0055	U	0.0063	U	0.0053 U
STYRENE	mg/kg	0.005	U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U	0.0062 U	0.0	0055	U	0.0063	U	0.0053 U
TETRACHLOROETHENE	mg/kg		U	0.0061	U	0.005 U			U		U (0.0046 L	U	0.0064 U	0.0062 U	1		U		U	0.0053 U
TOLUENE	mg/kg	0.005	U	0.0061	U	0.005 U	0.00	59	U		U (0.0046 L	U	0.0064 U	0.0062 U	1		U	0.0063	U	0.0053 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.005	U	0.0061	U	0.005 U	0.00	59	U	0.0053	U (0.0046 L	U	0.0064 U			0055	U	0.0063	U	0.0053 U
TRANS-1,3-DICHLOROPROPENE	mg/kg		U	0.0061	U	0.005 U			U		_		U	0.0064 U				U		U	0.0053 U
TRICHLOROETHENE	mg/kg		U	0.0061	U	0.005 U			U		_		U	0.0064 U				U		U	0.0053 U
TRICHLOROFLUOROMETHANE	mg/kg		U	0.0061	U	0.005 U		-	U				U	0.0064 U		1		U		U	0.0053 U
VINYL ACETATE	mg/kg		U	0.0061	U	0.005 U	0.00		U	0.0053		0.0046 L	u	0.0064 U		1		Ü		U	0.0053 U
VINYL CHLORIDE	mg/kg		U	0.0061	U	0.005 U			u		_		U	0.0064 U		1		U		U	0.0053 U
	מיי /מייי	3.303	1 ~ 1	0.0001	<u>~ </u>	5.555	0.50.		~ 1	0.000	- 1		<u>- 1</u>	0.0004	0.0002	J. 0.0		<u> </u>	0.0000	-	5.0000

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-25	MW-25	MW-25	MW-25		MW-25		MW-25		MW-25		MW-25		MW-25		MW-25		MW-25
	Sample Date	2020-04-30	2020-04-30	2020-04-30	2020-04-30		2020-05-01		2020-05-01		2020-05-01		2020-05-01		2020-05-01		2020-05-01		2020-05-03
	Sample Name	MW25-SB043020-112	MW25-SB043020-120	MW25-SB043020-139	MW25-SB043020-1	50	MW25-SB050120-1	53	MW25-SB050120-16	54	MW25-SB050120-17	6	MW25-SB050120-187		MW25-SB050120-193	3	MW25-SB050120-205	1	MW25-SB050320-216
Analyte	Units	Result Q	Result C	Result Q	Result	Q	Result	D	Result	Q	Result	۵	Result Q	\sim	Result	Q	Result C	Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	J	0.0048	U	0.0054	U	0.0053	U	0.0062 U	J	0.0047	U	0.0052 L	U	0.0044 U
1,1,2-TRICHLOROETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	כ	0.0048	U	0.0054	U	0.0053	С	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
1,1-DICHLOROETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
1,1-DICHLOROETHENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	J	0.0048	U	0.0054	U	0.0053	U	0.0062 U	J	0.0047	U	0.0052 L	U	0.0044 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	כ	0.0048	UJ	0.0054	U	0.0053	С	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	כ	0.0048	UJ	0.0054	U	0.0053	С	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	J	0.0048	U	0.0054	U	0.0053	U	0.0062 U	J	0.0047	U	0.0052 L	U	0.0044 U
1,2-DIBROMOETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
1,2-DICHLOROBENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
1,2-DICHLOROETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
1,2-DICHLOROPROPANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	J	0.0048	U	0.0054	U	0.0053	U	0.0062 U	J	0.0047	U	0.0052 L	U	0.0044 U
1,3,5-Trimethylbenzene	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
1,3-DICHLOROBENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
1,4-DICHLOROBENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	כ	0.0048	U	0.0054	U	0.0053	С	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
2-Butanone (MEK)	mg/kg	0.02 U	0.021 U	0.02 U	0.022	U	0.019	U	0.022	U	0.021	С	0.025 U	ı	0.019	U	0.021 L	U	0.018 U
2-Hexanone	mg/kg	0.02 U	0.021 U	0.02 U	0.022	U	0.019	U	0.022	U	0.021	U	0.025 U	_	0.019	U	0.021 L	U	0.018 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.02 U	0.021 U	0.02 U	0.022	כ	0.019	U	0.022	U	0.021	С	0.025 U	_	0.019	U	0.021 L	U	0.018 U
ACETONE	mg/kg	0.02 U	0.021 U	0.02 U	0.022	U	0.019	U	0.022	U	0.021	U	0.025 U	_	0.0052	J	0.0072 J	J	0.018 U
BENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	С	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
Bromochloromethane	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
BROMODICHLOROMETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
BROMOFORM	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	כ	0.0048	U	0.0054	U	0.0053	С	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
BROMOMETHANE	mg/kg	0.01 U	0.01 U	0.01 U	0.011	כ	0.0095	U	0.011	U	0.011	С	0.012 U	_	0.0094	U	0.01 L	U	0.0088 U
CARBON DISULFIDE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	J	0.0048	U	0.0054	U	0.0053	U	0.0062 U	J	0.0047	U	0.0052 L	U	0.0044 U
CARBON TETRACHLORIDE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	כ	0.0048	U	0.0054	U	0.0053	С	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
CHLOROBENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
CHLOROETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
CHLOROFORM	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	J	0.0048	U	0.0054	U	0.0053	U	0.0062 U	J	0.0047	U	0.0052 L	U	0.0044 U
CHLOROMETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	כ	0.0048	U	0.0054	U	0.0053	С	0.0062 U	_	0.0047	U	0.0052 L	U	0.0044 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
DIBROMOCHLOROMETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
DICHLORODIFLUOROMETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
ETHYLBENZENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
Isopropylbenzene	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
M,P-XYLENE	mg/kg	0.01 U	0.01 U	0.01 U	0.011	U	0.0095	U	0.011	U	0.011	U	0.012 U	ı	0.0094	U	0.01 L	U	0.0088 U
METHYL ACETATE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
METHYL TERT-BUTYL ETHER	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
METHYLENE CHLORIDE	mg/kg	0.01 U	0.01 U	U 0.01 U	0.011	UJ	0.0095	UJ	0.011	UJ	0.011	UJ	0.012 UJ	J	0.0094	UJ	0.01 U	JJ	0.0041 J
O-XYLENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
STYRENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
TETRACHLOROETHENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ı	0.0047	U	0.0052 L	U	0.0044 U
TOLUENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U		0.0047	U	0.0052 L	U	0.0044 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	Щ	0.0047	U	0.0052 L	U	0.0044 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ıΙ	0.0047	U	0.0052 L	U	0.0044 U
TRICHLOROETHENE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	IJ_	0.0047	U	0.0052 L	U	0.0044 U
TRICHLOROFLUOROMETHANE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ıΙ	0.0047	U	0.0052 L	U	0.0044 U
VINYL ACETATE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	ıΙ	0.0047	U	0.0052 L	U	0.0044 U
VINYL CHLORIDE	mg/kg	0.005 U	0.0052 U	0.0051 U	0.0056	U	0.0048	U	0.0054	U	0.0053	U	0.0062 U	IJ_	0.0047	U	0.0052 L	U	0.0044 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

Note 1985		Location	MW-25		MW-25		MW-25		MW-25		MW-25		MW-25		MW-25		MW-25		MW-25		MW-25		MW-26
Company		Sample Date	2020-05-03		2020-05-03		2020-05-03		2020-05-03		2020-05-04		2020-05-05		2020-05-05		2020-05-05		2020-05-05		2020-05-06		2020-04-22
STATISTICATION March CASAN CAS		Sample Name	MW25-SB050320-22	23	MW25-SB050320-23	5	MW25-SB050320-246		MW25-SB050320-252	M	/W25-SB050420-264	MV	V25-SB050520-272	2	MW25-SB050520-281		MW25-SB050520-299	N	MW25-SB050520-30)1	MW25-SB050620-31	12	MW26-SB042220-20
TALESTOCKNICK Color Colo	Analyte	Units	Result	Q	Result	Q	Result Q	2	Result Q		Result Q		Result	Q	Result (Q	Result Q		Result	Q	Result	Q	Result Q
1.5000000000000000000000000000000000000	1,1,1-TRICHLOROETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	j	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
1,02-10-10-10-10-10-10-10-10-10-10-10-10-10-	1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
ELISCHEROPHINE	1,1,2-TRICHLOROETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
1.1 SOLIC PROPERTY 1.1 SOLIC 1.2 SOL	1,1,2-Trichlorotrifluoroethane	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
1.2.2- 1.2.	1,1-DICHLOROETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
13.47HIGHT 14.5 1.0 1.	1,1-DICHLOROETHENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	С	0.0041	U	0.0089 U
1.24 PRINTPRINTPRINTER	1,2,3-TRICHLOROBENZENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	UJ	0.0089 U
1.26HEROMOFERMANE mg/kg 2.0043 0 0.0055 0 0.0067 0 0.0068 0 0.0057 0 0.0068 0 0.0057 0 0.0068 0 0.0057 0 0.0068 0 0.0057 0 0.0068 0 0.0057 0 0.0068 0 0.0057 0 0.0068 0 0.0057 0 0.0057 0 0.0058 0 0.0057 0 0.0058 0 0.0057 0 0.0	1,2,4-TRICHLOROBENZENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	UJ	0.0089 U
12-09-00-00-00-00-00-00-00-00-00-00-00-00-	1,2,4-TRIMETHYLBENZENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
1.500Feroprotections	1,2-Dibromo-3-Chloropropane	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	R	0.0089 U
13-00-00-00-00-00-00-00-00-00-00-00-00-00	1,2-DIBROMOETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	UJ	0.0089 U
13.000000000000000000000000000000000000	1,2-DICHLOROBENZENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J			0.0049 U		0.0047	U		_	0.005 U		0.0048	U	0.0041		0.0089 U
13.5 Times/beneme	1,2-DICHLOROETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J			0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
1.3-Deteroprocessor mg/kg 0.0043 U 0.0055 U 0.0055 U 0.0055 U 0.0056 U 0.0056 U 0.0056 U 0.0056 U 0.0058 U 0.0058 U 0.0056 U	1,2-DICHLOROPROPANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J			0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
September Margin September Margin September September Margin September S	1,3,5-Trimethylbenzene	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
2-bitemente MCC mg/kg 0.077 U 0.021 U 0.029 U 0.02 U 0.02 U 0.029 U 0.029 U 0.020 U 0.036 U 0.037 U 0.036 U 0.037 U 0.036 U 0.037 U 0.036 U 0.036 U 0.037 U 0.036 U 0.037 U 0.036 U	1,3-DICHLOROBENZENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
2-feedamone mg/hg 0.017 U 0.023 U 0.019 U 0.022 U 0.023 U 0.023 U 0.039 U 0.021 U 0.021 U 0.039 U 0.027 U 0.039	1,4-DICHLOROBENZENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0005
SAMENING Performance (MBIS) Performance (MBIS	2-Butanone (MEK)	mg/kg	0.017	U	0.021	U	0.019 U	J	0.02 U		0.02 U		0.019	U	0.019	U	0.02 U		0.019	U	0.017		0.036 U
ACETONIC mg/ng 0.017 U 0.014 U 0.019 U 0.022 U 0.023 U 0.019 U 0.019 U 0.019 U 0.019 U 0.0018 U 0.001	2-Hexanone	mg/kg	0.017	U	0.021	U	0.019 U	J	0.02 U		0.02 U		0.019	U	0.019	U	0.02 U		0.019	U	0.017	U	0.036 U
BOATSTANE May No. Ma	4-Methyl-2-Pentanone (MIBK)	mg/kg	0.017	U	0.021	U	0.019 U	J	0.02 U		0.02 U		0.019	U	0.019	U	0.02 U		0.019	U	0.017	U	0.036 U
Semonthiromethane	ACETONE	mg/kg	0.017	U	0.021	U	0.019 U	J	0.02 U		0.02 U		0.019	U	0.019	U	0.02 U		0.019	U	0.0068	J	0.012 J
BEADMOIGH MARINA mg/kg 0.0063 U 0.0063 U 0.0064 U 0.0069 U 0.	BENZENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
BROMOMETHANE Mg/kg 0.0084 U 0.0053 U 0.0044 U 0.0098	Bromochloromethane	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
BOMOMENTAME	BROMODICHLOROMETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	R	0.0089 U
CARBON INSULFICE	BROMOFORM	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	R	0.0089 U
CARRON FTRACHORDE	BROMOMETHANE	mg/kg	0.0086	U	0.011	U	0.0094 U	J	0.0098 U		0.0098 U		0.0094	U	0.0096	U	0.01 U		0.0096	U	0.0083	U	0.018 U
GLIOROPETIANE mg/kg 0.0043 U 0.0033 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.0055 U 0.0048 U 0.0048 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.0058 U 0.0058 U 0.0048 U 0.0049 U 0	CARBON DISULFIDE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.00087	J	0.0089 U
CHLOROFTHANE mg/kg	CARBON TETRACHLORIDE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J			0.0049 U		0.0047	U	0.0048	U	0.005 U				0.0041		
CHIOROFORM	CHLOROBENZENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J			0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
CHLOROMETHANE	CHLOROETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
CS-1,2-DICHLOROPETHENE	CHLOROFORM	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	
CIS-1_3-DICHLOROPROPENE mg/kg	CHLOROMETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J			0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
DIROMOCHLOROMETHANE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 R 0.0089 U DICHLORODIFILUDROMETHANE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0051 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.0051 U 0.0048 U 0.0051 U 0.0049 U 0.0048 U 0.0051 U 0.0048 U 0.0051 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.0051 U 0.0048 U 0.0051 U 0.0048 U 0.0051 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.0051 U 0.0048 U 0.0051 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.0051 U 0.0048 U 0.0041 U 0.0089 U 0.0041 U 0.0048 U 0.0051 U 0.0048 U 0.0041 U 0.0089 U 0.004	CIS-1,2-DICHLOROETHENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
DICHIORODIFLUOROMETHANE mg/kg	CIS-1,3-DICHLOROPROPENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J			0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
ETHYLBENZENE	DIBROMOCHLOROMETHANE	mg/kg		U			0.0047 U	J						U		_	0.005 U						
Sopropylbenzene mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0047 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0089 U 0.0089 U 0.0098 U 0.0098 U 0.0098 U 0.0098 U 0.0098 U 0.0098 U 0.0096 U 0.011 U 0.0096 U 0.0098 U 0.0099 U 0.009	DICHLORODIFLUOROMETHANE	mg/kg	0.0043	U		U	0.0047 U	J		-			0.0047	U		-	0.005 U						0.0005
MP-XYLENE MP/Kg 0.0086 U 0.011 U 0.0094 U 0.0098 U 0.0098 U 0.0094 U 0.0096 U 0.011 U 0.0096 U 0.0083 U 0.018 U 0.018 U 0.018 U 0.0098 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0049 U 0.0048 U 0.005 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.005 U 0.0048 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0044 U 0.0044 U 0.005 U 0	ETHYLBENZENE	mg/kg	0.0043	U	0.0053	-	0.0047 U	J			0.0049 U		0.0047	U		_	0.005 U				0.0041		
METHYLACETATE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0049	Isopropylbenzene	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
METHYLERT-BUTYLETHER mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0083 U 0.0083 U 0.0083 U 0.0089 U 0.0045 J 0.0096 UJ 0.0096 UJ 0.01 UJ 0.0096 UJ 0.0098 U 0.0097 U 0.0098 U 0.0099 U 0.00	M,P-XYLENE	mg/kg	0.0086	U	0.011	U	0.0094 U	J			0.0098 U		0.0094	U		-	0.01 U		0.0096	U	0.0083		0.018 U
METHYLENE CHLORIDE mg/kg 0.0048 J 0.0059 J 0.0048 J 0.0053 U 0.0047 U 0.0049 U 0.0047 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0047 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.0048 U 0.0041 U 0.0049 U	METHYL ACETATE	mg/kg		U	0.0053	U		J	0.0049 U		0.0049 U		0.0047	U		_	0.005 U		0.0048				0.0089 U
O-XYLENE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.0055 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0048 U 0.0055 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0048 U 0.0055 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.0055 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.0055 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0049	METHYL TERT-BUTYL ETHER	mg/kg	0.0043	U	0.0053	U	0.0047 U	J			0.0049 U		0.0047	U	0.00-10	Ŭ	0.005 U			٥	0.0041		0.0089 U
STYRENE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0089 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0041 U 0.0089 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0049	METHYLENE CHLORIDE	mg/kg	0.0048	J	0.0059	J	0.0048 J		0.0057 J		0.0045 J		0.0094	UJ	0.0096 L	JJ	0.01 UJ		0.0096	UJ	0.0083		0.018 U
TETRACHLOROETHENE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0089 U 0.0041 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U 0.0089 U 0.0041 U 0.0049 U	O-XYLENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
TOLUENE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0041 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.0041 U 0.0041 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U	STYRENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
TRANS-1,2-DICHLOROETHENE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 R 0.0089 U 0.0041 R 0.0089 U 0.0041 R 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 R 0.0089 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U 0.0041 U 0.0089 U 0.0041 U 0.0049 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0049 U	TETRACHLOROETHENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
TRANS-1,3-DICHLOROPROPENE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 R 0.0089 U TRICHLOROFIHENE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.0053 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0048 U 0.0050 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0041 U 0.0041 U 0.0041 U 0.0089 U 0.0041 U 0.00	TOLUENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041		0.0089 U
TRICHLOROETHENE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.0058 U 0.0048 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0089 U 0.0047 U 0.0049 U 0.0047 U 0.0048 U 0.0058 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U 0.0041 U 0.0049 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.0058 U 0.0048 U 0.0048 U 0.0049 U 0.0089 U 0.0049 U	TRANS-1,2-DICHLOROETHENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
TRICHLOROFLUOROMETHANE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0049 U 0.0048 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U VINYL ACETATE mg/kg 0.0043 U 0.0053 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0048 U 0.0041 U 0.0089 U	TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	R	0.0089 U
VINYL ACETATE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U	TRICHLOROETHENE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
	TRICHLOROFLUOROMETHANE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
VINYL CHLORIDE mg/kg 0.0043 U 0.0053 U 0.0047 U 0.0049 U 0.0047 U 0.0048 U 0.005 U 0.0048 U 0.0041 U 0.0089 U	VINYL ACETATE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U
	VINYL CHLORIDE	mg/kg	0.0043	U	0.0053	U	0.0047 U	J	0.0049 U		0.0049 U		0.0047	U	0.0048	U	0.005 U		0.0048	U	0.0041	U	0.0089 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-26	MW-26	MW-26	MW-26	MW-26	MW-26	MW-26	MW-26	MW-26	MW-26	MW-26
	Sample Date	2020-04-22	2020-04-22	2020-04-23	2020-04-23	2020-04-23	2020-04-23	2020-04-23	2020-04-23	2020-05-04	2020-05-04	2020-05-04
	Sample Name	MW26-SB042220-24	MW26-SB042220-39	MW26-SB042320-44		MW26-SB042320-62	MW26-SB042320-77	MW26-SB042320-84		MW26-SB050420-103		
Analyte	Units	Result Q	Result Q		Q Result Q	Result C	Result Q		Q Result Q			
1,1,1-TRICHLOROETHANE	mg/kg	0.0052 U	0.007 U		U 0.0049 U	0.0056			U 0.0052 U			
1.1.2.2-TETRACHLOROETHANE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 L	0.0059 U		U 0.0052 U		J 0.0053 U	
1,1,2-TRICHLOROETHANE	mg/kg	0.0052 U	0.007 U		U 0.0049 U	0.0056 L	0.0059 U		U 0.0052 U			
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 U	0.0059 U		U 0.0052 U	+		
1,1-DICHLOROETHANE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 L	0.0059 U		U 0.0052 U		J 0.0053 U	
1,1-DICHLOROETHENE	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0056 L			U 0.0052 U	-	<u> </u>	
1,2,3-TRICHLOROBENZENE	mg/kg	0.0052 U	0.007 U		U 0.0049 U	0.0056 L	0.0059 U		U 0.0052 U			
1.2.4-TRICHLOROBENZENE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 L	0.0059 U		U 0.0052 U			
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0056 L	0.0059 U		U 0.0052 U			
1,2-Dibromo-3-Chloropropane	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0056 L			U 0.0052 U			
1,2-DIBROMOETHANE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056			U 0.0052 U			
1,2-DICHLOROBENZENE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056	0.0059 U		U 0.0052 U			
1.2-DICHLOROETHANE	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0056 U			U 0.0052 U	+	+	
1,2-DICHLOROPROPANE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 L	0.0059 U		U 0.0052 U	0.0046	J 0.0053 U	
1,3,5-Trimethylbenzene	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 U	0.0059 U		U 0.0052 U		J 0.0053 U	
1,3-DICHLOROBENZENE	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0036 C	0.0059 U		U 0.0052 U	+		
1,4-DICHLOROBENZENE	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0036 C			U 0.0052 U			
2-Butanone (MEK)	mg/kg	0.0032 U	0.007 U	+	U 0.0049 U	0.0030	0.0039 U		U 0.0032 U			
2-Hexanone	mg/kg	0.021 U	0.028 U	0.027	U 0.02 U	0.022	0.024 U		U 0.021 U			
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.021 U	0.028 U	1	U 0.02 U	0.022			U 0.021 U			
ACETONE	mg/kg	0.021 0	0.0094 J	0.0083	J 0.011 J	0.022	0.0024 0 0.0083 J		U 0.021 U			
BENZENE	mg/kg	0.011 J	0.0034 J	0.0066	U 0.0049 U	0.0026 U	0.0059 U		U 0.0052 U			
Bromochloromethane		0.0052 U		 	U 0.0049 U	0.0036 C	0.0059 U		U 0.0052 U	+		
BROMODICHLOROMETHANE	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0056 U			U 0.0052 U	+		
BROMOFORM	mg/kg	0.0052 U	0.007 U		U 0.0049 U	0.0056 U			U 0.0052 U	0.00.0		
BROMOMETHANE	mg/kg	0.0032 U	0.007 U	0.006	U 0.0098 U	0.0036 C	0.0039 U		U 0.0032 U			
	mg/kg	0.0052 U			U 0.0098 U		0.012 U	1			J 0.0053 U	
CARBON DISULFIDE CARBON TETRACHLORIDE	mg/kg	0.0052 U	0.007 U 0.007 U		U 0.0049 U	0.0056 U			U 0.0052 U 0.0052 U	+		
CHLOROBENZENE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 U	0.0059 U		U 0.0052 U			
CHLOROETHANE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 U	0.0059 U		U 0.0052 U		J 0.0053 U	
CHLOROFORM	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0036 C	0.0059 U		U 0.0052 U		<u> </u>	
CHLOROMETHANE	mg/kg	0.0052 U	0.007 U		U 0.0049 U	0.0056 U			U 0.0052 U			
CIS-1,2-DICHLOROETHENE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 U	0.0059 U		U 0.0052 U			
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0036 C	0.0059 U		U 0.0052 U			
DIBROMOCHLOROMETHANE	mg/kg	0.0052 U		1						+	+	
DICHLORODIFLUOROMETHANE	mg/kg	0.0052 U	0.007 U 0.007 U	0.0066 0.0066	U 0.0049 U U 0.0049 U	0.0056 U			U 0.0052 U 0.0052 U			
ETHYLBENZENE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 U	0.0059 U		U 0.0052 U			
	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0056 C			U 0.0052 U		J 0.0053 U	
Isopropylbenzene	mg/kg						0.0039 U					
M,P-XYLENE	mg/kg	0.01 U 0.0052 U	0.014 U 0.007 U	0.013 0.0066	U 0.0098 U U 0.0049 U	0.011 U	0.012 U		U 0.01 U 0.0052 U	0.0092 U	U 0.011 U 0.0053 U	
METHYL ACETATE METHYL TERT-BUTYL ETHER	mg/kg mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 C	0.0059 U		U 0.0052 U			
	0, 0								0.0032	0.00-10		
METHYLENE CHLORIDE O-XYLENE	mg/kg	0.01 U 0.0052 U	0.014 U 0.007 U	0.020	U 0.0098 U U 0.0049 U	0.011 U			U 0.01 U 0.0052 U			
	mg/kg				0.00.0						+	
STYRENE	mg/kg	0.0052 U 0.0052 U	0.007 U		U 0.0049 U 0.0049 U	0.0056 U						
TETRACHLOROETHENE	mg/kg		0.007 U				+					
TOLUENE TRANS 1.3 DICHI OROETHENE	mg/kg	0.0052 U	0.007 U		0.00.5							
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0052 U	0.007 U	-	U 0.0049 U				U 0.0052 U	+		
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0052 U	0.007 U	0.0000	U 0.0049 U	0.0056 U			U 0.0052 U			
TRICHLOROETHENE	mg/kg	0.0052 U	0.007 U		U 0.0049 U	0.0056 U			U 0.0052 U			
TRICHLOROFLUOROMETHANE	mg/kg	0.0052 U	0.007 U	1	U 0.0049 U	0.0056 U			U 0.0052 U		<u> </u>	
VINYL ACETATE	mg/kg	0.0052 U	0.007 UJ	1	U 0.0049 U	0.0056 U	0.0059 U		U 0.0052 U	+		
VINYL CHLORIDE	mg/kg	0.0052 U	0.007 U	0.0066	U 0.0049 U	0.0056 L	0.0059 U	0.0074	U 0.0052 U	0.0046 L	J 0.0053 U	0.0056 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-26	MW-26	MW-26		MW-26		MW-26		MW-26		MW-26	MW-26	MW-26	MW-26	MW-26
	Sample Date	2020-05-04	2020-05-04	2020-05-04		2020-05-05		2020-05-05		2020-05-05		2020-05-05	2020-05-05	2020-05-06	2020-05-06	2020-05-06
	Sample Name	MW26-SB050420-129	MW26-SB050420-133	MW26-SB050420-145	15	MW26-SB050520-154		MW26-SB050520-16	58	MW26-SB050520-1	72	MW26-SB050520-188	MW26-SB050520-195	MW26-SB050620-201	MW26-SB050620-215	MW26-SB050620-221
Analyte	Units	Result Q	Result Q	Result	Q	Result	q	Result	Q	Result	Q	Result C	Result C	Result Q	Result	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
1,1-DICHLOROETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
1,1-DICHLOROETHENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051 l	IJ	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051 l	IJ	0.0048	U	0.0056	U	0.006 U		0.0041 U	0.0046	J 0.0049 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0013 J	0.00096	0.0049 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0051 U	0.0049 U		U	0.0051	U	0.0048	U	0.0056	U	0.006 U			0.0046	J 0.0049 U
1,2-DIBROMOETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
1,2-DICHLOROBENZENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
1,2-DICHLOROETHANE	mg/kg	0.0051 U	0.0049 U		U	0.0051	U	0.0048	U	0.0056	U	0.006 U			0.0046	J 0.0049 U
1,2-DICHLOROPROPANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
1,3,5-Trimethylbenzene	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
1,3-DICHLOROBENZENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
1,4-DICHLOROBENZENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
2-Butanone (MEK)	mg/kg	0.02 U	0.019 U	0.021	U	0.02	U	0.019	U	0.022	U	0.024 U	0.018 U	0.016 U	0.018	J 0.02 U
2-Hexanone	mg/kg	0.02 U	0.019 U	0.021	U	0.02	U	0.019	U	0.022	U	0.024 U	0.018 U	0.016 U	0.018	J 0.02 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.02 U	0.019 U	0.021	U	0.02	U	0.019	U	0.022	U	0.024 U	0.018 U	0.016 U	0.018	J 0.02 U
ACETONE	mg/kg	0.02 U	0.019 U	0.021	U	0.02	U	0.019	U	0.022	U	0.024 U	0.018 U	0.016 U	0.018	J 0.02 U
BENZENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
Bromochloromethane	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
BROMODICHLOROMETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
BROMOFORM	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
BROMOMETHANE	mg/kg	0.01 U	0.0097 U	0.011	U	0.01	U	0.0096	U	0.011	U	0.012 U	0.009 U	0.0082 U	0.0092	U 0.0099 U
CARBON DISULFIDE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.00086 J	0.0046	0.0011 J
CARBON TETRACHLORIDE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
CHLOROBENZENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
CHLOROETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
CHLOROFORM	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
CHLOROMETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
DIBROMOCHLOROMETHANE	mg/kg	0.0051 U	0.0049 U		U	0.0051	U	0.0048	U	0.0056	U	0.006 U			0.0046	J 0.0049 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
ETHYLBENZENE	mg/kg	0.0051 U			U	0.0051	U	0.0048	U	0.0056	U	0.006 U		0.00093 J	0.0046	J 0.0049 U
Isopropylbenzene	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
M,P-XYLENE	mg/kg	0.01 U	0.0097 U	0.011	U	0.01	U	0.0096	U	0.011	U	0.012 U	0.009 U	0.0082 U	0.0092	J 0.0099 U
METHYL ACETATE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0051 U	0.0049 U		U	0.0051	U	0.0048	U	0.0056	U	0.006 U		0.0041 U	0.0046	J 0.0049 U
METHYLENE CHLORIDE	mg/kg	0.0053 J	0.005 J		UJ	0.01 l	IJ	0.0096	UJ	0.011	UJ	0.012 U				J 0.0099 U
O-XYLENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
STYRENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
TETRACHLOROETHENE	mg/kg	0.0051 U			U	0.0051	U	0.0048	U	0.0056	U	0.006 U			0.0046	J 0.0049 U
TOLUENE	mg/kg	0.0051 U			U	0.0051	U	0.0048	U	0.0056	U	0.006 U			0.00095	0.0049 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0051 U		0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U			ļ	U 0.0049 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
TRICHLOROETHENE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
TRICHLOROFLUOROMETHANE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
VINYL ACETATE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	U 0.0049 U
VINYL CHLORIDE	mg/kg	0.0051 U	0.0049 U	0.0053	U	0.0051	U	0.0048	U	0.0056	U	0.006 U	0.0045 U	0.0041 U	0.0046	J 0.0049 U
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Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-26	MW-26	MW-26	MW-26	MW-26		MW-26		MW-26	MW-26	MW-26	MW-26	MW-26
	Sample Date	2020-05-06	2020-05-07	2020-05-07	2020-05-07	2020-05-08		2020-05-08		2020-05-10	2020-05-10	2020-05-10	2020-05-11	2020-05-11
		MW26-SB050620-234				MW26-SB050820-2	74	MW26-SB050820-2	285	MW26-SB051020-299				MW26-SB051120-334
Analyte	Units	Result Q			Q Result Q	Result	0	Result	Q	Result C) Result	Q Result	Q Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0047 U	0.0048 U	+	U 0.0051 U	0.0044	Ü	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,1-DICHLOROETHANE	mg/kg	0.0047 U			U 0.0051 U	0.0044	Ü	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,1-DICHLOROETHENE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0047 U		0.0002	U 0.0051 U	0.0044	U	0.0047	U	0.0045 U	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 U	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 U	0.0046	U 0.0044	U 0.0027 J	0.0051 U
1,2-Dibromo-3-Chloropropane		0.0047 U		+	U 0.0051 U	0.0044	U	0.0047	U	0.0045 U	0.0046	U 0.0044	U 0.0049 U	0.0051 U
	mg/kg	0.0047 U					+ - +			0.0045 C				
1,2-DIBROMOETHANE	mg/kg			+		0.0044	U	0.0047	U		0.0046	U 0.0044	U 0.0049 U	
1,2-DICHLOROBENZENE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 U	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,2-DICHLOROETHANE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 U	0.0046	******	U 0.0049 U	
1,2-DICHLOROPROPANE	mg/kg	0.0047 U		0.0002	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,3,5-Trimethylbenzene	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0016 J	0.0051 U
1,3-DICHLOROBENZENE	mg/kg	0.0047 U		+	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
1,4-DICHLOROBENZENE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
2-Butanone (MEK)	mg/kg	0.019 U			U 0.02 U	0.018	U	0.019	U	0.018 U	0.018	U 0.017	U 0.02 U	0.02 U
2-Hexanone	mg/kg	0.019 U			U 0.02 U	0.018	U	0.019	U	0.018 L	0.018	U 0.017	U 0.02 U	0.02 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.019 U	0.019 U	0.024	U 0.02 U	0.018	U	0.019	U	0.018 L	0.018	U 0.017	U 0.02 U	0.02 U
ACETONE	mg/kg	0.019 U	0.017 J	0.024	U 0.02 U	0.018	U	0.019	U	0.018 L	0.018	U 0.017	U 0.02 U	0.02 U
BENZENE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0023 J	0.0051 U
Bromochloromethane	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
BROMODICHLOROMETHANE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
BROMOFORM	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
BROMOMETHANE	mg/kg	0.0094 U	0.0097 U	0.012	U 0.01 U	0.0089	U	0.0093	U	0.009 L	0.0091	U 0.0087	U 0.0099 U	0.01 U
CARBON DISULFIDE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
CARBON TETRACHLORIDE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
CHLOROBENZENE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
CHLOROETHANE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
CHLOROFORM	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
CHLOROMETHANE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0047 U			U 0.0051 U	0.0044	Ü	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0047 U		+	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
DIBROMOCHLOROMETHANE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
ETHYLBENZENE	mg/kg	0.0047 U		+	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
Isopropylbenzene	mg/kg	0.0047 U		+	U 0.0051 U	0.0044	Ü	0.0047	U	0.0045 U	0.0046	 	U 0.0049 U	0.0051 U
M,P-XYLENE	mg/kg	0.0094 U			U 0.01 U	0.0089	U	0.0093	U	0.009	0.0091	U 0.0087	U 0.0044 J	0.01 U
METHYL ACETATE	mg/kg	0.0034 U		0.012	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0091	U 0.0044	U 0.0049 U	0.0051 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 U	0.0046	U 0.0044	U 0.0049 U	0.0051 U
METHYLENE CHLORIDE	0, 0	0.0047 U	0.00-10	0.0002	U 0.01 UJ		UJ	0.0047	UJ	0.0043	0.0040		U 0.0099 U	0.0031 U
O-XYLENE	mg/kg	0.0094 U			U 0.0051 U	0.0089	U	0.0047	U	0.0045 L			U 0.0039 U	0.001 U
	mg/kg			+			+		+					
STYRENE	mg/kg	0.0047 U		+	U 0.0051 U	0.0044	U	0.0047	U	0.0045 U	0.0046	U 0.0044	U 0.0049 U	0.0051 U
TETRACHLOROETHENE	mg/kg	0.0047 U			U 0.0051 U		U	0.0047	U	0.0045 L			U 0.0049 U	0.0051 U
TOLUENE	mg/kg	0.0047 U		+	U 0.0051 U		U	0.0047	U	0.0045 U	0.00098		U 0.0047 J	0.0051 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0047 U		+	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0047 U			U 0.0051 U		U	0.0047	U	0.0045 L		U 0.0044	U 0.0049 U	0.0051 U
TRICHLOROETHENE	mg/kg	0.0047 U		+	U 0.0051 U		U	0.0047	U	0.0045 L			U 0.0049 U	0.0051 U
TRICHLOROFLUOROMETHANE	mg/kg	0.0047 U		+	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L		U 0.0044	U 0.0049 U	0.0051 U
VINYL ACETATE	mg/kg	0.0047 U			U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U
VINYL CHLORIDE	mg/kg	0.0047 U	0.0048 U	0.0061	U 0.0051 U	0.0044	U	0.0047	U	0.0045 L	0.0046	U 0.0044	U 0.0049 U	0.0051 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

Sample Date 2020-05-11 Sample Name MW26-S8051120-348 Analyte Units Result Q 1,1,1-TRICHLOROETHANE mg/kg 0.0051 U 1,1,2-TETRACHLOROETHANE mg/kg 0.0051 U 1,1,2-TRICHLOROETHANE mg/kg 0.0051 U 1,1-DICHLOROETHANE mg/kg 0.0051 U 1,1-DICHLOROETHENE mg/kg 0.0051 U 1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-DISHOMO-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U 1,3,5-Trimethylbenzene mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U	2020-03-22 MW27-SB032220-30 Result Q 0.0063 U	0.0067 0.0067 0.0067 0.0067 0.0067 0.0067 0.0067	Q Result U 0.0095	2020-03-22 MW27-SB032220-54.5 Q Result Q U 0.0059 U	2020-03-22 MW27-SB032220-70 Result Q 0.006 U	0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U	2020-03-22 MW27-SB032220-88 Result Q 0.0048 U
Analyte Units Result Q 1,1,1-TRICHLOROETHANE mg/kg 0.0051 U 1,1,2-TETRACHLOROETHANE mg/kg 0.0051 U 1,1,2-TRICHLOROETHANE mg/kg 0.0051 U 1,1,2-Trichlorotrifluoroethane mg/kg 0.0051 U 1,1-DICHLOROETHANE mg/kg 0.0051 U 1,1-DICHLOROETHENE mg/kg 0.0051 U 1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg	Result Q 0.0046 U	Result Q 0.0057 U 0.0057 U	Result Q 0.0059 U 0.0059 U	Result Q 0.0063 U 0.0063 U	Result 0.0067 0.0067 0.0067 0.0067 0.0067 0.0067 0.0067 0.0067	Q Result U 0.0095	Q Result Q U 0.0059 U U 0.0059 U	Result Q	Result Q 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U	Result Q
1,1,1-TRICHLOROETHANE mg/kg 0.0051 U 1,1,2,2-TETRACHLOROETHANE mg/kg 0.0051 U 1,1,2-TRICHLOROETHANE mg/kg 0.0051 U 1,1,2-Trichlorotrifluoroethane mg/kg 0.0051 U 1,1-DICHLOROETHANE mg/kg 0.0051 U 1,1-DICHLOROETHENE mg/kg 0.0051 U 1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U	0.0063 U	0.0067 0.0067 0.0067 0.0067 0.0067 0.0067 0.0067	U 0.0095 U 0.0095 U 0.0095 U 0.0095 U 0.0095 U 0.0095 U 0.0095 U 0.0095	U 0.0059 U	0.006 U	0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U	0.0048 U 0.0048 U 0.0048 U 0.0048 U 0.0048 U 0.0048 U
1,1,2,2-TETRACHLOROETHANE mg/kg 0.0051 U 1,1,2-TRICHLOROETHANE mg/kg 0.0051 U 1,1,2-Trichlorotrifluoroethane mg/kg 0.0051 U 1,1-DICHLOROETHANE mg/kg 0.0051 U 1,1-DICHLOROETHENE mg/kg 0.0051 U 1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U	0.0063 U	0.0067 0.0067 0.0067 0.0067 0.0067 0.0067	U 0.0095 U 0.0095 U 0.0095 U 0.0095 U 0.0095 U 0.0095	U 0.0059 U	0.006 U 0.006 U 0.006 U 0.006 U 0.006 U	0.0049 U 0.0049 U 0.0049 U 0.0049 U 0.0049 U	0.0048 U 0.0048 U 0.0048 U 0.0048 U 0.0048 U
1,1,2-TRICHLOROETHANE mg/kg 0.0051 U 1,1,2-Trichlorotrifluoroethane mg/kg 0.0051 U 1,1-DICHLOROETHANE mg/kg 0.0051 U 1,1-DICHLOROETHENE mg/kg 0.0051 U 1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U	0.0063 U	0.0067 0.0067 0.0067 0.0067 0.0067	U 0.0095 U 0.0095 U 0.0095 U 0.0095 U 0.0095	U 0.0059 U	0.006 U 0.006 U 0.006 U 0.006 U	0.0049 U 0.0049 U 0.0049 U 0.0049 U	0.0048 U 0.0048 U 0.0048 U 0.0048 U
1,1,2-Trichlorotrifluoroethane mg/kg 0.0051 U 1,1-DICHLOROETHANE mg/kg 0.0051 U 1,1-DICHLOROETHENE mg/kg 0.0051 U 1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U	0.0063 U 0.0063 U 0.0063 U 0.0063 U 0.0063 U 0.0063 U	0.0067 0.0067 0.0067 0.0067	U 0.0095 U 0.0095 U 0.0095 U 0.0095	U 0.0059 U U 0.0059 U U 0.0059 U	0.006 U 0.006 U 0.006 U	0.0049 U 0.0049 U 0.0049 U	0.0048 U 0.0048 U 0.0048 U
1,1-DICHLOROETHANE mg/kg 0.0051 U 1,1-DICHLOROETHENE mg/kg 0.0051 U 1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U 0.0059 U 0.0059 U 0.0059 U 0.0059 U 0.0059 U	0.0063 U 0.0063 U 0.0063 U 0.0063 U 0.0063 U	0.0067 0.0067 0.0067	U 0.0095 U 0.0095 U 0.0095	U 0.0059 U U 0.0059 U	0.006 U 0.006 U	0.0049 U 0.0049 U	0.0048 U 0.0048 U
1,1-DICHLOROETHENE mg/kg 0.0051 U 1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U	0.0057 U 0.0057 U 0.0057 U 0.0057 U 0.0057 U 0.0057 U 0.0057 U	0.0059 U 0.0059 U 0.0059 U 0.0059 U 0.0059 U	0.0063 U 0.0063 U 0.0063 U 0.0063 U	0.0067 0.0067	U 0.0095 U 0.0095	U 0.0059 U	0.006 U	0.0049 U	0.0048 U
1,2,3-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U 0.0046 U 0.0046 U 0.0046 U 0.0046 U 0.0046 U	0.0057 U 0.0057 U 0.0057 U 0.0057 U 0.0057 U	0.0059 U 0.0059 U 0.0059 U 0.0059 U	0.0063 U 0.0063 U 0.0063 U	0.0067	U 0.0095				—————————————————————————————————————
1,2,4-TRICHLOROBENZENE mg/kg 0.0051 U 1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U 0.0046 U 0.0046 U 0.0046 U 0.0046 U	0.0057 U 0.0057 U 0.0057 U 0.0057 U	0.0059 U 0.0059 U 0.0059 U	0.0063 U 0.0063 U			U 0.0059 U	0.006 U	0.0049 U	0.0048
1,2,4-TRIMETHYLBENZENE mg/kg 0.0051 U 1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U 0.0046 U 0.0046 U 0.0046 U	0.0057 U 0.0057 U 0.0057 U	0.0059 U 0.0059 U	0.0063 U	0.0067	0.0005				0.0070
1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U 0.0046 U 0.0046 U	0.0057 U 0.0057 U	0.0059 U			U 0.0095	U 0.0059 U	0.006 U	0.0049 U	0.0048 U
1,2-Dibromo-3-Chloropropane mg/kg 0.0051 U 1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U 0.0046 U	0.0057 U			0.0067	U 0.0095	U 0.0059 U	0.006 U	0.0049 U	0.0048 U
1,2-DIBROMOETHANE mg/kg 0.0051 U 1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	0.0046 U	0.0057 U		0.0063 U	0.0067	U 0.0095	U 0.0059 U	0.006 U	0.0049 U	0.0048 U
1,2-DICHLOROBENZENE mg/kg 0.0051 U 1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U		0.0057	0.0059	0.0063 U			U 0.0059 U	0.006 U		
1,2-DICHLOROETHANE mg/kg 0.0051 U 1,2-DICHLOROPROPANE mg/kg 0.0051 U	· · · · · · · · · · · · · · · · · · ·		0.0059 U	0.0063 U	0.0067	U 0.0095	U 0.0059 U	0.006 U	0.0049 U	0.0048 U
1,2-DICHLOROPROPANE mg/kg 0.0051 U		0.0057 U		0.0063 U	0.0067		U 0.0059 U	0.006 U	0.0049 U	0.0048 U
, , ,	0.0046 U	0.0057 U	0.0059 U	0.0063 U	0.0067	+	U 0.0059 U	0.006 U	0.0049 U	
		 	0.0059 U	0.0063 U			U 0.0059 U	0.006 U		
1,3-DICHLOROBENZENE mg/kg 0.0051 U		0.0057 U	0.0059 U	0.0063 U			U 0.0059 U	0.006 U	0.0049 U	0.0048 U
1,4-DICHLOROBENZENE mg/kg 0.0051 U		0.0057 U	0.0059 U	0.0063 U	0.0067		U 0.0059 U	0.006 U		0.0048 U
2-Butanone (MEK) mg/kg 0.0066 J		0.023 U	0.023 U	0.025 U	0.027		U 0.024 U	0.024 U		
2-Hexanone mg/kg 0.02 U		0.023 U	0.023 U	0.025 U			U 0.024 U	0.024 U		0.019 U
4-Methyl-2-Pentanone (MIBK) mg/kg 0.02 U				0.025 U			U 0.024 U	0.024 U		0.019 U
ACETONE mg/kg 0.0092 J		0.023 U	0.023 U	0.025 U	0.027		U 0.024 U	0.024 U	0.02 U	0.019 U
BENZENE mg/kg 0.0051 U		 		0.0063 U			U 0.0059 U	0.006 U		
Bromochloromethane mg/kg 0.0051 U		0.0007	0.0059 U	0.0063 U			U 0.0059 U	0.006 U	0.0049 U	0.0048 U
BROMODICHLOROMETHANE mg/kg 0.0051 U		0.0057 U	0.0059 U	0.0063 U	0.0067		U 0.0059 U	0.006 U	0.0049 U	0.0048 U
BROMOFORM mg/kg 0.0051 U		0.0057 U	0.0059 U	0.0063 U	0.0067		U 0.0059 U	0.006 U		—————————————————————————————————————
BROMOMETHANE mg/kg 0.001 U		0.0037 U	0.0033 U	0.0003 U	0.0007		U 0.012 U	0.000 U		
5, 5		0.011 U	0.012 U	0.0063 U	0.013		U 0.0059 U	0.012 U	0.0098 U	0.0037 U
5, 5		0.0057 U	0.0059 U	0.0063 U	0.0067		U 0.0059 U		0.0049 U	0.0048 U
5, 5		l	 							
5, 5			0.0059 U		0.0007	0.0055			+	
5, 5		0.0007	0.0055						+	0.0048 U
		0.0057 U	0.0059 U	0.0063 U	0.0067					0.0048 U
CHLOROMETHANE mg/kg 0.0051 U		0.0057 U	0.0059 U	0.0063 U	0.0067			0.006 U		
CIS-1,2-DICHLOROETHENE mg/kg 0.0051 U		0.0037	0.0055	0.0063 U			U 0.0059 U	0.006 U		0.0048 U
CIS-1,3-DICHLOROPROPENE mg/kg 0.0051 U			0.0059 U	0.0063 U		-	U 0.0059 U	0.006 U	+	
DIBROMOCHLOROMETHANE mg/kg 0.0051 U		0.0057 U	0.0059 U	0.0063 U	0.0067		U 0.0059 U	0.006 U	0.0049 U	0.0048 U
DICHLORODIFLUOROMETHANE mg/kg 0.0051 U		0.0037	0.0033 0	0.0063 U			U 0.0059 U	0.006 U		—————————————————————————————————————
ETHYLBENZENE mg/kg 0.0051 U			0.0059 U	0.0063 U	0.0067	+	U 0.0059 U	0.006 U	0.0049 U	0.0048 U
Isopropylbenzene mg/kg 0.0051 U		0.0037	0.0033 0	0.0063 U	0.0067		U 0.0059 U	0.006 U	0.0049 U	0.0048 U
M,P-XYLENE mg/kg 0.01 U		0.011 U	0.012 U	0.013 U	0.013	0.025	U 0.012 U	0.012 U	0.0098 U	0.0097 U
METHYL ACETATE mg/kg 0.0051 U	******	0.0057 U	0.0059 U	0.0063 U	0.0007	0.0055	U 0.0059 U	0.006 U	0.0049 U	0.0048 U
METHYL TERT-BUTYL ETHER mg/kg 0.0051 U	0.00-10	0.0057 U	0.0055	0.0063 U	0.0007	0.0055	U 0.0059 U	0.006 U	0.00.5	0.0048 U
METHYLENE CHLORIDE mg/kg 0.01 U				0.013 U			U 0.012 U			
O-XYLENE mg/kg 0.0051 U				0.0063 U			U 0.0059 U			
STYRENE mg/kg 0.0051 U			0.0059 U	0.0063 U			U 0.0059 U			
TETRACHLOROETHENE mg/kg 0.0051 U				0.0063 U	0.0026		U 0.0014 J	0.006 U		
TOLUENE mg/kg 0.0051 U		0.0057 U	0.0059 U	0.0063 U			U 0.0059 U	0.006 U		
TRANS-1,2-DICHLOROETHENE mg/kg 0.0051 U				0.0063 U			U 0.0059 U			
TRANS-1,3-DICHLOROPROPENE mg/kg 0.0051 U				0.0063 U			U 0.0059 U	0.006 U		
TRICHLOROETHENE mg/kg 0.0051 U	0.0046 U	0.0057 U		0.0063 U	0.0067		U 0.0059 U	0.006 U		0.0048 U
TRICHLOROFLUOROMETHANE mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U	0.0063 U			U 0.0059 U	0.006 U	0.0049 U	0.0048 U
VINYL ACETATE mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U	0.0063 U	0.0067	U 0.0095	U 0.0059 U	0.006 U	0.0049 U	0.0048 U
VINYL CHLORIDE mg/kg 0.0051 U	0.0046 U	0.0057 U	0.0059 U	0.0063 U	0.0067	U 0.0095	U 0.0059 U	0.006 U	0.0049 U	0.0048 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27	MW-27
	Sample Date	2020-03-22	2020-03-23	2020-03-23	2020-03-23	2020-03-23	2020-03-23	2020-03-23	2020-03-23	2020-03-23	2020-03-23	2020-03-24
	Sample Name	MW27-SB032220-96	MW27-SB032320-102	MW27-SB032320-114	MW27-SB032320-122	MW27-SB032320-130	MW27-SB032320-140	MW27-SB032320-15	0 MW27-SB032320-158	MW27-SB032320-166	MW27-SB032320-175	MW27-SB032420-185
Analyte	Units	Result	Q Result	Q Result	Q Result Q	Result Q	Result	Q Result	Q Result Q	Result C	Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,1-DICHLOROETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,1-DICHLOROETHENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,2-DIBROMOETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,2-DICHLOROBENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,2-DICHLOROETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,2-DICHLOROPROPANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,3,5-Trimethylbenzene	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,3-DICHLOROBENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
1,4-DICHLOROBENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
2-Butanone (MEK)	mg/kg	0.021	U 0.023	U 0.025	U 0.025 U	0.026 U	0.018	U 0.025	U 0.025 U	0.021 U	0.021 U	0.018 U
2-Hexanone	mg/kg	0.021	U 0.023	U 0.025	U 0.025 U	0.026 U	0.018	U 0.025	U 0.025 U	0.021 U	0.021 U	0.018 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.021	U 0.023	U 0.025	U 0.025 U	0.026 U	0.018	U 0.025	U 0.025 U	0.021 U	0.021 U	0.018 U
ACETONE	mg/kg	0.021	U 0.023	U 0.025	U 0.025 U	0.026 U	0.018	U 0.025	U 0.025 U	0.021 U	0.021 U	0.018 U
BENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
Bromochloromethane	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
BROMODICHLOROMETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
BROMOFORM	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
BROMOMETHANE	mg/kg	0.01	U 0.011	U 0.012	U 0.012 U	0.013 U	0.0091	U 0.013	U 0.013 U	0.01 U	0.01 U	0.0091 U
CARBON DISULFIDE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
CARBON TETRACHLORIDE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
CHLOROBENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
CHLOROETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
CHLOROFORM	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
CHLOROMETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
DIBROMOCHLOROMETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
ETHYLBENZENE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
Isopropylbenzene	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
M,P-XYLENE	mg/kg	0.01	U 0.011	U 0.012	U 0.012 U	0.013 U	0.0091	U 0.013	U 0.013 U	0.01 U	0.01 U	0.0091 U
METHYL ACETATE	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0052	U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U	0.0052 U	0.0052 U	0.0046 U
METHYLENE CHLORIDE	mg/kg	0.01	U 0.011	U 0.012	U 0.012 U	0.013 U	0.0091	U 0.013	U 0.013 U	0.01 U	0.01 U	0.0091 U
O-XYLENE	mg/kg				U 0.0062 U	0.0065 U		U 0.0064	U 0.0064 U			
STYRENE	mg/kg		U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	0.0046	U 0.0064	U 0.0064 U		0.0052 U	0.0046 U
TETRACHLOROETHENE	mg/kg			U 0.0014	J 0.0016 J	0.0065 U			U 0.0064 U			
TOLUENE	mg/kg		U 0.0057	U 0.0062	U 0.0062 U	0.0065 U		U 0.0064	U 0.0064 U			
TRANS-1,2-DICHLOROETHENE	mg/kg				U 0.0062 U	0.0065 U			U 0.0064 U			
TRANS-1,3-DICHLOROPROPENE	mg/kg			_	U 0.0062 U	0.0065 U			U 0.0064 U			
TRICHLOROETHENE	mg/kg		U 0.0057	U 0.0062	U 0.0062 U	0.0065 U	1 1 1 1	U 0.0064	U 0.0064 U			
TRICHLOROFLUOROMETHANE	mg/kg		+		U 0.0062 U	0.0065 U			U 0.0064 U			
VINYL ACETATE	mg/kg				U 0.0062 U	0.0065 U			U 0.0064 U			
VINYL CHLORIDE	mg/kg				U 0.0062 U	0.0065 U			U 0.0064 U	+		
THE GREGIUDE	···6/ N5	0.0002	5.3037	0.0002	0.0002	0.0000	0.0040	0.0007	0.0007	0.0052	0.0032	0.00-0

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-27	MW-27	MW-27	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28
	Sample Date	2020-03-24	2020-03-24	2020-03-24	2020-03-12	2020-03-12	2020-03-12	2020-03-13	2020-03-13	2020-03-13	2020-03-13	2020-03-13
	Sample Name	MW27-SB032420-192	.5 MW27-SB032420-205	MW27-SB032420-218	MW28-SB031220-16	MW28-SB031220-22	MW28-SB031220-35	MW28-SB031320-49	MW28-SB031320-59	MW28-SB031320-67	MW28-SB031320-86	MW28-SB031320-97
Analyte	Units	Result	Q Result	Q Result (Q Result Q	Result Q	Result	Q Result	Q Result Q	Result Q	Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
1,1-DICHLOROETHANE	mg/kg		U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054		U 0.0051 U		0.0046 U	0.0052 U
1,1-DICHLOROETHENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054		U 0.0051 U	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.0052 U
1,2,4-TRICHLOROBENZENE	mg/kg	*****	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U			U 0.0051 U	_		
1,2,4-TRIMETHYLBENZENE	mg/kg		U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.000.		U 0.0051 U			H
1,2-Dibromo-3-Chloropropane	mg/kg		U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054		U 0.0051 U		0.0046 U	
1,2-DIBROMOETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054		U 0.0051 U			
1,2-DICHLOROBENZENE	mg/kg		U 0.0048		J 0.0053 U	0.0052 U	0.0054		U 0.0051 U		0.0046 U	
1,2-DICHLOROETHANE	mg/kg		U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054		U 0.0051 U		0.0046 U	0.0052 U
1,2-DICHLOROPROPANE	mg/kg		U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054		U 0.0051 U		0.0046 U	
1,3,5-Trimethylbenzene	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
1,3-DICHLOROBENZENE	mg/kg		U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054		U 0.0051 U	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.0046 U	
1,4-DICHLOROBENZENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U		0.0052 U
2-Butanone (MEK)	mg/kg	0.018	U 0.019	U 0.023 L	J 0.021 U	0.021 U	0.022	U 0.029	U 0.021 U	0.02 U	0.018 U	0.021 U
2-Hexanone	mg/kg	0.018	U 0.019	U 0.023 L	J 0.021 U	0.021 U	0.022	U 0.029	U 0.021 U	0.02 U	0.018 U	0.021 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.018	U 0.019	U 0.023 L	J 0.021 U	0.021 U	0.022	U 0.029	U 0.021 U	0.02 U	0.018 U	0.021 U
ACETONE	mg/kg	0.018	U 0.019	U 0.023 L	J 0.021 U	0.021 U	0.022	U 0.029	U 0.021 U	0.02 U	0.018 U	0.021 U
BENZENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
Bromochloromethane	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
BROMODICHLOROMETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
BROMOFORM	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
BROMOMETHANE	mg/kg	0.0092	U 0.0096	U 0.011 U	U 0.011 U	0.01 U	0.011	U 0.014	U 0.01 U	0.0099 U	0.0091 U	0.01 U
CARBON DISULFIDE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
CARBON TETRACHLORIDE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
CHLOROBENZENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
CHLOROETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
CHLOROFORM	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
CHLOROMETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
DIBROMOCHLOROMETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
ETHYLBENZENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
Isopropylbenzene	mg/kg	0.0046	U 0.0048	U 0.0057 L	U 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
M,P-XYLENE	mg/kg	0.0092	U 0.0096	U 0.011 l	U 0.011 U	0.01 U	0.011	U 0.014	U 0.01 U	0.0099 U	0.0091 U	0.01 U
METHYL ACETATE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
METHYLENE CHLORIDE	mg/kg	0.0092	U 0.0096	U 0.011 L	J 0.011 U	0.01 U	0.011	U 0.014	U 0.01 U	0.0099 U	0.0091 U	0.01 U
O-XYLENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
STYRENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U	0.005 U	0.0046 U	0.0052 U
TETRACHLOROETHENE	mg/kg		U 0.0048		J 0.0053 U	0.0052 U	0.0054		U 0.0051 U			0.0052 U
TOLUENE	mg/kg	0.0046	U 0.0048	U 0.0057 L	J 0.0053 U	0.0052 U	0.0054	U 0.0071	U 0.0051 U			0.0052 U
TRANS-1,2-DICHLOROETHENE	mg/kg		_	U 0.0057 L		0.0052 U			U 0.0051 U			
TRANS-1,3-DICHLOROPROPENE	mg/kg			U 0.0057 U		0.0052 U			U 0.0051 U			
TRICHLOROETHENE	mg/kg		U 0.0048	U 0.0057 L		0.0052 U			U 0.0051 U			
TRICHLOROFLUOROMETHANE	mg/kg		_	U 0.0057 U	· · · · · · · · · · · · · · · · · · ·	0.0052 U			U 0.0051 U			
VINYL ACETATE	mg/kg		_		J 0.0053 U	0.0052 U			U 0.0051 U	_		
VINYL CHLORIDE	mg/kg			U 0.0057 U	· · · · · · · · · · · · · · · · · · ·	0.0052 U			U 0.0051 U	 		H
	מיי /מייי	0.0070	2.30-10	- 1 0.0007	0.0000	0.0002	0.000	- 0.5071	0.0001	0.000	0.0040	0.0002

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28	MW-28
	Sample Date	2020-03-15	2020-03-15	2020-03-16	2020-03-16	2020-03-17	2020-03-17	2020-03-17	2020-03-17	2020-03-17	2020-03-17	2020-03-17
	Sample Name	MW28-SB031520-10	7 MW28-SB031520-117	MW28-SB031620-121	MW28-SB031620-139	MW28-SB031720-149	MW28-SB031720-156	MW28-SB031720-16	5 MW28-SB031720-171	MW28-SB031720-185	MW28-SB031720-199	MW28-SB031720-206
Analyte	Units	Result	Q Result	Q Result C	Result Q	Result Q	Result	Q Result	Q Result Q		Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
1,1,2-TRICHLOROETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U		0.0047 U	0.0053 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
1,1-DICHLOROETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U		0.0047 U	0.0053 U
1,1-DICHLOROETHENE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U		0.0047 U	0.0053 U
1,2,3-TRICHLOROBENZENE	mg/kg		U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049		U 0.0049 U		0.0047 U	0.0053 U
1,2,4-TRICHLOROBENZENE	mg/kg		U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.00.5		U 0.0049 U			
1,2,4-TRIMETHYLBENZENE	mg/kg		U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049		U 0.0049 U			
1,2-Dibromo-3-Chloropropane	mg/kg		U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049		U 0.0049 U	0.0059 U	0.0047 U	
1,2-DIBROMOETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049		U 0.0049 U			
1,2-DICHLOROBENZENE	mg/kg		* ******	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049		U 0.0049 U		0.0047 U	
1,2-DICHLOROETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U		0.0047 U	0.0053 U
1,2-DICHLOROPROPANE	mg/kg		U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049		U 0.0049 U		0.0047 U	0.0053 U
1,3,5-Trimethylbenzene	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049		U 0.0049 U			
1,3-DICHLOROBENZENE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049		U 0.0049 U		0.0047 U	0.0053 U
1,4-DICHLOROBENZENE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U		0.0053 U
2-Butanone (MEK)	mg/kg	0.024	U 0.024	U 0.019 L	U 0.017 U	0.023 U	0.02	U 0.019	U 0.02 U	0.023 U	0.019 U	0.021 U
2-Hexanone	mg/kg	0.024	U 0.024	U 0.019 L	U 0.017 U	0.023 U	0.02	U 0.019	U 0.02 U	0.023 U	0.019 U	0.021 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.024	U 0.024	U 0.019 L	0.017 U	0.023 U	0.02	U 0.019	U 0.02 U	0.023 U	0.019 U	0.021 U
ACETONE	mg/kg	0.024	U 0.024	U 0.019 L	U 0.017 U	0.023 U	0.02	U 0.019	U 0.02 U	0.023 U	0.019 U	0.021 U
BENZENE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
Bromochloromethane	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
BROMODICHLOROMETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
BROMOFORM	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
BROMOMETHANE	mg/kg	0.012	U 0.012	U 0.0093 L	0.0087 U	0.012 U	0.0098	U 0.0097	U 0.0099 U	0.012 U	0.0094 U	0.011 U
CARBON DISULFIDE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
CARBON TETRACHLORIDE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
CHLOROBENZENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
CHLOROETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
CHLOROFORM	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
CHLOROMETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
DIBROMOCHLOROMETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
DICHLORODIFLUOROMETHANE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
ETHYLBENZENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
Isopropylbenzene	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
M,P-XYLENE	mg/kg	0.012	U 0.012	U 0.0093 L	0.0087 U	0.012 U	0.0098	U 0.0097	U 0.0099 U	0.012 U	0.0094 U	0.011 U
METHYL ACETATE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
METHYL TERT-BUTYL ETHER	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
METHYLENE CHLORIDE	mg/kg	0.012	U 0.012	U 0.0093 L	U 0.0087 U	0.012 U	0.0098	U 0.0097	U 0.0099 U	0.012 U	0.0094 U	0.011 U
O-XYLENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
STYRENE	mg/kg	0.006	U 0.0061	U 0.0047 L	U 0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
TETRACHLOROETHENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
TOLUENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	0.0053 U
TRICHLOROETHENE	mg/kg	0.006	U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U			0.0053 U
TRICHLOROFLUOROMETHANE	mg/kg		U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	_	U 0.0049 U			0.0053 U
VINYL ACETATE	mg/kg		U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U		0.0047 U	0.0053 U
VINYL CHLORIDE	mg/kg		U 0.0061	U 0.0047 L	0.0043 U	0.0059 U	0.0049	U 0.0048	U 0.0049 U	0.0059 U	0.0047 U	
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Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29
	Sample Date	2020-05-27	2020-05-27	2020-05-27	2020-05-27	2020-05-28	2020-05-28	2020-05-28	2020-05-28	2020-05-28	2020-05-28	2020-05-29
	Sample Name	MW29-SB052720-16	MW29-SB052720-24	MW29-SB052720-32	MW29-SB052720-42	MW29-SB052820-56	MW29-SB052820-67	MW29-SB052820-7	MW29-SB052820-82	MW29-SB052820-97	MW29-SB052820-104	MW29-SB052920-115
Analyte	Units	Result	Q Result	Q Result (Q Result Q	Result Q	Result	Q Result	Q Result Q	Result C	Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,1,2-TRICHLOROETHANE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,1-DICHLOROETHANE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,1-DICHLOROETHENE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046		U 0.0053 U			0.0044 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,2-DIBROMOETHANE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,2-DICHLOROBENZENE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,2-DICHLOROETHANE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U			0.0044 U
1,2-DICHLOROPROPANE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,3,5-Trimethylbenzene	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,3-DICHLOROBENZENE	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
1,4-DICHLOROBENZENE	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
2-Butanone (MEK)	mg/kg	0.02	U 0.018	U 0.019	J 0.02 U	0.019 U	0.018	U 0.018	U 0.021 U	0.021 U	0.019 U	0.018 U
2-Hexanone	mg/kg	0.02	U 0.018	U 0.019	J 0.02 U	0.019 U	0.018	U 0.018	U 0.021 U	0.021 U	0.019 U	0.018 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.02	U 0.018	U 0.019	J 0.02 U	0.019 U	0.018	U 0.018	U 0.021 U	0.021 U	0.019 U	0.018 U
ACETONE	mg/kg	0.02	U 0.018	U 0.019	J 0.02 U	0.019 U	0.018	U 0.018	U 0.021 U	0.021 U	0.019 U	0.018 U
BENZENE	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
Bromochloromethane	mg/kg	0.005	U 0.0046	U 0.0046	U 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
BROMODICHLOROMETHANE	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
BROMOFORM	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
BROMOMETHANE	mg/kg	0.01	U 0.0092	U 0.0093 I	U 0.01 U	0.0093 U	0.0091	U 0.0089	U 0.011 U	0.01 U	0.0097 U	0.0089 U
CARBON DISULFIDE	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
CARBON TETRACHLORIDE	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
CHLOROBENZENE	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
CHLOROETHANE	mg/kg	0.005	U 0.0046	U 0.0046	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
CHLOROFORM	mg/kg	0.005	U 0.0046	U 0.0046	U 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0011 J	0.0052 U	0.0048 U	0.0044 U
CHLOROMETHANE	mg/kg	0.005	U 0.0046	U 0.0046 U	U 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
DIBROMOCHLOROMETHANE	mg/kg	0.005	U 0.0046	U 0.0046	U 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
DICHLORODIFLUOROMETHANE	mg/kg	0.005	U 0.0046	U 0.0046 U	U 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
ETHYLBENZENE	mg/kg	0.005	U 0.0046	U 0.0046 U	U 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
Isopropylbenzene	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
M,P-XYLENE	mg/kg	0.01	U 0.0092	U 0.0093 U	J 0.01 U	0.0093 U	0.0091	U 0.0089	U 0.011 U	0.01 U	0.0097 U	0.0089 U
METHYL ACETATE	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
METHYL TERT-BUTYL ETHER	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
METHYLENE CHLORIDE	mg/kg	0.01	U 0.0092	U 0.0093 U	J 0.01 U	0.0093 U	0.0091	U 0.0089	U 0.011 U	0.01 U	0.0097 U	0.0089 U
O-XYLENE	mg/kg	0.005	U 0.0046	U 0.0046 U	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
STYRENE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	0.0052 U	0.0048 U	0.0044 U
TETRACHLOROETHENE	mg/kg		U 0.0046		J 0.0051 U	0.0046 U	0.0046	_	U 0.0053 U			0.0044 U
TOLUENE	mg/kg	0.005	U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	_		0.0044 U
TRANS-1,2-DICHLOROETHENE	mg/kg		U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U	_		0.0044 U
TRANS-1,3-DICHLOROPROPENE	mg/kg		U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U	0.0046	U 0.0044	U 0.0053 U		0.0048 U	0.0044 U
TRICHLOROETHENE	mg/kg		U 0.0046	U 0.0046 I	J 0.0051 U	0.0046 U		U 0.0044	U 0.0053 U			
TRICHLOROFLUOROMETHANE	mg/kg		+		J 0.0051 U	0.0046 U	+		U 0.0053 U	_		
VINYL ACETATE	mg/kg		+		J 0.0051 U	0.0046 U			U 0.0053 U			
VINYL CHLORIDE	mg/kg				J 0.0051 U	0.0046 U		U 0.0044	U 0.0053 U	+		
	0/0			2.30.0	1.1302		2.23.0					

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29
	Sample Date	2020-05-29	2020-05-29	2020-05-29	2020-05-29	2020-05-29	2020-05-29	2020-05-29	2020-05-31	2020-05-31	2020-05-31	2020-05-31
	Sample Name	MW29-SB052920-12		MW29-SB052920-144			MW29-SB052920-178		MW29-SB053120-198		MW29-SB053120-217	MW29-SB053120-227
Analyte	Units	Result	Q Result C	Result	Q Result C	Q Result Q	Result C	Result Q	Result C	Result Q	Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,1-DICHLOROETHANE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,1-DICHLOROETHENE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	J 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	+	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1.2-DIBROMOETHANE	mg/kg		U 0.005 U	+	U 0.0043 L		0.0042 U	J 0.0049 U		0.0044 U	0.0041 U	
1,2-DICHLOROBENZENE	mg/kg	0.0046	U 0.005 U	+	U 0.0043 L		0.0042 U			0.0044 U	0.0041 U	0.0042 U
1.2-DICHLOROETHANE	mg/kg		U 0.005 U	+	U 0.0043 L		0.0042 U			 	0.0041 U	
1.2-DICHLOROPROPANE	mg/kg	0.0046	U 0.005 U		U 0.0043 U		0.0042 U	J 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,3,5-Trimethylbenzene	mg/kg	0.0046	U 0.005 U	+	U 0.0043 U	0.00.0	0.0042 U	0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
1,3-DICHLOROBENZENE	mg/kg	0.0046	U 0.005 U	+	U 0.0043 U	+	0.0042 U	0.0049 U	+	0.0044 U	0.0041 U	0.0042 U
1,4-DICHLOROBENZENE	mg/kg	0.0046	U 0.005 U	+	U 0.0043 U		0.0042 U	_			0.0041 U	*****
2-Butanone (MEK)	mg/kg	0.018	U 0.02 U	0.0043	U 0.017 U		0.017 U		0.00 .5	0.018 U	0.016 U	0.017 U
2-Hexanone	mg/kg	0.018	U 0.02 U	0.020	U 0.017 U	+	0.017 U		0.018 U	0.018 U	0.016 U	0.017 U
4-Methyl-2-Pentanone (MIBK)	mg/kg		U 0.02 U	0.010	U 0.017 U		0.017 U				0.016 U	
ACETONE	mg/kg	0.018	U 0.0085 J	0.010	U 0.017 U			_		0.018 U	0.010 U	0.0055 J
BENZENE	mg/kg		U 0.005 U	0.020	U 0.0043 U		0.017 C		0.020	 	0.0073 J	0.0033 J
		0.0046	U 0.005 U	0.00.0	U 0.0043 U	+	0.0042 U			+	0.0041 U	*****
Bromochloromethane BROMODICHLOROMETHANE	mg/kg	0.0046	U 0.005 U	0.00.0	U 0.0043 U		0.0042 C	0.0049 U		0.0044 U	0.0041 U	
BROMOFORM	mg/kg			0.0015	U 0.0043 U	+		_		0.0044 U	0.0041 U	
BROMOMETHANE	mg/kg		U 0.005 U 0.01 U	+	_			+		0.0044 U	0.0041 U	
	mg/kg	0.0092		0.0031	0.0007	0.0005	0.0084 U	0.0000	0.0051	 	l	
CARBON DISULFIDE	mg/kg	0.0046	U 0.005 U	0.00.5	0.00.0		0.0042 U	0.00.0	0.00.0	0.0044 U	0.0009 J	*****
CARBON TETRACHLORIDE	mg/kg	0.00.0	0.003	0.0043	U 0.0043 L					0.0011	0.0041 U 0.0041 U	
CHLOROBENZENE	mg/kg	0.0040	0.005	0.00.5	0.00.0		0.0042 U			0.0044 U		
CHLOROETHANE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 U		0.0042 U	0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
CHLOROFORM	mg/kg	0.0046	0.003	0.0043	U 0.0043 L		0.0042 U			0.0011	0.0041 U	
CHLOROMETHANE	mg/kg	0.0046	U 0.005 U		U 0.0043 L			******	0.00 .5	0.0044 0	0.0041 U	
CIS-1,2-DICHLOROETHENE	mg/kg	0.0046	0.003	0.0043	U 0.0043 L	0.00.0	0.0042 U	0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0046	U 0.005 U		U 0.0043 U		0.0042 U		0.0045 U	0.0044 U	0.0041 U	
DIBROMOCHLOROMETHANE	mg/kg	0.0046	U 0.005 U	0.00.0	U 0.0043 L		0.0042 U	0.0049 U		0.0044 U	0.0041 U	0.0042 U
DICHLORODIFLUOROMETHANE	mg/kg		U 0.005 U		U 0.0043 L		0.0042 U	0.0049 U		0.0044 U	0.0041 U	
ETHYLBENZENE	mg/kg	0.0046	U 0.005 U	0.00.0	U 0.0043 U	+	0.0042 U	0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
Isopropylbenzene	mg/kg	0.0046	U 0.005 U	0.0015	U 0.0043 L		0.0042 U	0.0049 U		0.0011	0.0041 U	
M,P-XYLENE	mg/kg	0.0092	U 0.01 U	0.0091	U 0.0087 L	U 0.0089 U	0.0084 U	0.0098 U	0.0091 U	0.0088 U	0.0082 U	0.0084 U
METHYL ACETATE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 U	U 0.0045 U	0.0042 U	0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0040	U 0.005 U	0.0045	U 0.0043 L	+	0.0042 U	0.0049 U	0.0043	0.0044 0	0.0041 U	0.0042 U
METHYLENE CHLORIDE	mg/kg		U 0.01 U	0.0031	U 0.0087 L						0.0082 U	
O-XYLENE	mg/kg	******	U 0.005 U		U 0.0043 U			0.0049 U		0.0011	0.00.12	
STYRENE	mg/kg	0.0046	U 0.005 U		U 0.0043 L			_		0.0044 U	0.0041 U	
TETRACHLOROETHENE	mg/kg				U 0.0043 L			_			0.00.12	
TOLUENE	mg/kg		U 0.005 U	0.00.0	U 0.0043 L			_		0.0044 U		
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U		
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0046	U 0.005 U	0.00.15	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U	0.0041 U	
TRICHLOROETHENE	mg/kg		U 0.005 U		U 0.0043 L			U 0.0049 U	0.0045 U	0.0044 U	******	
TRICHLOROFLUOROMETHANE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U		
VINYL ACETATE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	J 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U
VINYL CHLORIDE	mg/kg	0.0046	U 0.005 U	0.0045	U 0.0043 L	U 0.0045 U	0.0042 U	U 0.0049 U	0.0045 U	0.0044 U	0.0041 U	0.0042 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

		Location	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29
Mary		Sample Date	2020-06-01	2020-06-01	2020-06-01	2020-06-02	2020-06-03	2020-06-03	2020-06-03	2020-06-03	2020-06-03	2020-06-03	2020-06-04
ALTHOUGH STATE Market Color Co		Sample Name	MW29-SB060120-24	0 MW29-SB060120-250	MW29-SB060120-256	MW29-SB060220-267	MW29-SB060320-273	MW29-SB060320-282	MW29-SB060320-292	MW29-SB060320-302	MW29-SB060320-314	MW29-SB060320-328	MW29-SB060420-337
13.33 THE PROPERTY NAME	Analyte	Units	Result	Q Result	Q Result C	Result Q	Result Q	Result	Q Result (Q Result Q		ricourt Q	Result Q
1,000,000,000,000,000,000,000,000,000,0	1,1,1-TRICHLOROETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
1.1.1 Trianger service 1.2.2 Per part 2.0.2 Per par	1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U			0.0045 U
1.300-000-000-000-000-000-000-000-000-000	1,1,2-TRICHLOROETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U			0.0045 U
Linding Conference Table Conference Table Conference Confe	1,1,2-Trichlorotrifluoroethane	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
1.2.3 PSECENOTION Page 1.000	1,1-DICHLOROETHANE	mg/kg			U 0.005 U	0.0048 U	0.0045 U	0.005					0.0045 U
1.4. HOLDOWNOLLOW	1,1-DICHLOROETHENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U			U 0.005 U	0.0055 U	0.0047 U	0.0045 U
Common-Parison	1,2,3-TRICHLOROBENZENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	*****					0.0045 U
Debtorough Page Page Court C	1,2,4-TRICHLOROBENZENE	mg/kg			U 0.005 U	0.0048 U		*****					
2.000000000000000000000000000000000000	1,2,4-TRIMETHYLBENZENE	mg/kg				0.0048 U	l						
12-001-1000FMINE mg/hg 0.0085 0 0.0087 0 0.005 0 0.0085 0 0.0085 0 0.0055 0 0.0085 0 0.0	1,2-Dibromo-3-Chloropropane	mg/kg											
1	1,2-DIBROMOETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U							
13.0004000000000000000000000000000000000	1,2-DICHLOROBENZENE	mg/kg											
13.5 Temperature	1,2-DICHLOROETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U			0.0045 U
13-50-11/10/2008-12/10 13-50-11/10/2008 10 10.005	1,2-DICHLOROPROPANE	mg/kg			U 0.005 U	0.0048 U							0.0045 U
EAD-PICK/PROSENTERY Marging COUNTS U	1,3,5-Trimethylbenzene	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
Συνανικού ()	*	mg/kg				0.0048 U							
Expension mg/kg 0.018 U 0.019 U 0.012 U 0.012 U 0.012 U 0.018	1,4-DICHLOROBENZENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
MAMENIAN Marging 0.018	2-Butanone (MEK)	mg/kg	0.018	U 0.019	U 0.02 U	0.019 U	0.018 U	0.02	U 0.02	U 0.02 U	0.022 U	0.019 U	0.018 U
ACTIONE mg/kg 0.018	2-Hexanone	mg/kg	0.018	U 0.019	U 0.02 U	0.019 U	0.018 U	0.02	U 0.02	U 0.02 U	0.022 U	0.019 U	0.018 U
BRANCH Mg/Rg	4-Methyl-2-Pentanone (MIBK)	mg/kg	0.018	U 0.019	U 0.02 U	0.019 U	0.018 U	0.02	U 0.02	U 0.02 U	0.022 U	0.019 U	0.018 U
Semonthiomenthane	ACETONE	mg/kg	0.018	U 0.019	U 0.02 U	0.019 U	0.0054 J	0.02	U 0.02	U 0.02 U		<u> </u>	0.0074 J
BROMOFICH May 1	BENZENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
BROMOMETHANE Mg/kg	Bromochloromethane	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
BROMOMTHANE	BROMODICHLOROMETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
CARSON FITENCH Marker Ma	BROMOFORM	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
CABRON TETRACHIORDE mg/kg 0.0045 U 0.0047 U 0.005 U 0.008 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0065 U 0.0065 U 0.005	BROMOMETHANE	mg/kg	0.0089	U 0.0094	U 0.01 U	0.0096 U	0.0091 U	0.0099	U 0.01	U 0.01 U	0.011 U	0.0094 U	0.009 U
CHICAGORENZENE	CARBON DISULFIDE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0015 J
CHLOROFTHANE	CARBON TETRACHLORIDE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
CHICROPORTHANE mg/kg	CHLOROBENZENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
CHLOROMETHANE	CHLOROETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
CIS-12-DICHLOROETHENE mg/kg	CHLOROFORM	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
CIS-12-DICHLOROPROPENE mg/kg	CHLOROMETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
DIBROMOCHLOROMETHANE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0048 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0047 U 0.005 U 0.0047 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0047 U 0.0048 U 0.0048 U 0.0048 U 0.0048 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0047 U 0.005 U 0.0059 U 0.0055 U 0.0047 U 0.0048 U 0.0048 U 0.0048 U 0.0048 U 0.005 U 0.005 U 0.0055 U 0.0055 U 0.0047 U 0.0048 U 0.0048 U 0.0048 U 0.005 U 0.005 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U	CIS-1,2-DICHLOROETHENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
DICHLORODIFLUOROMETHANE mg/kg	CIS-1,3-DICHLOROPROPENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
ETHYLBENZENE	DIBROMOCHLOROMETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
Sopropylbenzene	DICHLORODIFLUOROMETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
M.PXYLENE mg/kg	ETHYLBENZENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U			0.0045 U
METHYLACETATE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.005 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0055 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.00	Isopropylbenzene	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
METHYLTERT-BUTYLETHER mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0094 U 0.0094 U 0.0094 U 0.0094 U 0.0094 U 0.0094 U 0.0096 U 0.0099 U 0.01 U 0.01 U 0.01 U 0.011 U 0.0094 U 0.0094 U 0.0099 U 0.01 U 0.001 U 0.011 U 0.0094 U 0.0094 U 0.0099 U 0.001 U 0.001 U 0.001 U 0.001 U 0.0094 U 0.0094 U 0.0099 U 0.001 U 0.0055 U 0.0047 U 0.0094 U 0.0099 U 0.001 U 0.0055 U 0.0055 U 0.0047 U 0.0094 U 0.0094 U 0.0099 U 0.005 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0048 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0055 U 0.0048 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0048 U 0.0045 U 0.0055 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045	M,P-XYLENE	mg/kg	0.0089	U 0.0094	U 0.01 U	0.0096 U	0.0091 U	0.0099	U 0.01	U 0.01 U	0.011 U	0.0094 U	0.009 U
METHYLENE CHLORIDE mg/kg 0.0089 U 0.0094 U 0.001 U 0.0096 U 0.0099 U 0.001 U 0.0099 U 0.011 U 0.0011 U 0.0094 U 0.0094 U 0.0095 U 0.0095 U 0.0094 U 0.0095 U 0.009	METHYL ACETATE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
D-XYLENE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0045 U 0.0045 U 0.0055 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0055 U 0.0047	METHYL TERT-BUTYL ETHER	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
TYRENE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0047 U 0.005 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0	METHYLENE CHLORIDE	mg/kg	0.0089	U 0.0094	U 0.01 U	0.0096 U	0.0091 U			U 0.01 U	0.011 U	0.0094 U	0.009 U
TETRACHLOROETHENE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0	O-XYLENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
TOLUENE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.00	STYRENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
TRANS-1,2-DICHLOROETHENE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045	TETRACHLOROETHENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U						0.0045 U
TRANS-1,3-DICHLOROPROPENE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0.	TOLUENE	mg/kg	0.0045	U 0.0047			0.0045 U	0.005	* *****				0.0045 U
TRICHLOROETHENE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.0055 U 0.0047 U 0.0045 U 0	TRANS-1,2-DICHLOROETHENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
TRICHLOROFLUOROMETHANE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0047 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.0045 U 0.0045 U 0.0045 U 0.005 U 0.005 U 0.0047 U 0.0045 U 0.004	TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
VINYL ACETATE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U 0.0047 U 0.0045 U	TRICHLOROETHENE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
	TRICHLOROFLUOROMETHANE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
VINYL CHLORIDE mg/kg 0.0045 U 0.0047 U 0.005 U 0.0048 U 0.0045 U 0.005 U 0.005 U 0.005 U 0.0055 U 0.0047 U 0.0045 U	VINYL ACETATE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U
	VINYL CHLORIDE	mg/kg	0.0045	U 0.0047	U 0.005 U	0.0048 U	0.0045 U	0.005	U 0.005	U 0.005 U	0.0055 U	0.0047 U	0.0045 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-30	MW-30	MW-30	MW-30	MW-30						
	Sample Date	2020-05-22	2020-05-22	2020-05-22	2020-05-22	2020-05-22	2020-05-22	2020-05-22	2020-06-02	2020-06-02	2020-06-02	2020-06-02
	Sample Name	MW30-SB052220-15	MW30-SB052220-29	MW30-SB052220-48	MW30-SB052220-53	MW30-SB052220-74	MW30-SB052220-95	MW30-SB052220-102	MW30-SB060220-111	MW30-SB060220-135	MW30-SB060220-151	MW30-SB060220-169
Analyte	Units	Result	Q Result	Q Result	Q Result Q	Result Q	Result	Q Result	Q Result Q	Result Q	Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	U 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,1-DICHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,1-DICHLOROETHENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,2-DIBROMOETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,2-DICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,2-DICHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,2-DICHLOROPROPANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,3,5-Trimethylbenzene	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,3-DICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
1,4-DICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
2-Butanone (MEK)	mg/kg	0.019	U 0.019	U 0.018	J 0.019 U	0.021 U	0.017	U 0.018	U 0.019 U	0.018 U	0.02 U	0.02 U
2-Hexanone	mg/kg	0.019	U 0.019	U 0.018	J 0.019 U	0.021 U	0.017	U 0.018	U 0.019 U	0.018 U	0.02 U	0.02 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.019	U 0.019	U 0.018	J 0.019 U	0.021 U	0.017	U 0.018	U 0.019 U	0.018 U	0.02 U	0.02 U
ACETONE	mg/kg	0.019	U 0.019	U 0.018	J 0.019 U	0.021 U	0.017	U 0.018	U 0.019 U	0.018 U	0.02 U	0.02 U
BENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
Bromochloromethane	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
BROMODICHLOROMETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
BROMOFORM	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
BROMOMETHANE	mg/kg	0.0097	U 0.0097	U 0.0089	J 0.0093 U	0.011 U	0.0083	U 0.0092	U 0.0096 U	0.0092 U	0.01 U	0.01 U
CARBON DISULFIDE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
CARBON TETRACHLORIDE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
CHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
CHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
CHLOROFORM	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
CHLOROMETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
DIBROMOCHLOROMETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
ETHYLBENZENE	mg/kg	0.0048	U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042	U 0.0046	U 0.0048 U	0.0046 U	0.005 U	0.0051 U
Isopropylbenzene	mg/kg		U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042		U 0.0048 U			
M,P-XYLENE	mg/kg		U 0.0097	U 0.0089	J 0.0093 U	0.011 U	0.0083	+	U 0.0096 U	+	0.01 U	
METHYL ACETATE	mg/kg		U 0.0049	U 0.0045	J 0.0046 U	0.0054 U	0.0042		U 0.0048 U			+
METHYL TERT-BUTYL ETHER	mg/kg		U 0.0049		J 0.0046 U	0.0054 U			U 0.0048 U			0.0051 U
METHYLENE CHLORIDE	mg/kg				J 0.0093 U	0.011 U			U 0.0096 U			
O-XYLENE	mg/kg		-		J 0.0046 U	0.0054 U			U 0.0048 U			
STYRENE	mg/kg			U 0.0045	J 0.0046 U	0.0054 U			U 0.0048 U			
TETRACHLOROETHENE	mg/kg		_		J 0.0046 U	0.0054 U			U 0.0048 U			
TOLUENE	mg/kg		U 0.0049	U 0.0045	J 0.0046 U	0.0054 U			U 0.0048 U			+ +
TRANS-1,2-DICHLOROETHENE	mg/kg		+		J 0.0046 U	0.0054 U	*****		U 0.0048 U			
TRANS-1,3-DICHLOROPROPENE	mg/kg				J 0.0046 U	0.0054 U			U 0.0048 U			
TRICHLOROETHENE	mg/kg		U 0.0049	U 0.0045	J 0.0046 U	0.0054 U			U 0.0048 U			
TRICHLOROFLUOROMETHANE	mg/kg		+		J 0.0046 U	0.0054 U			U 0.0048 U			+ +
VINYL ACETATE	mg/kg		+		J 0.0046 U	0.0054 U			U 0.0048 U			+ +
VINYL CHLORIDE	mg/kg				J 0.0046 U	0.0054 U			U 0.0048 U	+		+ +
VIIVIE CHEONIDE	111g/ ng	0.0040	0.0043	0.0043	0.0040 0	0.0034 0	0.0042	0.0040	0.0040	0.0040	0.003	0.0031

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-30	MW-30	MW-30	MW-30	MW-30		MW-30		MW-30	MW-30	MW-30	MW-30	MW-31
	Sample Date	2020-06-02	2020-06-03	2020-06-03	2020-06-03	2020-06-04		2020-06-05		2020-06-05	2020-06-05	2020-06-07	2020-06-08	2020-06-09
	Sample Name	MW30-SB060220-178	MW30-SB060320-204	MW30-SB060320-222	MW30-SB060320-237	MW30-SB060420-26	66 1	MW30-SB060520-286	5 M	1W30-SB060520-306	MW30-SB060520-316.	5 MW30-SB060720-336	MW30-SB060820-342	MW31-SB060920-15
Analyte	Units	Result Q			Q Result C		Q	Result (Q		Q Result	Q Result	Q Result C	
1,1,1-TRICHLOROETHANE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 l	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 U	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0047 U	0.005 L		J 0.0044 L		U	0.0044 U	U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
1,1-DICHLOROETHANE	mg/kg	0.0047 U		0.0049	J 0.0044 L		U	0.0044 U	U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
1,1-DICHLOROETHENE	mg/kg	0.0047 U		+	J 0.0044 L		U	0.0044	U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0047 U			J 0.0044 L		U	0.0044	U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 L	
1,2-Dibromo-3-Chloropropane	mg/kg	0.0047 U					U		U		J 0.0048	U 0.0041	U 0.005 U	0.0048 U
1,2-DIBROMOETHANE	mg/kg	0.0047 U			J 0.0044 L		U	0.0044	11		J 0.0048	U 0.0041	U 0.005 U	0.0048 U
1,2-DICHLOROBENZENE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 U	0.0048 U
1,2-DICHLOROETHANE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 U	
1,2-DICHLOROPROPANE	mg/kg	0.0047 U					U	0.0044	11		J 0.0048	U 0.0041	U 0.005 U	0.0048 U
1,3,5-Trimethylbenzene	<u> </u>	0.0047 U			J 0.0044 L		U	0.0044	11		J 0.0048	U 0.0041	U 0.005 U	0.0048 U
1,3-DICHLOROBENZENE	mg/kg mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 U	0.0048 U
· ·		0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 U	+
1,4-DICHLOROBENZENE	mg/kg						U		U U		+			
2-Butanone (MEK)	mg/kg			0.02				0.027	_			U 0.016	U 0.02 L	
2-Hexanone	mg/kg	0.019 U			J 0.017 L		U	*	U		J 0.019	U 0.016	U 0.02 U	0.019 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.019 U			J 0.017 U		U	*	U		J 0.019	U 0.016	U 0.02 U	
ACETONE	mg/kg	0.0049 J	0.021	0.02			U	0.017	U		J 0.0058	J 0.016	U 0.0078 J	0.025
BENZENE	mg/kg	0.0047 U			J 0.0044 L		U	0.0044 l	U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
Bromochloromethane	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 L	
BROMODICHLOROMETHANE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 L	
BROMOFORM	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
BROMOMETHANE	mg/kg	0.0095 U		0.0050	J 0.0087 L		U	0.0087 l	U		J 0.0096	U 0.0082	U 0.0099 L	0.0096 U
CARBON DISULFIDE	mg/kg	0.0047 U		0.00.5	J 0.0044 L		U	0.0044 l	U	0.0020	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
CARBON TETRACHLORIDE	mg/kg	0.0047 U			J 0.0044 L		U	0.0044 l	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
CHLOROBENZENE	mg/kg	0.0047 U			J 0.0044 L		U	0.0044 l	U		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
CHLOROETHANE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 l	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
CHLOROFORM	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
CHLOROMETHANE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
DIBROMOCHLOROMETHANE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 U	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 U	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
ETHYLBENZENE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 U	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
Isopropylbenzene	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 U	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
M,P-XYLENE	mg/kg	0.0095 U	0.01 L	0.0098	J 0.0087 L	0.0091	U	0.0087 l	U	0.009	J 0.0096	U 0.0082	U 0.0099 L	0.0096 U
METHYL ACETATE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 l	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 l	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
METHYLENE CHLORIDE	mg/kg	0.0095 U	0.01 L	0.0098	J 0.0087 L	0.0091	U	0.0087 l	U	0.009	J 0.0096	U 0.0082	U 0.0099 L	0.0096 U
O-XYLENE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 l	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
STYRENE	mg/kg	0.0047 U	0.005 L	0.0049	J 0.0044 L	0.0046	U	0.0044 U	U	0.0045	J 0.0048	U 0.0041	U 0.005 L	0.0048 U
TETRACHLOROETHENE	mg/kg	0.0047 U			J 0.0044 L		U		U		+	U 0.0041	U 0.005 L	
TOLUENE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 L	
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0047 U			J 0.0044 L		U	0.0044	Ú		J 0.0048	U 0.0041	U 0.005 L	0.0048 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 U	+
TRICHLOROETHENE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 U	
TRICHLOROFLUOROMETHANE	mg/kg	0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 U	0.0048 U
VINYL ACETATE		0.0047 U			J 0.0044 L		U		U		J 0.0048	U 0.0041	U 0.005 U	0.0048 U
VINYL ACETATE VINYL CHLORIDE	mg/kg	0.0047 U			J 0.0044 L		U		U				U 0.005 U	
VIIVIL CHLORIDE	mg/kg	0.004/	U.UU5 L	0.0049	U.0044 C	0.0046	U	0.0044	υ	0.0045	0.0048	U 0.0041	U U.UUS L	0.0048 U

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31
	Sample Date	2020-06-09	2020-06-09	2020-06-09	2020-06-09	2020-06-09	2020-06-09	2020-06-10	2020-06-10	2020-06-10	2020-06-11	2020-06-11
	Sample Name	MW31-SB060920-23	3 MW31-SB060920-45	MW31-SB060920-62	MW31-SB060920-82	MW31-SB060920-94	MW31-SB060920-112	MW31-SB061020-13	3 MW31-SB061020-159	MW31-SB061020-176	MW31-SB061120-190	MW31-SB061120-215
Analyte	Units	Result	Q Result	Q Result (Q Result Q	Result Q	Result	Q Result	Q Result Q	Result C	Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,1,2-TRICHLOROETHANE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,1-DICHLOROETHANE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,1-DICHLOROETHENE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.005	U 0.0051	U 0.0051 l	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044		U 0.0047 U			
1,2,4-TRIMETHYLBENZENE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0011 J	0.0055 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.005	U 0.0051	U 0.0051 l	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,2-DIBROMOETHANE	mg/kg	0.005	U 0.0051	U 0.0051 l	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,2-DICHLOROBENZENE	mg/kg	0.005	U 0.0051	U 0.0051 l	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,2-DICHLOROETHANE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U			0.0055 U
1,2-DICHLOROPROPANE	mg/kg	0.005	U 0.0051	U 0.0051 l	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,3,5-Trimethylbenzene	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,3-DICHLOROBENZENE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
1,4-DICHLOROBENZENE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
2-Butanone (MEK)	mg/kg	0.02	U 0.021	U 0.02 L	J 0.021 U	0.02 U	0.018	U 0.019	U 0.019 U	0.023 U	0.021 U	0.022 U
2-Hexanone	mg/kg	0.02	U 0.021	U 0.02 U	J 0.021 U	0.02 U	0.018	U 0.019	U 0.019 U	0.023 U	0.021 U	0.022 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.02	U 0.021	U 0.02 U	J 0.021 U	0.02 U	0.018	U 0.019	U 0.019 U	0.023 U	0.021 U	0.022 U
ACETONE	mg/kg	0.02	U 0.021	U 0.02 U	J 0.021 U	0.02 U	0.018	U 0.019	U 0.019 U	0.023 U	0.021 U	0.022 U
BENZENE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
Bromochloromethane	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
BROMODICHLOROMETHANE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
BROMOFORM	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
BROMOMETHANE	mg/kg	0.01	U 0.01	U 0.01 U	J 0.011 U	0.01 U	0.0089	U 0.0096	U 0.0095 U	0.011 U	0.01 U	0.011 U
CARBON DISULFIDE	mg/kg	0.005	U 0.0051	U 0.0051 U	U 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0022 J	0.0055 U
CARBON TETRACHLORIDE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
CHLOROBENZENE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
CHLOROETHANE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
CHLOROFORM	mg/kg	0.005	U 0.0051	U 0.0051 U	U 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
CHLOROMETHANE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0012 J	0.0055 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
DIBROMOCHLOROMETHANE	mg/kg	0.005	U 0.0051	U 0.0051 U	U 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
DICHLORODIFLUOROMETHANE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
ETHYLBENZENE	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
Isopropylbenzene	mg/kg	0.005	U 0.0051	U 0.0051 U	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
M,P-XYLENE	mg/kg	0.01	U 0.01	U 0.01 U	J 0.011 U	0.01 U	0.0089	U 0.0096	U 0.0095 U	0.011 U	0.01 U	0.011 U
METHYL ACETATE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
METHYL TERT-BUTYL ETHER	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
METHYLENE CHLORIDE	mg/kg	0.01	U 0.01	U 0.01 U	J 0.011 U	0.01 U	0.0089	U 0.0096	U 0.0095 U	0.011 U	0.01 U	0.011 U
O-XYLENE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
STYRENE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U	0.0056 U	0.0052 U	0.0055 U
TETRACHLOROETHENE	mg/kg		U 0.0051	U 0.0051 L		0.0051 U	0.0044		U 0.0047 U			
TOLUENE	mg/kg	0.005	U 0.0051	U 0.0051 L	J 0.0053 U	0.0051 U	0.0044	U 0.0048	U 0.0047 U			0.0055 U
TRANS-1,2-DICHLOROETHENE	mg/kg		+	U 0.0051 L		0.0051 U			U 0.0047 U			
TRANS-1,3-DICHLOROPROPENE	mg/kg				J 0.0053 U	0.0051 U			U 0.0047 U			
TRICHLOROETHENE	mg/kg		U 0.0051	U 0.0051 L		0.0051 U			U 0.0047 U			
TRICHLOROFLUOROMETHANE	mg/kg		+	U 0.0051 U		0.0051 U			U 0.0047 U			
VINYL ACETATE	mg/kg		+		J 0.0053 U	0.0051 U			U 0.0047 U			
VINYL CHLORIDE	mg/kg			U 0.0051 U		0.0051 U			U 0.0047 U	+		
	0/0			1.5052	1 212300 0							

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-31	MW-31	MW-31	MW-31	MW-32	MW-32	MW-32	MW-32	MW-32	MW-32	MW-32
	Sample Date	2020-06-12	2020-06-12	2020-06-12	2020-06-12	2020-06-22	2020-06-22	2020-06-22	2020-06-23	2020-06-24	2020-06-24	2020-06-24
	Sample Name	MW31-SB061220-23	6 MW31-SB061220-252	MW31-SB061220-270	MW31-SB061220-289	MW32-SB062220-14	MW32-SB062220-27	MW32-SB062220-55	MW32-SB062320-84	MW32-SB062420-105	MW32-SB062420-127	MW32-SB062420-142
Analyte	Units	Result	Q Result	Q Result C	Q Result Q	Result Q	Result	Q Result	Q Result Q	Result C	Result Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,1-DICHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,1-DICHLOROETHENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055		U 0.0062 U			
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U			0.0043 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055		U 0.0062 U		<u> </u>	0.0043 U
1,2-DIBROMOETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U			0.0043 U
1,2-DICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U			0.0043 U
1,2-DICHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U			0.0043 U
1,2-DICHLOROPROPANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,3,5-Trimethylbenzene	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,3-DICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
1,4-DICHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
2-Butanone (MEK)	mg/kg	0.019	U 0.02	U 0.019 L	J 0.021 U	0.02 U	0.022	U 0.02	U 0.025 U	0.023 U	0.019 U	0.017 U
2-Hexanone	mg/kg	0.019	U 0.02	U 0.019 L	U 0.021 U	0.02 U	0.022	U 0.02	U 0.025 U	0.023 U	0.019 U	0.017 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.019	U 0.02	U 0.019 L	U 0.021 U	0.02 U	0.022	U 0.02	U 0.025 U	0.023 U	0.019 U	0.017 U
ACETONE	mg/kg	0.019	U 0.02	U 0.019 L	U 0.021 U	0.02 U	0.022	U 0.02	U 0.025 U	0.023 U	0.019 U	0.017 U
BENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
Bromochloromethane	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
BROMODICHLOROMETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
BROMOFORM	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
BROMOMETHANE	mg/kg	0.0095	U 0.0098	U 0.0095 L	U 0.01 U	0.01 U	0.011	U 0.0098	U 0.012 U	0.011 U	0.0093 U	0.0087 U
CARBON DISULFIDE	mg/kg	0.0048	U 0.0049	U 0.0013	0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
CARBON TETRACHLORIDE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
CHLOROBENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
CHLOROETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
CHLOROFORM	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
CHLOROMETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
DIBROMOCHLOROMETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
ETHYLBENZENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
Isopropylbenzene	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
M,P-XYLENE	mg/kg	0.0095	U 0.0098	U 0.0095 L	U 0.01 U	0.01 U	0.011	U 0.0098	U 0.012 U	0.011 U	0.0093 U	0.0087 U
METHYL ACETATE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
METHYLENE CHLORIDE	mg/kg	0.0095	U 0.0098	U 0.0095 L	U 0.01 U	0.01 U	0.011	U 0.0098	U 0.012 U	0.011 U	0.0093 U	0.0087 U
O-XYLENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	U 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
STYRENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
TETRACHLOROETHENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
TOLUENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
TRICHLOROETHENE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
TRICHLOROFLUOROMETHANE	mg/kg		U 0.0049	U 0.0047 L		0.005 U			U 0.0062 U			0.0043 U
VINYL ACETATE	mg/kg	0.0048	U 0.0049	U 0.0047 L		0.005 U	0.0055	U 0.0049	U 0.0062 U		0.0047 U	0.0043 U
VINYL CHLORIDE	mg/kg	0.0048	U 0.0049	U 0.0047 L	J 0.0051 U	0.005 U	0.0055	U 0.0049	U 0.0062 U	0.0057 U	0.0047 U	0.0043 U
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Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-32	MW-32	MW-32	MW-32	MW-32	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34
	Sample Date	2020-06-25	2020-06-25	2020-06-25	2020-06-26	2020-06-26	2020-07-08	2020-07-08	2020-07-08	2020-07-08	2020-07-09	2020-07-09
	Sample Name	MW32-SB062520-165	MW32-SB062520-18	6 MW32-SB062520-203	MW32-SB062620-223	MW32-SB062620-250	MW34-SB070820-141	MW34-SB070820-165	MW34-SB070820-189	MW34-SB070820-205	MW34-SB070920-22	6 MW34-SB070920-247
Analyte	Units	Result Q	Result	Q Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result (Q Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 UJ
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,1-DICHLOROETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,1-DICHLOROETHENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 UJ
1,2-Dibromo-3-Chloropropane	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
1,2-DIBROMOETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
1,2-DICHLOROBENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,2-DICHLOROETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,2-DICHLOROPROPANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
1,3,5-Trimethylbenzene	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 UJ
1,3-DICHLOROBENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
1,4-DICHLOROBENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
2-Butanone (MEK)	mg/kg	0.018 U	0.017	U 0.018 U	0.018 U	0.019 U	0.019 U	0.02 U	0.022 U	0.018 U	0.02 l	J 0.02 U
2-Hexanone	mg/kg	0.018 U	0.017	U 0.018 U	0.018 U	0.019 U	0.019 U	0.02 U	0.022 U	0.018 U	0.02 l	J 0.02 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.018 U	0.017	U 0.018 U	0.018 U	0.019 U	0.019 U	0.02 U	0.022 U	0.018 U	0.02 l	J 0.02 U
ACETONE	mg/kg	0.018 U	0.017	U 0.018 U	0.018 U	0.019 U	0.019 U	0.02 U	0.022 U	0.018 U	0.02 l	J 0.02 U
BENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
Bromochloromethane	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
BROMODICHLOROMETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
BROMOFORM	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
BROMOMETHANE	mg/kg	0.009 U	0.0085	U 0.0092 U	0.0091 U	0.0097 U	0.0096 U	0.01 U	0.011 U	0.0088 U	0.01 l	J 0.0099 U
CARBON DISULFIDE	mg/kg	0.0045 U	0.00087	J 0.0046 U	0.0046 U	0.0049 U	0.0016 J	0.0051 U	0.0055 U	0.0018 J	0.0051 U	J 0.0049 U
CARBON TETRACHLORIDE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
CHLOROBENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
CHLOROETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
CHLOROFORM	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
CHLOROMETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
DIBROMOCHLOROMETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
ETHYLBENZENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
Isopropylbenzene	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
M,P-XYLENE	mg/kg	0.009 U	0.0085	U 0.0092 U	0.0091 U	0.0097 U	0.0096 U	0.01 U	0.011 U	0.0088 U	0.01 l	J 0.0099 UJ
METHYL ACETATE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 l	J 0.0049 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
METHYLENE CHLORIDE	mg/kg	0.009 U	0.0085	U 0.0092 U	0.0091 U	0.0097 U	0.0096 U	0.01 U	0.011 U	0.0088 U	0.01 l	J 0.0099 U
O-XYLENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
STYRENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U	0.0051 U	J 0.0049 U
TETRACHLOROETHENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0039 J	0.0014 J	0.0044 U	0.0051 U	J 0.0049 U
TOLUENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U		J 0.0049 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U		J 0.0049 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0045 U	0.0043	U 0.0046 U	0.0046 U	0.0049 U	0.0048 U	0.0051 U	0.0055 U	0.0044 U		J 0.0049 U
TRICHLOROETHENE	mg/kg	0.0045 U		U 0.0046 U	0.0046 U				0.0055 U			J 0.0049 U
TRICHLOROFLUOROMETHANE	mg/kg	0.0045 U		U 0.0046 U	0.0046 U			0.0051 U	0.0055 U	0.0044 U		J 0.0049 U
VINYL ACETATE	mg/kg	0.0045 U		U 0.0046 U	0.0046 U				0.0055 U			J 0.0049 U
VINYL CHLORIDE	mg/kg	0.0045 U		U 0.0046 U			ł — — — — — — — — — — — — — — — — — — —	+	0.0055 U			J 0.0049 U
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Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



Table 3 Soil VOC Analytical Results

	Location	MW-34		MW-34		MW-34		MW-34		MW-34
	Sample Date	2020-07-10		2020-07-10		2020-07-10		2020-07-12		2020-07-12
	Sample Name	MW34-SB071020-2	64	MW34-SB071020-2	85	MW34-SB071020-	300	MW34-SB071220-32	1	MW34-SB071220-349
Analyte	Units	Result	Q	Result	Q	Result	Q	Result	Q	Result Q
1,1,1-TRICHLOROETHANE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,1,2,2-TETRACHLOROETHANE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,1,2-TRICHLOROETHANE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,1-DICHLOROETHANE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,1-DICHLOROETHENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,2,3-TRICHLOROBENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,2,4-TRICHLOROBENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,2,4-TRIMETHYLBENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,2-Dibromo-3-Chloropropane	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,2-DIBROMOETHANE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,2-DICHLOROBENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,2-DICHLOROETHANE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,2-DICHLOROPROPANE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,3,5-Trimethylbenzene	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,3-DICHLOROBENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
1,4-DICHLOROBENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
2-Butanone (MEK)	mg/kg	0.021	U	0.018	U	0.015	U	0.019	U	0.023 U
2-Hexanone	mg/kg	0.021	U	0.018	U	0.015	U	0.019	U	0.023 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.021	U	0.018	U	0.015	U	0.019	U	0.023 U
ACETONE	mg/kg	0.021	U	0.018	U	0.0078	J	0.019	U	0.023 U
BENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
Bromochloromethane	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
BROMODICHLOROMETHANE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
BROMOFORM	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
BROMOMETHANE	mg/kg	0.01	U	0.0088	U	0.0075	U	0.0095	U	0.011 U
CARBON DISULFIDE	mg/kg	0.0052	U	0.0044	U	0.0023	J	0.0048	U	0.0057 U
CARBON TETRACHLORIDE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
CHLOROBENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
CHLOROETHANE	mg/kg	0.0052	Ū	0.0044	Ū	0.0038	Ū	0.0048	U	0.0057 U
CHLOROFORM	mg/kg	0.0052	Ū	0.0044	Ū		Ū	0.0048	U	0.0057 U
CHLOROMETHANE	mg/kg	0.0052	Ū	0.0044	U	0.0038	Ū	0.0048	U	0.0057 U
CIS-1,2-DICHLOROETHENE	mg/kg	0.0052	Ū	0.0044	Ū		Ū	0.0048	U	0.0057 U
CIS-1,3-DICHLOROPROPENE	mg/kg	0.0052	Ū	0.0044	Ū		Ū	0.0048	U	0.0057 U
DIBROMOCHLOROMETHANE	mg/kg	0.0052	Ū	0.0044	Ū		Ū	0.0048	U	0.0057 U
DICHLORODIFLUOROMETHANE	mg/kg	0.0052	Ū	0.0044	Ū		Ū	0.0048	U	0.0057 U
ETHYLBENZENE	mg/kg	0.0052	U	0.0044	U	0.0038	U	0.0048	U	0.0057 U
Isopropylbenzene	mg/kg	0.0052	Ū	0.0044	Ū	0.0038	Ū	0.0048	U	0.0057 U
M,P-XYLENE	mg/kg	0.01	Ū	0.0088	Ū	0.0075	Ū	0.0095	U	0.011 U
METHYL ACETATE	mg/kg	0.0052	Ü	0.0044	Ü		Ū	0.0048	U	0.0057 U
METHYL TERT-BUTYL ETHER	mg/kg	0.0052	U	0.0044	Ü		Ü	0.0048	Ū	0.0057 U
METHYLENE CHLORIDE	mg/kg	0.01	U	0.0088	Ü		Ü	0.0095	U	0.011 U
O-XYLENE	mg/kg	0.0052	U	0.0044	Ü		Ü	0.0048	U	0.0057 U
STYRENE	mg/kg	0.0052	U	0.0044	U		Ü	0.0048	U	0.0057 U
TETRACHLOROETHENE	mg/kg	0.0052	U	0.0044	U		U	0.0048	U	0.0057 U
TOLUENE	mg/kg	0.0052	U	0.0044	Ü		Ü	0.0048	U	0.0057 U
TRANS-1,2-DICHLOROETHENE	mg/kg	0.0052	U	0.0044	U		Ü	0.0048	U	0.0057 U
TRANS-1,3-DICHLOROPROPENE	mg/kg	0.0052	U	0.0044	U		U	0.0048	U	0.0057 U
TRICHLOROETHENE	mg/kg	0.0052	U	0.0044	U		U	0.0048	U	0.0057 U
TRICHLOROFLUOROMETHANE	mg/kg	0.0052	U	0.0044	U		U	0.0048	U	0.0057 U
VINYL ACETATE	mg/kg	0.0052	U	0.0044	U		U	0.0048	U	0.0057 U
VINYL CHLORIDE	mg/kg	0.0052	U	0.0044	U		U	0.0048	U	0.0057 U
VIIVI L CITLORIDE	ilig/Kg	0.0002	10	0.0044	10	0.0000	Ī	0.0040	J	0.0001

Bold indicates detected values

Q = qualifier

J = Result is estimated

U = Analyte was not detected at the associated value

R = Analysis Rejected



1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	Samp	ple Date	2020-04-08	7	2020-04-09	_	2020-04-10	_	2020-04-10		2020-04-12			-					
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane		ala Nama					2020-04-10		2020-04-10		2020-04-12		2020-04-13		2020-04-14		2020-05-13		2020-05-14
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane		Jie Maille	MW23-GW040820-150	0	MW23-GW040920-220	0	MW23-GW041020-240	0	MW23-GW041020-26	50	MW23-DW04122	20	MW23-GW041320-31	10	MW23-GW041420-3	40	MW24-GW051320-1	60	MW24-GW051420-220
1,1,2,2-Tetrachloroethane	Screening Level‡	Unit	Result	Q	Result (α	Result	Q	Result	Q	Result	Q	Result	ď	Result	Q	Result	Q	Result Q
	200	μg/L	1	U	1 (-		U	1	U	1	U	1	ט	2	U	1	U	1 U
	0.076	μg/L		U	1 (_		U	1	U	1	U	1	ט		U	1	U	1 U
1,1,2-Trichloroethane	5	μg/L	1	U	1 (-	1	U	1	U	1	U	1	U	2	U	1	U	1 U
1,1,2-Trichlorotrifluoroethane	1000	μg/L	1 1	U	1 (~	1	U	1	U	1	U	1	U	2	U	1	U	1 U
1,1-Dichloroethane	2.8	μg/L		U	1 (-		U	1	U	1	U	1	U	2	U	1	U	1 U
1,1-Dichloroethene	7	μg/L		U	1 (-		U	1	U	1	U		U	2	U	1	U	1 U
1,2,3-Trichlorobenzene	0.7	μg/L		U	1 (_		U	1	U	1	U	1	U	2	U	1	U	1 U
1,2,4-Trichlorobenzene	70	μg/L	-	U	1 (-		U	1	U	1	U	1	U	2	U	1	U	1 U
1,2,4-Trimethylbenzene	1.5	μg/L		U	0.14	,		j	0.28	J	1	U	1	U	2	U	1	U	1 U
1,2-Dibromo-3-Chloropropane	0.2	μg/L		U	2 (_		U	2	U	2	U	2	U	4	U	2	U	2 U
1,2-Dibromomethane	0.05	μg/L		U	1 (٧.		U	1	U	1	U	1	U	2	U	1	U	1 U
1,2-Dichlorobenzene	600	μg/L		U	1 (-		U	1	U	_	U		U		U	1	U	1 U
1,2-Dichloroethane	5	μg/L	-	U	1 (-		U	1	U	1	U	1	U	2	U	1	U	1 U
1,2-Dichloropropane	5	μg/L		U	1 (U		U	1	U	1	U	_	U	2	U	1	U	1 U
1,3,5-Trimethylbenzene	12	μg/L		U	1 (U		U	1	U	1	U	1	U	2	U	1	U	1 U
1,3-Dichlorobenzene		μg/L		U	1 l	~	1	U	1	U	1	U	1	Э	2	U	1	U	1 U
1,4-Dichlorobenzene	75	μg/L		U	1 (_		U	1	U	1	U	1	U		U	1	U	1 U
2-Butanone (MEK)	560	μg/L	20	U	20 l	U	0	j	7.8	J	20	U	20	U	12	J	20	U	20 U
2-Hexanone	3.8	μg/L		U	20 l	-		U	20	U	20	U	20	U	40	U	20	U	20 U
4-Methyl-2-Pentanone (MIBK)	630	μg/L		U	20 ا	-		U	20	U	20	U	20	U	40	U	20	U	20 U
Acetone	1400	μg/L	***	J	20 l	_		J	20		20	U	20	כ	46		4.9	J	20 U
Benzene	5	μg/L	0.21	J	0.62	J	18		11		1	U	0.15	J	0.89	J	1	U	0.34 J
Bromochloromethane	8.3	μg/L	1	U	1 (-	1	U	1	U	1	U	1	J	2	U	1	U	1 U
Bromodichloromethane	80	μg/L	0.28	J	1 (U	1	U	1	U	1.7		0.37	J	2	U	0.38	J	1 U
Bromoform	80	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U
Bromomethane	0.75	μg/L	1	U	1 (U	1	U	1	U	1	U	1	כ	2	U	1	U	1 U
Carbon disulfide	81	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U
Carbon Tetrachloride	5	μg/L	1	U	1 (U	1	U	1	U	1	U	1	כ	2	U	1	U	1 U
Chlorobenzene	100	μg/L	1	U	1 (U	1	U	1	U	1	U	1	J	2	U	1	U	1 U
Chloroethane	2100	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U
Chloroform	80	μg/L	4.1		3.8		4.5		4		5.2		4.2		2	U	3.6		4.5
Chloromethane	19	μg/L	1	U	1 (-	1	U	1	U	1	U	1	U	1.2	J	1	U	0.95 J
cis-1,2-Dichloroethene	70	μg/L		U	1 (-	-	U	1	U	1	U	1	U	2	U	1	U	1 U
cis-1,3-Dichloropropene	0.47	μg/L		U	1 (_		U	1	U		U	1	U	2	U	1	U	1 U
Dibromochloromethane	80	μg/L		U	1 (-	1	U	1	U	0.59	J	1	U	2	U	1	U	1 U
Dichlorodifluoromethane	200	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U
Ethylbenzene	700	μg/L	1	U	0.16	J	2.5		1.2		1	U	1	U	2	U	1	U	1 U
Isopropylbenzene	450	μg/L	1	U	1 (U	0.1	J	1	U	1	U	1	U	2	U	1	U	1 U
m,p-Xylene	19	μg/L	2	U	0.39	•	3.6		1.6	J	2	U	2	U	4	U	2	U	0.22 J
Methyl Acetate	20000	μg/L	2	U	2 (U	2	U	2	U	2	U	2	כ	4	U	2	U	2 U
Methyl tert-butyl ether	14	μg/L	1	U	1 (U	1	U	1	U	1	U	1	כ	2	U	1	U	1 U
Methylene Chloride	5	μg/L	2	U	2 (U	2	U	2	U	2	U	2	J	4	U	2	U	2 U
o-Xylene	190	μg/L	1	U	0.16	J	2		0.93	J	1	U	1	U	2	U	1	U	1 U
Styrene	100	μg/L	1	U	1 (U	0.54	J	1	U	1	U	1	כ	2	U	1	U	1 U
Tetrachloroethene	5	μg/L	6		0.2 .	J	1	U	0.22	J	1	U	1	U	2	U	1.2		0.23 J
Toluene	1000	μg/L	0.23	J	0.88	J	17		8.8		1	U	11		0.79	J	1	U	0.46 J
trans-1,2-Dichloroethene	100	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U
trans-1,3-Dichloropropene	0.47	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U
Trichloroethene	5	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U
Trichlorofluoromethane	5200	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U
Vinyl Acetate	410	μg/L	2	U	2 (U	2	U	2	U	2	U	2	U	4	U	2	U	2 U
Vinyl Chloride	2	μg/L	1	U	1 (U	1	U	1	U	1	U	1	U	2	U	1	U	1 U

Notes

Highlight indicates values greater than screening level

‡ If an MCL is set for the analyte, the screening level is the MCL, otherwise the screening level is the Regional Screening Level for tap water (cancer risk = 1 x 10-6, HQ = 1, November 2019)

Bold indicates detected values

VOC = volatile organic compound

μg/L = micrograms per liter

Q = qualifier

J = Result is estimated



		Location	MW-25		MW-25	MW-25		MW-25		MW-25		MW-25		MW-25		MW-26		MW-26
	Sai	mple Date	2020-05-01	Т	2020-05-03	2020-05-03		2020-05-03	7	2020-05-04		2020-05-05	7	2020-05-06		2020-05-06		2020-05-07
	Sam	ıple Name	MW25-GW050120-164	4 [MW25-GW050320-212	MW25-GW050320-2	32	MW25-GW050320-252	2	MW25-GW050420-2	272	MW25-GW050520-292	2	MW25-GW050620-3	20	MW26-GW050620-21	0	MW26-GW050720-240
Chemical Name	Screening Level‡	Unit	Result	Q	Result Q	Result	Q	Result (Q	Result	Q	Result C	Q	Result	Q	Result	Q	Result Q
1,1,1-Trichloroethane	200	μg/L	1	U	1 U	1	U	1 1	U	1	U	1 (U	1	U	1	U	1 U
1,1,2,2-Tetrachloroethane	0.076	μg/L		U	1 U	1	U	1 1	U	1	U	1 (-	1	U		U	1 U
1,1,2-Trichloroethane	5	μg/L	1	U	1 U	1	U	1 (U	1	U		U	1	U	1	U	1 U
1,1,2-Trichlorotrifluoroethane	1000	μg/L	1 1	U	1 U	1	U	1 (U	1	U	1 L	U	1	U	1	U	1 U
1,1-Dichloroethane	2.8	μg/L	-	U	1 U	1	U	1 (U	1	U		U	1	U		U	1 U
1,1-Dichloroethene	7	μg/L	-	U	1 U	1	U	1 (U	1	U		U	1	U		U	1 U
1,2,3-Trichlorobenzene	0.7	μg/L	-	U	1 U	1	U	1 (U	1	U	1 L	U	1	U		U	1 U
1,2,4-Trichlorobenzene	70	μg/L		U	1 U	1	U	1 (U	1	U		U	1	U		U	1 U
1,2,4-Trimethylbenzene	1.5	μg/L		U	1 U	1	U	1 (U	1	U		U	0.14	J		J	1 U
1,2-Dibromo-3-Chloropropane	0.2	μg/L		U	2 U	2	U	2 (U	2	U		U	2	U		U	2 U
1,2-Dibromomethane	0.05	μg/L	1	U	1 U	1	U	1 (U	1	U	1 L	×.	1	U		U	1 U
1,2-Dichlorobenzene	600	μg/L		U	1 U	1	U		U	1	U		U	1	U	1	U	1 U
1,2-Dichloroethane	5	μg/L		U	1 U	1	U	1 (U	1	U		U	1	U		U	1 U
1,2-Dichloropropane	5	μg/L		U	1 U	1	U		U	1	U	1 L	-	1	U		U	1 U
1,3,5-Trimethylbenzene	12	μg/L		U	1 U	1	U	1 (U	1	U	1 L	-	1	U		U	1 U
1,3-Dichlorobenzene		μg/L	-	U	1 U	1	U	1 (_	1	U		U	1	U		U	1 U
1,4-Dichlorobenzene	75	μg/L		U	1 U	1	U		U	1	U		U	1	U		U	1 U
2-Butanone (MEK)	560	μg/L	20	U	20 U	20	U	4.6	J	20	U		J	9.3	J		J	9.9 J
2-Hexanone	3.8	μg/L		U	4.5 J	20	U	3 .	J	20	U		U	2.8	J		U	20 U
4-Methyl-2-Pentanone (MIBK)	630	μg/L		U	20 U	20	U	20 ا	U	20	U		U	20	U		U	20 U
Acetone	1400	μg/L		J	8.1 J	3.6	J	26		13	J		U	20	U		U	20 U
Benzene	5	μg/L	**	J	1 U	1	U	1.1		0.3	J	0.34 J	_	0.57	J		J	0.83 J
Bromochloromethane	8.3	μg/L		U	1 U	1	U	1 (-	1	U	1 L	_	1	U		U	1 U
Bromodichloromethane	80	μg/L		U	0.25 J	0.5	J	0.14	-	1	U		U	1	U		U	1 U
Bromoform	80	μg/L		U	1 U	1	U	1 (_	1	U		U	1	U		U	1 U
Bromomethane	0.75	μg/L		U	1 U		U		U	1	U	1 L	_	1	U		U	1 U
Carbon disulfide	81	μg/L		U	1 U	1	U	- '	U	1	U		U	1	U		U	1 U
Carbon Tetrachloride	5	μg/L	-	U	1 U	1	U		U	1	U		U	1	U		U	1 U
Chlorobenzene	100	μg/L		U	1 U	1	U		U	1	U		U	1	U		U	1 U
Chloroethane	2100	μg/L		U	1 U	1	U	1 (U	1	U		U	1	U		U	1 U
Chloroform	80	μg/L		J	5	6.3		4.8	_	4.9		4.5	_	1.1	Ι.	4.2	_	3.5
Chloromethane	19	μg/L		U	1 U	1	U	1 (U	1	U		J	0.87	J		J	1.7
cis-1,2-Dichloroethene	70	μg/L		U	1 U	1	U	1 (_	1	U		U	1	U		U	1 U
cis-1,3-Dichloropropene	0.47	μg/L		U	1 U	1			U	1	U		U	1	U		U	1 U
Dibromochloromethane	80	μg/L	-	~	1 0	1	U		U	1	U	1 L	_	1	U		U	1 U
Dichlorodifluoromethane	200	μg/L	-	U	1 U	1	U		U	1	U		U	1	U		U J	
Ethylbenzene	700	μg/L		U II	1 U	1	U	0.27	ll 1	1	U	1 L	U	0.17	11	0.1-0	IJ	1 U
Isopropylbenzene	450 19	μg/L		U		2	U	- ,		1	U		ŭ		U	-	j	0.33 J
m,p-Xylene	20000	μg/L		IJ	2 U	2	U	2 1	,	2	U		U	0.33	,		Ŋ	2 U
Methyl Acetate	20000	μg/L		U	2 U	1	U		U	<u>2</u>	U		U	2 1	U		U	1 U
Methyl tert-butyl ether	5	μg/L	-	U	2 U	2		2 1	_		U		U		U		U	
Methylene Chloride	190	μg/L		U II	1 U		U	0.16	_	1	IJ		IJ	2 0.15	ı		J	2 U
o-Xylene		μg/L		U II	1 U		_		,		U		-		,		Λ	
Styrene	100	μg/L		_		1	U	1 (1 0 22	Ŭ		ŭ	1	U		-	
Tetrachloroethene	5	μg/L		J U	0.83 J	1	U	0.18	,	0.22	J	0.50	-	1	U		U	1 U
Toluene	1000	μg/L		-		1	U	1	+	0.57	J		ı	1	١.		J	1.3
trans-1,2-Dichloroethene	100	μg/L		U	1 U	1	U	1 (_	1	U	1 L	_	1	U		U	1 U
trans-1,3-Dichloropropene	0.47	μg/L		U	1 U	*	U	1 (U I	1	U		U	1	U		U	1 U
Trichloroethene	5	μg/L		U	1 U	1	U	1 (U I	1	U		U	1	U		U	1 U
Trichlorofluoromethane	5200	μg/L		U	1 U	1	٥	1 (U	1	U		U	1	U		U	1 U
Vinyl Acetate	410	μg/L		U	2 U	2	U		U	2	U		U	2	U		U	2 U
Vinyl Chloride	2	μg/L	1	U	1 U	1	U	1 (U	1	U	1 L	U	1	U	1	U	1 U

Notes

Highlight indicates values greater than screening level

‡ If an MCL is set for the analyte, the screening level is the MCL, oMCL, otherwise the screening level is the Regional Screening Level for tap water (cancer risk = 1 x 10-6, HQ = 1, November 2019)

Bold indicates detected values

VOC = volatile organic compound

μg/L = micrograms per liter

Q = qualifier

J = Result is estimated



Common Nome			Location	MW-26		MW-26		MW-26		MW-26		MW-27		MW-27		MW-27		MW-28		MW-29
Common Name		Sar	nple Date	2020-05-07		2020-05-08		2020-05-11		2020-05-12		2020-03-23		2020-03-24		2020-03-24		2020-03-18	1	2020-05-29
13.1 - Professionare with a control of the control		Sam	ple Name	MW26-GW050720-250	MW26	G-GW050820-27	0	MW26-GW051120-3	20	MW26-GW051220-36	50	MW27-GW032320-1	68	MW27-GW032420-21	10	MW27-GW032420-2	20	MW28-GW031820-211		MW29-GW052920-120
\$\frac{1}{2}.2.2 \text{Prescribescentaine}\$\frac{1}{2}.2.2 \text{Prescribescentaine}\$\frac{1}{2}.2.2 \text{Prescribescentaine}\$\frac{1}{2}.3.2 Prescri	Chemical Name	Screening Level‡	Unit	Result C	Į	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result C	q	Result Q
1,2,2-10 to continue	1,1,1-Trichloroethane	200	μg/L	1 L	J	5	U	1	U	1	U	1	U	1	U	1	U	1 l	U	
1.2.1 Trick Information	1,1,2,2-Tetrachloroethane					5	-		U		-	1			_	1	_		-	
1.50 Ordinate processes	1,1,2-Trichloroethane		μg/L			5	U	1	U	1	U	1	U	1	U	1	-		-	
1.1.0Forthordeneese	1,1,2-Trichlorotrifluoroethane	1000	μg/L			5	U	1	U	1	U	1	U	1	U	1	_	- '	~	
13.3-Time-formatione 0.7			μg/L			5	U	1	U	1	U	1	_		_	1	_		_	
1,24 Print placemene	,		μg/L				·	1	U		-	1	_		-	1	_		-	
12.4 Trend-protections							-	1	U		_	1	_	1	U	1	_		_	
12-Discrepance 0.2 14/2, 2 0 10 0 2							U		U		-				U	_	_		-	
12-0-10-10-10-10-10-10-10-10-10-10-10-10-1						-	U		U	-	U		_	1			_	- '	~	
12-0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1					_		U		-		U		_		-				_	
1.2 Delicerorehaper							U		Ü		U		_	*	ŭ		_		~	
1.2 Definition proposes 5	,						Ŭ		U		U		_		U		_		-	
13.5 Frometyleneane							·		U		U		_		U		_		-	
1.3-10-(Informerement							U		U		U		Ŭ		U		_		-	
24-Dichardenessee							U		U		U	_	_		U		-	- '	~	
28-branne (MKK) 560	•						U		U		U		Ŭ	_					_	
24Festanone			μg/L				·		U		U		U		U				_	
Methyl-Pertanone (MBN) 530	2-Butanone (MEK)		μg/L				J				J				U		•		~	
Restone			μg/L				·		J		J		J		U		_		-	
Bennethere	4-Methyl-2-Pentanone (MIBK)		μg/L			100	U	20	U		U		U	20	U	20	-	20 ل	U	
Strong-chirormethane S.3 192/L 1 U 5 U 1 U U	Acetone	1400	μg/L				U		U						J		J			
Second control Seco	Benzene	5	μg/L	0.8 J	1	1.1	J	0.9	J	0.53	J	0.42	J	0.31	J	0.28		0.62 J	J	
Bromonethane 0.75 Ug/L 1 U 5 U 1 U	Bromochloromethane	8.3	μg/L			5	U	1	U	1	U	1	U	1	U	1	U		-	
Bromomethane	Bromodichloromethane	80	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	U	1 (U	
Carbon Fischeride	Bromoform		μg/L			5	U	1	U	1	U	1	U	1	U	1	-	1 (U	
Carbon Fetrachloride	Bromomethane	0.75	μg/L	1 L	J	5	U	1	U	1	U	1	U	1	U	1	U	1 (U	
Chlorochane	Carbon disulfide	81	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	U	1 (U	
Chlorochane	Carbon Tetrachloride	5	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	U	1 (U	
Chloroform 80 µg/L 5 1.7 J 0.27 J 1.3 1.2 4.4 4.7 4.2 6.3	Chlorobenzene	100	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	_	1 (U	
Chloromethane 19	Chloroethane	2100	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	U	1 (U	1 U
Cis-1,2-Dichloroethene 70	Chloroform	80	μg/L	5		1.7	J	0.27	J	1.3		1.2		4.4		4.7		4.2		
cis-1,3-Dichloropropene 0.47 μg/L 1 U 5 U 1 U <th< td=""><td>Chloromethane</td><td></td><td>μg/L</td><td>1.1</td><td></td><td>5</td><td>U</td><td>2</td><td></td><td>0.86</td><td>J</td><td>1</td><td>U</td><td>1</td><td>U</td><td>1</td><td>_</td><td>1 (</td><td>U</td><td></td></th<>	Chloromethane		μg/L	1.1		5	U	2		0.86	J	1	U	1	U	1	_	1 (U	
Dibromochloromethane 80 \(\mu_g/L \) 1 U 5 U 1 U	cis-1,2-Dichloroethene		μg/L		,	5	U	1	U	1	U	0.1	J	1	U	1			~	
Dichlorodifiluromethane 200 µg/L 1 U 5 U 1 U	cis-1,3-Dichloropropene		μg/L			5	-	1		1	U	1				1				
Ethylbenzene	Dibromochloromethane		μg/L			5	U	1	U	1	U	1	U	1	U	1	_		_	
Sopropylbenzene	Dichlorodifluoromethane	200	μg/L	1 (J	5	U	1	U	1	U	1	U		U	1	U	1 (U	
Methylene 19	Ethylbenzene	700	μg/L			5	U	1	U	1	U	1	U	1	U	1	_	0.13 J	J	
Nethyl Acetate 20000	Isopropylbenzene	450	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	-	1 (U	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	m,p-Xylene		μg/L			10	U	2	U	2	U	2	U	0.21	J	2		0.31 J	J	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Methyl Acetate	20000	μg/L			10	U	2	U	2	U	2	U	2	U	2	U	2 (U	
o-Xylene 190 μg/L 0.15 J 5 U 1	Methyl tert-butyl ether	14	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	U	1 (U	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Methylene Chloride	5	μg/L	2 (J	10	U	2	U	2	U	2	U	2	U	2	U	2 (U	
Tetrachloroethene S μg/L 1 U 5 U 1 U 1 U 9.1 U 1 U 1 U 1 U 9.2 Toluene 1000 μg/L 0.93 J 0.77 J 0.55 J 0.48 J 0.39 J 0.4 J 0.36 J 0.72 J 1 trans-1,2-Dichloroethene 100 μg/L 1 U 5 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	o-Xylene	190	μg/L	0.15 J	1	5	U	1	U	1	U	1	U	1	U	1	U	0.12 J	J	
Toluene 1000 μg/L 0.93 J 0.77 J 0.55 J 0.48 J 0.39 J 0.4 J 0.36 J 0.72 J 1 trans-1,2-Dichloroethene 100 μg/L 1 U 5 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	Styrene	100	μg/L	1 L	J	5	U	1	U	1	U	1	U	1	U	1	U	1 L	U	1 U
	Tetrachloroethene	5	μg/L			5	U	1	U	1	U	9.1		1	U	1	U	1 L	U	
trans-1,3-Dichloropropene 0.47 μg/L 1 U 5 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 Trichloroethene 5 μg/L 1 U 5 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	Toluene	1000	μg/L	0.93 J		0.77	J	0.55	J	0.48	J	0.39	J	0.4	J	0.36		0.72 J	J	
Trichloroethene 5 μg/L 1 U 5 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	trans-1,2-Dichloroethene	100	μg/L	1 L	J	5	U	1	U	1	U	1	U	1	U	1	U	1 L	U	
Trichlorofluoromethane 5200 μg/L 1 U 5 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	trans-1,3-Dichloropropene	0.47	μg/L	1 L	J	5	U	1	U	1	U	1	U	1	U	1	U	1 ι	U	1 U
	Trichloroethene	5	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	U	1 (U	0.17 J
	Trichlorofluoromethane	5200	μg/L	1 ι	J	5	U	1	U	1	U	1	U	1	U	1	U	1 (U	1 U
	Vinyl Acetate	410	μg/L	2 ι	J	10	U	2	U	2	U	2	U	2	U	2	U	2 ι	U	
	Vinyl Chloride	2	μg/L	1 (J	5	U	1	U	1	U	1	U	1	U	1	U	1 ι	U	1 U

Notes

Highlight indicates values greater than screening level

‡ If an MCL is set for the analyte, the screening level is the MCL, oMCL, otherwise the screening level is the Regional Screening Level for tap water (cancer risk = 1 x 10-6, HQ = 1, November 2019)

Bold indicates detected values

VOC = volatile organic compound

μg/L = micrograms per liter

Q = qualifier

J = Result is estimated



Committed Comm			Location	MW-29		MW-29		MW-29		MW-30		MW-30		MW-30		MW-30		MW-30		MW-31
Commitment Com		Sar																		
13.13 Professionation		Sam	ple Name	MW29-GW053120-1	91	MW29-GW060120-2	30	MW29-GW060220-2	260	MW30-GW060420-2	237	MW30-GW060520-2	280	MW30-GW060520-298	8	MW30-GW060720-32	20	MW30-GW060720-340	0	MW31-GW061020-138
1.1.2 Freedingement	Chemical Name	Screening Level‡	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result C	Q	Result	Q	Result	Q	Result Q
15.2-Trial confidence	1,1,1-Trichloroethane	200	μg/L	1	U	1	U	1	U	1	U	1	U	1 (U	1	U	1	U	1 U
13.2-Discontendementatione 1200 aggl. 2 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	1,1,2,2-Tetrachloroethane	0.076	μg/L	1	U	1	U	1	U	1	U	1	U	1 (U	1	U	1	U	1 U
1.00-conference 73	1,1,2-Trichloroethane	5	μg/L	1	U	1	U	1	U	1	U	1	U	1 (U	1	U	1	U	
13-00-foresteemer	1,1,2-Trichlorotrifluoroethane	1000	μg/L	1	U	1	U	1	U	1	U	1	U	1 1	U	1	U	1	U	
13.5-Trinochybecuree	1,1-Dichloroethane	2.8	μg/L	1	•	1	U	1	U	1	U	1		1 (U	-	١	1	U	
12.4 Trinformersement 73	1,1-Dichloroethene	7	μg/L	1	U	1	U	1	U	1	U	1	U	1 (U	1	U	1	U	
12-4 Trinorthylesenees	1,2,3-Trichlorobenzene	0.7	μg/L	1	U	1	U	1	U	1	U	1	U	1 (U	1	U	1	U	
12-00-10-0									_		U				_	-	١		U	
12-Description 12-D			. 0.	1	U				·		U		-		-		•			
1.2-0-11-0-11-0-11-0-11-0-11-0-11-0-11-0	1,2-Dibromo-3-Chloropropane		μg/L	2	v	2	-	2	_	2	U	2	_		_		_		-	
1.5 Definemenance 5			1 0.		v		_		·		U		-		Ÿ	-	۰	-	ŭ	
12-Differ (propose) 1	,		1 0.		_		_		_		Ť		_		_		_		-	
13.5 Trenshylmenmene			. 0.				_		_		Ť		_		_		_		_	
13-00-10-reference					_		_		_		U		_		-		_			
14-10-14-15-16-16-16-16-16-16-16-16-16-16-16-16-16-					0		_		_		U				-	_	•		_	
28th panel MKK 560	·				-				·		Ŭ					-	۰	-	ŭ	
24-beanner 3.8 1967 20 U 20 U 20 U 3.5 U 3.5 U 2.0 U 20 U			1 0.				-		_		-		_		_				U	
Abethy-2-Persistance (Misk) 630 198/L 20 U 20	<u></u>		1 0.		_		_		_	_	,		·		•		_			
Acetane 1400 μg/L 20 U 20 U 20 U 22 Z Z Z Z Z Z Z Z			. 0.				_		_		·				•		•		•	
Benzener S	4-Methyl-2-Pentanone (MIBK)		μg/L								U		U		U		U		U	
Brownedthare 8.3 Mg/L 1 U U	Acetone								_											
Brownedther 80 yg/L 1 0 0.27 J 1 U U	Benzene		μg/L	0.24		0.32	J	0.27		0.52	J	0.26			•	4.9		20		
Bromorform 80 186/L 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U U	Bromochloromethane		μg/L	1			_	1	_		Ť				_	_	_		-	
Bromomethane 0.75 148/L 1 U U	Bromodichloromethane	80	μg/L	1	U	0.27	J	1	U	1	U	1	U	1 (U	1	U	1	U	
Carbon disuffide	Bromoform	80	μg/L	1		1		1	U	1	U	1	U	1 (U			1	U	
Carbon tetrachloride	Bromomethane	0.75	μg/L	1		1	U	1	U	1	U	1			U			1	U	
Chioroethane	Carbon disulfide		μg/L	1	•	1		1	_	1	U	1		1 (U					
Chloropethane	Carbon Tetrachloride		μg/L	1	U	1	U	1	U	1	U	1	-		U	1	U	1	U	
Chloroform 80 148/L 5.1 3.7 1.9 3.3 5.2 3.9 3 3.8 2.3 Chloromethane 19 147/L 1 U U							-		_		·	-			_				_	
Chioromethane 19 μg/L 1 U U	Chloroethane		μg/L	1	U		U		U		U		U		U	1	U		U	
cis-1,2-Dichloroethene 70 lig/L 1 U 1	Chloroform		. 0.	5.1		3.7		1.9		3.3		5.2				-				
cis-1,3-Dichloropropene 0.47 µg/L 1 U			. 0.	1					_		U				_				_	
Dibromochloromethane 80 µg/L 1 U U	cis-1,2-Dichloroethene		μg/L	1		1		1	_		U				_		•		-	
Dichlorodifluoromethane 200 Hg/L 1 U U							_				_									
Ethylbenzene 700 µg/L 1 U 0.12 J 1 U 1 U 1 U 1 U 0.89 J 3.3 0.79 J Isopropylbenzene 450 µg/L 1 U 1 U 1 U 1 U 1 U 1 U 1 U Methylene 19 µg/L 2 U			1 0.		_		-		_		-		_		_		_		_	
Isopropylbenzene					_		_		_		Ť		_		_		_		U	
mp-Xylene 19 μg/L 2 U 2 U 2 U 0.26 J 2 U 2 U 1.4 J 4.7 1.2 J			. 0.		_		_		_		Ť		_		_		_			
Methyl Acetate 20000 μg/L 2 U 2			1 0.		Ŭ		_		_		U	-	_		Ŭ		•		J	
Methyl tert-butyl ether					•				_		J									
Methylene Chloride 5 μg/L 2 U 2			. 0.						_		Ť				_				-	
o-Xylene 190 μg/L 1 U 1 U 1 U 1 U 0.66 J Styrene 100 μg/L 1 U 1		14	μg/L	1	_		_		_		U		_		_				-	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		-			_		_		_		·		_		_		_		U	
Tetrachloroethene 5 μg/L 6.1 1 U 1 U 1 U 1 U 1 U 0.2 J 0.16 J 0.59 J Toluene 1000 μg/L 0.32 J 0.55 J 0.46 J 1 U 0.31 J 0.26 J 5.3 I 18 J 3.6 L trans-1,2-Dichloroethene 100 μg/L 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1	o-Xylene		μg/L	1	_	1	_	1	_	0.11	,	_	_		-		·	3.4		
Toluene 1000 μg/L 0.32 J 0.55 J 0.46 J 1 U 0.31 J 0.26 J 5.3 I 18 3.6 Ltrans-1,2-Dichloroethene 100 μg/L 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1	Styrene		μg/L		U		_		_		U	_	_		Ÿ	-	١		-	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$. 0.				_		·		U		_		_	V	J		J	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$				0.32		0.55	_	0.46	_		_									
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$															_				_	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	trans-1,3-Dichloropropene	0.47	μg/L	1	U	1	U	1	U	1	U		U	1 (U	1	U	1	U	
$Vinyl Acetate \qquad \qquad 410 \qquad \mu g/L \qquad 2 \qquad U \qquad 2 $			μg/L	0.11	•		_	1	·	1	U	0.13	·		_	-	۰		-	
	Trichlorofluoromethane	5200	μg/L	1	U	1	U	1	U	1	U	1	U	1 (U	1	U	1	U	
Vinyl Chloride 2 µg/L 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1	Vinyl Acetate	410	μg/L	2	U	2	U	2	U	2	U	2	U	2 (U	2	U	2	U	
	Vinyl Chloride	2	μg/L	1	U	1	U	1	U	1	U	1	U	1 (U	1	U	1	U	1 U

Notes

Highlight indicates values greater than screening level

‡ If an MCL is set for the analyte, the screening level is the MCL, oMCL, otherwise the screening level is the Regional Screening Level for tap water (cancer risk = 1 x 10-6, HQ = 1, November 2019)

Bold indicates detected values

VOC = volatile organic compound

μg/L = micrograms per liter

Q = qualifier

J = Result is estimated



Chemical Name											MW-32		MW-34		MW-34
Chemical Name		2020-06-11	06-11	2020-06-23	2020-06-24		2020-06-25		2020-06-26		2020-06-28		2020-07-08		2020-07-08
1,1,1-Trichloroethane 200		MW31-GW061120-190	061120-230 M	MW32-GW062320-100	MW32-GW062420-1	120	MW32-GW062520-:	175	MW32-GW062620-2	210	MW32-GW062820-2	70	MW34-GW070820-150	0 1	MW34-GW070820-180
1,1,2,7-Tetrachloroethane			lt Q	Result Q	Result	Q	Result	Q	Result	ď	Result	Q	Result	Q	Result Q
1,1,2-Trichloroethane	J 1	1 U	U	1 U	1	U	1	U	1	כ	1	U	0.21	J	1 U
1,1,2-Trichlorotrifluoroethane 1,000 µg/L 1 1,1-Dichloroethane 2.8 µg/L 1 1,1-Dichloroethane 7 µg/L 1 1,2,3-Trichlorobenzene 0.7 µg/L 1 1,2,3-Trichlorobenzene 70 µg/L 1 1,2,4-Trichlorobenzene 1.5 µg/L 1 1,2-Dibromo-3-Chloropropane 0.2 µg/L 1 1,2-Dichlorobenzene 600 µg/L 1 1,2-Dichloroperbane 5 µg/L 1 1,2-Dichloroperbane 5 µg/L 1 1,2-Dichloroperpane 5 µg/L 1 1,3-Dichlorobenzene	J 1	1 U	U	1 U	1	U	1	U	1	כ	1	U	1	U	1 U
1,1-Dichloroethane 2.8 μg/L 1 1,1-Dichloroethane 7 μg/L 1 1,2,3-Trichlorobenzene 0.7 μg/L 1 1,2,4-Trichlorobenzene 70 μg/L 1 1,2,4-Trichlorobenzene 1.5 μg/L 1 1,2-Dibromo-3-Chloropropane 0.2 μg/L 2 1,2-Dibromo-3-Chloropropane 0.2 μg/L 1 1,2-Dichlorobenzene 600 μg/L 1 1,2-Dichlorobenzene 5 μg/L 1 1,2-Dichlorobenzene 5 μg/L 1 1,3-Dichlorobenzene	U 1	1 U	U	1 U	1	U	1	U	1	>	1	U	1	U	1 U
1,1-Dichloroethene 7	U 1	1 U	U	1 U	1	U	1	U	1	\supset	1	U	1	U	1 U
1,2,3-Trichlorobenzene			U	1 U	1	U		U	1	U	1	U		U	1 U
1,2,4-Trichlorobenzene 70 µg/L 1 1,2,4-Trimethylbenzene 1.5 µg/L 1.2 1,2-Dibromo-3-Chloropropane 0.2 µg/L 2 1,2-Dibromo-3-Chloropropane 0.05 µg/L 1 1,2-Dichlorobenzene 600 µg/L 1 1,2-Dichloroperopane 5 µg/L 1 1,2-Dichlorobenzene 12 µg/L 1 1,3-Dichlorobenzene	U 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
1,2,4-Trimethylbenzene 1.5 μg/L 1.2 1,2-Dibromo-3-Chloropropane 0.2 μg/L 2 1,2-Dibromomethane 0.05 μg/L 1 1,2-Dichlorobenzene 600 μg/L 1 1,2-Dichloropenzene 600 μg/L 1 1,2-Dichloropropane 5 μg/L 1 1,3-Dichlorobenzene μg/L 1 1,3-Dichlorobenzene μg/L 1 2-Butanone (MEK) 560 μg/L 1 2-Hexanone 3.8 μg/L 10 2-Hexanone 1400 μg/L 20 Acetone 1400 μg/L 21 Benzene 5 μg/L 1 Bromodloromethane 8.3 μg/L 1 Bromodichloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromoform 80 μg/L 1 Bromoform 80 μg/L 1 <td>U 1</td> <td>1 U</td> <td>U</td> <td>1 U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1 U</td>	U 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
1,2-Dibromo-3-Chloropropane 0.2 µg/L 2 1,2-Dibromomethane 0.05 µg/L 1 1,2-Dichlorobenzene 600 µg/L 1 1,2-Dichloropethane 5 µg/L 1 1,2-Dichloropropane 5 µg/L 1 1,3-Dichlorobenzene µg/L 1 1,3-Dichlorobenzene 75 µg/L 1 2-Butanone (MEK) 560 µg/L 10 2-Hexanone 3.8 µg/L 20 Acetone 1400 µg/L 21 Benzene 5 µg/L 12 Bromochloromethane 8.3 µg/L 1 Bromochloromethane 8.3 µg/L 1 Bromochloromethane 80 µg/L 1 Bromochloromethane 0.75 µg/L 1 Bromochloromethane 80 µg/L 1 Bromochloromethane 0.75 µg/L 1 Bromochloromethane 0.0	-	1 U	U	1 U		U		U	1	U		U		U	1 U
1,2-Dibromomethane 0.05 μg/L 1 1,2-Dichlorobenzene 600 μg/L 1 1,2-Dichlorobenzene 500 μg/L 1 1,2-Dichloropropane 5 μg/L 1 1,3-Dichlorobenzene	0.61	1.2	J	1 U	1	U	1	U	1	כ	1	U	1	U	1 U
1,2-Dichlorobenzene 600 μg/L 1 1,2-Dichloroerthane 5 μg/L 1 1,2-Dichloropropane 5 μg/L 1 1,3-Dichlorobenzene 12 μg/L 1 1,3-Dichlorobenzene	U 2	2 U	U	2 U	2	U	2	U		\supset	2	U	2	U	2 U
1,2-Dichloroethane 5 μg/L 1 1,2-Dichloropropane 5 μg/L 1 1,3-5-Trimethylbenzene 12 μg/L 1 1,3-5-Trimethylbenzene μg/L 1 1,3-Dichlorobenzene μg/L 1 1,4-Dichlorobenzene 75 μg/L 1 2-Butanone (MEK) 560 μg/L 10 2-Hexanone 3.8 μg/L 4.3 4-Methyl-2-Pentanone (MIBK) 630 μg/L 20 Acetone 1400 μg/L 21 Benzene 5 μg/L 1 Bromodhoromethane 8.3 μg/L 1 Bromodichloromethane 8.0 μg/L 1 Bromodichloromethane 80 μg/L 1 Bromodishloromethane 0.75 μg/L 1 Bromodishloromethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chlorotethane 2100 μg/L 1 Chloromethane 19 μg/L 1 Cis-1,2-Dichloroethene 19 μg/L 1 Cis-1,2-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 19 μg/L 1 Dibromochloromethane 200 μg/L 1 Dibromochloromethane 80 μg/L 2 Methyl Acetate 20000 μg/L 2 Methyl Acetate 100 μg/L 2 Methyl Ert-butyl ether 14 μg/L 1 Methylene 190 μg/L 2 O-Xylene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 1.1	J 1	1 U	U	1 U	1	U	1	U	1	כ	1	U	1	U	1 U
1,2-Dichloropropane 5 μg/L 1 1,3,5-Trimethylbenzene 12 μg/L 0.25 1,3-Dichlorobenzene μg/L 1 1,4-Dichlorobenzene 75 μg/L 1 2-Butanone (MEK) 560 μg/L 10 2-Hexanone 3.8 μg/L 4.3 4-Methyl-2-Pentanone (MIBK) 630 μg/L 20 Acetone 1400 μg/L 21 Benzene 5 μg/L 12 Bromochloromethane 8.3 μg/L 1 Bromochloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromoform 80 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon disulfide 81 μg/L 1 Chlorobenzene 100 μg/L 1 Chlorobethane 2100 μg/L 1	J 1	1 U	U	1 U	1	U	1	U	1	כ	1	U	1	U	1 U
1.3,5-Trimethylbenzene 12 µg/L 0.25 1.3-Dichlorobenzene µg/L 1 1.4-Dichlorobenzene 75 µg/L 1 2-Butanone (MEK) 560 µg/L 10 2-Hexanone 3.8 µg/L 4.3 4-Methyl-2-Pentanone (MIBK) 630 µg/L 20 Acetone 1400 µg/L 21 Benzene 5 µg/L 1 Bromochloromethane 8.3 µg/L 1 Bromochloromethane 80 µg/L 1 Bromofichloromethane 80 µg/L 1 Bromofichloromethane 0.75 µg/L 1 Carbon disulfide 81 µg/L 1 Carbon Tetrachloride 5 µg/L 1 Chlorobenzene 100 µg/L 1 Chlorotethane 2100 µg/L 1 Chlorotethane 100 µg/L 1 Chlorotethane 19 µg/L <td>U 1</td> <td>1 U</td> <td>U</td> <td>1 U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td></td> <td>J</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1 U</td>	U 1	1 U	U	1 U	1	U	1	U		J	1	U	1	U	1 U
1,3-Dichlorobenzene μg/L 1 1,4-Dichlorobenzene 75 μg/L 1 2-Butanone (MEK) 560 μg/L 10 2-Hexanone 3.8 μg/L 4.3 4-Methyl-2-Pentanone (MIBK) 630 μg/L 20 Acetone 1400 μg/L 21 Berzene 5 μg/L 12 Bromochloromethane 8.3 μg/L 1 Bromodichloromethane 80 μg/L 1 Bromomothane 0.75 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon disulfide 81 μg/L 1 Chlorobenzene 100 μg/L 1 1 Chlorobenzene 100 μg/L 1 1 Chlorothane 2100 μg/L 1 1 Chlorothane 2100 μg/L 1 1 Chlorothane<	U 1	1 U	U	1 U	1	U	1	U	1	J	1	U	1	U	1 U
1,4-Dichlorobenzene 75 μg/L 1 2-Butanone (MEK) 560 μg/L 10 2-Hexanone 3.8 μg/L 4.3 4-Methyl-2-Pentanone (MIBK) 630 μg/L 20 Acetone 1400 μg/L 21 Benzene 5 μg/L 1 Bromochloromethane 8.3 μg/L 1 Bromochloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chlorobenzene 100 μg/L 1 Chlorocethane 2100 μg/L 1 Chloromethane 19 μg/L 1 Cis-1,2-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 <td>J 0.17</td> <td></td> <td>J</td> <td>1 U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1</td> <td>J</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1 U</td>	J 0.17		J	1 U	1	U	1	U	1	J	1	U	1	U	1 U
2-Butanone (MEK) 560 μg/L 10 2-Hexanone 3.8 μg/L 4.3 4-Methyl-2-Pentanone (MIBK) 630 μg/L 20 Acetone 1400 μg/L 21 Benzene 5 μg/L 12 Bromochloromethane 8.3 μg/L 1 Bromochloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromoform 80 μg/L 1 Bromoform 80 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon disulfide 81 μg/L 1 Chlorobenzene 100 μg/L 1 Chlorobethane 2100 μg/L 1 Chlorobethane 2100 μg/L 1 Chlorobethane 19 μg/L 1 Chlorobethane 19 μg/L 1 Chlorobethane 19 μg/L 1 Ci	U 1	1 U	U	1 U	1	U	1	U		כ	1	U	1	U	1 U
2-Hexanone 3.8 μg/L 4.3 4-Methyl-2-Pentanone (MIBK) 630 μg/L 20 Acetone 1400 μg/L 21 Benzene 5 μg/L 12 Bromochloromethane 8.3 μg/L 1 Bromodichloromethane 80 μg/L 1 Bromodichloromethane 80 μg/L 1 Bromodichloromethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobnzene 100 μg/L 1 Chlorothane 2100 μg/L 1 Chloroform 80 μg/L 1 Chloromethane 19 μg/L 1 Chloromethane 19 μg/L 1 cis-1,2-Dichloroptopene 0.47 μg/L 1 Dibromochloromethane 80 μg/L <t< td=""><td>J 1</td><td>1 U</td><td>U</td><td>1 U</td><td>1</td><td>U</td><td>1</td><td>U</td><td>1</td><td>כ</td><td>1</td><td>U</td><td>1</td><td>U</td><td>1 U</td></t<>	J 1	1 U	U	1 U	1	U	1	U	1	כ	1	U	1	U	1 U
4-Methyl-2-Pentanone (MIBK) 630 μg/L 20 Acetone 14000 μg/L 21 Benzene 5 μg/L 12 Bromochloromethane 8.3 μg/L 1 Bromodichloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chloroethane 2100 μg/L 1 Chloroethane 2100 μg/L 1 Chloromethane 19 μg/L 1 cis-1,2-Dichloropropene 0.47 μg/L 1 cis-1,2-Dichloropropene 0.47 μg/L 1 cis-1,2-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L	J 11	10 J	J	20 U	20	U	20	U	20	כ	20	U	20	U	20 U
Acetone 1400 μg/L 21 Benzene 5 μg/L 12 Bromochloromethane 8.3 μg/L 1 Bromochloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromoform 80 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chiorobenzene 100 μg/L 1 Chiorobenzene 100 μg/L 1 Chiorothane 2100 μg/L 1 Chiorothane 19 μg/L 1 Chioromethane 19 μg/L 1 Cis-1,3-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L 1 Ethylbenzene 700 μg/L 1	J 4.5	4.3 J	J	20 U	20	U	20	U	20	כ	20	U	20	U	20 U
Benzene 5 μg/L 12 Bromochloromethane 8.3 μg/L 1 Bromochloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chlorobenzene 100 μg/L 1 Chloroform 80 μg/L 1 Chloroform 80 μg/L 1 Chloroformethane 19 μg/L 1 Cis-1,3-Dichloroptopene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L 1 Ethylbenzene 700 μg/L 1 Ethylbenzene 450 μg/L 2.3 Isopropylbenzene 19 μg/L 3.3	J 20	20 U	U	20 U	20	U	20	U	20	U	20	U	20	U	20 U
Bromochloromethane 8.3 μg/L 1 Bromodichloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromomethane 0.75 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chloroform 80 μg/L 1 Chloroform 80 μg/L 1 Chloromethane 19 μg/L 1 Cis-1,2-Dichloroptene 70 μg/L 1 cis-1,2-Dichloroptropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 200 μg/L 1 Styplenzene 700 μg/L 1 Isopropylbenzene 450 μg/L 0	23	21		3.1 J	6.8	J	5.5	J	23		5.9	J	6.5	J	6.2 J
Bromodichloromethane 80 μg/L 1 Bromoform 80 μg/L 1 Bromoform 80 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chloroethane 2100 μg/L 1 Chloroform 80 μg/L 1 Chloromethane 19 μg/L 1 Cis-1,2-Dichloroethene 70 μg/L 1 cis-1,3-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L 1 Ethylbenzene 700 μg/L 1 Ethylbenzene 450 μg/L 0.13 mp-Xylene 19 μg/L 3.3 Methyl Acetate 200000 μg/L 2 </td <td>7.8</td> <td>12</td> <td></td> <td>0.11 J</td> <td>0.28</td> <td>J</td> <td>0.23</td> <td>J</td> <td>0.24</td> <td>J</td> <td>0.34</td> <td>J</td> <td>0.27</td> <td>J</td> <td>0.2 J</td>	7.8	12		0.11 J	0.28	J	0.23	J	0.24	J	0.34	J	0.27	J	0.2 J
Bromoform 80 μg/L 1 Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chlorobethane 2100 μg/L 1 Chlorocethane 19 μg/L 1 Chloromethane 19 μg/L 1 cis-1,2-Dichlorocethene 70 μg/L 1 cis-1,3-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dibromochloromethane 80 μg/L 1 Ethylbenzene 700 μg/L 2.3 Isopropylbenzene 450 μg/L 2.3 mp-Xylene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyle chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3	J 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
Bromomethane 0.75 μg/L 1 Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chloroethane 2100 μg/L 1 Chloroform 80 μg/L 1 Chloromethane 19 μg/L 1 cis-1,3-Dichlorogethene 70 μg/L 1 cis-1,3-Dichloropropene 0.47 μg/L 1 Dichlorodifluoromethane 80 μg/L 1 Ethylbenzene 700 μg/L 1 Isopropylbenzene 450 μg/L 2.3 Isopropylbenzene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl ert-butyl ether 14 μg/L 1 Methyl ert-butyl ether 14 μg/L 2 Methyl ert-butyl ether 14 μg/L 2 Styrene 190 μg/L </td <td>J 1</td> <td>1 U</td> <td>U</td> <td>0.91 J</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1</td> <td>U</td> <td>1 U</td>	J 1	1 U	U	0.91 J	1	U	1	U	1	U	1	U	1	U	1 U
Carbon disulfide 81 μg/L 1 Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chlorobenzene 100 μg/L 1 Chloroform 80 μg/L 1 Chloroform 80 μg/L 1 Chloromethane 19 μg/L 1 cis-1,2-Dichloropethene 70 μg/L 1 cis-1,2-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dichlorodifluoromethane 200 μg/L 1 Ethylbenzene 700 μg/L 1 Isopropylbenzene 450 μg/L 0.13 mpXylene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl tert-butyl ether 14 μg/L 1 Methylene Chloride 5 μg/L 2 o-Xylene 190 μg/L <	J 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
Carbon Tetrachloride 5 μg/L 1 Chlorobenzene 100 μg/L 1 Chloroethane 2100 μg/L 1 Chlororom 80 μg/L 3.1 Chloromethane 19 μg/L 1 cis-1,2-Dichloroethene 70 μg/L 1 cis-1,3-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dichlorodifluoromethane 200 μg/L 1 Ethylbenzene 700 μg/L 1 Ethylbenzene 450 μg/L 0.13 mp-Xylene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl ert-butyl ether 14 μg/L 2 Methyler Chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.	U 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
Chlorobenzene 100 μg/L 1	J 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
Chloroethane 2100 μg/L 1 Chloroform 80 μg/L 3.1 Chloroform 80 μg/L 3.1 Chloromethane 19 μg/L 1 cis-1,3-Dichloroethene 70 μg/L 1 cis-1,3-Dichloropropene 0.47 μg/L 1 Dichlorodifluoromethane 80 μg/L 1 Ethylbenzene 700 μg/L 2.3 Isopropylbenzene 450 μg/L 2.3 Isopropylbenzene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl acetate 20000 μg/L 1 Methyler-butyl ether 14 μg/L 1 Methyler-butyl ether 14 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 2.3 Styrene 100 μg/L 0.2 Toluene 1000 μg/L 0.2	J 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
Chloroform 80	J 1	1 U	U	1 U	1	U	1	U	1	כ	1	U	1	U	1 U
Chloromethane 19 μg/L 1 dis-1,2-Dichloroethene 70 μg/L 1 cis-1,3-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dichlorodifluoromethane 200 μg/L 1 Ethylbenzene 700 μg/L 2.3 Isopropylbenzene 450 μg/L 0.13 m,p-Xylene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl tert-butyl ether 14 μg/L 1 Methylene Chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	J 1	1 U	U	1 U	1	U	1	U	1	UJ	1	U	1	U	1 U
cis-1,2-Dichloroethene 70 μg/L 1 cis-1,3-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dichlorodifluoromethane 200 μg/L 1 Ethylbenzene 700 μg/L 2.3 Isopropylbenzene 450 μg/L 0.13 m,p-Xylene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl Acetate 14 μg/L 1 Methyl ert-butyl ether 14 μg/L 1 Methylene Chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	2.4	3.1		7.4	3.8		1.8		0.4	-	0.7	J	0.65	J	1.6
cis-1,3-Dichloropropene 0.47 μg/L 1 Dibromochloromethane 80 μg/L 1 Dichlorodifluoromethane 200 μg/L 1 Ethylbenzene 700 μg/L 2.3 Isopropylbenzene 450 μg/L 0.13 m,p-Xylene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl Acetate 14 μg/L 1 Methylene Chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	J 1	1 U	U	1 U	1	U	1	U	1	U	1	U	0.22	J	1 U
Dibromochloromethane 80 μg/L 1	J 1	1 U	U	1 U	1	U	1	U	1	J	1	U	1	U	0.25 J
Dichlorodifluoromethane 200 μg/L 1 Ethylbenzene 700 μg/L 2.3 Isopropylbenzene 450 μg/L 0.13 m,p-Xylene 19 μg/L 2. Methyl Acetate 20000 μg/L 2 Methyl tert-butyl ether 14 μg/L 1 Methylene 190 μg/L 2 O-Xylene 190 μg/L 2. Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 1.1	U 1	1 U	U	1 U	1	U	1	U	1	٥	1	U	1	U	1 U
Ethylbenzene 700 μg/L 2.3 Isopropylbenzene 450 μg/L 0.13 m,p-Xylene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl tert-butyl ether 14 μg/L 1 Methylene Chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	U 1	1 U	U	0.16 J	1	U	1	U	1	J	1	U	1	U	1 U
Isopropy benzene 450 μg/L 0.13 m,p.Xylene 19 μg/L 3.3 Methyl Acetate 20000 μg/L 2 Methyl Acetate 14 μg/L 1 Methylene Chloride 5 μg/L 2 0-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 1.1 Tetrachloroethene 10	U 1	1 U	U	1 U	1	U	1	U		J	1	U	1	U	1 U
m,p-Xylene 19 μg/L 3.3	1.5	2.3		1 U	1	U	1	U		J	0.1	J	1	U	1 U
Methyl Acetate 20000 μg/L 2 Methyl tert-butyl ether 14 μg/L 1 Methylene Chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	J 1	0.13 J	U	1 U	1	U	1	U	1	J	1	U	1	U	1 U
Methyl tert-butyl ether 14 μg/L 1 Methylene Chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	2.2	3.3		2 U		U		U	2	J	0.24	J		U	2 U
Methylene Chloride 5 μg/L 2 o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	U 2	2 U	U	2 U	2	U	2	U		٥	2	U	2	U	2 U
o-Xylene 190 μg/L 2.3 Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	U 1	1 U	U	1 U	1	U	1	U	1	כ	1	U	1	U	1 U
Styrene 100 μg/L 1.1 Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	J 2	2 U	U	2 U	2	U	2	U	2	כ	2	U	2	U	2 U
Tetrachloroethene 5 μg/L 0.2 Toluene 1000 μg/L 11	1.5	2.3		1 U	1	U	1	U	1	U	1	U	1	U	1 U
Toluene 1000 μg/L 11	0.53	1.1	J	1 U	1	U	1	U	1	٥	1	U	1	U	1 U
	J 1	0.2 J	U	1 U	1	U	0.2	J	1	٥	1	U	6.7		14
	7.8	11		0.12 J	0.29	J	0.25	J	0.27	J	0.51	J	0.31	J	0.24 J
trans-1,2-Dichloroethene 100 µg/L 1	U 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
trans-1,3-Dichloropropene 0.47 µg/L 1	U 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
Trichloroethene 5 μg/L 1	U 1	1 U	U	1 U	1	U	1	U	1	U	1	U	0.12	J	0.36 J
Trichlorofluoromethane 5200 µg/L 1	U 1	1 U	U	1 U	1	U	1	U	1	U	1	U	1	U	1 U
Vinyl Acetate 410 µg/L 2	U 2	2 U	U	2 U	2	U	2	U	2	U	2	U	2	U	2 U
Vinyl Chloride 2 µg/L 1		1 U	U	1 U	1	U		U	1	U	1	U		U	1 U

Notes

Highlight indicates values greater than screening level

‡ If an MCL is set for the analyte, the screening level is the MCL, oMCL, otherwise the screening level is the Regional Screening Level for tap water (cancer risk = 1 x 10-6, HQ = 1, November 2019)

Bold indicates detected values

VOC = volatile organic compound

μg/L = micrograms per liter

Q = qualifier

J = Result is estimated



		Location	MW-34		MW-34		MW-34		MW-34		MW-34	
		nple Date	2020-07-09		2020-07-09		2020-07-09		2020-07-10		2020-07-12	
		ple Name	MW34-GW070920-2			_	MW34-GW070920-2	_	MW34-GW071020-3	_	MW34-GW071220-3	_
Chemical Name	Screening Level‡	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
1,1,1-Trichloroethane	200	μg/L	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	0.076	μg/L	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	5	μg/L	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichlorotrifluoroethane	1000	μg/L	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	2.8	μg/L	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	7	μg/L	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichlorobenzene	0.7	μg/L	1	U	1	U	1	U	1	U	1	U
1,2,4-Trichlorobenzene	70	μg/L	1	U	1	U	1	U	1	U	1	U
1,2,4-Trimethylbenzene	1.5	μg/L	1	U	1	U	1	U	0.13	J	1	U
1,2-Dibromo-3-Chloropropane	0.2	μg/L	2	U	2	U	2	U	2	U	2	U
1,2-Dibromomethane	0.05	μg/L	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	600	μg/L	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	5	μg/L	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	5	μg/L	1	U	1	U	1	U	1	U	1	U
1,3,5-Trimethylbenzene	12	μg/L	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene		μg/L	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	75	μg/L	1	U	1	U	1	U	1	U	1	U
2-Butanone (MEK)	560	μg/L	20	U	20	U	20	U	20	U	20	U
2-Hexanone	3.8	μg/L	20	U	20	U	20	U	20	כ	20	U
4-Methyl-2-Pentanone (MIBK)	630	μg/L	20	С	20	U	20	U	20	U	20	U
Acetone	1400	μg/L	7.8	J	5.9	J	8.1	J	9.7	J	18	J
Benzene	5	μg/L	0.54	J	0.2	J	0.22	J	0.74	J	0.61	J
Bromochloromethane	8.3	μg/L	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	80	μg/L	1	U	1	U	1	U	1	U	1	U
Bromoform	80	μg/L	1	U	1	U	1	U	1	U	1	U
Bromomethane	0.75	μg/L	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	81	μg/L	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	5	μg/L	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	100	μg/L	1	U	1	U	1	U	1	U	1	U
Chloroethane	2100	μg/L	1	U	1	U	1	U	1	U	1	U
Chloroform	80	μg/L	0.5	J	0.34	J	0.17	J	1	U	0.19	J
Chloromethane	19	μg/L	1	U	1	U	1	U	0.42	J	1	U
cis-1,2-Dichloroethene	70	μg/L	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.47	μg/L	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	80	μg/L	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	200	μg/L	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	700	μg/L	1	U	1	U	1	U	0.11	J	0.11	J
Isopropylbenzene	450	μg/L	1	U	1	U	1	U	1	U	1	U
m,p-Xylene	19	μg/L	0.25	J	2	U	2	U	0.36	J	0.23	J
Methyl Acetate	20000	μg/L	2	U	2	U	2	U	2	U	2	U
Methyl tert-butyl ether	14	μg/L	1	Ū	1	U	1	U	1	U	1	U
Methylene Chloride	5	μg/L	2	U	2	Ū	2	U	2	U	2	Ū
o-Xylene	190	μg/L	1	U	1	U	1	U	0.14	Ī	0.11	j
Styrene	100	μg/L	1	Ū	1	U	1	U	1	U	1	U
Tetrachloroethene	5	μg/L	1.5	Ť	1.6	Ť	0.66	ı	1	U	0.43	J
Toluene	1000	μg/L	0.57	J	0.21	J	0.22	j	0.69	1	0.59	j
trans-1,2-Dichloroethene	1000	μg/L	1	U	1	U	1	U	1	Ų	1	U
trans-1,3-Dichloropropene	0.47	μg/L	1	U	1	U	1	U	1	U	1	U
Trichloroethene	5	μg/L μg/L	1	IJ	1	IJ	1	IJ	1	IJ	1	U
Trichlorofluoromethane	5200	μg/L μg/L	1	IJ	1	U	1	U	1	IJ	1	U
Vinyl Acetate	410	μg/L μg/L	2	U	2	U	2	U	2	U	2	U
Vinyl Chloride	2		1	U	1	U	1	U	1	U	1	U
villyi chloride		μg/L	1	U	1	U	1	U	1	U	1	U

Notes

Highlight indicates values greater than screening level

‡ If an MCL is set for the analyte, the screening level is the MCL, oMCL, otherwise the screening level is the Regional Screening Level for tap water (cancer risk = 1 x 10-6, HQ = 1, November 2019)

Bold indicates detected values

VOC = volatile organic compound

μg/L = micrograms per liter

Q = qualifier

J = Result is estimated



Table 6 Monitoring Well Survey Data and Construction Details

Location	Sample Interval	Soil Vapor Point Depth (ft bgs)	Y Coordinate (Utah State Plane, ft) ¹	X Coordinate (Utah State Plane, ft) ¹	Surface Elevation (ft amsl) ²	Top of Casing Elevation (ft amsl) ²	Total Well Depth (ft bgs)	Screen Start (ft bgs)	Screen End (ft bgs)	Pump Depth (ft bgs)	Pump Type
	Α	-				4711.80	222	210	220	210	ZIST w/ reciever
NAVA / 22	В	-	7442000 20	1546200 50	4712.47	4711.77	262	250	260	250	ZIST w/ reciever
MW-23	С	-	7443809.38	1546280.59	4/12.4/	4711.69	360	348	358	348	ZIST w/ reciever
	-	130-140				-	-	130	140	-	-
	-	-				4709.19	250	209.5	239.5	211	Solinst bladder pump
	-	32				-	-	-	-	-	-
MW-24	-	60	7443698.74	1546266.48	4709.77	_	-	-	-	-	-
	-	104				-	_	-	_	-	-
	-	130				_	-	-	_	-	_
	Α	-				4702.02	213	201	211	201	ZIST w/ reciever
	В	-				4702.09	243	231	241	231	ZIST w/ reciever
MW-25	С	-	7443676.94	1546071.97	4703.04	4702.07	320	307.5	317.5	308	ZIST w/ reciever
10100 23	-	28	7443070.34	1340071.37	4703.04	4702.07	-	307.3		-	-
		100						_	_	-	-
		-				4712.20		205	215	205	ZIST w/ reciever
	A					4712.29	217		_		,
MW-26	В	-	7443907.17	1546132.96	4713.25	4712.55	247	235	245	235	ZIST w/ reciever
	С	-				4712.51	327	315	325	315	ZIST w/ reciever
	D	-				4712.50	360	347.75	357.75	348	ZIST w/ reciever
	-	-				4712.34	220	200	220	210	Solinst bladder pump
	-	28				-	-	-	-	-	-
MW-27	-	48	7443766.76	1546337.14	4712.61	-	-	-	-	-	-
	-	75				-	-	-	-	-	-
	-	113				-	-	-	-	-	-
	-	155				-	-	-	-	-	-
	-	-				4712.54	210	190	210	204	Solinst bladder pump
MW-28	-	24	7443764.76	1546532.92	4712.80	-	-	-	-	-	-
11111 20	-	48	7443704.70	1540552.52	1712.00	-	-	-	-	-	-
	-	118				-	-	-	-	-	-
	Α	-				4678.46	132	120	130	128	ZIST w/o reciever
	В	-				4678.45	202	190	200	190	ZIST - w/ reciever
MW-29	С	1	7442845.95	1545935.59	4679.35	4678.68	242	230	240	230	ZIST - w/ reciever
10100-29	-	42	7442645.95	1545955.59	4079.33	-	-	-	-	-	-
	-	66				-	-	-	-	-	-
	-	98				-	-	-	-	-	-
	Α	-				4722.00	252	240	250	-	-
N 4047 20	В	-	7445070 45	4545404.00	4722.0-	4721.79	294	282	292	-	-
MW-30	С	-	7445073.45	1545424.98	4723.07	4721.92	329	317	327	317	ZIST w/ reciever
	-	30				-	-	-	-	-	-
	Α	-				4654.27	150	138	148	138	ZIST w/o reciever
MW-31	В	-	7442512.47	1545351.52	4655.22	4654.39	202	190	200	190	ZIST w/ reciever
	С	-				4654.35	230	228	238	228	ZIST w/ reciever
	A	-				4565.67	126	114	124	119	Solinst bladder pump
	В	-				4565.63	182	170	180	170	ZIST w/o reciever
MW-32	С	_	7444416.40	1542692.62	4566.22	4565.59	272	260	270	260	ZIST w/o reciever
	-	20				-	-	-	-	-	
	A	-		1		4623.09	152	140	150	148	ZIST w/o reciever
	В					4623.09	187	175	185	175	
NA/N/ 24	С	-	7//2/00 0/	15/127/15 66	1622 61						ZIST w/o reciever
MW-34		-	7443498.84	1543745.66	4623.61	4622.63	262	250	260	250	ZIST w/o reciever
	D	-				4622.58	327	315	325	315	ZIST w/o reciever
	-	18				-	-	-	-	-	-

Notes:

Acronyms:

amsl = above mean sea level bgs = below ground surface ft = feet ZIST = Zone Isolation Sampling Technology



 $^{^{\}rm 1}$ X/Y Coordinates measured using NAD 83 State Plane Coordinate System

 $^{^{\}rm 2}$ Elevations measured using NAVD 88 vertical datum

Appendix A

Daily Quality Control Reports



DATE: 3/9/2020 Prepared by: Joe Miller
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Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg Holt Services – Michael Leui Holt Services – Scottie Lampman Holt Services – Colby McCarthy VA – Shannon Smith VA – Marc Yalom VA – Carlos Aguilar EPA – Mark Aguilar Weston – Roy Weindorf
Visitors/Others:	

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat) Rig Hauler
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

Holt arrived at 1230 with drill rig hauler (semi), rig tender truck, equipment trailer, support truck. Vehicles currently staged near CERCLA IDW storage area. Site orientation and Health and Safety meeting occurred at the CERCLA conference room. Holt Personnel were badged. Pete (driller) walked boring locations with Joe Miller. Boring locations have been adjusted due to space requirements. All locations are still within areas surveyed by TWS.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

Projected Work - Near Term:

3/10/2020: Holt Services will mobilize drill rig to EPA-MW-01S to attempt to remove pump from well. Badger Vacuum services will be onsite to vacuum excavate borings around Buildings 6 and 7.

Other Activities/Remarks:

Approximately 150 gallons of rainwater was pumped from secondary containment to water tank onsite.

3/10/2020: Worksite fencing and toilet will be delivered.

Photos:



Date: 3/9/2020

Location: MW-23

Description: MW-23 between Buildings 6 and 7. Driller requests boring location moved to SE to accommodate area needed for work.



Date: 3/9/2020

Location: MW-28

Description: MW-28 near the Building 7 loading dock. Driller requests boring location moved to the south to accommodate area needed for

work.

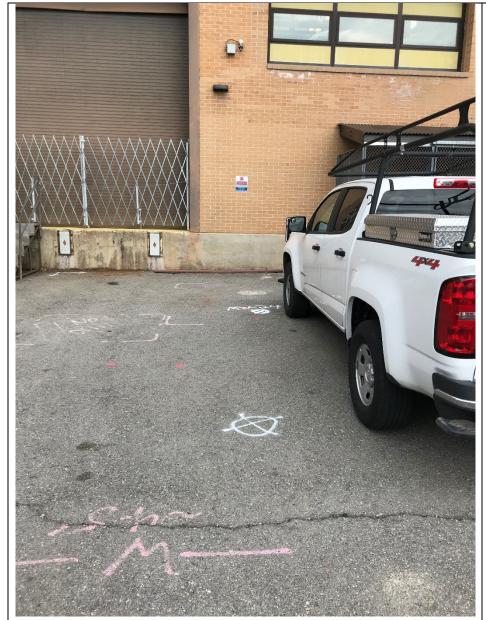


Date: 3/9/2020

Location: MW-26

Description: Boring location (white polygon) north of Building 6 moved to the north to be more than 3 feet from

marked utility.



Date: 3/9/2020

Location: MW-24

Description: MW-24 south alcove of Building 6. Boring location moved to the west to allow access for rig and

equipment.

<u>DATE:</u> 3/10/2020	Prepared by: Joe Miller
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Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman Holt Services – Sean Sewell (Holt Safety) Badger Daylighting – Vernon Lipse Badger Daylighting – Elizabeth Harris VA – Carlos Aguilar VA – Marc Yalom
Visitors/Others:	EPA – Mark Aguilar

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	 Hydrovac (Badger Daylighting)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted in the south parking lot.

Drilling prep:

Holt off loaded backfilling materials at the CERCLA IDW area, and received delivery of well materials (PVC, bentonite, sand).

Joe Miller and Marc Yalom walked boring locations. Notified engineering, laundry, RHI contractors, and warehouse about access to boring locations.

MW-01S pump fishing:

Holt mobilized the drill rig to EPA-MW-01S to retrieve pump from boring, and fished tubing and string from well. While attempting to grab onto pump, fishing tool twisted off with ~85-ft of pipe. Holt obtained additional materials to retrieve tooling, and retrieved all tooling from boring. Pump was tagged at ~221 feet, it is resting on the bottom of the well.

Hydrovac:

Badger Daylighting arrived late morning and completed H&S tailgate. Badger did not have asphalt coring tools on Vac truck, and considered starting at MW-26 (boring is in rock), but truck is too heavy to access through courtyard. Will have to access through parking lot west of annex office.

Wasatch Environmental provided drill/mini-hammer to clear asphalt for vacuum excavating at MW-28. MW-28 boring asphalt was cleared, and vacuum excavating completed to approximately 10 feet before Vac truck was full and headed offsite for the day. MW-28 boring secured with pallet and coned off at completion of the day.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

Holt twisted off fishing tool and piping, retrieved from EPA-MW-01S. Pump still in well, will attempt to retrieve again tomorrow.

Badger Daylighting didn't have equipment to remove asphalt. Wasatch removed today, Holt will remove asphalt for other borings tomorrow.

Projected Work - Near Term:

3/11/2020: Holt will attempt to remove EPA-MW-01S again, Badger Vacuum services will be onsite to vacuum excavate borings around Buildings 6 and 7.

Other Activities/Remarks:

3/11/2020: Worksite fencing and toilet will be delivered.

Photos:



Date: 3/10/2020

Location: EPA-MW-01S

Description: Terrasonic TS150 set up at EPA-MW-01S.



Date: 3/9/2020

Location: EPA-MW-01S

Description: Retrieving tubing and string from EPA-MW-01S to allow access to the pump.



Date: 3/10/2020

Location: MW-28 location

Description: Vacuum excavating of MW-28 boring

location.



Date: 3/10/2020

Location: MW-28

Description: Interior of MW-28 boring. Note large cobbles. Additional cobbles measured

6x10".



Date: 3/10/2020

Location: MW-28

Description: Pallet of sand over boring location since currently only excavated to

11'10" bgs.

DATE: 3/11/2020	Prepared by: Joe Miller	
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Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman Holt Services – Sean Sewell (Holt Safety) Badger Daylighting – Dustin Savage Badger Daylighting – Logan Jenson VA – Carlos Aguilar VA – Marc Yalom
Visitors/Others:	EPA – Mark Aguilar

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Hydrovac (Badger Daylighting)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted in the south parking lot.

Drilling prep:

Holt mobilized rig to MW-28 location and deconned drill tooling.

Hydrovac:

Holt cut asphalt at MW-23, MW-24 and MW-27 boring locations.

Badger Daylighting completed H&S tailgate. Badger was unable to advance MW-28 boring location to 15' bgs. Carlos Aguilar, VA Occupational Health and Safety verified that boring couldn't advance and appeared to be in native material. The boring had a PID reading of 9.6ppm. It was backfilled with sand and sealed with concrete.

Badger moved to MW-27 boring location. A boulder was encountered at 1' below ground. Holt assisted Badger by using skid steer with strap to remove boulder. Badger encountered flat concrete at 2' below ground and advancement was ceased. The boring was back filled with sand and patched with concrete.

Badger moved to MW-23 and cleared to 15'.

Badger dumped waste at IDW containment area; \sim 900 gallons of water and \sim 1.5 cu yard of soil.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

MW-28 not able to be advanced to 15' below ground using vacuum excavation. Hole clearance was approved for drilling by Carlos Aguilar.

MW-27 vacuum excavation encountered concrete at 2' below ground surface. Boring location will have to be moved.

<u>Projected Work – Near Term:</u>

3/12/2020 – Back fill MW-23 boring location. Set drill rig up at MW-28 location.

TBD – Holt will provide a downhole camera for inspecting MW-01S. Camera will allow for confirmation that tubing and other materials have been removed, the well is in good condition, and the pump is at the bottom of the well, as well as potential for pump retrieval. If it is determined that the pump cannot be removed or removal risks damage to the well, a new pump can be used for future sampling efforts, as the sampling depth is approximately 15 to 20 feet above the bottom of the well (and current position of the lost pump).

Other Activities/Remarks:

3/12/2020: Worksite fencing and toilet will be delivered.

Photos:



Date: 3/11/2020

Location: Laydown area

Description: Holt decontamination pad.



Date: 3/11/2020

Location: MW-27 Location

Description: Boulder encountered ~1-ft below

ground.



Date: 3/11/2020

Location: MW-27 location

Description: Concrete encountered ~2-ft below ground. Boring not advanced.



Date: 3/10/2020

Location: MW-23 Location

Description: Vacuum excavating MW-23 location.



Date: 3/10/2020

Location: CERLCA IDW area

Description: Cuttings and vac truck cleanout in containment

at CERCLA IDW area.

<u>DATE:</u> 3/12/2020	Prepared by: Joe Miller
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Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Carlos Aguilar VA – Shannon Smith VA – Marc Yalom
Visitors/Others:	EPA – Mark Aguilar

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	 Terrasonic 150 mini-sonic drill rig Skid Steer (Bobcat) Rig Hauler Tender/Water Truck
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted in the south parking lot.

Drilling prep:

Holt deconned remaining drill tooling. Holt mobilized drill steel and set up at MW-28 location. United Rentals delivered fencing and set up around MW-28 location. Excavation permit for MW-28 was acquired.

Hydrovac:

No preclearing activities occurred today, but VA Safety (Carlos Aguilar) approved preclearing of MW-23. Precleared boring was backfilled and patched.

Drilling

MW-28 drilling began at 1345. The boring was advanced to 40' bgs with the 8" core barrel. 10" casing is currently at 30' bgs. Three samples were collected for VOC analysis at 16', 22' and 35' bgs. The highest VOC screening was 48.2ppm at 22' bgs. Analytical samples collected are identified as follows:

- MW28-SB031220-16
- MW28-SB031220-22
- MW28-SB031220-35

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

Projected Work - Near Term:

3/13/2020 - Advance MW-28 boring.

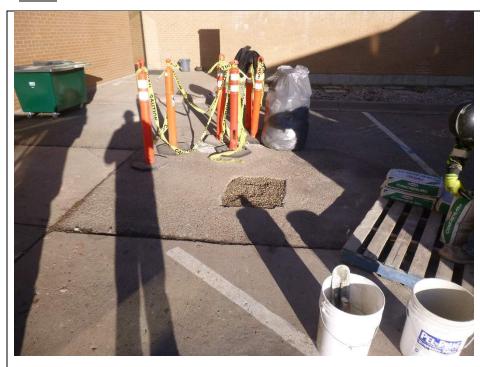
TBD – Holt will provide a downhole camera for inspecting MW-01S. Camera will allow for confirmation that tubing and other materials have been removed, the well is in good condition, and the pump is at the bottom of the well, as well as potential for

pump retrieval. If it is determined that the pump cannot be removed or removal risks damage to the well, a new pump can be used for future sampling efforts, as the sampling depth is approximately 15 to 20 feet above the bottom of the well (and current position of the lost pump).

Other Activities/Remarks:

3/13/2020: Safety Tailgate will be conducted at MW-28 location.

Photos:



Date: 3/12/2020

Location: MW-23 Location

Description: Precleared boring backfilled with sand and peagravel prior to patching



Date: 3/12/2020

Location: MW-28 Location

Description: TS150 sonic drill rig set up at MW-28 location. Area has been fenced off.



Date: 3/12/2020

Location: MW-28

Description: Soil core from 20-22' interval. The 21-22' interval had highest PID reading today

(48.2ppm)



Date: 3/12/2020

Location: MW-28

Description: Soil core from 29-30' interval. Several intervals had 6-8" diameter cobbles.

DATE: 3/13/2020	Prepared by: Joe Miller	
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Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	SLC Utilities – Adriaan Boogaard

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat) Rig Hauler
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-28 boring location.

Drilling:

MW-28 drilling resumed drilling 0815. The boring was advanced to 98' bgs with the 8" core barrel. 9" casing is currently at 90' bgs. The 10" casing was removed to limit vertical deviation of the boring. Five samples were collected, along with one duplicate sample. The highest PID reading was 29.7ppm at 49' bgs. The 49' interval was sampled with the duplicate. No PID readings greater than 20ppm were observed between 50 and 98'.

Samples Collected:
MW28-SB031320-49 + Duplicate
MW28-SB031320-59
MW28-SB031320-67
MW28-SB031320-86
MW28-SB031320-97

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

The 10" sonic casing was installed to 40' below ground surface. Holt attempted to advance 9" casing below 40' bgs but identified the 10" casing was off of vertical. The 10" casing was removed, and the 9" casing was advanced confirming vertically. The driller believes a cutting through a boulder caused the 10" casing to deviate.

Projected Work - Near Term:

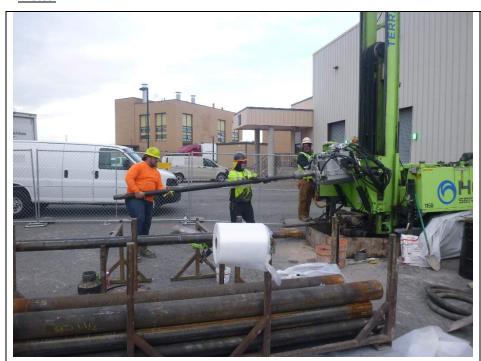
3/14/2020 - No onsite work is planned

3/15/2020 - Advance MW-28 boring

Other Activities/Remarks:

3/15/2020: Safety Tailgate will be conducted at MW-28 location.

Photos:



Date: 3/13/2020

Location: MW-28

Description: Drill helpers removing drill rods while tripping the sampler out of the

boring.



Date: 3/13/2020

Location: MW-28

Description: Soil core from 48-50' bgs. The MW28-SB031320-49 sample included the highest PID reading of the day

(27.9ppm).



Date: 3/13/2020

Location: MW-28

Description: Soil core from 66-69' interval. A lithologic transition at 68' from sand with gravel to clayey silt with gravel. (Top to the left)

<u>DATE:</u> 3/15/2020 <u>Prepared by:</u> Joe Miller

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bohcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-28 boring location.

Drilling:

MW-28 drilling resumed drilling 0815. The boring was advanced to 119' bgs with the 8" core barrel. 9" casing is currently at 110' bgs. Two samples were collected, along with MS/MSD QC sample. The highest PID reading was 130.3ppm at 117' bgs.

MW28-SB031320-107 MW28-SB031320-117 + MS/MSD

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

The Holt driller noticed a small hydraulic leak on the sonic head. Work was stopped, the boring was protected with plastic. Sorbent pads were used to wipe the sonic head and identify the leak. No hydraulic fluid spilled. An O-ring was replaced, and the leak was stopped. Downtime was ~3 hours.

While tripping in the 8" sonic casing the noticed the casing getting snagged on the 9" casing. To alleviate the drag and possible deviation of the boring, Holt plans to trip out the 9" casing, then resume drilling with the 8" casing.

Projected Work - Near Term:

3/16/2020 - Advance MW-28 boring

Other Activities/Remarks:

3/16/2020: Safety Tailgate will be conducted at MW-28 location.

Photos:



Date: 3/15/2020

Location: MW-28

Description: Drill helpers removing drill rods while tripping the 8" casing into the

boring.



Date: 3/15/2020

Location: MW-28

Description: Moderatly cemented Gravel with sand matrix from 107-108' interval. This unit was just below a sandy unit with an elevated PID reading of 39.0ppm.



Date: 3/15/2020

Location: MW-28

Description: Soil core from 115-117' interval. This interval had a 130.3ppm PID reading.

Note the moist silt unit above (to the left) the gravel.

DATE: 3/16/2020 Prepared by: Joe Miller

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-28 boring location.

Drilling:

Holt tripped out 9" casing and installed the 8" casing. MW-28 drilling resumed at 1245. The boring was advanced to 140' bgs with the 8" core barrel. 8" casing is currently at 140' bgs. Two samples were collected. The highest PID was in the 119-120' sample at 175ppm. The PID readings decreased with lithologic changes below the 120' interval.

MW28-SB031320-121 MW28-SB031320-139

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

The Holt driller noticed a different hydraulic leak on the sonic head. This leak likely came about from the repairs yesterday. Work was stopped, the boring was protected with plastic. Sorbent pads were used to wipe the sonic head and identify the leak. No hydraulic fluid spilled. An O-ring was replaced, and the leak was stopped. Downtime was ~2.5 hours. During downtime, dried soils from hydrovac cleanout were transferred into the rolloff.

<u>Projected Work – Near Term:</u>

3/17/2020 - Advance MW-28 boring

Other Activities/Remarks:

3/17/2020: Safety Tailgate will be conducted at MW-28 location.

Photos:



Date: 3/16/2020

Location: MW-28

Description: Holt identified a hydraulic leak on the drill head. The boring was protected and plastic sheeting was used to capture any fluid during

repairs.



Date: 3/16/2020

Location: MW-28

Description: O-Ring seal failed,

leaking hydraulic fluid.



Date: 3/16/2020

Location: MW-28

Description: Screening soil core interval 119-120'.



Date: 3/16/2020

Location: MW-28

Description: Soil core from

132-134' interval.

Note the cohesive silt unit below (to the left) the gravel.

<u>DATE:</u> 3/17/2020	Prepared by: Joe Miller
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Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-28 boring location.

Drilling:

Drilling resumed at 0825. The MW-28 boring was advanced to 207' bgs today. A perched groundwater zone was encountered ~148' bgs. After the sonic casing was installed to 160', no water was encountered until ~194' bgs. The highest PID encountered was 35ppm at 149' bgs. Currently 8" sonic casing is to 190' bgs. At the end of the shift the boring was open to 200' and the DTW in the boring was 163.7'. Seven soil samples were collected plus 1 duplicate.

Samples:

MW28-SB031720-149

MW28-SB031720-156

MW28-SB031720-165

MW28-SB031720-171

MW28-SB031720-185

MW28-SB031720-199

MW28-SB031720-206 + FD02-SB031719

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

Projected Work - Near Term:

3/18/2020 - Verify water level, collect groundwater push ahead groundwater sample, begin well installation pending design.

Other Activities/Remarks:

3/18/2020: Safety Tailgate will be conducted at MW-28 location.

Photos:



Date: 3/17/2020

Location: MW-28

Description: Tripping out sonic sampler from 200-207' advancement. Water in drill rods while disconnecting.



Date: 3/17/2020

Location: MW-28

Description: Sonic core from 195-198' bgs. The unit is a silty Sand, the core was wet and cool to the touch.



Date: 3/17/2020

Location: MW-28

Description: Sonic core from 198-200' bgs. The unit is Sand, the core was wet and cool to

the touch.

DATE: 3/18/2020 Prepared by: Joe Miller

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	<u>Humid</u>		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat) Rig Hauler
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-28 boring location.

Drilling:

Depth to water this morning was 184.9' bgs. Drilling resumed at 0825. The MW-28 boring was advanced to 210' bgs and cased to depth. A push ahead ground water sample was collected from 211' bgs. The boring was cleared and prepped for well construction.

Sample collected:

MW28-GW031820-211

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

A 5.7 magnitude earthquake occurred at 0709, prior to the morning tailgate. No impacts on the drilling due to the earthquake. None of the aftershocks were felt at the drill site.

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

The push ahead groundwater sampler stop needed to be modified to fit in the drill rods. Then the o-rings did not provide enough friction to keep the sampler closed during deployment. Teflon tape was added to the o-rings to provide friction.

Projected Work - Near Term:

3/19/2020 – Install MW-28 and soil vapor points. Target well screen interval ~ 190-210 feet bgs (depth to water in the drill casing was about 185 feet bgs. Target depths (approximate) of soil vapor points: 24′, 48′, and 118′. Each of these depths is targeting a zone where slightly elevated to elevated PID readings were noted in the soil core samples.

3/19/2020 - Drilling oversight transition with Kimberly Yauk and Connor Kelly (CDM Smith)

Other Activities/Remarks:

3/19/2020: Safety Tailgate will be conducted at MW-28 location.

Photos:



Date: 3/17/2020

Location: MW-28

Description: Holt changing jaw plates on rig to improve grip on the drill rods and casing.



Date: 3/18/2020

Location: MW-28

Description: Sampler stop that needed to be ground down to

fit in drill rods.



Date: 3/18/2020

Location: MW-28

Description: Driller helper applying Teflon tape to sampler o-rings to increase friction and hold sampler in place during deployment.

DATE: 3/19/2020	Prepared by: Kimberly Yauk

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller CDM Smith – Kimberly Yauk CDM Smith – Connor Kelley Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom VA – Shannon Smith
Visitors/Others:	VA – Carlos Aguilar

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	<u>Humid</u>		

Equipment in Use (field instruments, subcontractor equip, etc.)	 Terrasonic 150 mini-sonic drill rig Skid Steer (Bobcat) Rig Hauler Tender/Water Truck
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-28 boring location.

Monitoring well and Soil Vapor Probe Construction:

Depth to water this morning was 200.22' bgs. No drilling was performed today. No samples were collected. Total depth of borehole was 210'. Four-inch, schedule 40 PVC was used for well construction with a 20-foot screen from 190 to 210 feet bgs. Soil vapor probes were installed at depths of 24, 48, and 118 feet bgs. Drilling oversight and sampling was turned over to Kimberly Yauk and Connor Kelley.

Samples collected:

None.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

A small aftershock from the earthquake yesterday was felt prior to the health and safety meeting. No other aftershocks were felt at the drill site.

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

The bottom four feet of the borehole was very tight and difficult for the driller to remove casing. Casing was able to be removed with difficulty.

Projected Work – Near Term:

3/20/2020 – Complete MW-28 annular materials from 0 to 23 feet bgs, add surface completion and well box, decontaminate drill equipment, vacuum location at MW-27 to 15 feet bgs. Contact Carlos if drilling is expected on Sunday 3/22.

3/22/2020 - Drilling to begin at MW-27; will contact Carlos for excavation permit.

Other Activities/Remarks:

3/20/2020: Safety Tailgate will be conducted at MW-28 location.

Photos:



Date: 3/19/2020

Location: MW-28

Description: Holt opening monitoring well PVC casing.



Date: 3/19/2020

Location: MW-28

Description: Holt constructs

monitoring well.



Date: 3/19/2020

Location: MW-28

Description: CDM assembles the soil vapor probes and

tubing.



Date: 3/19/2020

Location: MW-28

Description: Holt and CDM place the soil vapor probes at

targeted depths.



Date: 3/19/2020

Location: MW-28

Description: Holt places annular materials with #2/12 sand filter pack at 21'-27' (to be completed), 45'-51', 114.6'-120', and 186.5'-210'.



Date: 3/19/2020

Location: MW-28

Description: Holt removes drill pipe from borehole while filling

annular materials.

DATE: 3/20/2020	Prepared by: Kimberly Yauk

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller CDM Smith – Kimberly Yauk CDM Smith – Connor Kelley Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman Badger – Logan Jensen Badger – Johnny Shelley VA – Marc Yalom
Visitors/Others:	

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	<u>Humid</u>		

Equipment in Use (field instruments, subcontractor equip, etc.)	Terrasonic 150 mini-sonic drill rig
	Skid Steer (Bobcat)
	Rig Hauler
	Tender/Water Truck
	Portable Toilet
	Vacuum Truck

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-28 boring location.

Well Completion:

Annular materials were finished being installed at MW-28, and a flush-mounted well box was completed. The drill rig and equipment were moved to MW-27. Casing and push-ahead sampler were decontaminated, and equipment blanks were collected off each one. A trip blank was included with the equipment blanks.

Samples collected: EB01-GW032020 (sampler) EB02-GW032020 (casing) TB06-SB032020

Hydrovac Clearance:

A Badger hydrovac truck was on site to clear MW-27 of utilities. Advancement of the borehole slowed greatly after 11 feet deep, and the borehole was ultimately able to be cleared to 12.875 feet deep before progress halted. Carlos Aguilar visited the site to sign the excavation permit for drilling at MW-27 on Sunday. A pallet of bentonite was placed over the hole to protect it. The water from the hydrovac truck was pumped into the containment tanks. Currently one tank is full, and the second tank is 1/3 full. The soil from the hydrovac truck was unloaded into the modified secondary containment area lined with visqueen and left to dry out.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

No aftershocks from the March 18th earthquake were felt at the site.

The borehole at MW-27 was not able to be cleared the full 15 feet, but the clearance made was deemed sufficient by Carlos Aguilar (VA).

Only half the casing was decontaminated. The remaining casing will be decontaminated on Sunday.

Projected Work – Near Term:

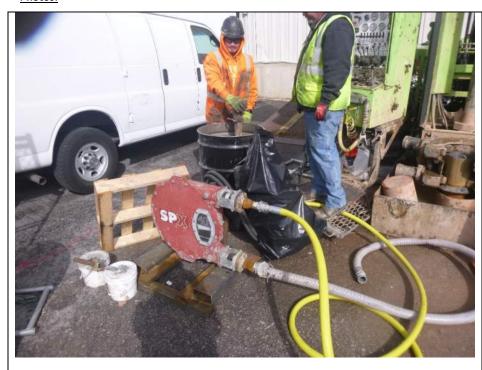
3/21/2020 – Day off; Connor will stop by the site to check on the soil containment (make sure it is holding up and confirm soil rolloff bin is closed).

3/22/2020 – Decontamination of casing will be completed, drilling, logging, and sampling will begin at MW-27.

Other Activities/Remarks:

3/22/2020: Safety Tailgate will be conducted at MW-27 location.

Photos:



Date: 3/20/2020

Location: MW-28

Description: Holt mixing cement for sealing the top ten feet of the borehole.



Date: 3/20/2020

Location: MW-28

Description: Grouted with cement to within two feet of

ground surface.



Date: 3/20/2020

Location: MW-28

Description: Holt installs the surface completion well box in

concrete.



Date: 3/20/2020

Location: MW-28

Description: Holt loads casing to the decontamination area.



Date: 3/20/2020

Location: Decontamination

Area

Description: Holt decontaminates drilling equipment with steam

cleaners.



Date: 3/20/2020

Location: Decontamination

Area

Description: Equipment Blank

EB01-032020.



Date: 3/20/2020

Location: Decontamination

Area

Description: Equipment Blank

EB02-032020.



Date: 3/20/2020

Location: MW-27

Description: Badger cuts asphalt with a jackhammer

chisel.



Date: 3/20/2020

Location: MW-27

Description: Badger hydrovacs the borehole to clear utilities.



Date: 3/20/2020

Location: MW-27

Description: Boring location has abundant cobbles and

boulders.



Date: 3/20/2020

Location: MW-27

Description: Open borehole secured with a pallet of

bentonite.



Date: 3/20/2020

Location: IDW Containment

Area

Description: Soil containment

area.



Date: 3/20/2020

Location: IDW Containment

Area

Description: Water from hydrovac is containerized in

water tanks.



Date: 3/20/2020

Location: IDW Containment

Area

Description: Hydrovac truck

empties soil into soil containment area.

Prepared by: Kimberly Yauk **DATE:** 3/22/2020

Personnel Onsite, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Connor Kelley Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig	
Equipment in Use (field	Skid Steer (Bobcat)	
instruments, subcontractor	Rig Hauler	
equip, etc.)	Tender/Water Truck	
	Portable Toilet	

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-27 boring location.

Well Completion:

Decontamination of the casing was completed in the morning. Drilling then began at MW-27. The borehole was advanced to nearly 110 feet when the drill rod broke. Drilling and sampling ended for the day while the driller attempted to retrieve the broken drill rod from the hole without success. Tomorrow, the driller will try renting a tool to tap into the broken rod and remove so that drilling may continue.

Samples collected:

MW27-SB032220-13

MW27-SB032220-16

MW27-SB032220-30

MW27-SB032220-40

MW27-SB032220-50

FD03-SB032220 (duplicate of 50-foot sample)

MW27-SB032220-54.5 (+MS/MSD)

MW27-SB032220-70

MW27-SB032220-75

MW27-SB032220-88

MW27-SB032220-96

FD04-SB032220 (duplicate of 96-foot sample)

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

No aftershocks from the March 18th earthquake were felt at the site.

The drill rod broke at MW-27 near 110 feet bgs. The broken-off piece of rod is still being retrieved. Drilling tomorrow will be delayed while Holt locates and rents proper tooling for removal.

<u>Projected Work – Near Term:</u>

3/23/2020 – Drillers will remove broken drill rod from MW-27 and drilling will continue. Samples collected before 4PM will be prepared for shipping to EMAX Laboratory.

Other Activities/Remarks:

3/23/2020: Safety Tailgate will be conducted at MW-27 location.

Photos:

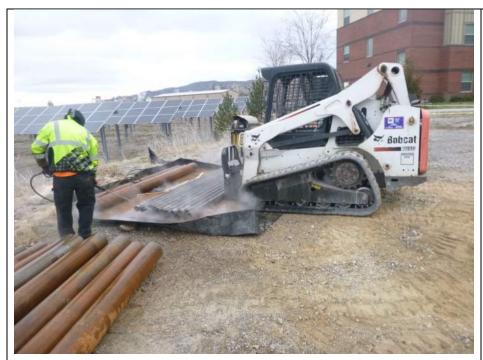


Date: 3/22/2020

Location: MW-28

Description: Completed monitoring well and multi-depth soil vapor probe at

MW-28.



Date: 3/22/2020

Location: Decontamination

Area

Description: Drill rod and casing is decontaminated prior

to drilling at MW-27.



Date: 3/22/2020

Location: MW-27

Description: Drilling begins at

MW-27.



Date: 3/22/2020

Location: MW-27

Description: Logging the soil

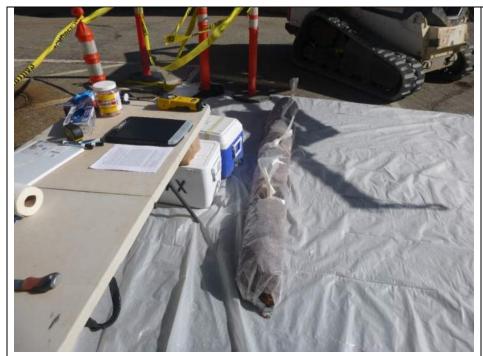
core.



Date: 3/22/2020

Location: MW-27

Description: A 10-inch layer of sandstone was encountered at 50 feet below ground surface.



Date: 3/22/2020

Location: MW-27

Description: Soil cores from the sonic rig prior to screening for VOCs and sampling.



Date: 3/22/2020

Location: MW-27

Description: CDM Smith collecting VOC samples.



Date: 3/22/2020

Location: MW-27

Description: CDM Smith screens soil core with a magnetic susceptibility meter.



Date: 3/22/2020

Location: MW-27

Description: Rig and drilling area secured at the end of the

day.

DATE: 3/23/2020	Prepared by: Kimberly Yauk
	 ,

Personnel Onsite, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Connor Kelley Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	Wasatch Environmental – Kiel Keller

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig	
Equipment in Use (field	•	Skid Steer (Bobcat)	
instruments, subcontractor	•	Rig Hauler	
equip, etc.)	•	Tender/Water Truck	
	•	Portable Toilet	

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-27 boring location.

Drilling:

The broken drill rod was removed from the borehole in the morning, and drilling resumed at 1000. The MW-27 boring was advanced to 180 feet bgs and cased to depth. High detections on the PID (over 100 ppm) were encountered from 110 to 120 feet. Water was encountered at 164 feet bgs (likely a perched zone), and a water sample was collected using a hand bailer. Samples from today (except the last two), yesterday, and Friday were shipped to the laboratory.

Samples collected:

MW27-SB032320-102

MW27-SB032320-114

MW27-SB032320-122

MW27-SB032320-130

MW27-SB032320-140

MW27-SB032320-150

MW27-SB032320-158

MW27-SB032320-166

MW27-GW032320-168

MW27-SB032320-175

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

No aftershocks from the March 18th earthquake were felt at the site.

Projected Work – Near Term:

3/24/2020 – Depth to water will be measured prior to the start of drilling. Drilling will continue at MW-27. Total depth is expected to be reached and water sampling may take place.

Other Activities/Remarks:

3/22/2020: Safety Tailgate will be conducted at MW-27 location.

Photos:



Date: 3/23/2020

Location: MW-27

Description: Tapping tool used by Holt to retrieve the broken

drill rod.



Date: 3/23/2020

Location: MW-27

Description: Holt advancing the MW-27 borehole.



Date: 3/23/2020

Location: MW-27

Description: Soil core with detections on the PID exceeding 100 ppm.



Date: 3/23/2020

Location: MW-27

Description: Soil from 110 to 122.5 feet was drummed separately due to high detections on the PID.



Date: 3/23/2020

Location: MW-27

Description: Clay with gravel encountered at 170 feet bgs.



Date: 3/23/2020

Location: MW-27

Description: Several layers of quartzite were encountered throughout the day.

DATE: 3/24/2020 Prepared by: Kimberly Yauk

Personnel Onsite, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Connor Kelley Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	<u>Humid</u>		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-27 boring location.

Drilling:

Drilling began at 0800. No water was in the borehole at the beginning of the day. The MW-27 boring was advanced to 220 feet bgs. High detections on the PID (over 30 but under 100 ppm) were encountered from 181' to 187' (43.8-80.8 ppm) and 193' (32.5 ppm). Wet soils were encountered beginning at 193 feet bgs, but there was not any free-flowing water to allow for groundwater sample collection. The formation was very tight after 200 feet bgs, and the core barrel became stuck between 200 and 210 feet with little to no recovery. Water was free flowing at 210 feet, and push-ahead samples were able to be collected at 210' and 220'. A wastewater characterization sample was collected from the water containment tank. All samples collected today and two from yesterday were shipped to the laboratory.

Samples collected:

MW27-SB032420-185

MW27-SB032420-192.5

MW27-SB032420-205

MW27-GW032420-210

MW27-SB032420-218

MW27-GW032420-220

TB07-SB032420

IDW01-GW032420

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

Projected Work - Near Term:

3/25/2020 – Depth to water will be measured prior to well construction. Screen zone depths will be confirmed prior to well construction. Likewise, soil vapor probe depths will be confirmed in the morning. Once depths are confirmed, well construction will begin. Well construction is expected to be completed by Thursday 3/26.

Other Activities/Remarks:

3/25/2020: Safety Tailgate will be conducted at MW-27 location.

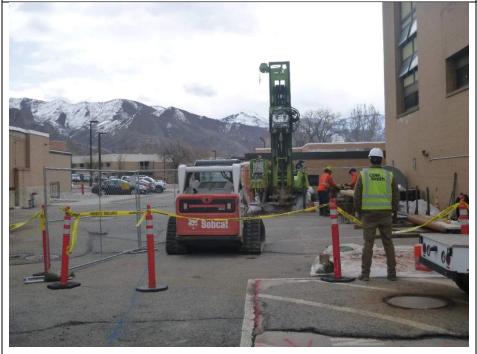
Photos:



Date: 3/24/2020

Location: MW-27

Description: High readings on the magnetic susceptibility meter at 181.5 feet bgs.



Date: 3/24/2020

Location: MW-27

Description: Holt advancing the MW-27 borehole.



Date: 3/24/2020

Location: MW-27

Description: A water level measurement was taken between 200 to 210 feet bgs. Static water was measured at

184.5 feet bgs.



Date: 3/24/2020

Location: MW-28

Description: The water level at MW-27 was compared to the static water level at MW-28. Water at MW-28 was measured at 183.64 feet bgs.



Date: 3/24/2020

Location: MW-27

Description: Drillers use the push-ahead water sampler

shown.



Date: 3/24/2020

Location: MW-27

Description: Groundwater sample at 210 feet bgs.

DATE: 3/25/2020	Prepared by: Kimberly Yauk

Personnel Onsite, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Connor Kelley Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	<u>Snow</u>
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	<u>Humid</u>		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-27 boring location.

Well Installation:

The static water level at MW-27 was 196.19 feet bgs in the morning. Total depth of the borehole is 220 feet bgs. The screen was installed from 200 to 220 feet bgs (sand from 197 to 220) with vapor probes at 28, 48, 75, 113, and 155 feet and sand from 25 to 30.7 feet, 44 to 51 feet, 73 to 79 feet, 109 to 116 feet, and 151 to 157 feet.

Samples collected:

No samples were collected today.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

Projected Work - Near Term:

3/26/2020 – The 10-foot surface seal at MW-27 will be grouted with cement, and a surface completion will be installed. Drill casing and the push-ahead sampler will be decontaminated, and an equipment blank sample will be collected from each. Soil will be containerized in the rolloff bin, and a soil waste characterization sample will be collected. Samples will be sent to the laboratory. Drillers will secure their equipment prior to shift break next week.

Other Activities/Remarks:

3/26/2020: Safety Tailgate will be conducted at MW-27 location.

Photos:



Date: 3/25/2020

Location: MW-27

Description: Soil vapor probe

assembly.



Date: 3/25/2020

Location: MW-27

Description: CDM attaches soil

vapor probes to tubing.



Date: 3/25/2020

Location: MW-27

Description: Holt begins well construction with a 20-foot screen zone from 200 to 220

feet bgs.



Date: 3/25/2020

Location: MW-27

Description: Holt constructs soil vapor probes, attaching probe tips to the outside of well casing with zip ties. Probe depths are installed at 28, 48, 75, 113, and 155 feet.



Date: 3/25/2020

Location: MW-27

Description: Probe depths are measured as PVC casing is

installed.



Date: 3/25/2020

Location: MW-27

Description: Annular materials are installed around the well

casing and probes.

DATE: 3/26/2020	Prepared by: Kimberly Yauk	
	 ,	

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Connor Kelley Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	Mark Augustyn

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	<u>Snow</u>
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	<u>To 32 º F</u>
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	<u>Humid</u>		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-27 boring location.

Well Installation:

The drillers grouted the final 10 feet of MW-27 with neat cement grout mixed with sand. The surface was completed with an Augustyn-style well box. Mark Augustyn delivered the surface completions and discussed with the drillers how to properly install his completion design. Soil vapor tubing was wrapped up inside the surface completion at MW-27 and the well was locked. A lock was attached to the well cap at MW-28 also.

Decontamination:

Drillers began decontamination of the drill casing and push-ahead sampler. Equipment blanks were collected from each. They did not complete decontamination and will finish decontaminating the remaining drill casing when they arrive back onsite next week.

Investigation-Derived Waste:

Drillers consolidated all the soil IDW into the soil roll-off bin. An IDW sample was collected for waste characterization.

Color-Tec:

Groundwater samples from MW-28 at 211 feet and from MW-27 at 220 feet were run on the Color-Tec system. Both samples had no detections of VOCs, which was consistent with the laboratory analysis for those same samples.

Samples collected:

IDW02-SB032620

EB03-GW032630

EB04-GW032620

TB08-GW032620

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered.

Projected Work - Near Term:

3/27/2020 – CDM will call Carlos Aguilar to close out the MW-27 excavation permit. Samples collected will be shipped to the laboratory.

4/6/2020 – The project will be on break until April 6, when the drillers and CDM crew will be back to begin work at MW-23.

Other Activities/Remarks:

4/6/2020: Safety Tailgate will be conducted at the decontamination location.

Photos:



Date: 3/26/2020

Location: MW-27

Description: Holt mixes cement grout for the 10-foot

surface seal.



Date: 3/26/2020

Location: MW-27

Description: Holt pumps grout into the MW-27 borehole.



Date: 3/26/2020

Location: MW-27

Description: Cement grouting to near-ground surface before surface completion is installed

in concrete.



Date: 3/26/2020

Location: MW-27

Description: Mark Augustyn delivers surface completions and instructs Holt on proper

installation.



Date: 3/26/2020

Location: MW-27

Description: Surface completion is installed on concrete that has set for one hour. Completion will sit level for 30 minutes to ensure concrete holds firm before more concrete is poured

around it.



Date: 3/26/2020

Location: MW-27

Description: Holt concretes surface completion into place. Black dye is used in the concrete to better match the asphalt around the well.



Date: 3/26/2020

Location: IDW Containment

Area

Description: CDM analyzes groundwater samples from MW-27 and MW-28 on the

Color-Tec system.



Date: 3/26/2020

Location: IDW Containment

Area

Description: Holt and CDM move soil IDW from secondary containment area to soil

roll-off bin.



Date: 3/26/2020

Location: IDW Containment

Area

Description: All remaining soil from the hopper is moved to the soil roll-off bin. Holt grades the gravel around the soil bin.

DATE: 4/6/2020	Prepared by: Joe Miller

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom VA – Shannon Smith
Visitors/Others:	VA Safety – Carlos Aguilar

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bohcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the Holt laydown area in the southwest parking area.

Drilling Prep:

Holt received a delivery of additional drill steel, 320'-7" and 380'-6" sonic casing. The newly arrived sonic casing and the additional 8" casing were decontaminated. The drill rig was setup at the MW-23 boring location. The work zone was delineated with temporary fencing. Carlos Aguilar – VA safety issued the MW-23 excavation permit.

The MW-23 concrete surface patch was cut. The backfill material was removed to 10' and 9" casing was installed.

No Samples were collected.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 6th, the SLC VA is encouraging "Universal Masking."

Projected Work - Near Term:

4/7/2020 - Advance MW-23 boring

4/7/2020 – Anticipate delivery of additional roll-off for soil cuttings and ZIST well materials.

Other Activities/Remarks:

4/7/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/6/2020

Location: Holt Laydown area

Description: Holt preparing to decontaminate sonic casing



Date: 4/6/2020

Location: MW-23 between

Buildings 6 and 7

Description: Concrete patch removed and preparing to remove backfill material with

sonic drill rig.



Date: 4/6/2020

Location: MW-23 between

Buildings 6 and 7

Description: MW-23 work zone setup with temporary fencing

installed.

DATE: 4/7/2020	<u>Prepared by:</u> Joe Miller	

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat) Rig Hauler
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

The MW-23 boring was advanced to 110' bgs. The 9" sonic casing was advanced to 20' bgs. The 8" sonic casing is currently to 100' bgs. Eleven soil samples were collected along with 2 duplicates and 1 MS/MSD sample. The highest PID was 237ppm at 97' bgs. Other than the 97-100' interval the highest PID encountered was 50.4ppm at 30' bgs.

Samples collected:

MW23-SB040720-16 + duplicate FD05-SB040720

MW23-SB040720-24

MW23-SB040720-30

MW23-SB040720-49

MW23-SB040720-54 + MS/MSD

MW23-SB040720-63

MW23-SB040720-75

MW23-SB040720-85

MW23-SB040720-93

MW23-SB040720-97 + duplicate FD-SB040720

MW23-SB040720-107

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 6th, the SLC VA is encouraging "Universal Masking."

Projected Work - Near Term:

4/8/2020 - Advance MW-23 boring

Other Activities/Remarks:

Received delivery of second 20 cu yd roll off for soil cuttings. Received delivery of ZIST well materials from BESST Systems.

4/8/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/7/2020

Location: MW-23 Soil Cuttings

Description: Moist Sandy Gravel from 97-99' had highest PID reading. Unit pictured from 99-100' was a silt with gravel and was weakly cemented.



Date: 4/7/2020

Location: MW-23 Soil Cuttings

Description: Second highest PID interval from 30-31' bgs in moist gravelly silt. Unit was just above large sandstone

clast.



Date: 4/7/2020

Location: Holt staging area

Description: Delivery of second

roll off for soil cuttings.



Date: 4/7/2020

Location: MW-23 between

Buildings 6 and 7

Description: Holt adding 8" sonic casing to drill head.

DATE: 4/8/2020	Prepared by: Joe Miller

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat) Rig Hauler
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

The MW-23 boring was advanced to 160' bgs. The 8" sonic casing is currently to 150' bgs. Five soil samples were collected. The highest PID observed was 51ppm in the 110-112' bgs interval. A perched groundwater unit was encountered between 147-151' bgs. A grab sample was collected and submitted for VOC analysis.

Samples collected:

MW23-SB040820-110

MW23-SB040820-124

MW23-SB040820-133

MW23-SB040820-143

MW23-SB040820-155

MW23-GW040820-150

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 6th, the SLC VA is encouraging "Universal Masking."

Holt prepared to drill with 7" casing and 6" core barrel sampler but did not have a 6" core barrel onsite. Holt resumed advancing boring with 8" casing. A 6" core barrel sampler is expected to arrive on 4/9.

Projected Work - Near Term:

4/9/2020 - Advance MW-23 boring

Other Activities/Remarks:

4/9/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/8/2020

Location: MW-23 Work Area

Description: Holt work crew

social distancing.



Date: 4/8/2020

Location: MW-23 Soil Cuttings

Description: Perched

groundwater unit. Wet gravel

above a clayey silt.



Date: 4/8/2020

Location: MW-23 Soil Cuttings

Description: Close up of clayey Silt below wet gravel 148' bgs.

Unit has secondary cementation.



Date: 4/8/2020

Location: MW-23 Soil Cuttings

Description: Soil cuttings from 149.5-152' bgs. Soil was wet above 151' and moist below.

DATE: 4/9/2020	Prepared by: Joe Miller	

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat) Rig Hauler
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

The MW-23 boring was advanced to 220' bgs. The 7" sonic casing is currently to 220' bgs. Six soil samples were collected along with 1 duplicate sample. The highest PID observed was 95ppm in the 174-175' bgs interval. Groundwater was encountered at ~190' bgs. A push-ahead groundwater sample was attempted at 200' and one was collected at 220' and submitted for VOC analysis.

Samples collected:

MW23-SB040920-169

MW23-SB040920-174

MW23-SB040920-184

MW23-SB040920-199 + Duplicate

MW23-SB040920-208

MW23-SB040920-218

MW23-GW040920-220

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 6th, the SLC VA is encouraging "Universal Masking."

A push-ahead groundwater sample was attempted at 200'. The sonic casing was advanced to 200', the boring was cleared out with the core barrel. The push ahead sampler was deployed and vibed. No water was recovered. The sampler was vibed and pulled back \sim 1.5'. After 20 minutes of recharge, the sample recovered was too muddy to submit for analysis.

Projected Work - Near Term:

4/10/2020 - Advance MW-23 boring

Other Activities/Remarks:

4/10/2020: Safety Tailgate will be conducted at MW-23 location.

4/10/2020: Badger Daylighting will be onsite to preclear MW-26.

Photos:



Date: 4/9/2020

Location: MW-23 Soil Cuttings

Description: Soil core from 172.5-175'. Today's highest PID (95ppm) was in gravelly interval above cohesive silt.



Date: 4/9/2020

Location: MW-23 Soil Cuttings

Description: Unit from 192-195' was wet, coarse grained

sand and gravel.



Date: 4/9/2020

Location: MW-23 Push ahead

sampler

Description: Push ahead sampler after 200' sample attempt. Sampler screen clogged, no sample recovery.

DATE: 4/10/2020	<u>Prepared by:</u> Joe Miller	

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom Badger Daylighting – Jesus Rojas
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

The MW-23 boring was advanced to 260' bgs. The 7" sonic casing is currently to 260' bgs. Four soil samples were collected. The highest PID observed was 470ppm in the 255-257' bgs interval. Static Groundwater was measured at ~192' bgs. Two pushahead groundwater VOC samples were collected at 240' and 260' bgs.

Samples collected:

Soil:

MW23-SB041020-226

MW23-SB041020-230

MW23-SB041020-244

MW23-SB041020-257

GW:

MW23-GW041020-240 MW23-GW041020-260

Hydrovac clearing:

Badger Daylighting was onsite to preclear the MW-26 boring location. The boring location was cleared to beyond 9' and could not be advanced further. An irrigation line was encountered just below the surface and the location was shifted less than a foot. At 5' below ground surface an apparent wire/ground/coax (~1/4" diameter) was exposed. VA safety and electrical inspected and determined the boring can be advanced. VA safety approved the preclearing with termination at just greater than 9' bgs.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 6th, the SLC VA is encouraging "Universal Masking."

The Badger hydrovac crew arrived without sufficient hose to access the boring location. Badger waited an hour to get the hose extension to site.

Projected Work – Near Term:

4/12/2020 - Advance MW-23 boring

Other Activities/Remarks:

4/12/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/10/2020

Location: MW-23 Soil Cuttings

Description: Soil core from 255-260'. Today's highest PID (470ppm) was at 257' bgs. The unit was a silty gravel above a loose sand (258-259) above a cemented gravel (259-260).

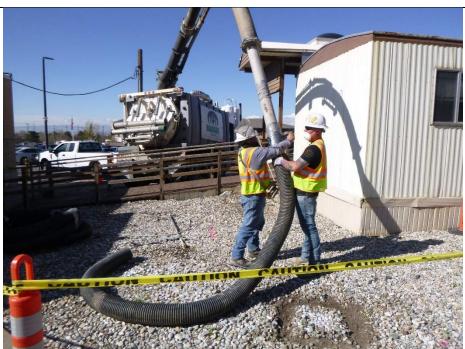


Date: 4/10/2020

Location: MW-23 Soil Cuttings

Description: Cemented gravel from 260' bgs interval. PID reading in this interval was

350ppm.



Date: 4/10/2020

Location: MW-26

Description: Badger

daylighting setting up at MW-

26 boring location.



Date: 4/10/2020

Location: MW-26 vacuum

clearing

Description: Wire/coax/ground line encountered 5' bgs. VA electrician determined it was

not a live wire.

DATE: 4/12/2020 Prepared by: Joe Miller

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

The MW-23 boring was advanced to 310′ bgs. The 6″ sonic casing is currently to 310′ bgs. Three soil samples were collected. The highest PID observed was 52.8ppm in the 261-262 bgs interval. Static Groundwater was measured at ~212′ bgs. Two pushahead groundwater VOC samples were attempted at 280′ and 300′ bgs. Neither unit produced a sample.

Samples collected:

Soil:

MW23-SB041220-261

MW23-SB041220-280

MW23-SB041220-307

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 6th, the SLC VA is encouraging "Universal Masking."

The sonic core barrel sampler got seized while tripping out from the 270-280' interval. The driller had to wash over the casing by adding water while advancing the casing around the core barrel. The core barrel with sampler was then removed. Approximately 300 gal of water was used to wash over the casing. A sample of the water used was collected for VOC analysis.

<u>Projected Work – Near Term:</u>

4/13/2020 - Advance MW-23 boring

Other Activities/Remarks:

4/13/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/12/2020

Location: MW-23

Description: Drilling activities

at MW-23



Date: 4/12/2020

Location: MW-23 Soil Cuttings

Description: Clayey Silt unit from 297.5-300. A push ahead groundwater sample was attempted, and failed to yield

water.



Date: 4/12/2020

Location: MW-23

Description: Push ahead sampler clogged with sediment after 300' sample attempt.



Date: 4/12/2020

Location: MW-23 Soil cuttings

Description: Sonic core from 307.5-310' bgs. Dry cemented gravel above moist silt unit.

DATE: 4/13/2020 Prepared by: Joe Miller

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

The MW-23 boring was advanced to 330' bgs. The 6" sonic casing is currently to 330' bgs. Two soil samples were collected. The highest PID observed was 1500+ppm in the 312-315' bgs interval. Static Groundwater was measured at ~220' bgs. One push-ahead groundwater VOC samples was collected at 310 bgs.

Samples collected:

Soil:

MW23-SB041320-314 + Duplicate

MW23-SB041320-324

GW:

MW23-SB041320-310 + Duplicate

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 6th, the SLC VA is encouraging "Universal Masking."

After tripping the GW sampler to depth @330', water was in the interior of the drill rods indicating the sampler had opened while being deployed. The sampler was tripped out and an O-ring was replaced. Water again entered the drill rods, Holt determined all three O-rings need replaced. They are acquiring new rings for the sampler and will deploy again in the morning.

Projected Work - Near Term:

4/14/2020 - Advance MW-23 boring

Other Activities/Remarks:

4/14/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/13/2020

Location: MW-23 Soil Cuttings

Description: Soil core from 312.5-315. Today's highest PID (1500+ppm) was at 312 and 314' bgs. The unit was a silty gravel below a cemented gravel (312.5-314).



Date: 4/13/2020

Location: MW-23

Description: Push ahead sampler. One of the O-rings was removed after deployment. Note: the top two

O-rings have damage.

DATE: 4/14/2020	Prepared by: Joe Miller	
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Personnel Onsite, including Contractors:	CDM Smith – Joe Miller CDM Smith – Betsy Bott Wasatch Environmental – Kiel Keller Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	 Terrasonic 150 mini-sonic drill rig Skid Steer (Bobcat) Rig Hauler Tender/Water Truck
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

The MW-23 boring was advanced to 350' bgs. The 6" sonic casing is currently to 340' bgs. Two soil samples were collected. The highest PID observed was 85.1 ppm in the 334-335' bgs interval. Static Groundwater was measured at ~220' bgs. One push-ahead groundwater VOC samples was collected at 340 bgs. A GW sample was attempted at 330' but was unsuccessful.

Samples collected:

Soil:

MW23-SB041420-334 MW23-SB041420-340

GW:

MW23-GW041420-340

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 6th, the SLC VA is encouraging "Universal Masking."

Projected Work - Near Term:

4/15/2020 - Advance MW-23 boring, Begin Well construction

4/15/2020 – Preclear MW-24 with Badger Daylighting

Other Activities/Remarks:

4/15/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/14/2020

Location: MW-23

Description: GW sample collected from 340' interval.



Date: 4/14/2020

Location: MW-23 Soil cuttings

Description: Interval from 333-335' bgs. The silty gravel had the highest PID reading today,

85.1ppm.

DATE: 4/15/2020	Prepared by: Betsy Bott

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller CDM Smith – Betsy Bott CDM Smith – Emilie Rott Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman
	Badger Daylighting VA – Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	Overcast	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-24 boring location.

Drilling:

The MW-23 boring was advanced to 360' bgs. The 6" sonic casing is currently to 350' bgs. One soil sample was collected. The highest PID observed was 706 ppm in the 344-347' bgs interval.

Hydrovac:

Hydrovac was attempted at MW-24. At approximately 2.5' feet 2 electrical lines were observed and appeared to have previously been cut. At approximately 3', yellow tape indicating a natural gas line was observed. Hydrovac was stopped and Carlos Aguilar was notified. The location of MW-24 will need further review and moved to another location. Holt filled the excavation with play sand up to approximately 2 inches below ground surface. They will buy material to restore surface to existing tonight.

MW-25 was hydrovac cleared to approximately 10'. Badger was unable to hydrovac further due to hard sediment. Carlos Aguilar was notified and approved the location for drilling.

Samples collected:

Soil:

MW23-SB041520-346

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th, the SLC VA is requiring "Universal Masking."</u>

The driller went to urgent care this morning due to some pain in his chest. They did an EKG and he checked out fine; he was cleared to continue working. They diagnosed it as likely stress-related. The field crew will continue to monitor his condition. Start of work today was delayed by about 2 hours.

The rig bottom jaw broke today; bolts holding the jaw appeared to break due to hydraulic pressure. Holt ordered new parts that will be delivered in the morning for repair.

Projected Work – Near Term:

4/16/2020 – Collect groundwater sample at 360', begin well construction.

Other Activities/Remarks:

4/16/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/15/2020

Location: MW-24

Description: Electrical lines at

approximately 3' bgs.



Date: 4/15/2020

Location: MW-23 Soil cuttings

Description: Interval from 344-347' bgs. The clayey gravel had the highest PID reading today,

706 ppm.



Date: 4/15/2020

Location: MW-23

Description: Broken rig jaw.

DATE: 4/16/2020	Prepared by: Betsy Bott	

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller CDM Smith – Betsy Bott CDM Smith – Emilie Rott Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman United Site Services
Visitors/Others:	United Site Services onsite to service portable toilet

Weather	Sunny	Partly Cloudy	Overcast	Rain	<u>Snow</u>
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	 Terrasonic 150 mini-sonic drill rig Skid Steer (Bobcat) Rig Hauler Tender/Water Truck
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

No drilling was completed. Holt spent day repairing rig bottom jaws and replacing bolts holding the jaw. Replacement parts arrived today and were installed. Holt anticipates resuming drilling in the morning on 4/17/20.

Samples collected:

No samples were collected.

Well Repairs:

Well repairs were made at MW-1D, MW-5R, MW-12S/D, and MW-15S/D. Repairs included pulling out pumps, tightening and securing tubing and well equipment, and attaching well labels.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th, the SLC VA is requiring "Universal Masking."</u>

Projected Work - Near Term:

4/17/2020 – Collect groundwater sample at 360 at MW-23', begin well construction.

Other Activities/Remarks:

4/17/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:

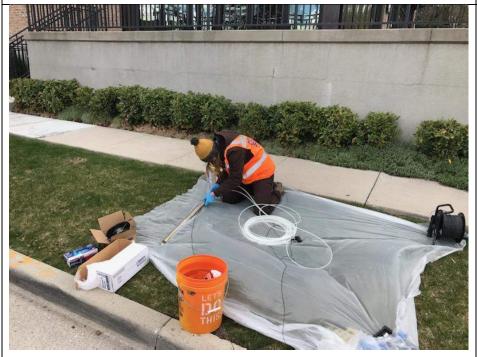


Date: 4/16/2020

Location: MW-23

Description: Holt working on

rig repairs.



Date: 4/16/2020

Location: MW-12s/d

Description: Making well repairs at MW-12s/d.

DATE: 4/17/2020	Prepared by: Betsy Bott

Personnel Onsite, including Contractors:	CDM Smith – Joe Miller CDM Smith – Betsy Bott CDM Smith – Emilie Rott Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

Holt completed rig repairs and cleaned out casing to retrieve soil from the 354-360' interval. PID readings were low and no soil samples were collected. A groundwater sample was attempted at 360' but was unsuccessful.

Samples collected:

No samples were collected.

Well Construction:

The static water level at MW-23 was 224.64' in the morning. Total depth of the borehole is 360 feet bgs. The deepest screen interval was installed from 348 to 358 feet bgs (sand from 344 to 360). Bentonite pellets were installed from 264 to 344 feet bgs. Sand was installed from 263.5-264 feet bgs. The rest of the well will be completed on 4/19/20.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th, the SLC VA is requiring "Universal Masking."</u>

Projected Work - Near Term:

4/19/2020 – Complete well construction of MW-23 including 3 other screened intervals.

Other Activities/Remarks:

Prior to well installation, Holt expressed concern about accommodating three 1" diameter wells in the 6" diameter sonic casing due to lack of adequate annular space. Holt was only able to advance the 7" sonic casing to 240 feet due to lithology. CDM Smith proposed eliminating the 310' to 320' interval and installing a 1" well screen in the vadose zone above the perched groundwater interval from 130-140 feet bgs, in lieu of a proposed soil vapor monitoring point. Proposed modifications were reviewed with VA (Marc Yalom) and USACE (Josephine Newton-Lund and Greg Hattan).

4/19/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/17/2020

Location: MW-23

Description: Interval from 354-360 feet bgs. The silty gravel had a PID reading of 2.8 ppm.



Date: 4/172020

Location: MW-23

Description: Marking and taking average measurements from riser piping to ensure enough annular space at surface for ZIST installation.



Date: 4/17/2020

Location: MW-23

Description: Holt placing sand

in borehole.



Date: 4/172020

Location: MW-23

Description: Visual of (3) 1" risers in a 6" borehole.

DATE: 4/19/2020 Prepared by: Betsy Bott

Personnel Onsite, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Emilie Rott Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	 Terrasonic 150 mini-sonic drill rig Skid Steer (Bobcat) Rig Hauler Tender/Water Truck
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

No drilling took place.

Samples collected:

No samples were collected.

Well Construction.

The second screen interval was installed from 250 to 260 feet bgs (sand from 247 to 264). Bentonite pellets were installed from 224 to 247. The third screen interval was installed from 210 to 220 feet bgs (sand from 207 to 223).

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th, the SLC VA is requiring "Universal Masking."</u>

Projected Work - Near Term:

4/20/2020 - Complete well construction of MW-23

Other Activities/Remarks:

4/20/2020: Safety Tailgate will be conducted at MW-23 location.

Photos:



Date: 4/19/2020

Location: MW-23

Description: Holt installing

riser pipe at MW-23.



Date: 4/19/2020

Location: MW-23

Description: Holt checking depth to sand pack interval.

DATE: 4/20/2020	Prepared by: Betsy Bott
<u>DATE:</u> 4/20/2020	Frepared by.

Personnel Onsite, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Emilie Rott Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bohcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

No drilling took place.

Samples collected:

No samples were collected.

Well Construction.

The fourth screen interval was installed from 130 to 140 feet bgs (sand from 127 to 143'). Bentonite chips were installed from 30 to 127 feet bgs. A bentonite grout containing 30% solids mixed with fine sand was installed from 2 to 30 feet bgs.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th</u>, the SLC VA is requiring "Universal Masking."

The VA has received complaints regarding the drillers not wearing facial covers. A <u>Stop Work</u> meeting was held at MW-23 regarding facial covers and complying with this issue. Holt bought cooler, lighter weight bandanas to wear as face covers during lunch.

Projected Work - Near Term:

4/21/2020 – Complete well vault installation at MW-23 and decon piping.

Other Activities/Remarks:

4/21/2020: Safety Tailgate will be conducted by the large propane tank near the park gate.

Holt was asked to move flatbed truck from where it is parked as the VA will be doing work on the propane tank tomorrow. Upon arriving to the area, two concrete barriers were present blocking Holt from backing the flatbed truck out of the area. Holt did not think that their bobcat would be able to move the concrete barriers and other options would require the truck to go over curbs possible breaking them. Mark Yalom was notified of the situation. We are planning on meeting at that area first thing tomorrow to talk about options for moving the truck.

Photos:



Date: 4/20/2020

Location: MW-23

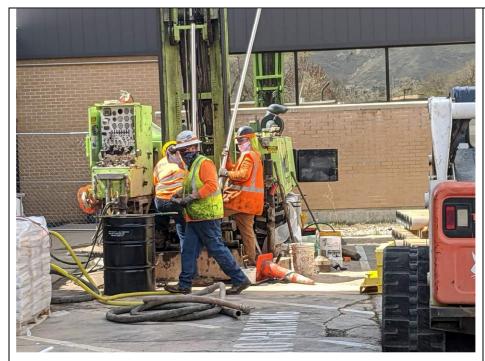
Description: Holt checking depth to sand pack interval.



Date: 4/20/020

Location: MW-23

Description: Holt installing riser pipe at MW-23.



Date: 4/20/2020

Location: MW-23

Description: Holt mixing

bentonite grout.



Date: 4/20/2020

Location: MW-23

Description: Holt taking out

last 8" casing.

DATE: 4/21/2020	Prepared by: Betsy Bott	

Personnel Onsite, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Emilie Rott Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	Dry	Moderate	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bohcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-23 boring location.

Drilling:

No drilling took place.

Samples collected:

No samples were collected.

Well Construction.

The remaining casing was pulled from the well. The Augustyn well vault was installed.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th, the SLC VA is requiring "Universal Masking."</u>

Projected Work - Near Term:

4/22/2020 – Arrange fencing, portable bathroom, rig, equipment and tools at MW-26. Begin drilling MW-26.

Other Activities/Remarks:

4/22/2020: Safety Tailgate will be conducted by MW-26.

MW-23 excavation permit was signed off by Carlos Aguilar. He will be ready to sign the MW-26 excavation tomorrow morning at 7:30 am.

Holt moved the flatbed truck to the laydown area as requested by the VA to make room for construction involving the large propane tank.

Concrete was placed in the MW-24 void to match existing surface conditions. Pea gravel was placed in MW-25 to fill hydrovac void.

Holt decontaminated enough piping to begin drilling tomorrow.

Photos:



Date: 4/21/2020

Location: MW-23

Description: Picture shows depth from ground surface to

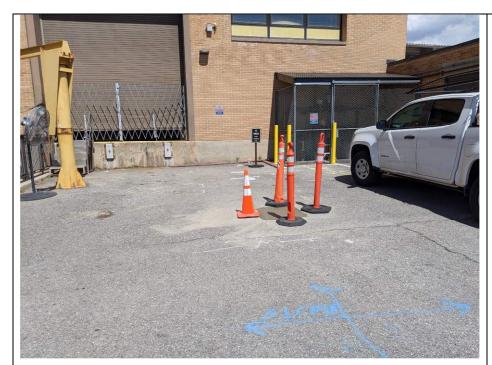
top of riser pipe.



Date: 4/21/020

Location: MW-23

Description: Surface completion at MW-23.



Date: 4/21/2020

Location: MW-24

Description: Concrete placed at MW-24 to match existing

conditions.



Date: 4/21/2020

Location: MW-25

Description: Pea gravel used as

fill at MW-25.



Date: 4/21/2020

Location: Laydown Yard

Description: Holt deconning casing at laydown yard.

DATE: 4/22/2020	Prepared by: Betsy Bott	

Personnel Onsite, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Emilie Rott Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	Moderate	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bohcat)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-26 boring location.

Drilling:

The MW-26 boring was advanced to 40' bgs. Three soil samples were collected. The highest PID observed was 131.6 ppm in the 23-24 bgs interval.

Samples collected:

Soil:

MW26-SB042220-20 (PID reading = 12.6 ppm) MW26-SB042220-24 (PID reading = 131.6 ppm) MW26-SB042220-39 (PID reading = 16.0 ppm)

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th, the SLC VA is requiring "Universal Masking."</u>

Projected Work - Near Term:

4/23/2020 - Continue drilling at MW-26. Prepare site for week break, including securing rig, fencing, equipment.

Other Activities/Remarks:

4/23/2020: Safety Tailgate will be conducted by MW-26.

MW-26 excavation permit was approved and signed by Carlos Aguilar. Excavation inspection checklists for MW-23 were electronically submitted to Carlos.

Holt moved and arranged fencing to surround MW-26 drilling location and drilling equipment. Holt was asked to leave room between Building 6 and a jobsite trailer to provide a handicap accessible walkway.

Two bolts attached to the previously replaced lower rig jaw became loose. Holt determined that they needed to be replaced and left site to buy new bolts. After returning to the site to replace the bolts, the two bolts broke again. Holt is returning to the store and will replace bolts tonight.

The PID meter was reading 15,000 ppm in fresh air as the 30 to 40-foot interval core was being collected. CDM Smith attempted to recalibrate the meter without success, called Pine Environmental to troubleshoot, and ultimately determined the equipment lamp needed to be replaced. CDM Smith borrowed a PID from Wasatch Environmental and was able to keep sampling.

Photos:



Date: 4/22/2020

Location: MW-26

Description: Fencing surrounding MW-26 drilling

location.



Date: 4/22/2020

Location: MW-26

Description: Holt placing (1) 10" casing to 10 feet in order to protect sprinkler and ground

line.



Date: 4/22/2020

Location: MW-26

Description: The 22 to 24 foot sample interval. A soil sample (MW26-SB042220-24) was collected in the 23 to 24 foot interval. The highest PID reading of the day (131.6 ppm) was recorded at this interval.

DATE: 4/23/2020	Prepared by: Betsy Bott	
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Personnel Onsite, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Emilie Rott Holt Services – Pete Rosenburg (Driller) Holt Services – Michael Leui Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	All Welding Mobile

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	Moderate	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat) Rig Hauler
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-26 boring location.

Drilling:

The MW-26 boring was advanced to 100' bgs. Six soil samples were collected. The highest PID observed was 156 ppm in the 44-45 bgs interval.

Samples collected:

Soil:

MW26-SB042320-44 (PID reading = 156 ppm) MW26-SB042320-56 (PID reading = 30 ppm)

MW26-SB042320-62 (PID reading = 6.3 ppm)

MW26-SB042320-77 (PID reading = 14.8 ppm)

MW26-SB042320-84 (PID reading = 39.4 ppm)

MW26-SB042320-97 (PID reading = 12.6 ppm)

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th, the SLC VA is requiring "Universal Masking."</u>

Projected Work - Near Term:

The Holt crew is mobilizing back to Seattle for their 1-week break tomorrow. Holt will return to MW-26 on 5/4/2020. A second Holt crew is mobilizing to the site 4/28/2020 and will begin drilling at MW-25.

Other Activities/Remarks:

After starting work this morning, Holt determined that the rig jaws are not able to tighten the pipe enough and a fabrication welder would be required. All Welding Mobile was called and mobilized to the site. CDM Smith escorted All Welding Mobile to MW-26. A hot work permit was issued and signed by Carlos Aguilar.

The replaced PID meter would not start after the 50-60 interval was collected. CDM Smith called Pine Environmental to troubleshoot and ultimately got the PID functioning with minimal downtime. While troubleshooting, CDM Smith mobilized to Wasatch to borrow a PID in case the rented PID stopped working. Two PIDs are onsite in case of breakdown.

Holt moved and arranged fencing to fully surround the MW-26 drilling location and drilling equipment. Holt cleaned up the site and secured all equipment.

Photos:



Date: 4/23/2020

Location: MW-26

Description: All Welding Mobile working on rig.



Date: 4/23/2020

Location: MW-26

Description: The 44 to 45-foot sample interval. The highest PID reading of the day (156 ppm) was recorded at this

interval.



Date: 4/23/2020

Location: MW-26

Description: View of fencing surrounding MW-26 drilling

area.



Date: 4/23/2020

Location: MW-26

Description: View of rig and fencing surrounding MW-26

drilling area.

DATE: 4/27/2020	Prepared by: Emilie Rott
Personnel Onsite, including Contractors:	CDM Smith – Emilie Rott CDM Smith – Kimberly Yauk
Visitors/Others:	

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.) • PID (health and safety)
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the IDW yard.

Well Repairs:

Well repairs were completed at MW-14S/D, MW-16S/D, MW-08a, MW-08b, MW-02, MW-04, and MW-06. Additionally, well repairs were conducted at MW-13S/D and MW-17S/D on Friday, April 24. These repairs included pulling pumps, switching nylon cord for steel cable, tightening and securing tubing and well equipment, installing tamper-resistant bolts at unlocked wells, and attaching well tags.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. <u>Beginning on April 15th, the SLC VA is requiring "Universal Masking."</u>

Projected Work - Near Term:

4/28/2020 – Complete well repairs on MW-18, MW-19, MW-20S/D, MW-21, MW-22, and MW-01S. New bladders will be installed at MW-21 and MW-22. The pump from MW-17D will be decontaminated and installed in MW-01S. An equipment blank will be collected after decontamination, prior to installation. The new drillers are expected to arrive, decon equipment, and begin setting up at MW-25.

Other Activities/Remarks:

Photos:



Date: 4/27/2020

Location: MW-06

Description: Well repairs completed at MW-06, and the well tag was connected to the

well.

DATE: 4/28/2020	Prepared by: Emilie Rott	
		

Personnel Onsite, including Contractors:	CDM Smith – Emilie Rott CDM Smith – Kimberly Yauk CDM Smith – Tea Vrtlar Wasatch Environmental – Kiel Keller Holt Drilling – Aaron Kuper Holt Drilling – Alex Langdon Holt Drilling – Jeff Toms
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	 PID (health and safety) Terrasonic 150 mini-sonic drill rig Skid Steer (Bobcat) Rig Hauler
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the IDW yard.

Drilling:

The drilling crew arrived onsite, deconned their equipment and set up at MW-25.

Well Repairs:

Well repairs were completed at MW-21, MW-22, and MW-01S. The pump bladders were replaced on MW-21 and MW-22. The tubing connections on the pump were replaced on MW-21 and 22 due to corrosion and apparent wear on the parts. A small hole was noticed in the tubing near the pump was noticed on MW-21. The team trimmed the tubing to eliminate the hole, and reconnected it to the pump. The pumps and transducers were re-hung using cables. The pump from MW-17D was decontaminated and an equipment blank was collected from the pump. The pump was then re-installed using a cable, new tubing, and the surface fitting from MW-17D. After installation, the field team checked the connections and found that the air line was disconnected and had lodged the pump in the well. The water line and the steel cable are still connected to the pump. The field team could not retrieve the tubing with the equipment on hand. CDM Smith will return and attempt to fish the disconnected tubing out at a later date. If unsuccessful, Holt will attempt to retrieve the pump and the tubing.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA is requiring "Universal Masking."

Projected Work - Near Term:

4/28/2020 – Drilling at MW-25 will commence.

Other Activities/Remarks:

Photos:



Date: 4/28/2020

Location: MW-22

Description: Well repairs completed at MW-22. The threads on the fitting connecting to the top of the pump were found to be deteriorated and replaced appropriately.



Date: 4/28/2020

Location: MW-21

Description: Well repairs completed at MW-21. The top connection between the tubing and the pump was replaced as shown in this photograph.



Date: 4/28/2020

Location: MW-21

Description: Hole in tubing on MW-21. The tubing was cut and replaced to eliminate this

hole.



Date: 4/28/2020

Location: MW-25

Description: Drilling crew set up drill rig at MW-25 to begin

drilling tomorrow.

DATE: 4/29/2020 Prepared by: Kimberly Yauk

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Tea Vrtlar Holt Services – Jeff Toms (Driller) Holt Services – Aaron Kuper Holt Services – Alex Langdon VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

The drillers began drilling at MW-25, advancing the borehole from 10 feet to 100 feet bgs.

Samples collected:

MW25-SB042920-14

MW25-SB042920-29

MW25-SB042920-35

MW25-SB042920-46

TB09-SB042920

MW25-SB042920-54

MW25-SB042920-70

MW25-SB042920-73

MW25-SB042920-82

MW25-SB042920-94

FD11-SB042920

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking", however this mandate has now been modified to allow for unmasking outdoors if required distance is maintained.

Projected Work - Near Term:

4/30/2020 - Drilling at MW-25 will continue.

Other Activities/Remarks:

4/30/2020: Safety Tailgate will be conducted at the MW-25 location.

Photos:



Date: 4/29/2020

Location: MW-25

Description: Holt prepares to begin drilling at MW-25.



Date: 4/29/2020

Location: MW-25

Description: Drilling begins at

MW-25.



Date: 4/29/2020

Location: MW-25

Description: Soil cores laid out from 10 feet (top left) to 50 feet (bottom right).



Date: 4/29/2020

Location: MW-25

Description: Soil core at 80

feet bgs.

DATE: 4/30/2020 Prepared by: Kimberly Yauk

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Tea Vrtlar Holt Services – Jeff Jones (Driller) Holt Services – Aaron Kuper Holt Services – Alex Langdon VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig	
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

The drillers advanced the 8-inch casing to 120 feet bgs. Drilling continued with 7-inch casing to 150 feet. Decontamination water in a 55-gallon drum was transferred to the tank in the IDW yard.

Samples collected:

TB19-SB043020 MW25-SB043020-103 MW25- SB043020-112 MW25- SB043020-120 MW25- SB043020-139 MW25-SB043020-150

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

5/1/2020 – Drilling at MW-25 will continue.

Other Activities/Remarks:

5/1/2020: Safety Tailgate will be conducted at the MW-25 location.

Photos:



Date: 4/30/2020

Location: MW-25

Description: The PID reading at 103 feet was 321.4 ppm. PID readings from 101 to 105 were

over 200 ppm.



Date: 4/30/2020

Location: MW-25

Description: Soil cores with readings over 100 were containerized in the 55-gallon drum. Remaining soil core disposed of in hopper and ultimately the soil rolloff bin.



Date: 4/30/2020

Location: MW-25

Description: Holt

decontaminates the 7-inch

casing.



Date: 4/30/2020

Location: MW-25

Description: Holt prepares to advance 7-inch casing.

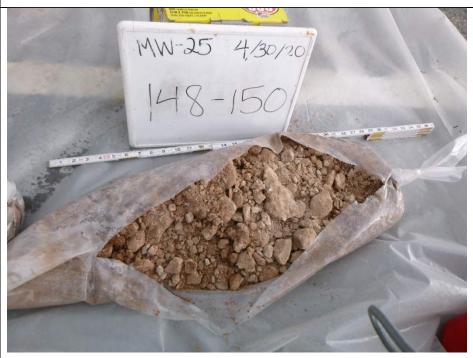


Date: 4/30/2020

Location: MW-25

Description: Clay from 141 to

143 feet bgs.



Date: 4/30/2020

Location: MW-25

Description: Sandy silt with gravel at 148 to 150 feet bgs.

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Tea Vrtlar Holt Services – Jeff Jones (Driller) Holt Services – Aaron Kuper Holt Services – Alex Langdon VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	<u>Humid</u>		

	Terrasonic 150 mini-sonic drill rig	
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

The drillers advanced the 7-inch casing to 210 feet bgs. Perched groundwater was encountered at approximately 164 feet bgs. Water was encountered in the 200 to 210-foot run. Soil recovery was lost between 205.5 feet and 208 feet. The push-ahead sampler was advanced to 212 feet and one foot of screen was exposed. Water in the sampler was measured at a depth of 209.29 feet bgs. A groundwater sample will be collected at the start of the day on Sunday.

Samples collected:

MW25-SB050120-153 MW25-SB050120-164 MW25-GW050120-164 FD12-GW050120 MW25-SB050120-176 MW25-SB050120-187 MW25-SB050120-193 MW25-SB050120-205 FD13-SB050120 TB20-SB050120

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking", however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

Projected Work - Near Term:

5/3/2020 – A groundwater sample at MW-25 at 212 feet will be collected first in the morning. Drilling will resume and groundwater profiling will be conducted.

Other Activities/Remarks:

5/3/2020: Safety Tailgate will be conducted at the MW-25 location.

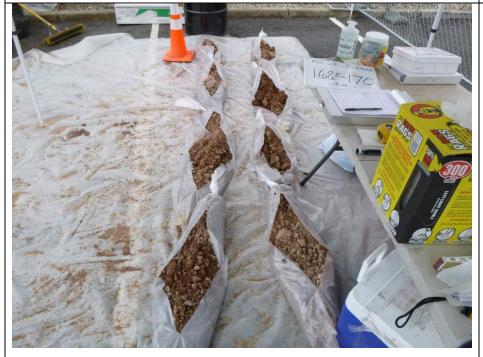
Photos:



Date: 5/1/2020

Location: MW-25

Description: The rig set up with sampling station and fencing.



Date: 5/1/2020

Location: MW-25

Description: Soil cores from 150 (bottom right) to 160 (top right) and 160 (bottom left) to 170 (top left).



Date: 5/1/2020

Location: MW-25

Description: Holt bails perched water from the borehole at

164 feet.



Date: 5/1/2020

Location: MW-25

Description: Water was effervescent in the sample bottle, but samples were collected without headspace.



Date: 5/1/2020

Location: MW-25

Description: Water from the perched zone was measured for water quality parameters.



Date: 5/1/2020

Location: MW-25

Description: Water was encountered in the 200 to 210-foot run. Soil core at 210 feet is

saturated.

DATE: 5/3/2020 Prepared by: Kimberly Yauk

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Tea Vrtlar Holt Services – Jeff Jones (Driller) Holt Services – Aaron Kuper Holt Services – Alex Langdon
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

<u>Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:</u>

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

The drillers advanced the 7-inch casing to 260 feet bgs. Water samples were collected at 212, 232, and 252 feet bgs. The push-ahead sampler was lost down hole at 252 feet after difficulty vibrating it into the formation. The drillers were able to recover it, but a part of it broke in the process. A replacement part was sourced for replacement tomorrow.

Samples collected:

MW25-GW050320-212 EB09-GW050320 MW25-SB050320-216 MW25-SB050320-223 MW25-GW050320-232 MW25-SB050320-235 MW25-SB050320-246 MW-25-GW050320-252 MW25-SB050320-252 TB21-SB050320

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking", however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

The push-ahead sampler needs a replacement part that has already been sourced through Boart Longyear. Delays may happen on Monday as the crew gets the sampler working again.

Projected Work - Near Term:

5/4/2020 – Crew 2: The push-ahead sampler will be replaced/repaired. Drilling will continue. Smaller casing may be used if the formation is very tight. Crew 1: Work will start up again at MW-26.

Other Activities/Remarks:

5/4/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:



Date: 5/3/2020

Location: MW-25

Description: CDM Smith calibrates the YSI and PID.



Date: 5/3/2020

Location: MW-25

Description: Holt assists CDM Smith with an equipment blank collected off of the push-ahead

sampler.



Date: 5/3/2020

Location: MW-25

Description: Holt prepares to collect a groundwater sample with the push-ahead sampler.



Date: 5/3/2020

Location: MW-25

Description: Groundwater sample collected at 212 feet bgs had low turbidity and no

headspace.



Date: 5/3/2020

Location: MW-25

Description: Clay-rich soil cores are photographed before and after breaking open the core. This is the before photo.



Date: 5/3/2020

Location: MW-25

Description: Clay-rich soil cores are photographed before and after breaking open the core. This is the after photo.

DATE: 5/4/2020	Prepared by: Joe Miller/Kimberly Yauk	
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Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Tea Vrtlar CDM Smith – Joe Miller Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. VA – Marc Yalom
Visitors/Others:	MP Environmental – Luciano Salazar

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	Skid Steer (Bobcat) (x2)
instruments, subcontracto	Rig Hauler (x2)
equip, etc.	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

MW-25:

The drillers advanced 6-inch casing to 270 feet bgs. A water sample was collected at 272 feet bgs. The push-ahead sampler was replaced, and new O-rings were sourced for the sampler. The core barrel is advanced to 280 feet, and the soil core is ready to be retrieved in the morning.

Samples collected:

MW25-SB050420-264

MW25-GW050420-272

MW-26:

Drilling resumed at MW-26. The 8" sonic casing has been advanced to 140' bgs, while the boring has been advanced to 150' bgs. The highest PID was 109.1 ppm at 119' bgs.

Samples collected:

MW26-SB050420-103

MW26-SB050420-116

MW26-SB050420-119

MW26-SB050420-129

MW26-SB050420-133

MW26-SB050420-145

IDW Removal and Characterization:

MP Environmental was onsite to remove IDW water. Approximately 3,000 gallons were removed. A soil waste characterization sample was collected from the second rolloff bin.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking," however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

The push-ahead sampler and O-rings of Crew 2 were replaced and drilling continued.

Projected Work - Near Term:

5/5/2020 – Crew 1: Drilling will continue at MW-26 starting at 150 feet bgs.

- Crew 2: Drilling will continue at MW-25. 6-inch casing will be advanced from 280 feet bgs.

Other Activities/Remarks:

5/5/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:



Date: 5/4/2020

Location: MW-26

Description: Holt Drill crew tripping in drill rods at MW-26

location.



Date: 5/4/2020

Location: MW-26 Soil cuttings

Description: The highest PID (109.1ppm) reading observed today was in the 119-120'

interval.



Date: 5/4/2020

Location: IDW Yard

Description: MP

Environmental removes water from the first tank with 6 to 8 inches of sediment remaining

on the bottom.



Date: 5/4/2020

Location: IDW Yard

Description: MP Environmental pumps groundwater IDW from the tanks to the semi for removal.



Date: 5/4/2020

Location: IDW Yard

Description: MP

Environmental removes water from the second tank with 3 inches of sediment remaining

on the bottom.



Date: 5/4/2020

Location: MW-25

Description: Holt Crew #2 advances 6-inch casing beginning at 260 feet bgs at

MW-25 location.

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Tea Vrtlar CDM Smith – Joe Miller Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. VA – Marc Yalom
Visitors/Others:	MP Environmental

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Favinment in Use (field	Skid Steer (Bobcat) (x2)
Equipment in Use (field instruments, subcontractor	Rig Hauler (x2)
equip, etc.)	Tender/Water Truck
equip, etc.)	Portable Toilet (x2)
	Soil Rolloff Bin (x2)

Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

MW-25:

The drillers advanced 6-inch casing to 310 feet bgs. A water sample was collected at 292 feet bgs. The sample was non-detect on the Color-Tec reading. The new O-rings are getting torn apart after each use. The drillers stopped early to go buy more O-rings for both drill crews.

Samples collected:

MW25-SB050520-272

MW25-SB050520-281

MW25-GW050520-292

MW25-SB050520-299

MW25-SB050520-301

EB10-GW050520

EB12-GW050520

MW-26:

Drilling resumed at MW-26. The 7" sonic casing has been advanced to 200' bgs. The highest PID was 74 ppm at 171' bgs. After the 190-200' sample collection, depth to water was 186' bgs. A push ahead sample was attempted at 200'. After no sample was collected, the sampler was tripped out of the boring and the interior of the screen was clogged.

Samples collected:

MW26-SB050520-154 + MS/MSD

MW26-SB050520-168

MW26-SB050520-172

MW26-SB050520-188 + Dup MW26-SB050520-198

IDW Removal and Characterization:

MP Environmental was onsite to remove IDW soil. The roll off bin #RBR251581 was removed from site.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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The O-rings for both drill crews will be replaced tomorrow.

Projected Work - Near Term:

5/6/2020 – Crew 1: Drilling will continue at MW-26 starting at 200 feet bgs.

- Crew 2: Drilling will continue at MW-25 starting with a groundwater sample at 312 feet bgs.

Badger Daylighting is scheduled to be onsite for preclearing at MW-24 and MW-30 locations.

Other Activities/Remarks:

5/6/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:



Date: 5/5/2020

Location: IDW area

Description: MP

Environmental hauling the roll-

off bin away.



Date: 5/5/2020

Location: MW-26

Description: Clogged interior of channel of the push ahead

GW sampler.



Date: 5/5/2020

Location: MW-26 Soil Cuttings

Description: Cuttings from 192.5-195' bgs. Heterogeneous

wet gravel and clay.



Date: 5/5/2020

Location: MW-25

Description: Lithology dominated by clay and clay with gravel from 275 feet and below with notable exceptions

(see below).



Date: 5/5/2020

Location: MW-25

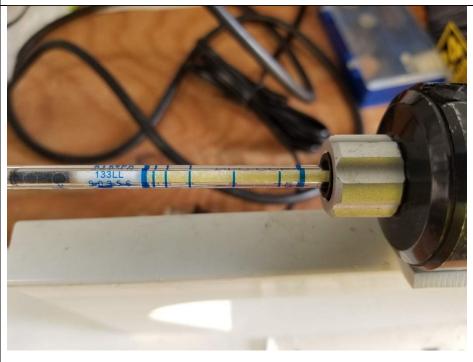
Description: Saturated clayey gravel at 308 to 310 feet bgs.



Date: 5/5/2020

Location: IDW Yard

Description: Groundwater sample from 292 feet bgs at MW-25 was non-detect for VOCs on the Color-Tec.



Date: 5/5/2020

Location: IDW Yard

Description: Low level indicator tube shows no color change after purging 100 ccs through each of the two VOAs.

DATE: 5/6/2020 Prepa	ared by: Joe Miller/Kimberly Yauk
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Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Tea Vrtlar CDM Smith – Joe Miller CDM Smith – Ben Carreon Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. Wasatch Environmental – Kiel Keller
	Wasatch Environmental – Kiel Keller VA – Marc Yalom
Visitors/Others:	Badger Daylighting

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	•	Skid Steer (Bobcat) (x2)
instruments, subcontractor	•	Rig Hauler (x2)
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

MW-25:

The drillers advanced 6-inch casing to 320 feet bgs. The highest PID reading was 64 ppm at 312 feet bgs. A push-ahead water sample as attempted at 310 feet bgs, but the sampler was dry. Drillers continued another 10 feet and a water sample was collected at 320 feet bgs. The groundwater sample was non-detect on the Color-Tec.

Samples collected: MW25-SB050620-312

MW25-GW050620-320

MW-26

The drillers advanced MW-26 to 240' bgs. The highest PID was 74 ppm at 171' bgs. Prior to drilling DTW was 188' bgs. A push ahead sample was collected at 210'. A push ahead sampler was attempted at 230', no sample was collected. The bailer had about 4 inches of mud and no water. After no sample was collected, the sampler was tripped out of the boring, and the formation clogged the screen. Another GW sample will be collected at 240'. The groundwater sample collected at 210' was non-detect on the Color-Tec.

Samples collected:

MW26-SB050620-201

MW26-GW050620-210

MW26-SB050620-215

MW26-SB050620-221

MW26-SB050620-234

Hydrovac Preclearing:

MW-24 location was precleared to 11' bgs. A wire was identified at 10' bgs. Carlos Aguilar and a VA electrician determined that it was a remnant and was no longer in use. The preclearing was deemed acceptable and ready to drill.

MW-30 location was precleared to 9.5'. Carlos Aguilar deemed the preclearing ready to drill.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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<u>Projected Work – Near Term:</u>

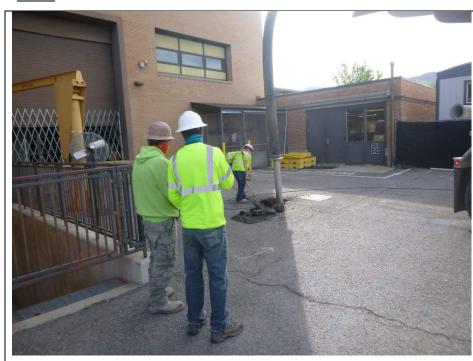
5/7/2020 – Crew 1: Drilling will continue at MW-26 starting at 240 feet bgs.

- Crew 2: Drilling will continue at MW-25. 6-inch casing will be advanced from 320 feet bgs.

Other Activities/Remarks:

5/7/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:



Date: 5/6/2020

Location: MW-24

Description: Badger

Daylighting vacuum excavating

at MW-24.



Date: 5/6/2020

Location: MW-26 Cuttings

Description: Boulder encountered at ~227'. Total core of boulder was ~18".



Date: 5/6/2020

Location: MW-26 Bailer

sample

Description: On third attempt to collect groundwater sample at 230' bgs, we recovered about 4" of mud. No water sample was collected.



Date: 5/6/2020

Location: MW-25

Description: Soil core from 310 to 312 feet bgs. Soil was sampled from the core. A groundwater sample was attempted at this depth.



Date: 5/6/2020

Location: MW-25

Description: Soil core from 318 to 320 feet bgs. A water sample was collected from the bottom of this depth.

DATE: 5/7/2020 **Prepared by:** Joe Miller/Ben Carreon

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Ben Carreon Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. Wasatch Environmental – Kiel Keller
Visitors/Others:	VA – Marc Yalom None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler (x2)
equip, etc.)	Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

MW-25:

The MW-25 boring was terminated at 320' bgs. The depth of the boring was measured to 319.8' bgs. The deep ZIST zone was installed with 10' of screen from 307.5-317.5' bgs. The sand pack was installed to 305' bgs and bentonite pellets were added to 272' bgs while backing out the 6" casing.

MW-26:

The drillers advanced MW-26 from 240' to 270' bgs. The highest PID reading was 27.6 ppm at 247' bgs. A push-ahead groundwater sample was collected at 240' and 250' bgs. Push-ahead sampling difficulties were encountered at the 240' bgs sample. Both the 240' and 250' bgs groundwater samples were non-detect on the Color-Tec. The next groundwater sample is planned at 270' bgs.

Samples collected: MW26-GW050720-240 MW26-SB050720-247

MW26-GW050720-250

MW26-SB050620-251

MW26-SB050620-269

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

As mentioned under the description of field activities, difficulties were encountered before and during collection of the 240' bgs groundwater sample.

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking," however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

Projected Work – Near Term:

5/8/2020 – Crew 1: Continue Drilling MW-26 from 270' bgs.

– Crew 2: Drillers will continue building MW-25 with 3 zones (307.5-317.5', ~230-240', and 200-210') and 2 soil vapor points (~100' and 28').

Other Activities/Remarks:

5/8/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:



Date: 5/7/2020

Location: MW-25

Description: Holt installing 1" PVC well for deep ZIST zone.



Date: 5/7/2020

Location: MW-25

Description: Holt tripping out 6" sonic casing during backfill.



Date: 5/7/2020

Location: MW-26

Description: Push-ahead sampler after 240' bgs sample.



Date: 5/7/2020

Location: MW-26

Description: Soil core from

247.5 to 250' bgs.

Groundwater was sampled via bailer at 250' bgs through the push-ahead sampler screen.

DATE: 5/8/2020 Prepared by: Joe Miller/Ben Carreon	
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Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Ben Carreon Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. Wasatch Environmental – Kiel Keller VA – Marc Yalom VA – Carlos Aguilar
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2) 	
Equipment in Use (field	 Skid Steer (Bobcat) (x2) 	
instruments, subcontractor	Rig Hauler (x2)	
equip, etc.)	Tender/Water Truck	
	 Portable Toilet (x2) 	

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

MW-25:

The two remaining ZIST zones were installed. The middle zone is screened from 231-241' bgs. The shallow zone is screened from 201-211' bgs with soil vapor points at 100' and 28' bgs. The boring has been backfilled to 157' bgs.

Carlos Aguilar issued the VA Excavation permit for MW-24.

MW-26:

The drillers advanced MW-26 from 270' to 290' bgs. A push-ahead groundwater sample was collected at 270' bgs. Push-ahead sampling difficulties were encountered at the 290' bgs sample. The sampler opened but the formation did not produce water. The 270' bgs groundwater sample was non-detect on the Color-Tec.

Samples collected: MW26-GW050820-270 MW26-SB050820-274 MW26-SB050820-285

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking," however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

Projected Work – Near Term:

5/10/2020 – Crew 1: Continue Drilling MW-26 from 290' bgs.

- Crew 2: Drillers will continue backfilling MW-25, Decon drill tooling and move to MW-24.

Other Activities/Remarks:

5/10/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:



Date: 5/8/2020

Location: MW-25

Description: Holt installing 1" PVC well for shallow ZIST zone, with soil vapor probe.



Date: 5/8/2020

Location: MW-25

Description: Holt installing 1"

PVC for ZIST Well.



Date: 5/8/2020

Location: MW-26 Soil Cuttings

Description: Soil cuttings from 287.5-289'. Cohesive clayey silt unit. Unit did not yield

groundwater at 290'.

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Ben Carreon CDM Smith – Betsy Bott Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr.
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler (x2)
equip, etc.)	Tender/Water Truck
	Portable Toilet (x2)

Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

MW-25:

Bentonite was installed from 157 to 103 ft-bgs. Sand was installed from 97 to 103 ft-bgs. Bentonite was installed from 30 to 97 ft-bgs. Sand was installed from 26 to 30 ft-bgs. Bentonite was installed from 20 to 26 ft-bgs. The well was grouted to approximately 3 ft-bgs using Portland Cement.

MW-26:

The drillers advanced MW-26 from 290 ft-bgs to 320 ft-bgs. Push-ahead sampling difficulties were encountered at 310 ft and 320 ft-bgs and no groundwater samples were collected. The sampler opened but the formation did not produce water. The sampler was left open overnight with the screen exposed at 320 ft-bgs.

Samples collected:

MW26-SB051020-299

MW26-SB051020-308

MW26-SB051020-314

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking," however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

<u>Projected Work – Near Term:</u>

5/11/2020 – Crew 1: Attempt to sample groundwater with push-ahead sampler deployed at 320 ft-bgs. Continue Drilling MW-26 from 320 ft-bgs.

Crew 2: Drillers will finish deconing drill tooling and move to MW-24.

Other Activities/Remarks:

MW-29 and MW-31 were re-staked in Sunnyside Park.

5/11/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:



Date: 5/10/2020

Location: MW-29

Description: MW-29 was restaked in Sunnyside Park.



Date: 5/10/2020

Location: MW-30

Description: MW-30 was restaked in Sunnyside Park.



Date: 5/10/2020

Location: Decon Pad

Description: Holt deconing drill

pipe from MW-25.



Date: 5/10/2020

Location: MW-25

Description: Small fracture in sidewalk next to MW-25



Date: 5/10/2020

Location: MW-26 Push-Ahead Sampler from 310 ft

Description: Tripped out pushahead sampler after 310 ft sampling attempt.



Date: 5/10/2020

Location: MW-26-320 ft Push-

Ahead Sampler

Description: Push-ahead sampler being tripped in to 320 ft.

DATE: 5/11/2020 Prepared by: Joe Miller/Ben Carreon/Betsy Bott

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Ben Carreon CDM Smith – Betsy Bott Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. VA – Marc Yalom VA – Carlos Aguilar
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	•	Skid Steer (Bobcat) (x2)
instruments, subcontractor	•	Rig Hauler (x2)
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet (x2)

Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-25 boring location.

Drilling:

MW-24:

The drillers advanced MW-26 to 40 ft-bgs. Three soil samples were collected. The highest PID observed was 13.8 ppm in the 34-35 ft-bgs interval.

Samples collected:

MW24-SB051120-14

MW24-SB051120-22

MW24-SB051120-34

MW-25:

The Augustyn well vault was installed approximately 4" above ground surface. The equipment, fencing, and supplies were moved to MW-24 and the area surrounding MW-25 was restored to original condition.

MW-26:

The drillers advanced MW-26 from 320 to 350 ft-bgs. A push-ahead sample was collected at 320 ft-bgs and attempted at 340 ft-bgs. At 340 ft-bgs, the sampler opened but the formation did not produce water. The sampler was left open overnight with the screen exposed at 350 ft-bgs. Groundwater (320 ft-bgs) and solid (348 ft-bgs) color-tec samples were ND.

Samples collected:

MW26-GW051120-320

MW26-SB051120-329

MW26-SB051120-334

MW26-SB051120-348

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking," however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

Projected Work - Near Term:

5/12/2020 – Crew 1: Attempt groundwater sample collection at 350 ft-bgs at MW-26 and either continue drilling from 350 ft-bgs or begin well construction (pending discussion).

Crew 2: Continue drilling MW-24 from 40 ft-bgs.

Other Activities/Remarks:

5/12/2020: A joint Safety Tailgate will be conducted at the MW-24 location for both crews working this week.

Photos:



Date: 5/11/2020

Location: MW-25

Description: View of

completed vault installation.



Date: 5/11/2020

Location: MW-24

Description: View of rig setup

at MW-24



Date: 5/11/2020

Location: MW-24

Description: The 34 to 35-foot sample interval. The highest PID reading of the day (13.6 ppm) was recorded at this interval. The interval was a

moist gravelly silt.



Date: 5/11/2020

Location: MW-26

Description: MW-26 pushahead sampler from 320 ft.



Date: 5/11/2020

Location: MW-26

Description: Gravelly sand from 348-350 ft-bgs with a PID reading of 149.4 ppm.

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Ben Carreon CDM Smith – Betsy Bott Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr.
Visitors/Others:	VA – Marc Yalom None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2) 	
Equipment in Use (field	 Skid Steer (Bobcat) (x2) 	
instruments, subcontractor	 Rig Hauler (x2) 	
equip, etc.)	Tender/Water Truck	
	 Portable Toilet (x2) 	

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted near the MW-25 boring location.

Drilling:

MW-24:

The drillers advanced MW-24 from 40 to 125 ft-bgs. Seven soil samples were collected. The highest PID observed was 58.8 ppm in the 119-120 ft-bgs interval. The drillers broke a drill rod and successfully retrieved it with minimal down time.

Samples collected:

MW24-SB051220-43

MW24-SB051220-56

MW24-SB051220-61

MW24-SB051220-71

MW24-SB051220-84

MW24-SB051220-104

MW24-SB051220-119

MW-26:

A push-ahead sample was attempted at the 350 ft-bgs interval left overnight. When tripping out the sampler, it was discovered that the sampler had cracked and that may have been the reason that a sample was not able to be retrieved at 350 ft-bgs. Drillers advanced MW-26 from 350 to 360 ft-bgs. A Push-ahead sample was collected at 360 ft-bgs using the other crew's sampler. MW-26 GW (360 ft-bgs) color-tec sample was ND. The first ZIST well was installed with a screened interval of 347.5 – 357.5 ft-bgs. At 1530, the drillers noted a crack on the rig that needed to be repaired before any further work could be performed. A welder will be on site 5/13 at 08:00 to fix the damage.

Samples collected:

MW26-SB051220-355

MW26-GW051220-360

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking," however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

The sample shipment on Monday evening 5/11 was not received by the Emax laboratories. FedEx tracking indicated it was out for delivery at 0800. A follow up call to FedEx indicated the cooler was at the sorting facility and would be delivered by COB. As of 5pm PDT, Emax had not yet received the sample shipment.

Projected Work - Near Term:

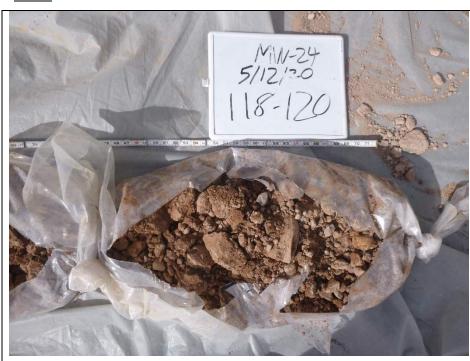
5/13/2020 – Crew 1: Fix weld on rig after acquiring hot work permit, continue well construction.

Crew 2: Continue drilling MW-24 from 125 ft-bgs.

Other Activities/Remarks:

5/13/2020: A joint Safety Tailgate will be conducted at the MW-24 location for both crews working this week.

Photos:



Date: 5/12/2020

Location: MW-24

Description: The 119-120 foot sample interval. The highest PID reading of the day (58.8 ppm) was recorded at this interval. The unit was a cemented silty gravel.



Date: 5/12/2020

Location: MW-26

Description: Broken push-

ahead sampler.



Date: 5/12/2020

Location: MW-26

Description: Installing lower zone PVC riser.



Date: 5/12/2020

Location: MW-26

Description: Rig damage.

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Ben Carreon CDM Smith – Betsy Bott Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. VA – Marc Yalom All Welding – Juan Perez
Visitors/Others:	All Welding – Pablo Dasalvia None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler (x2)
equip, etc.)	Tender/Water Truck
	Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted near the MW-25 boring location.

Drilling:

MW-24:

The drillers advanced MW-26 from 125 to 190 ft-bgs. Six soil samples were collected. The highest PID observed was 51.1 ppm in the 151 - 152.5 ft-bgs interval. A groundwater samples was collected using a bailer from the perched water zone at 160 ft-bgs (Color-tec result ND). The drill rig brace broke that holds the head on the rails and needs to be welded back together. Holt took part that needs to be welded to offsite welder to be repaired tonight.

Samples collected:

MW24-GW051320-160

MW24-SB051320-132

MW24-SB051320-149

MW24-SB051320-152

MW24-SB051320-166

MW24-SB051320-170

MW24-SB051320-186

MW-26:

All Welding was on site to return the rig to operation. The first ZIST well was installed with a screened interval of 347.75 – 357.75 ft-bgs. Sand was installed from 344 to 360 ft-bgs. Bentonite pellets were installed from 328 to 344 ft-bgs. When installing the second ZIST well, the bottom 42 ft of well casing was accidentally dropped and the bottom of the second well now presumably rests from 286 to 328 ft-bgs. The drill crew was unsuccessful in attempting to retrieve the dropped casing and will continue efforts 5/14/20.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking," however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

The sample cooler shipped on Monday 5/11, which was scheduled for delivery on Tuesday morning, arrived at the lab this morning. Holding times will be missed for VOC soil samples included in that cooler, though the cooler temperature was within limits. CDM Smith will proceed with analyzing the samples and will validate and qualify the data as necessary.

Projected Work - Near Term:

5/14/2020 - Crew 1: Continue attempt to retrieve the second ZIST well. Continue well construction on MW-26.

Crew 2: Continue drilling MW-24 from 190 ft-bgs.

Other Activities/Remarks:

5/14/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:

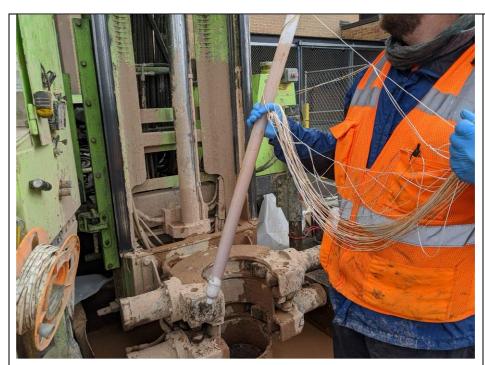


Date: 5/13/2020

Location: MW-24

Description: The 151-152.5 foot sample interval. The highest PID reading of the day (51.1 ppm) was recorded at

this interval.



Date: 5/13/2020

Location: MW-24

Description: Perched water sample collected from bailer at

. 160 ft-bgs.



Date: 5/13/2020

Location: MW-24

Description: View of broken drill rig brace.



Date: 5/13/2020

Location: MW-26

Description: View of welding repair.



Date: 5/13/2020

Location: MW-26

Description: View of second ZIST well installation.

DATE: 5/14/2020 Prepared by: Joe Miller/Ben Carreon/Betsy Bott

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Ben Carreon CDM Smith – Betsy Bott Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. VA – Marc Yalom VA – Shannon Smith
Visitors/Others:	A1 to service portable toilet MP Environmental to deliver 10 cu yrd roll off

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler (x2)
equip, etc.)	Tender/Water Truck
	Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted near the MW-25 boring location.

Drilling:

<u>MW-2</u>4:

Holt reinstalled brace back onto rig. The drillers advanced MW-26 from 190 to 230 ft-bgs. Four soil samples were collected. The highest PID observed was 47.9 ppm in the 227 – 228 ft-bgs interval. A groundwater sample was collected using the push ahead water sample from 220 ft-bgs (color-tec result ND).

Samples collected:

MW24-GW051420-220

MW24-SB051420-192

MW24-SB051420-202

MW24-SB051420-215

MW24-SB051420-227

MW-26:

The drill crew continued to attempt to retrieve the dropped casing but was unsuccessful. The well was re-drilled to total depth (360 ft-bgs) to remove the dropped screen and casing and removed the installed PVC for the deepest well screen and all annular materials. The process consisted of coring the borehole first to remove PVC, bentonite, and sand filter pack, followed by advancing casing to the original total depth and cleaning out the borehole. This process should have reduced the likelihood of pushing down bentonite and smearing the borehole wall, therefore the team decided that it was appropriate to install the deepest interval at the originally-planned interval (348-358 feet bgs) after completion of the cleanout. Well D was reconstructed and the sand pack was started.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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Issues related to MW-26 casing retrieval and re-drilling discussed above and in the May 13th DQCR.

<u>Projected Work – Near Term:</u>

5/15/2020 - Crew 1: Continue well construction on MW-26.

Crew 2: Continue drilling MW-24 from 230 ft-bgs and/or begin well construction.

Other Activities/Remarks:

5/15/2020: A joint Safety Tailgate will be conducted at the MW-25 location for both crews working this week.

Photos:



Date: 5/14/2020

Location: MW-24

Description: The 227-228 -foot sample interval. The highest PID reading of the day (47.9 ppm) was recorded at this

interval.



Date: 5/14/2020

Location: MW-24

Description: Soil Cuttings from MW-24. The interval from 218-220 was wet sand and gravel.



Date: 5/14/2020

Location: Staging Area

Description: Rolloff box delivery. Box will be repositioned before loading.

DATE: 5/15/2020 Prepared by: Joe Miller/Ben Carreon/Betsy Bott

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Ben Carreon CDM Smith – Betsy Bott Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Aaron Kuper Holt Services – Alex Langdon Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr.
Visitors/Others:	VA – Marc Yalom Badger to scout drilling locations in park area

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	 Rig Hauler (x2)
equip, etc.)	 Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted near the MW-25 boring location.

Drilling:

MW-24:

The drillers advanced MW-26 from 230 to 250 ft-bgs. Two soil samples were collected. The highest PID observed was 31.2 ppm in the 239 - 240 ft-bgs interval.

Samples collected: MW24-SB051520-239 MW24-SB051520-248

MW-26:

Well D seal and filter pack were completed with an interval of 328 to 342 ft-bgs and 342 to 360 ft-bgs, respectively. Well C casing was constructed with a screened interval of 315 to 325 ft-bgs. Well C seal and filter pack were completed with an interval of and 250 to 311.5 ft-bgs and 311.5 to 328 ft-bgs, respectively. Well B casing was constructed with a screened interval of 235 to 245 ft-bgs. 360 ft of 6" casing was removed from the borehole after the well seal rose above the termination of the 7 in casing at 260 ft-bgs.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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Projected Work - Near Term:

5/16/2020 - Crew 1: Off

Crew 2 leaving for 1-week break. Crew 1 will complete installation of MW-24 after completion of MW-26.

5/17/2020 - Crew 1: Continue well construction on MW-26.

Other Activities/Remarks:

Holt Crew 2 cleaned up area around MW-24, secured area, decon'd piping from MW-24.

5/17/2020: A safety Tailgate will be conducted at the MW-26.

Photos:



Date: 5/15/2020

Location: MW-24

Description: The 239-240 -foot sample interval. The highest PID reading of the day (31.2 ppm) was recorded at this

interval.



Date: 5/15/2020

Location: MW-24

Description: View of MW-24 secure prior to Holt Crew 2's

break.



Date: 5/15/2020

Location: MW-26

Description: Well C sump, slotted casing, and ZIST

receiver.



Date: 5/15/2020

Location: MW-26

Description: Removing 6 in casing.

DATE: 5/17/2020 Prepared by: Ben Carreon/Betsy Bott

Personnel on site, including Contractors:	CDM Smith – Ben Carreon CDM Smith – Betsy Bott Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr.
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted near the MW-26 boring location.

Drilling:

MW-26:

Well B filter pack and seal were completed with an interval of 231-250 ft-bgs and 218-231 ft-bgs, respectively. Well A casing was constructed with a screened interval of 205-215 ft-bgs. Well A filter pack and seal were completed with an interval 201-218 ft bgs and 34-201 ft-bgs, respectively. Bentonite grouting materials and equipment were staged for work to be completed 5/18.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

5/18/2020 – Crew 1: Finish well construction on MW-26, move to MW-24 and begin well construction. Close out trenching and excavation permit.

Other Activities/Remarks:

5/18/2020: A safety Tailgate will be conducted at the MW-26 location.

Photos:



Date: 5/17/2020

Location: MW-26

Description: Holt installing the shallowest

ZIST well (Well A).



Date: 5/17/2020

Location: MW-26

Description: Holt adding bentonite chips.

Personnel on site, including Contractors:	CDM Smith – Ben Carreon CDM Smith – Betsy Bott CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr.
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted near the MW-26 boring location.

Drilling:

MW-26:

Bentonite grout was installed from 4-30 ft-bgs. Drill pipe, equipment, fencing, and other supplies were moved to the laydown area. The area was swept and put back to original condition. Temporary fencing was placed around the MW-26 borehole to protect it until the well vault is installed.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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Projected Work - Near Term:

5/19/2020 - Crew 1: Begin well construction at MW-24.

Other Activities/Remarks:

5/19/2020: A safety Tailgate will be conducted at the MW-24 location.

5/18/2020: Additional activities

MW-01S Pump tubing fished from well.

A composite soil sample was collected from Roll-off Bin RBR 250327 for characterization.

PID readings were measured at vapor monitoring points and depth to water measurements were taken at wells at MW-23, MW-25, MW-27, and MW-28 based on the type of well. The results are listed below:

<u>MW-23</u>		
<u>Well</u>	Depth to Water (ft-btoc)	
MW-23A	185.32	

MW-23B	196.62
MW-23C	215.16

<u>MW-25</u>		
<u>Well</u>	Depth to Water (ft-btoc)	
MW-25A	176.82	
MW-25B	182.07	
MW-25C	205.72	
Well Vapor Point	PID Reading (PPM)	
28 ft	0.0	
100 ft	0.2	

MW-27		
Depth to water (ft-btoc) = 185.15		
Well Vapor Point	PID Reading (PPM)	
28 ft	8.7	
48 ft	1.8	
75 ft	2.6	
113 ft	3.3	
155 ft	0.3	

<u>MW-28</u>		
Depth to water (ft-btoc) = 184.37		
Well Vapor Point	PID Reading (PPM)	
24 ft	0.0	
48 ft	0.3	
118 ft	1.2	

Photos:



Date: 5/18/2020

Location: MW-26

Description: Holt mixing grout.



Date: 5/18/2020

Location: MW-26

Description: View of fencing surrounding MW-26. A well vault will be installed once received.



Date: 5/18/2020

Location: SLC VA

Description: Holt transporting drilling equipment to laydown area for decontamination.



Date: 5/18/2020

Location: MW-30 Location

Description: Holt transporting equipment to MW-30 location.

DATE: 5/19/2020 Prepared by: Joe Miller/Ben Carreon

Personnel on site, including Contractors:	CDM Smith – Ben Carreon CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr.
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted near the MW-24 boring location.

Drilling:

<u>MW-24:</u> The well and soil vapor points were installed. The well is screened from 209.5-239.5' bgs. The sand filter pack was installed to 201' bgs. Bentonite chips have been placed and hydrated to 135' bgs. The soil vapor points were installed at 130', 104', 60' and 32' bgs.

Depth to water before installation was 186.30' bgs.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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The batteries were dead on the drill rig at MW-24 and had to be jump started.

Projected Work - Near Term:

5/20/2020 - Crew 1: Finish well construction at MW-24

Other Activities/Remarks:

5/20/2020: A safety Tailgate will be conducted at the MW-24 location.

Photos:



Date: 5/19/2020

Location: MW-24

Description: Four inch PVC riser with soil

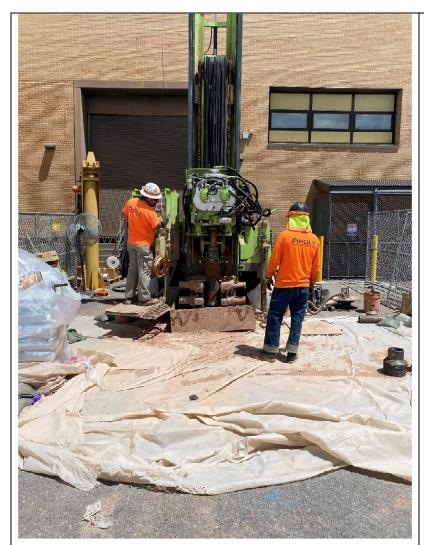
vapor point installed at 130'.



Date: 5/19/2020

Location: MW-24

Description: Feeding tubing for soil vapor points while installing well.



Date: 5/19/2020

Location: MW-24

Description: Holt vibing back casing to settle sand pack.

Personnel on site, including Contractors:	CDM Smith – Ben Carreon CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. Wasatch – Kiel Keller Wasatch – Anna Fiorini VA- Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	Still	Moderate	<u>High</u>		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted near the MW-24 boring location.

Drilling:

 $\underline{\text{MW-}24:}$ Well construction resumed. The soil vapor points were sand packed and the boring was backfilled with bentonite to 28' bgs. The well was grouted from 28 to \sim 2' bgs.

The MW-24 equipment was mobed to the laydown area.

Well Repairs:

Well repairs were completed at MW-18, MW-19, and MW-20S/D. These repairs included pulling pumps, switching nylon cord for steel cable, tightening and securing tubing and well equipment, and attaching well tags. As the pump fittings were corroded, everything was cleaned prior to redeployment of the pumps.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA was requiring "Universal Masking," however this mandate has been modified to allow for unmasking outdoors if required distance is maintained.

A 30-minute delay was encountered due to hail.

Projected Work - Near Term:

5/21/2020 - Crew 1: Decon drill rods and casing. Set up at MW-30

Other Activities/Remarks:

5/21/2020: A safety Tailgate will be conducted at the laydown yard.

Photos:



Date: 5/20/2020

Location: MW-24

Description: Holt pumping grout for surface



Date: 5/20/2020

Location: MW-24

Description: Holt mobing equipment from MW-24 well site.



Date: 5/20/2020

Location: MW-19

Description: Fitting on MW-19 shows corrosion. Build up was cleaned prior to redeployment.

Personnel on site, including Contractors:	CDM Smith – Ben Carreon CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. VA- Marc Yalom VA – Carlos Aguilar
Visitors/Others:	A1 Services – portable toilet service

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig 	
Equipment in Use (field	Skid Steer (Bobcat)	
instruments, subcontracto	Rig Hauler	
equip, etc.	Tender/Water Truck	
	Portable Toilet	

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted in the Laydown area.

Drilling:

Holt Deconned drill steel from MW-26 boring location. The drill rig and pipe were staged at the MW-30 work area. Carlos Aguilar issued the excavation permit for MW-30 and received the completed permits for MW-24 and MW-26.

Photos were taken of Sunnyside park locations prior in anticipation of work beginning next week.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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The Augustyn surface completions for MW-24 and MW-26 were delayed at the foundry and will be installed next week upon arrival.

Projected Work – Near Term:

5/22/2020 - Crew 1: Begin drilling MW-30

Other Activities/Remarks:

5/22/2020: A safety Tailgate will be conducted at the MW-30 location.

Photos:



Date: 5/21/2020

Location: SLC VA

Description: Holt moving equipment to MW-

30 location from laydown area.



Date: 5/20/2020

Location: MW-30

Description: Work zone setup and fencing



Date: 5/21/2020

Location: MW-29

Description: MW-29 area in grass near manhole at Sunnyside park. Note: distressed vegetation near boring prior to work.



Date: 5/21/2020

Location: MW-31

Description: Grassy area in park.

Personnel on site, including Contractors:	CDM Smith – Ben Carreon CDM Smith – Joe Miller Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Scottie Lampman Holt Services – Michael Leui Jr. VA- Marc Yalom
Visitors/Others:	None

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-30 drilling site.

Drilling:

The MW-30 boring was advanced to 110' bgs. Seven soil samples were collected. The highest PID was 154.4 ppm in the 101-103' interval. This unit was cemented gravel and was likely due to heat produced by the drilling and extrusion of the sample from the core barrel. The 9" sonic casing was advanced to 30' bgs. The 8" sonic casing is currently advanced to 100' bgs.

Samples collected
MW30-SB052220-15
MW30-SB052220-29 + Dup
MW30-SB052220-48
MW30-SB052220-53
MW30-SB052220-74
MW30-SB052220-95
MW30-SB052220-102 (PID 154.4 ppm)

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

5/26/2020 - Crew 2: Prepare for Sunnyside park wells; Hydrovac MW-29 and MW-31

Other Activities/Remarks:

5/26/2020: A safety Tailgate will be conducted at the laydown area; Holt Crew 2 expected to be onsite around 1030.

Photos:



Date: 5/22/2020

Location: MW-30 Soil cuttings

Description: Interval from 100-103',had highest PID reading encountered. Note: cemented portions on left side of core bag.



Date: 5/22/2020

Location: MW-30

Description: Holt drilling at MW-30.



Date: 5/22/2020

Location: MW-30 Soil cuttings

Description: Pale gray clayey silt unit from 35'-39' bgs. The unit was cohesive and moist to wet.

DATE: 5/26/2020 Prepared by: Kimberly Yauk

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konan Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Wasatch – Blake Downey
Visitors/Others:	MP Environmental – Roll-off delivery ZIST material delivery

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown area.

Utility Clearance:

Badger Daylighting was on site to clear boreholes at MW-29 and MW-31 in Sunnyside Park. MW-29 was cleared to 8.5 feet (maximum PID reading was 0.3 ppm). The soil was very cobbled, similar to previous holes cleared. MW-31 did not have cobbles and was cleared to 10 feet bgs (maximum PID reading was 0.6 ppm). Both holes were backfilled with pea gravel (and bentonite at MW-31). Fencing was placed around each borehole location. Soil and water generated during clearance were emptied into the containment area in the IDW yard. Some of the water was pumped into the poly tank, but the rest will have to be pumped tomorrow.

Drilling:

The drillers installed the Augustyn completion at MW-24 and emptied soil from the containment area into the soil rolloff bin to make room for more soil and water generated today. They adjusted the heights of the PVC casings at MW-26 and are prepared to install the surface completion tomorrow if the remaining stickup can be shortened. No drilling was performed, and no samples were collected.

Samples collected None

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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PVC casing stickups at MW-26 are high enough that the Augustyn completion would have to stick up 6 inches or so above ground surface. The drillers will evaluate options to shorten the stickups to mount the completion flush.

Projected Work - Near Term:

5/27/2020 – Crew 2: Mobilize drill rig to MW-29, pump water from IDW containment into poly tanks, install the surface completion at MW-26.

Other Activities/Remarks:

5/27/2020: A safety Tailgate will be conducted at the laydown area; Holt Crew 2 will meet at 7 am.

Photos:



Date: 5/26/2020

Location: Sunnyside Park

Description: Soil rolloff bin was delivered to south side of Sunnyside Park in preparation

for drilling.



Date: 5/26/2020

Location: MW-29

Description: Badger Daylighting clears MW-29 of utilities to 8.5 feet bgs.



Date: 5/26/2020

Location: MW-29

Description: Borehole location was cleared to 8.5 feet bgs. Badger encountered many

large cobbles and boulders.



Date: 5/26/2020

Location: MW-31

Description: Cleared boreholes were backfilled with pea gravel, coned off, and

fenced in.



Date: 5/26/2020

Location: IDW Yard

Description: Badger unloads their soil and water into the soil containment area.



Date: 5/26/2020

Location: MW-24

Description: Holt installs an Augustyn surface completion at MW-24.



Date: 5/26/2020

Location: MW-26

Description: Holt prepares borehole and PVC stickups at MW-26 for Augustyn surface completion. Area fenced off at the end of the day.

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konen Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown area.

VA Dispatch Activity:

The VA dispatch sent officers to the Sunnyside Gate to help oversee movement of equipment from the laydown area to MW-29 in Sunnyside Park. Officers Ferris and Dennis assisted in controlling the gate while drillers moved the rig off site. They allowed us to continue moving casing, bobcat, and hopper to the drilling location through the gate as long as we didn't allow any cars in. Once we moved drilling equipment out, we called back in to dispatch and officers were sent to lock the gate.

Drilling:

The drillers mobilized equipment to MW-29 and began drilling. The borehole was advanced to 50 feet bgs. The core barrel has been advanced to 60 feet but remains in place. The 50 to 60-foot core sample is ready to be removed, sampled, and logged in the morning. The highest PID reading (92.5 ppm) was measured at 42 feet deep. Other elevated readings were measured from 21 to 37 feet bgs with highs at 24 feet (75.3 ppm), 32 feet (80.4 ppm), and 35 feet (75.9 ppm). Four parent samples were collected.

Samples collected MW29-SB052720-16 MW29-SB052720-24 MW29-SB052720-32 MW29-SB052720-42 FD21-SB052720 TB33-SB052720

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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The gate traffic and closure will be one of the biggest issues to mitigate. Drillers will use flaggers to safely move equipment across the road and/or through the Sunnyside Gate. Dispatch and the VA police officers have been very helpful in our mobilization.

<u>Projected Work – Near Term:</u>

5/28/2020 – Crew 2: Drilling will continue at MW-29. Surface completion at MW-26 is on hold while we examine ways to lower the casing levels of all four probes.

Other Activities/Remarks:

5/28/2020: A safety Tailgate will be conducted at the laydown area; Holt Crew 2 will meet at 7 am. If traffic before 7am is light, they will call dispatch and ask about getting assistance out the Sunnyside gate.

Photos:



Date: 5/27/2020

Location: MW-29

Description: The rig set up at MW-29 with

view facing south.



Date: 5/27/2020

Location: MW-29

Description: Holt laid out plywood to minimize damage to the grass as they

mobilized the rig at MW-29.



Date: 5/27/2020

Location: MW-29

Description: Soil sample being collected at

24 feet bgs by CDM Smith.



Date: 5/27/2020

Location: MW-29

Description: Soil core from 30 feet (bottom of frame) to 40 feet (top of frame) being measured by CDM Smith.



Date: 5/27/2020

Location: MW-29

Description: Highest detection today on the PID was at 42 feet deep measuring 92.5 ppm.

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konen Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-29 location.

VA Dispatch Activity:

A conversation between VA police, Sunnyside Gate staff, and CDM Smith was held to clarify gate use and availability of staff to open the Sunnyside gate for the drill crew. Mandatory temperature screening and oversight will continue. When the drillers have to access the laydown area to bring equipment, the VA dispatch number will be called, officers will oversee opening the gate, and a gate staff member will come to the gate to screen the drillers in and out while they get what they need. Police reiterated with CDM Smith and Holt that the gate will not be accessible without VA police oversight.

Drilling:

Drilling continued at MW-29 beginning at 60 feet bgs. Samples were collected at approximately 10-foot intervals, targeting the highest PID readings. The highest detection was 29.4 ppm measured at 97 feet bgs. At 115 feet, the core barrel broke for the third time today. Drillers were able to fish the broken casing out each time, but drilling was delayed as a result. The soil core from 110 to 115 was not able to be recovered after the final piece of broken casing was removed. Five feet of soil core will be lost. The borehole is currently advanced to 115 feet bgs. Drilling will begin tomorrow using 7-inch casing. The 8-inch casing extends to 100 feet bgs.

Samples collected MW29-SB052820-56 MW29-SB052820-67 MW29-SB052820-72 MW29-SB052820-82 MW29-SB052820-97 MW29-SB052820-104

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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The grout at MW-26 was dug out slightly to expose the threaded joint of the top segment of casing D. Attempting to twist the PVC seems to result in loosening a threaded joint lower down on a different segment. In order to un-thread the top joint, a pair of pliers may be of use to hold the PVC still while loosening the top segment.

Holt would like to explore the option of setting up a laydown area in the Sunnyside Park parking lot as a way to minimize traffic through Sunnyside gate.

Projected Work – Near Term:

5/29/2020 – Crew 2: Drilling will continue at MW-29 using 7-inch casing beyond 100 feet.

Other Activities/Remarks:

5/29/2020: A safety Tailgate will be conducted at MW-29; Holt Crew 2 will meet at 7 am.

Photos:



Date: 5/28/2020

Location: MW-29

Description: The rig closed up for the day at MW-29 with fencing surrounding the work

area.



Date: 5/28/2020

Location: MW-29

Description: Holt laid out plywood to minimize damage to the grass as they work

at MW-29.



Date: 5/28/2020

Location: MW-29

Description: Mostly clay from 71 to 77.5 feet bgs and from 80 to 95 feet bgs.



Date: 5/28/2020

Location: MW-29

Description: Mostly Silty gravel with sand from 95 to 110 feet bgs.



Date: 5/28/2020

Location: MW-26

Description: Bentonite grout was dug out to below the threaded joint of casing D (far left stickup with spiral black tape).

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konen Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-29 location.

Drilling:

Drilling continued at MW-29 beginning at 115 feet bgs. Samples were collected at approximately 10-foot intervals, targeting the highest PID readings. The highest detection was 46.0 ppm measured at 172 feet bgs. Elevated PID readings were measured at 122 feet (43.4 ppm), 134 feet (37.7 ppm), 164 to 167 feet (up to 42.2 ppm), 171 to 172 feet (up to 46.0 ppm), 177 to 180 feet (up to 51.2 ppm), and 185 to 187 feet (up to 45.8 ppm).

A groundwater sample was able to be collected at 120 feet bgs. Soil cores below 120 became dry and did not produce water until approximately 188 feet bgs. Drilling will begin tomorrow with a water sample collected near 192 feet bgs.

Samples collected MW29-SB052920-115 MW29-SB052920-122 MW29-GW052920-120 MW29-SB052920-137 MW29-SB052920-144

MW29-SB052920-155

MW29-SB052920-167

MW29-SB052920-178

MW29-SB052920-187

TB34-SB052920

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Holt would like to explore the option of setting up a laydown area in the Sunnyside Park parking lot as a way to minimize traffic through Sunnyside gate. Sunday would be an ideal day to move equipment through Sunnyside Gate with minimal traffic.

Projected Work – Near Term:

5/30/2020 - Day Off.

5/31/2020 – Crew 2: Drilling will continue at MW-29 at 190 feet using 7-inch casing. Water sampling will begin at 20-foot intervals.

Other Activities/Remarks:

5/31/2020: A safety Tailgate will be conducted at MW-29; Holt Crew 2 will meet at 7 am.

Photos:



Date: 5/29/2020

Location: MW-29

Description: The rig outriggers do not line up with any underground utilities that were

located in the vicinity.



Date: 5/29/2020

Location: MW-29

Description: A view of the MW-29 location looking south with the fire hydrant and

water line in view.



Date: 5/29/2020

Location: IDW Yard

Description: The groundwater sample from 120 feet bgs did not have any Color Tec

detection.



Date: 5/29/2020

Location: IDW Area

Description: Water was removed from the spill containment area and soil from Badger's work on Tuesday remains. The third poly tank is nearly full. The first two remain empty apart from some sediment on

the bottom.

DATE: 5/31/2020 Prepared by: Kimberly Yauk

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konen Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	<u>High</u>		
Humidity	<u>Dry</u>	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-29 location.

Drilling:

Drilling continued at MW-29 beginning at 190 feet bgs. Samples were collected at approximately 10-foot intervals, targeting the highest PID readings. The highest reading was 62.8 ppm at 199 feet bgs. In contrast, the soil cores deeper than 200 feet were all 0.0 ppm on the PID. The borehole was advanced to 230 feet bgs.

A groundwater sample was able to be collected at 191 feet bgs. Soil cores below 190 feet became very clay-rich and did not produce water. A groundwater sample was not attempted at 210 feet bgs due to the lithology. Drilling will begin tomorrow with a water sample collected at 230 feet bgs. If no water is produced, the groundwater sample will be attempted at 240 feet bgs.

Samples collected
MW29-GW053120-191
MW29-SB053120-198
MW29-SB053120-207
FD22-SB053120 (from 207 feet bgs)
MW29-SB053120-217
MW29-SB053120-227
TB35-SB053120

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Salt Lake City went under curfew at 8pm on Saturday, May 30. Curfew will be lifted at 6am on Monday, June 1. Under the curfew, those allowed on public streets will be limited to law enforcement, news media, medical personnel, and those transporting food, traveling to somewhere, patronizing businesses, fleeing danger, or experiencing homelessness. Work at the site was not impacted by the curfew.

Projected Work - Near Term:

6/1/2020 – Crew 2: A groundwater sample will be collected from MW-29 at 230 feet bgs. Drilling will then continue from 230 feet using 7-inch casing. Water sampling will continue at 20-foot intervals.

Crew 1: Pete's crew will mobilize back on site and begin drilling operations at MW-30 next to the parking garage.

Other Activities/Remarks:

6/1/2020: A safety Tailgate will be conducted at MW-29; Holt Crew 2 and three staff from CDM Smith will meet at 7 am.

Photos:



Date: 5/31/2020

Location: MW-29

Description: First attempt at water sampling at 191 feet is not successful due to clogged screen on the push-ahead sampler.



Date: 5/31/2020

Location: MW-29

Description: The sampler is deconned and another attempt is made to place the sampler and get it to open.



Date: 5/31/2020

Location: MW-29

Description: Soil cores in 10-foot intervals from 190 feet (lower left) to 230 feet (upper

ight).

There was a distinct drop in PID readings in soil cores deeper than 200 feet. (All readings

were 0.0 ppm).

There was also a distinct color change in the soil from reddish brown to gray at 210 feet

bgs.



Date: 5/31/2020

Location: MW-29

Description: The lithology at 210 feet was very clay-rich and did not appear to be

saturated with water.



Date: 5/31/2020

Location: MW-29

Description: The soil core (gravelly clay) at 220 to 222.5 feet bgs prior to splitting the

core open.



Date: 5/31/2020

Location: MW-29

Description: The soil core (gravelly clay) at 220 to 222.5 feet bgs after splitting the core

open.



Date: 5/31/2020

Location: IDW Yard

Description: The groundwater sample from 191 feet bgs during purge of the second VOA. No color change was observed during

the process.



Date: 5/31/2020

Location: IDW Yard

Description: The groundwater sample from 191 feet bgs did not have a Color Tec

detection.

DATE: 6/1/2020	Prepared by: Kimberly Yauk	

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konen CDM Smith – Frank Morris Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr.
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	<u>High</u>		
Humidity	Dry	Moderate	Humid		

	 Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the MW-29 location.

Drilling:

Drilling continued at MW-29 beginning at 230 feet bgs. Soil samples were collected at approximately 10-foot intervals, targeting the highest PID readings. The highest detection was 88.2 ppm at 256 feet bgs. The borehole was advanced to 260 feet bgs.

A groundwater sample was able to be collected at 230 feet bgs. The soil core from 235 to 240 was saturated with water but was followed by a thick clay. A groundwater sample from this saturated interval was not able to be collected. The soil core became saturated again at 256 feet to 260 feet, and the push-ahead sampler was advanced in order to collect a sample at 260 feet in the morning. Drilling will begin tomorrow with a water sample collected at 260 feet bgs.

Pete and Mike from Crew #2 were briefly on site after arriving in Salt Lake City. They checked on equipment to make sure everything is ready to go in the morning.

Samples collected MW29-GW06120-230 MW29-SB060120-240 MW29-SB060120-250

MW29-SB060120-256

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. Beginning on April 15th, the SLC VA is requiring "Universal Masking," requiring a face cover be worn at all times while working on the campus. Universal temperature checks are being conducted at the gate prior to entry.

The State of Utah is going into a State of Emergency as of June 1st. As a part of this, the City of Salt Lake is going under curfew every weekday this week from 8pm to 6am. Under the curfew, those allowed on public streets will be limited to law

enforcement, news media, medical personnel, and those transporting food, traveling to somewhere, patronizing businesses, fleeing danger, experiencing homelessness, or those given permission to be on the streets by the City of Salt Lake. Work at the site is not expected to be impacted by the curfew.

Projected Work – Near Term:

6/2/2020 – Crew 2: A groundwater sample will be collected from MW-29 at 260 feet bgs. Drilling will then continue from 260 feet using 6-inch casing. Water sampling will continue at 20-foot intervals.

Crew 1: Pete's crew will resume drilling operations at MW-30, next to the parking garage.

Other Activities/Remarks:

6/2/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and three staff from CDM Smith will meet at 7 am.

Photos:



Date: 6/1/2020

Location: MW-29

Description: Collected a GW sample at 230 feet bgs. Color Tec sample from this depth

was non-detect for VOCs.



Date: 6/1/2020

Location: MW-29

Description: Soil core was saturated from 235 to 240 feet bgs. Lithology just below 240 changed into clay and a groundwater sample

was not able to be collected.



Date: 6/1/2020

Location: MW-29

Description: Clay and clay with gravel from 240 feet to 255 feet bgs was not saturated

and did not produce water.



Date: 5/31/2020

Location: MW-29

Description: The lithology at 250 feet was very clay-rich and did not produce a water

sample.



Date: 6/1/2020

Location: MW-29

Description: The push-ahead sampler after attempting to collect a groundwater sample at 250 feet. Clay clogged the screen.



Date: 6/1/2020

Location: MW-29

Description: The soil core (gravelly clay) at 256 to 260 feet bgs was saturated with water. The push-ahead sampler was advanced into the formation and will be opened in the morning to collect a water

sample.

DATE: 6/2/2020 Prepared by: Kimberly Yauk and Frank Morris

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konen CDM Smith – Frank Morris Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	<u>High</u>		
Humidity	<u>Dry</u>	Moderate	Humid		

	 Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

Drilling resumed at MW-30 beginning at 110 feet bgs. Soil samples are being collected at approximately 20-foot intervals, targeting the highest PID readings. The highest detection was 168 ppm at 127 feet bgs, with readings over 100 ppm at 169-170 feet bgs. Soil cores with detections over 100 ppm were containerized in drums for separate characterization. The borehole was advanced to 190 feet bgs.

Drill Crew #2:

Drilling continued at MW-29 beginning at 260 feet bgs. Soil samples are being collected at approximately 10-foot intervals, targeting the highest PID readings. The highest detection was 32.4 ppm at 267 feet bgs. The borehole was advanced to 271 feet bgs. Drillers advanced the core barrel to 280 feet and a soil core will be removed at the start of the day tomorrow. A cemented gravel layer was encountered from 270 to 271 feet bgs.

A groundwater sample was able to be collected at 260 feet bgs, although the volume collected was low. Color-Tec samples were not able to be collected. Water samples will continue to be collected at approximately 20-foot intervals.

Samples collected MW29-GW060220-260 MW29-SB060220-267 MW30-SB060220-111 MW30-SB060220-135 MW30-SB060220-169

MW30-SB060220-178

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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The casing height of MW-26D was adjusted to allow the surface completion to be flush or nearly flush with the ground surface. Holt crew #1 will set the Augustyn surface completion in concrete tomorrow.

Projected Work - Near Term:

6/3/2020 – Crew 1: Pete's crew will continue drilling at MW-30, next to the parking garage. Once groundwater is encountered they will collect water samples at approximately 20 foot intervals.

Crew 2: Drilling will continue at MW-29 from 270 feet using 6-inch casing. Water sampling will continue at 20-foot intervals.

Other Activities/Remarks:

6/3/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and three staff from CDM Smith will meet at 7 am.

Photos:



Date: 6/2/2020

Location: MW-29

Description: The push-ahead sampler was having difficulty opening during collection of a groundwater sample at MW-29 at 260 feet bgs. The sampler would open above ground without difficulty, but at depth, air pressure, vibrations, and pulling back on the sampler only resulted in an opening less than 1 inch.



Date: 6/2/2020

Location: MW-29

Description: Soil core was wet at 260 to 262 feet bgs and has a light gray color like that

seen at 210 to 230 feet bgs.



Date: 6/2/2020

Location: MW-29

Description: Clay and clay with gravel from 267.5 to 270 feet bgs.



Date: 6/2/2020

Location: MW-29

Description: The drillers noted a cemented

gravel layer at 270 to 271 feet bgs.



Date: 6/2/2020

Location: MW-30

Description: The soil core at 110 to 113 feet bgs is a well graded mix of sand, silt and

gravel.



Date: 6/2/2020

Location: MW-30

Description: The soil core at 150 to 152 feet

bgs.



Date: 6/2/2020

Location: MW-30

Description: The soil core at 187 to 190 feet bgs. This was the final soil core removed

today from MW-30.



Date: 6/2/2020

Location: MW-26

Description: The casing at MW-26D was lowered by first inserting a bottle brush on a string to below the threaded joint in order to prevent rocks or particles from falling into the casing.



Date: 6/2/2020

Location: MW-26

Description: The photo shows the approximate depths of each casing stickup at MW-26 relative to the surface

completion.

DATE: 6/3/2020 Prepared by: Kimberly Yauk and Frank Morris

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konen CDM Smith – Frank Morris Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	<u>Dry</u>	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

Drilling continued at MW-30 beginning at 190 feet bgs. Soil samples are being collected at approximately 20-foot intervals, targeting the highest PID readings. PID detections over 100 ppm from were measured at 204 feet, 222 feet, and 237 feet. Groundwater was encountered at approximately 240 feet bgs. 7-inch casing was advanced to 240 feet, and a water sample will be collected tomorrow morning. Soil cores with detections over 100 ppm were containerized in drums for separate characterization.

Drill Crew #2:

Drilling continued at MW-29 beginning at 271 feet bgs. Soil samples were collected at approximately 10-foot intervals, targeting the highest PID readings. The lithology was mostly clay without any water-bearing zones. The highest detection was 28.8 ppm at 318 feet bgs. The borehole was advanced to 330 feet bgs into a hard, silted gravel that was dry to moist.

No groundwater samples were collected.

MW-26: The Augustyn completion was installed at MW-26.

Samples collected

MW29-SB060320-273

MW29-SB060320-282

MW29-SB060320-292

MW29-SB060320-302

MW29-SB060320-314

MW29-SB060320-328

MW30-SB060320-204 MW30-SB060320-222

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Projected Work - Near Term:

6/4/2020 - Crew 1: Groundwater sampling will begin at MW-30 and soil sampling will continue at 20-foot intervals.

Crew 2: Drilling will continue at MW-29 from 320 feet using 6-inch casing. The borehole will be advanced in 10-foot intervals up to 350 feet to look for water-bearing zones.

Other Activities/Remarks:

6/4/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and three staff from CDM Smith will meet at 7 am.

Photos:

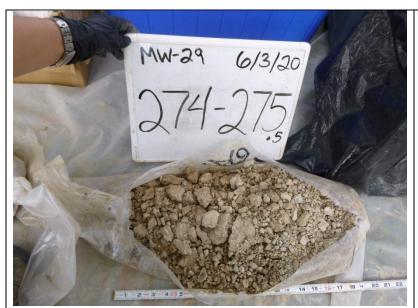


Date: 6/3/2020

Location: MW-26

Description: Holt installed the surface

completion at MW-26.



Date: 6/3/2020

Location: MW-29

Description: Soil core was dry from 273 to 275.5 feet bgs and has a light gray color like that seen at 210 to 230 and 260 feet bgs.



Date: 6/3/2020

Location: MW-29

Description: The lithology was clay or clay with gravel from 280 to 313.5 feet bgs.



Date: 6/3/2020

Location: MW-29

Description: Clayey sand with gravel and gravelly clay from 238 to 330 feet bgs.



Date: 6/3/2020

Location: MW-30

Description: The soil core at 198 to 200 feet

høs.



Date: 6/3/2020

Location: MW-30

Description: The soil core from 230 to 233

feet bgs.



Date: 6/3/2020

Location: MW-30

Description: Soil core from 243 to 245. Water was encountered near 240 feet bgs. The 7-inch casing was advanced to 240 feet, and a groundwater sample will be collected at this depth tomorrow.

DATE: 6/4/2020 Prepared by: Kimberly Yauk and Frank Morris

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Nolan Konen CDM Smith – Frank Morris Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	Alex (delivered ZIST casing)

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	<u>Dry</u>	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

Overnight, 7-inch casing was set at 240 feet bgs with 5 feet of open hole. The static water level in the morning was measured at approximately 228 feet bgs. After two cleanout runs, the hole still had slough up to 237 feet, which was the depth of first encountered water yesterday. It was decided to advance the push-ahead sampler to 237 to collect the groundwater sample. Drilling continued to 260 feet where a groundwater sample was attempted, however thick clay clogged the screen of the sampler. No saturated zones were encountered after the ones from 235 to 241 feet and 245 to 246 feet. The borehole was advanced to 280 feet by the end of the day. The highest PID reading was 58.6 ppm at approximately 276 feet bgs in a coarse sandy gravel, but was not saturated (moist to dry).

Samples collected: MW30-SB060320-237 MW30-GW060420-237 MW30-SB060420-266

Drill Crew #2:

The borehole at MW-29 was advanced ten more feet to look for a saturated zone, but the lithology at 340 feet was very similar to that at 330 feet: a dry to moist gravel, in a cemented silt and clay (unsaturated). A final soil sample was collected, and it was decided to end the boring at 340 feet and backfill with bentonite in order to install ZIST wells in the saturated zones encounter at 120, 190, and (230 or 260) feet, pending laboratory analysis results. Drillers staged grouting materials near the well and are prepared to begin well installation tomorrow.

Samples collected MW29-SB060420-337

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On Wednesday, the Mayor of Salt Lake City rescinded the curfew that had been placed on the city every night from 8pm to 6am.

Projected Work – Near Term:

6/5/2020 – Crew 1: Drilling will continue at MW-30 with soil and groundwater sampling occurring at approximately 20-foot intervals.

Crew 2: Well installation will begin at MW-29 beginning with backfilling the borehole to 267 feet with bentonite chips or pellets. The depth of the deepest probe will be determined based on analytical results of the groundwater sample collected at 260 feet bgs. Betsy Bott will take over as field team lead for Kimberly Yauk.

Other Activities/Remarks:

6/5/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews, two staff from CDM Smith, and one from Wasatch will meet at 7 am.

Photos:



Date: 6/4/2020

Location: MW-29

Description: The lithology at 340 feet. The bottom of the borehole was moist to dry with hard, broken cemented gravel with silt

and clay.



Date: 6/4/2020

Location: MW-29

Description: Holt crew #2 built a small staging area in the parking lot of Sunnyside Park to decrease the number of trips needed through the gate into the VA campus. Three

parking spaces are being used.



Date: 6/4/2020

Location: MW-30

Description: The lithology from 245 to 247.5 shows a transition to clay.



Date: 6/4/2020

Location: MW-30

Description: Fine-grained clay and silt clogs the screen of the push-ahead sampler.



Date: 6/4/2020

Location: MW-30

Description: The lithology from 260 to 262 is very clay-rich.



Date: 6/4/2020

Location: MW-30

Description: The soil core at 277.5 to 280 feet bgs. This is the extent drilled today.



Date: 6/4/2020

Location: IDW Area

Description: The groundwater sample collected at MW-30 at 237 feet showed no

detection on the Color-Tec.

Personnel on site, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Frank Morris Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman Wasatch – Blake Downey
Visitors/Others:	MP Environmental Services – Picked up roll-off RBR 250707

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	<u>Dry</u>	Moderate	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

Sonic drilling at MW-30 advanced from 280' to 320' bgs. Groundwater sampling was conducted at 280 and 298 feet bgs. Both groundwater Color-Tec samples were ND. Soil samples were collected at 286, 306, and 316 feet bgs. The soil at 316 feet was collected due to the highest PID readings seen thus far in the MW-30 boring (greater than 400 ppm) and adjacent to the most continuous saturated zone from 316 to 320 feet bgs.

MW-30 was secured Friday night with 6" casing set at 320 feet and cleaned out ready for collecting a groundwater screening sample Sunday morning

Samples collected:

MW30-SB060520-286

MW30-GW060520-280

MW30-SB060520-306

MW30-SB060520-316.5

MW30-GW060520-298

Drill Crew #2:

The borehole was backfilled from 242 to 340 ft-bgs. The deepest well was installed with a screen interval from 230 – 240 ft-bgs. Sand was installed from 202 to 227 ft-bgs. The second well was installed with a screen interval from 190 to 200 ft-bgs. Sand was installed from 187 to 202 ft-bgs. Bentonite was installed from 161 to 202 ft-bgs.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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On Wednesday, the Mayor of Salt Lake City rescinded the curfew that had been placed on the city every night from 8pm to 6am.

Projected Work - Near Term:

6/7/2020 – Crew 1: Drilling will continue at MW-30 with soil and groundwater sampling occurring at approximately 20-foot intervals.

Crew 2: Continue well construction at MW-29.

Other Activities/Remarks:

6/7/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and two staff from CDM Smith will meet at 7:15 am.

Photos:



Date: 6/5/2020

Location: MW-29

Description: Holt removing 6" casing from well and backfilling with bentonite.



Date: 6/5/2020

Location: MW-29

Description: Holt installing deepest well interval at MW-29.



Date: 6/5/2020

Location: MW-30

Description: Soil sample at 316.5 contained the highest PID readings seen thus far in the MW-30 boring (greater than 400 ppm).

DATE: 6/7/2020 Prepared by: Betsy Bott and Frank Morris

Personnel on site, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Frank Morris CDM Smith – Kelby Depner Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman
Visitors/Others:	

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

MW-30 was advanced from 320 to 350' bgs. Groundwater sampling was conducted at 320 and 340 feet bgs. Both groundwater Color-Tec samples were ND. Soil sampling was conducted at 336 feet bgs. The core barrel became stuck while trying to retrieve the 340-350 ft sample. It was decided that the rig should sit overnight, and Holt will attempt to retrieve the sample in the morning.

Samples collected:

MW30-GW060720-320

MW30-SB060720-336

MW30-GW060720-340

Drill Crew #2:

Bentonite was installed from 132-161. The shallowest ZIST well was installed with a screen interval from 120-130 ft-bgs. Three (3) soil vapor probes were installed at 42, 66, and 98 ft-bgs. Sand filter pack interval around the probe were installed at 40-44 ft-bgs, 64-68 ft-bgs, and 96-100 ft-bgs. Bentonite was installed from 11-40 ft-bgs and the well was grouted to approximately 2 ft-bgs.

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Work was stopped briefly due to lightning in the area. Downtime was approximately 1.5 hours.

Projected Work - Near Term:

6/8/2020 – Crew 1: Retrieve core barrel, begin well construction pending discussion on construction details.

Crew 2: Clean up MW-29 area, begin drill casing decon and setup on MW-31.

Other Activities/Remarks:

6/8/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and three staff from CDM Smith will meet at 7:15 am.

Photos:



Date: 6/7/2020

Location: MW-29

Description: Holt installing shallowest well

with soil vapor probes and tubing.



Date: 6/7/2020

Location: MW-29

Description: Holt removing last drill pipe

from well.



Date: 6/7/2020

Location: MW-25

Description: Four parking spaces were coned off for ZIST development tomorrow.



Date: 6/7/2020

Location: MW-30

Description: View of soil sample collected at 336 ft-bgs.

DATE: 6/8/2020	Prepared by: Betsy Bott and Frank Morris
· ·	

Personnel on site, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Frank Morris CDM Smith – Kelby Depner CDM Smith – Neil Smith Wasatch – Blake Downey Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman
Visitors/Others:	

Weather	Sunny	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

The core barrel was retrieved and MW-30 was advanced from 340 to 350' bgs. A final soil sample was collected at 342 ft-bgs. A discussion is set up for first thing Tuesday morning regarding screen intervals, as all parties were not available to discuss today. Holt Crew 1 had approximately ½ day of rig standby time incurred.

Samples collected:

MW30-SB060820-342

Drill Crew #2:

Casing from MW-29 was deconned. The drill rig, fencing, drill pipe and other drilling materials were moved to MW-31. Holt will return to MW-29 to install well vault once received.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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At approximately 2:20 P.M., a vehicular accident occurred on Sunnyside Avenue, adjacent to MW-31, causing a pickup truck to overturn into the center of the street. Holt immediately stopped work and went to assist. Holt aided each driver and assessed their condition, helped the pickup truck driver get out of the truck, and set up traffic cones to redirect traffic. Holt remained on scene until the fire department and ambulance arrived. Holt showed exemplary safety performance by acting calmly, quickly and while keeping safety the priority.

Mark Augustyn indicated that all well completions planned for this project are currently at the foundry being galvanized, and will hopefully be available later this week for installation. MW-29 will be covered and fenced in the meantime.

Initial well development via air lifting was attempted at MW-25B. Water was initially clear but turned turbid, and did not clear by the end of the day. Discussion with BESST Inc. indicates that development of the deepest wells may still be warranted using air lifting, but that shallower wells (i.e. those with less than about 50 feet of water column above the top of the pump receiver) are more appropriate to prepare for sampling by installing the ZIST pumps and purging at low to moderate rates rather than more aggressive methods. This will be attempted on 6/9/20.

Projected Work - Near Term:

6/9/2020 - Crew 1: Begin well construction at MW-30 after discussion on construction details.

Crew 2: Begin drilling at MW-31.

Other Activities/Remarks:

6/9/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and four staff from CDM Smith will meet at 7:15 am.

Photos:



Date: 6/8/2020

Location: Laydown Yard

Description: Holt deconning casing from

MW-29.



Date: 6/8/2020

Location: MW-29

Description: View of well after cleanup. Holt will return and install vault once vaults are received at the site.



Date: 6/8/2020

Location: MW-31

Description: View of rig and setup at MW-



Date: 6/8/2020

Location: MW-31

Description: View of vehicle accident proximity to MW-31.



Date: 6/8/2020

Location: MW-30

Description: View of 342.5-345 ft sample. A soil sample was taken at 342 that had a PID

reading of 33.6 ppm.

Personnel on site, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Frank Morris CDM Smith – Kelby Depner CDM Smith – Neil Smith Wasatch – Blake Downey Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

After receiving approval for the recommended ZIST completion intervals this morning for MW-30, well installation was started. Total depth of the boring is 350 feet bgs. The boring was backfilled with bentonite chips to 330' bgs. The deepest ZIST completion (C) had the sump set at 329.2' bgs. screening the interval from 327' to 317' with a filter pack installed from 330' to 313.8'. The boring was then sealed between the deepest ZIST and the middle ZIST (B) with bentonite pellets from 313.8' to 295.2'. The screened interval for ZIST (B) is from 292' to 282' with a filter pack installed from 295.2' to 279.5'. The uppermost screened zone (A) will not contain a ZIST pump receiver due to the expected lower head for the shallowest zone (240' to 250'). The boring was sealed up to 273 feet today and will be left overnight with 3 feet of open hole below casing to allow the bentonite pellets to swell.

Drill Crew #2:

MW-31 was advanced from surface to 110 ft-bgs. The 8" casing was advanced to 100'. Six soil samples were collected. The highest PID reading was 82.1 ppm taken at the 15-16 ft-bgs interval.

Samples collected:

MW31-SB060920-15

MW31-SB060920-23

MW31-SB060920-45

MW31-SB060920-62

MW31-SB060920-82

MW31-SB060920-94

MW31-SB060920-112

Well Development/Pump Installation

ZIST pumps were installed at MW-25A, B, and C. Purging was attempted at all wells and all zones were able to be purged at sustained flow rates. Extracted water was clear.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Projected Work - Near Term:

6/9/2020 - Crew 1: Continue well construction at MW-30.

Crew 2: Continue drilling at MW-31.

Other Activities/Remarks:

6/10/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and two staff from CDM Smith will meet at 7:15 am.

Photos:



Date: 6/9/2020

Location: Laydown Yard

Description: Roll off from Sunnyside Park

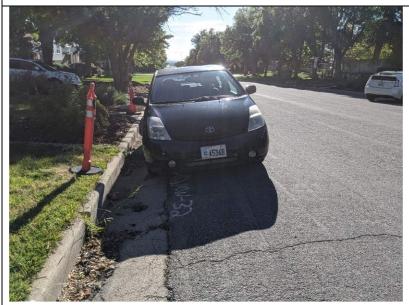
was moved to the laydown yard.



Date: 6/9/2020

Location: MW-31

Description: View of soil sample interval 15 to 17.5 ft-bgs. This interval had the highest PID reading of 82.1 ppm.



Date: 6/9/2020

Location: MW-32

Description: View of MW-32 location. Cones were setup on curb next to cars that will

need to be moved.

DATE: 6/10/2020	Prepared by: Betsy Bott	

Personnel on site, including Contractors:	CDM Smith – Betsy Bott CDM Smith – Frank Morris CDM Smith – Kelby Depner CDM Smith – Neil Smith Wasatch – Blake Downey Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

The shallowest interval well was installed. In the afternoon, while pulling 7" casing out, an apparent bentonite bridge occurred within the sonic casing and the three well PVC casings were pulled up out of the ground by about 8 feet. All well materials will need to be removed from the borehole. The plan is to overdrill the borehole with the next largest size casing (7" diameter rather than 6") and attempt to reinstall the well.

Drill Crew #2:

MW-31 was advanced from 115 to 190 ft-bgs. The 7" casing was advanced to 190'. Three soil samples were collected. One groundwater sample was collected. The highest PID reading was 31.8 ppm taken at the 133-134 ft-bgs interval. The groundwater sampler was installed at 190 ft-bgs and a groundwater sample will attempt to be collected in the morning.

Samples collected:

MW31-SB061020-133

MW31-GW061020-138

MW31-SB061020-159

MW31-SB061020-176

Well Development/Pump Installation

ZIST pumps were installed at MW-23A, B, and C. Purging was attempted at all three zones, but due to low recharge purging rates could not be sustained. Additional development such as air lifting may be attempted at these locations to improve flows.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Projected Work – Near Term:

6/11/2020 – Crew 1: Begin to overdrill MW-30.

Crew 2: Continue drilling at MW-31.

Other Activities/Remarks:

6/11/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and CDM Smith/Wasatch staff will meet at 7:15 am.

Photos:

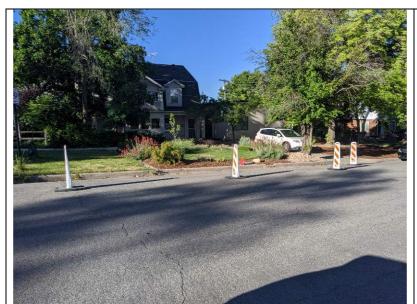


Date: 6/10/2020

Location: MW-32

Description: View of traffic control signs

dropped at MW-32 this morning.



Date: 6/10/2020

Location: MW-32

Description: View of traffic control barriers dropped at MW-32 this morning.



Date: 6/10/2020

Location: MW-31

Description: View of sample with the highest PID reading, 31.8 ppm, taken at the 133-134



Date: 6/10/2020

Location: MW-30

Description: View of well casing pulled from well.

DATE: 6/11/2020	Prepared by: Betsy Bott	

	CDM Smith – Betsy Bott
	CDM Smith - Kelby Depner
	CDM Smith – Neil Smith
	Wasatch – Blake Downey
	Wasatch – Kiel Keller
Personnel on site,	VA – Marc Yalom
including Contractors:	Holt Services – Jeff Jones (Driller – Crew 2)
	Holt Services – Alex Langdon
	Holt Services – Jacob Oaks
	Holt Services – Pete Rosenburg (Driller – Crew 1)
	Holt Services – Michael Leui Jr.
	Holt Services – Scottie Lampman
Visitors/Others:	MP Environmental dropped off empty roll-off at MW-30
	A-1 serviced portable toilet at Sunnyside Park

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	 Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Drill Crew #1:

All previous well construction materials have been removed from the well and the borehole was overdrilled to 320' ft-bgs with 7" casing.

Drill Crew #2:

MW-31 was advanced from 190 to 230 ft-bgs. Two soil samples were collected. Two groundwater samples were collected at 190 and 230 ft-bgs. The color tec results were ND for both groundwater samples.

Samples collected:

MW31-SB061120-190

MW31-GW061120-190

MW31-SB061120-215

MW31-GW061120-230 (will be shipped 6/12/20)

Well Development/Pump Installation:

ZIST pumps were installed at MW-26A, B, C, and D. Additional development via air lifting was completed in the D interval due to sediment measured. Purging was completed in the A and D zones. A defective check valve was replaced in the B zone well and will be purged on 6/12. The pump from the C interval will need to be pulled and the tubing sent to the manufacturer (see Issues below).

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

The VA received a complaint about Holt exiting through the Sunnyside Gate this morning referencing an incident that took place Wednesday (6/10/20) morning. The Sunnyside Park entrance is open from 7:00 to 9:00 am every day for traffic entering the VA Campus. Holt used the forklift to enter the VA Campus from Sunnyside Park while the gate was open following procedure. Holt attempted to exit Sunnyside Park during a break in traffic, disregarding the gate screeners. Following notification of the incident, a discussion was had with Holt about their actions, and the importance of the gate procedures were reiterated to them. Additional discussion will be had in the morning safety tailgate.

One spool of ZIST tubing, and at least 100 feet of a second roll of tubing, could not be used because the outer sheath is stuck to the tubing and cannot be separated in the field. After discussion with the vendor, CDM Smith will ship the defective tubing back for repair or replacement.

<u>Projected Work – Near Term:</u>

6/12/2020 – Crew 1: Finish drilling well and begin well construction at MW-30.

Crew 2: Continue drilling at MW-31.

Other Activities/Remarks:

6/12/2020: A safety Tailgate will be conducted at the laydown yard; both Holt crews and staff from CDM Smith will meet at 7:15 am.

Photos:



Date: 6/11/2020

Location: MW-31

Description: View of sample with the highest PID reading, 31.0 ppm, taken at the 215-216

ft-bgs core.



Date: 6/11/2020

Location: MW-31

Description: View of water sampler after groundwater attempt at 190 ft-bgs.



Date: 6/11/2020

Location: MW-30

Description: View of additional roll-off delivered this morning to MW-30.

DATE: 6/12/2020 Prepared by: Betsy Bott	
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Personnel on site, including Contractors:	CDM Smith – Betsy Bott CDM Smith - Kelby Depner CDM Smith – Neil Smith Wasatch – Blake Downey Wasatch – Kiel Keller Holt Services – Jeff Jones (Driller – Crew 2) Holt Services – Alex Langdon Holt Services – Jacob Oaks Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard. Additional discussion regarding the Sunnyside Gate and the importance of gate procedures took place.

The asphalt surface was cut at MW-32, filled with sand and covered with plywood in preparation for hydro-vac on Monday.

Drilling:

Drill Crew #1:

Installation of the replacement well at MW-30 commenced. The deep screen interval was installed from 317-327 feet bgs, with sand filter pack between 314-330 ft bgs. Bentonite seal was emplaced from 296-314 ft bgs. The middle zone well was installed with a screen interval between 282-292 feet bgs.

Drill Crew #2:

MW-31 was advanced from 230 to 290 ft-bgs. Four soil samples were collected. The 230-290 ft interval was predominantly clay, and no water bearing zones were observed during drilling, therefore no groundwater samples were collected.

Samples collected:

MW31-SB061220-236

MW31-SB061220-252

MW31-SB061220-270

MW31-SB061220-289

Well Development/Pump Installation:

Attempted to reinstall pump and purge at MW-26B but check valve on replacement pump failed similar to the attempt made on 6/11. Additional air lifting for development/sediment removal was completed at MW-23D.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

During installation of the middle screen at MW-30, a potential sand bridge or natural borehole collapse occurred while setting sand pack. Only two bags of sand were installed and borehole had collapsed to approximately 273 feet bgs, with casing at 20 feet bgs. The depth will be checked again on Sunday prior to installation of additional annular materials.

The pump from well MW-26B with the failed check valve, as well as the tubing from MW-26C, will be returned to the manufacturer for repairs to the pump and tubing. One additional spool (1,000') of bonded tubing will be returned due to the outer jacket being fused to the tubing.

Projected Work - Near Term:

6/14/2020 - Crew 1: Continue well construction at MW-30. Begin decon.

Crew 2: Mobilized offsite, has 1-week break. Will return 6/22/2020.

Other Activities/Remarks:

6/14/2020: A safety Tailgate will be conducted at the laydown yard; Holt Crew 1 and three staff from CDM Smith will meet at 7:15 am.

Photos:



Date: 6/12/202020

Location: MW-31

Description: View of sample bag from 287-290 ft-bgs. A soil sample was collected at

289 ft-bgs.



Date: 6/12/202020

Location: MW-32

Description: View of surface cutting at MW-32. Cut was filled with sand.



Date: 6/12/202020

Location: MW-32

Description: View surface cutting covered with plywood and cuttings.



Date: 6/12/202020

Location: MW-30

Description: Preparing for installation of PVC screen and riser in middle interval at MW-30

DATE: 6/14/2020	<u>Prepared by:</u> Betsy Bott	

Personnel on site, including Contractors:	CDM Smith – Betsy Bott CDM Smith - Kelby Depner CDM Smith – Whitney Treadway Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	 Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	 Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

The rig in Sunnyside Park was checked twice, once in the morning, once in the afternoon to ensure that it is still secure.

Drilling:

Drill Crew #1:

The shallowest well with a screen interval from 240-250 was installed. A soil vapor probe was installed on the casing at 30 ft-bgs. Sand was installed from 237 to 253 ft-bgs. Bentonite was installed from 40 to 237 ft-bgs.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Projected Work - Near Term:

6/15/2020 – Crew 1: Finish well construction at MW-30, move equipment and rig to laydown yard, install vault at MW-30 if vaults arrive.

Crew 2: Mobilized offsite, has 1-week break. Will return 6/22/2020.

Attempt additional air lifting and pump installation/purging at MW-23.

Other Activities/Remarks:

6/15/2020: A safety Tailgate will be conducted at the laydown yard; Holt Crew 1 and three staff from CDM Smith will meet at 7:15 am.

Photos:



Date: 6/14/2020

Location: MW-30

Description: View of shallowest well

installation.



Date: 6/14/2020

Location: MW-30

Description: View of soil vapor probe installation at 30 ft-bgs.

DATE: 6/15/2020	Prepared by: Joe Miller	
DATE: 0/13/2020	riepaieu by.	

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith - Kelby Depner CDM Smith – Whitney Treadway Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman Wasatch – Blake Downey
Visitors/Others:	Airgas – Delivery of Nitrogen for development/Groundwater sampling Badger – Jaime Preciado Badger – Deno Gonzales

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	 Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

The rig in Sunnyside Park was checked twice, once in the morning, once in the afternoon to ensure that it is still secure.

Drilling:

MW-30: Sand pack added from 33 to 27' bgs around the soil vapor point. Hydrated bentonite chips were added from 22-27' bgs. The boring was grouted from 22' to 3.5' bgs. The rig and drilling equipment were relocated to the laydown area from the MW-30 location.

Pre-Clearing:

The MW-32 location on E 600 S was vacuum excavated from 0-8' bgs. No utilitlies were identified, and the location was backfilled with play sand until Holt can setup a drill rig at that location.

Development:

MW-23B and MW-23C were airlifted and developed, and had pumps installed. An airlift was attempted at MW-23A and did not have sufficient recharge to pump.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Projected Work - Near Term:

6/16/2020 – Crew 1: Decon drill steel from MW-30, begin install on MW-31

Other Activities/Remarks:

6/16/2020: A safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/15/2020

Location: MW-32

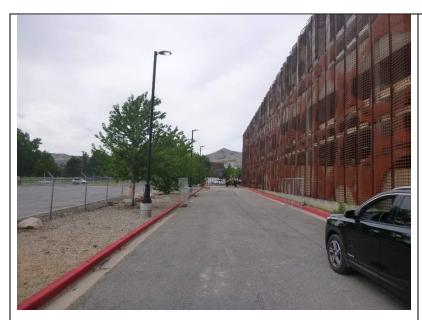
 $\begin{tabular}{ll} \textbf{Description:} Vacuum excavation of MW-32 to 8' bgs. \end{tabular}$



Date: 6/15/2020

Location: MW-32

Description: Badger Daylighting vacuum excavating MW-32.



Date: 6/15/2020

Location: MW-30

Description: Holt moved drill and equipment to the laydown area.

DATE: 6/16/2020	Prepared by: Joe Miller	

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Whitney Treadway Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

The MW-31 boring was backfilled 240' bgs with bentonite. The deep well was installed with 0.020 slot screen from 228-238' bgs. The sand pack interval was installed from 225-240' bgs. Bentonite pellets have been added to 204' bgs and the 7" sonic casing was pulled back to 200' in preparation for installing the middle ZIST zone.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Rig Service: A sonic head filter was replaced. Also, the Head release pin was seized on the rig at MW-31. The pin was removed and well construction began at 14:45

Projected Work – Near Term:

6/17/2020 – Crew 1: Resume install on MW-31

6/17/2020 - Development team: Holt's development team will arrive mid-morning and begin development on the 4" wells.

Other Activities/Remarks:

6/17/2020: A safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/16/2020

Location: MW-31

Description: Installing 1" PVC for deep zone at MW-31 in Sunnyside park.



Date: 6/16/2020

Location: MW-31

Description: Holt removing 7" casing as they backfill boring with bentonite chips.

<u>DATE:</u> 6/17/2020 <u>Prepared by:</u> Joe Miller/Whitney Treadway

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Whitney Treadway Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman Holt Services – Ronnie Barrett – Development Operator Holt Services – Justin Ramirez - Development VA – Marc Yalom VA – Carlos Aguilar Wasatch – Kiel Keller
Visitors/Others:	Adriaan Boogard – City of Salt Lake Water Utilities

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field	Skid Steer (Bobcat) (x2)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Cable truck
	Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

The rig in Sunnyside Park was checked twice, once in the morning, once in the afternoon to ensure that it is still secure.

Drilling:

The MW-31 second zone was installed with 0.020 slot screen from 190-200' bgs. The sand pack interval is from 187-202' bgs. Bentonite pellets were added from 187 to 151' bgs. The shallow screen interval is installed from 138-148' bgs. The ZIST pump receiver was omitted from the shallow zone well to allow deeper placement of the pump. The sand pack around the shallow interval is 135' to 151 bgs. The boring has been backfilled with bentonite to 12' bgs.

Development:

Holt's Development crew arrived onsite today. After badging, they deconned the downhole tools. Development began at MW-27. There was little accumulation of sediment after 45 minutes of swabbing. While deploying the pump, the operator activated the wrong lever which lifted the swab and caused the hopper to tip. The hopper released less than 20 gallons of silty water to the ground which ran towards the storm drain. Sorbent pads and wattles were deployed, the VA was immediately notified. Less than 10 gallons of the water reached the storm drain. Carlos Aguilar and Marc Yalom assessed the spill.

After the surface run off was brushed up, the pump was deployed. Approximately 360 gallons was purged from MW-27 at 7.5 gpm with turbidity less than 10 NTU after \sim 300 gallon purge.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Projected Work – Near Term:

6/18/2020 - Crew 1: Complete MW-31 installation, mob rig and equipment from Sunnyside park back to the VA campus.

6/18/2020 - Development team: Develop MW-24

Other Activities/Remarks:

6/18/2020: A safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/17/2020

Location: MW-31

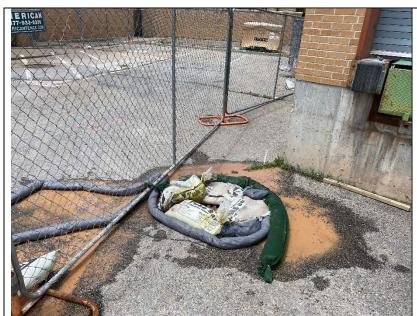
Description: Installing 1" PVC for shallow zone at MW-31 in Sunnyside park.



Date: 6/17/2020

Location: MW-27

Description: Holt development crew removing pump after development from MW-27.



Date: 6/17/2020

Location: MW-27

Description: Wattles, sorbent pads, and sand bags over storm drain



Date: 6/17/2020

Location: MW-27

Description: Holt development crew sweeping surface to remove the silt released from the hopper.

<u>Prepared by:</u> Joe Miller/Whitney Treadway

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Whitney Treadway Holt Services – Pete Rosenburg (Driller – Crew 1) Holt Services – Michael Leui Jr. Holt Services – Scottie Lampman Holt Services – Ronnie Barrett – Development Operator Holt Services – Justin Ramirez - Development VA – Marc Yalom Wasatch – Kiel Keller
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	 Terrasonic 150 mini-sonic drill rig (x2)
Facilities and in the Affield	Skid Steer (Bobcat) (x2)
Equipment in Use (field	Rig Hauler
instruments, subcontractor	Tender/Water Truck
equip, etc.)	Cable truck
	Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

The grout surface seal was installed at MW-31 from 3' to 12' bgs. The rig and support equipment were relocated to the VA campus from Sunnyside park. The MW-31 well is ready for the surface completion.

Holt deconned drill pipe from MW-30 and is preparing to demob Crew and rig 1 from site. An equipment blank was collected. Rig 2 and support equipment will still be onsite to finish the remaining borings.

Development:

The development team has completed development of the 4" diameter wells.

MW-24 was developed. The swabbing produced little sediment, and the pumping yielded 640 gallons pumping at ~8 gallons per min. The development tools were deconned and an equipment blank sample was collected.

MW-28 was developed. The swabbing produced little sediment and the pumping yielded ~370 gallons of water while pumping at ~10 gallons per minute. The development tools were deconned and another blank was collected.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Projected Work - Near Term:

6/19/2020 – Crew 1: Continue deconning and prepare for demobilization from site.

6/19/2020 – Development team: Mobilize home

Other Activities/Remarks:

6/19/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:

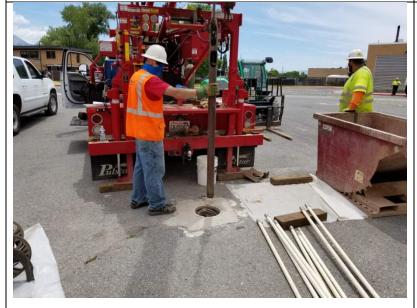


Date: 6/18/2020

Location: MW-24

Description: Holt development crew setting

up at MW-24.



Date: 6/18/2020

Location: MW-28

Description: Holt development crew removing bailer after pumping to see if any

sediment accumulated.



Date: 6/18/2020

Location: MW-31

Description: Holt pumping grout for surface seal.

DATE: 6/19/2020 Prepared by: Joe Miller	
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	CDM Smith – Joe Miller
	Holt Services – Pete Rosenburg (Driller – Crew 1)
Personnel on site,	Holt Services – Michael Leui Jr.
including Contractors: Holt Services – Scottie Lampman	
melading contractors.	VA – Marc Yalom
	VA – Walt Talom VA – Carlos Aguilar
	C
_	MP Environmental
Visitors/Others:	Tire Service Center
	Slims Trucking

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig (x2)
Equipment in Use (field instruments, subcontractor equip, etc.)	Skid Steer (Bobcat) (x2)
	Rig Hauler
	Tender/Water Truck
	Cable truck
	Portable Toilet (x2)

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Holt Crew 1 Demobilization:

Holt loaded extra drill piping and materials on a flat bed semi for transport to Washington. Additional equipment was deconned and loaded for transport by the Holt crew including one drill rig and skid steer. During inspections, Holt identified a bulge in a tire on the rig hauler. Tire Service center was called to site to replace the tire.

IDW Removal:

MP Environmental relocated the roll off in Sunnyside park to the VA campus laydown area. A roll off bin was staged and locked at the MW-32 location. MP hauled away roll off bin RBR250327 with Carlos Aguilar as the manifest signatory.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

6/21/2020 – Crew 1: Continue deconning and prepare for demobilization from site.

6/22/2020 – Crew 2: Return to site, decon equipment, mob to MW-32

Other Activities/Remarks:

6/22/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/19/2020

Location: Laydown Area

Description: Holt loading equipment on flatbed trailer for transport to Washington



Date: 6/19/2020

Location: Laydown area

Description: MP Environmental removing soil roll off bin.



Date: 6/19/2020

Location: Laydown Area

Description: Back blading gravel lot to smooth out areas disturbed by the skid steer.

(100/0000	
DATE: 6/22/2020	Prepared by: Joe Miller

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Whitney Treadway Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper VA – Marc Yalom
Visitors/Others:	Mark Augustyn

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	<u>70 to 85º F</u>	<u>50 to 70 º F</u>	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Holt Crew 2 returned to site. They deconned drill tooling from MW-31. The Drill rig was mobilized to MW-32 and the boring was advanced to 80' bgs with 8" casing currently to 70' bgs. The highest PID encountered was 93.5ppm at 34' bgs. No sample was collected in this interval, the PID reading was suspect due to hot soil cores melting the plastic core bags. The same run had a PID of 56ppm. The max PID outside of that interval was 37.3ppm. The drill site was fenced and the roll off bin was locked at the end of shift.

Samples Collected:

EB36-SB0622020 MW32-SB062220-14 MW32-SB062220-27 MW32-SB062220-55

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

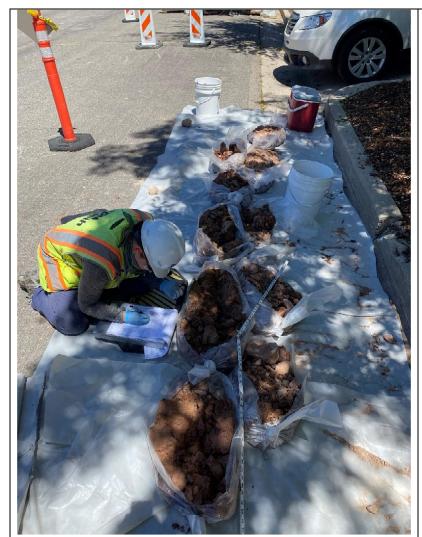
Projected Work - Near Term:

6/22/2020 – Crew 2: Install Augustyn Completions, continue to advance MW-32

Other Activities/Remarks:

6/23/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

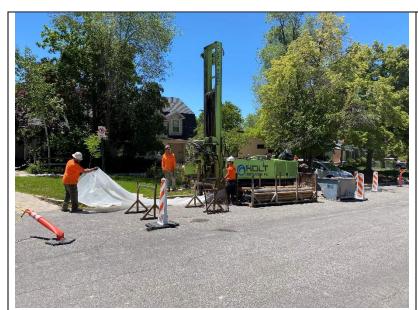
Photos:



Date: 6/22/2020

Location: MW-32

Description: CDM Smith geologist logging soil cores



Date: 6/22/2020

Location: MW-32

Description: Holt setting up work area at MW-32 along E 600 S.



Date: 6/22/2020

Location: MW-32

Description: Drill rig secured in fencing at MW-32 location.

DATE: 6/23/2020 Prepared by: Joe Miller

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Whitney Treadway Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

The Augustyn completions were installed at MW-29, MW-30 and MW-31. At the request of the VA the forms were removed from the completions at MW-25 and MW-26.

The MW-32 boring was advanced to 100' bgs. Groundwater was encountered during the 90 to 100' bgs sonic run and a grab groundwater sample was collected for lab and Colortec analyses.

Samples Collected:

IDW06-SB062320 MW32-SB062220-84 + Dup MW32-GW062220-100

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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<u>Projected Work – Near Term:</u>

6/24/2020 - Crew 2: Continue to advance MW-32

Other Activities/Remarks:

6/24/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/23/2020

Location: MW-30

Description: Holt installing MW-30 surface

completion



Date: 6/23/2020

Location: MW-31

Description: Holt setting concrete for Augustyn vault at MW-31.



Date: 6/23/2020

Location: MW-32

Description: Wet sandy gravel with silt encountered during 90-100' bgs sonic run.

DATE: 6/24/2020	Prepared by: Kimberly Yauk
	· · · · · · · · · · · · · · · · · · ·

Personnel on site, including Contractors:	CDM Smith – Joe Miller CDM Smith – Whitney Treadway CDM Smith – Kimberly Yauk CDM Smith – Maria Day CDM Smith – Breanna Moak Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

The MW-32 boring was advanced to 150' bgs. A groundwater sample was collected at 120 feet bgs for lab and Colortec analyses. The Color-Tec analysis indicated detectable chlorinated VOCs. A groundwater sample was attempted at 150 feet, but no water was able to be collected. Soil samples were collected at approximate 20-foot intervals.

Samples Collected:

MW32-SB062420-105 MW32-GW062420-120 MW32-SB062420-127 MW32-SB062420-142 EB37-GW062420

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

<u>Projected Work – Near Term:</u>

6/24/2020 - Crew 2: Continue to advance MW-32 with next groundwater sample attempt at 160 feet bgs.

Other Activities/Remarks:

6/25/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/24/2020

Location: MW-32

Description: Holt drill rig set up with traffic control at MW-32.



Date: 6/24/2020

Location: MW-32

Description: Soil core at 120 to 122 feet bgs. A groundwater sample was collected at 120 feet bgs.



Date: 6/24/2020

Location: IDW Yard

Description: ColorTec analysis of MW-32 groundwater sample at 120 feet bgs shows a detection (purple color on tube).



Date: 6/24/2020

Location: IDW Yard

Description: The detection of MW-32 groundwater at 120 feet bgs of 0.5 corresponds to approximately 35 ug/L.

DATE: 6/25/2020	Prepared by: Kimberly Yauk
DATE: 0/23/2020	riepareu by. Killiberry Tauk

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Maria Day CDM Smith – Breanna Moak Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper VA – Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
ļ	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

The MW-32 boring was advanced to 210' bgs. A groundwater sample was collected at 175 feet bgs for lab and Colortec analyses. The groundwater sampler was advanced at 210 feet, but water was in the casing prior to opening. The sampler will be redeployed in the morning. Soil samples were collected at approximate 20-foot intervals.

Samples Collected:

MW32-SB062520-165 MW32-GW062520-175 MW32-SB062520-186 MW32-SB062520-203 TB49-SB062520 EB38-GW062520

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Projected Work - Near Term:

6/25/2020 – Crew 2: Continue to advance MW-32 with next groundwater sample attempt at 210 feet bgs. Preview Rowland Hall well location with drill crew and VA. Color-Tec sample from 175 feet bgs will be analyzed.

Other Activities/Remarks:

6/26/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/25/2020

Location: MW-32

Description: MW-32 soil core at 190 feet was dry to moist and not water-bearing.



Date: 6/25/2020

Location: MW-32

Description: Holt advanced the borehole to 210 feet. The soil core transitions to a clayey sand and gravel at the bottom.

DATE: 6/26/2020	Prepared by: Kimberly Yauk	
DATE: 0/20/2020	riepareu by. Kimberry fauk	

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Kelby Depner Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper VA – Marc Yalom
Visitors/Others:	Ann Burnett (Rowland Hall)

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Site Walk:

Ann Burnett met with Holt, CDM Smith, and the VA at Rowland Hall to perform a site walk of the MW-34 borehole. All present agreed on an acceptable location for the borehole which is on the north side of the access road, a little west of the community garden. Underground service alert arrows were marked on the ground for utility clearance, and a stake was placed to mark the approximate drilling location.

Drilling:

The MW-32 boring was advanced to 260' bgs. A groundwater sample was collected at 210 feet bgs for lab analysis only due to low volume. The soil core from beyond 210 to 260 was dry to moist silt and clay. No other water samples were collected in that interval. The drillers continued drilling to 270 but left the 260 to 270 soil core in place to be removed in the morning on Sunday. They reported the drilling felt slightly easier and drill rotation increased, indicating clay content may have decreased at 270 feet. A groundwater sample will be attempted at 270. Soil samples were collected at approximate 20-foot intervals.

Samples Collected:

MW32-GW062620-210 MW32-SB062620-223 MW32-SB062620-250 TB50-SB062620

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Salt Lake County will have a mandatory mask mandate in effect beginning Saturday, June 27. Masks will be required in public.

Projected Work - Near Term:

6/27/2020 - Day off

6/28/2020 - Crew 2: Continue to advance MW-32 with next groundwater sample attempt at 270 feet bgs.

Other Activities/Remarks:

6/28/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/26/2020

Location: MW-32

Description: Holt prepares push-ahead sampler with fresh o-rings and Teflon tape for the 210 foot groundwater sample.



Date: 6/26/2020

Location: MW-32

Description: Holt prepares to advance the

push-ahead sampler.



Date: 6/26/2020

Location: MW-32

Description: Soil core at MW-32 from 228 to 230 feet bgs is predominantly a hard,

gravelly silt.



Date: 6/26/2020

Location: MW-32

Description: Soil core at MW-32 from 238 to 240 feet bgs is predominantly clay and silt.



Date: 6/26/2020

Location: MW-32

Description: Soil core at MW-32 from 248 to 250 feet bgs is predominantly clay and silt.



Date: 6/26/2020

Location: MW-32

Description: Soil core at MW-32 from 258 to 260 feet bgs is predominantly gravelly clay.



Date: 6/26/2020

Location: MW-34

Description: Marked MW-34 work area for Underground Utility Clearance at Rowland Hall. Flagging tape on the proposed borehole location is visible in the midground of the frame on the upper right side in the thistle.



Date: 6/26/2020

Location: MW-34

Description: Holt considers drilling conditions while standing on the proposed

drilling location for MW-34.

DATE: 6/28/2020	Prepared by: Kimberly Yauk

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Kelby Depner Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper
Visitors/Others:	Two Residents Near MW-32

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	<u>High</u>		
Humidity	Dry	Moderate	<u>Humid</u>		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Residents:

Two residents inquired today about the drilling and accepted fliers. One was a woman who drove by and was happy to see progress on the project being made. The other was a man who lives at 1331 600 South. He wanted to know how long the drill rig would be there (we told him likely Tuesday or Wednesday) and whether further work with the drill rig would occur at the well once it was installed (groundwater monitoring would not use a drill rig). He was also interested to know what has changed in the past 10 or so years on the project since the last public meeting he and his household attended (we referred him to Shannon Smith's contact information).

Drilling:

The MW-32 boring was advanced to a total depth of 270' bgs. A groundwater sample was collected at 270 feet bgs for laboratory and Color-Tec analyses. The Color-Tec analysis of the groundwater at 270 feet was non-detect for VOCs. Borehole drilling at MW-32 was terminated, having reached 150 feet beyond the water table and produced two non-detect Color-Tec water samples following the detection in the groundwater sample at 120 feet bgs. Discussion of screen intervals will occur with VA on 6/29.

Thunderstorms halted work for approximately 45 minutes beginning at 13:30.

No other soil or groundwater samples were collected.

Samples Collected:

MW32-GW062820-270 EB40-GW062820 EB41-SB062820 TB51-SB062820

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Salt Lake County has a mandatory mask mandate in effect beginning Saturday, June 27. Masks will be required in public.

Projected Work – Near Term:

6/29/2020 – Crew 2 will get supplies while CDM Smith and the VA discuss and agree on screen intervals for MW-32.

Other Activities/Remarks:

6/29/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/28/2020

Location: MW-32

Description: Holt prepares push-ahead sampler with a single o-ring and extra Teflon tape in a second attempt for the 270-foot groundwater sample after the sampler did not open in the previous attempt.



Date: 6/28/2020

Location: MW-32

Description: CDM Smith confirms the sampler is dry before exposing the screen.



Date: 6/28/2020

Location: MW-32

Description: Soil core at MW-32 from 268 to 270 feet bgs is predominantly gravelly clay

and silt.



Date: 6/28/2020

Location: MW-32

Description: Holt decontaminates the soil core barrel and push-ahead sampler.

DATE: 6/29/2020	Prepared by: Kimberly Yauk	
<u> </u>	repared by:	

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Kelby Depner Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig	
Equipment in Use (field	Skid Steer (Bobcat)	
instruments, subcontractor	Rig Hauler	
equip, etc.)	Tender/Water Truck	
	Portable Toilet	

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Residents:

The man at 1331 600 South is named Ken Smith. We briefly spoke and he was interested to know if the laboratory results get published for the public somewhere. I did not know the answer. He is curious but has not decided to contact Shannon Smith.

Two residents (same household) on a walk were interested in the investigation and I gave them a flier.

Drilling:

The screen zones were decided for MW-32 at 114 to 124 feet (2-inch casing), 170 to 180 feet (1-inch casing without a receiver), and 260 to 270 feet (1-inch casing without a receiver). The deepest well was installed today and materials are ready to install the other two.

The purge water, development water, and hydrovac water in the first two poly tanks was sampled and sent to the laboratory for analysis.

Samples Collected:

IDW06-062920 IDW07-062920

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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Salt Lake County has a mandatory mask mandate in effect since Saturday, June 27. Masks are required in public.

Projected Work - Near Term:

6/30/2020 – Crew 2 will build the middle and shallow wells in MW-32. A rolloff bin will be delivered to MW-34 at Rowland Hall, the rolloff bin at MW-32 will be moved to the laydown area, and soil rolloff bin number 6061 will be removed from the site for disposal.

Other Activities/Remarks:

6/30/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/29/2020

Location: MW-32

Description: Holt installs the deep well at MW-32 using 1-inch, schedule 80 PVC with a screen zone from 260 to 270 and a 2-foot

sump from 270 to 272.



Date: 6/29/2020

Location: MW-32

Description: Holt adds casing to the deep

well at MW-32.



Date: 6/29/2020

Location: MW-32

Description: Holt adds sand filter pack to the screen zone of the deep well at MW-32.



Date: 6/29/2020

Location: MW-32

Description: Holt removes the 6-inch casing from MW-32 after filling annular materials to within a foot of the 7-inch casing.

DATE: 6/30/2020	Prepared by: Kimberly Yauk
	•

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Kelby Depner Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper MP Environmental – Jeffrey Mooers VA – Marc Yalom
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
ļ	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Well Installation:

The middle (screen interval 170-180 feet bgs) and shallow (screen interval 114-124 feet bgs) wells were installed today with a two-foot sump on the middle well (1-inch casing) and no sump on the shallow well (2-inch casing). Sand filter pack was installed to three feet above and below the screen intervals (except sand only went to 125.5 feet on the shallow well – 1.5 feet below the screen). Additionally, a soil vapor probe was installed at 20 feet bgs and was zip-tied to the two-inch casing. Drillers added annular material up to the bottom of the 8-inch casing (100 feet bgs) and removed all of the 7-inch casing.

Roll-off bin # 5956 was delivered to MW-34 at Rowland Hall. Roll-off bin # 6122 was removed from MW-32 and taken to the laydown yard. Roll-off bin # 6061 was removed from the site for disposal. Marc signed the waste manifest along with the transporter from MP Environmental.

Samples Collected:

None

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Salt Lake County has a mandatory mask mandate in effect since Saturday, June 27. Masks are required in public.

<u>Projected Work – Near Term:</u>

7/1/2020 – Crew 2 will finish installing annular material and complete the surface of MW-32, decontaminate the drill casing, and mobilize equipment to MW-34. Underground utility surveyors are scheduled to clear the MW-34 area at 8am.

Other Activities/Remarks:

7/1/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 6/30/2020

Location: MW-34

Description: MP Environmental drops off a new soil bin near the proposed MW-34 location. The proposed MW-34 location is to the right of the frame. Photo taken viewing southwest.



Date: 6/30/2020

Location: MW-32

Description: MP Environmental moves the soil bin near MW-32 to the laydown yard.



Date: 6/30/2020

Location: Laydown Area

Description: The soil bin from MW-32 replaces the previous soil soil bin (#6061).



Date: 6/30/2020

Location: Laydown Area

Description: MP Environmental hauls bin #6061 away for disposal.



Date: 6/30/2020

Location: MW-32

Description: Screen and casing for the middle well (screened from 170 to 180 feet bgs) at MW-32 is lined up for installation.

<u>DATE:</u> 7/1/2020	Prepared by: Kimberly Yauk
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Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk CDM Smith – Kelby Depner Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper Badger Daylighting – Vernon Lipsey Badger Daylighting – Elizabeth Harris Wasatch Environmental – Anna Fiorini DPS – geophysical locate services VA – Marc Yalom
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	<u>Overcast</u>	<u>Rain</u>	Snow
Temperature	85+ º F	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Utility Clearance:

Wasatch and DPS were on site at MW-34 in the morning with GPR to survey for underground utilities. Some utilities were detected along the access road, so the proposed borehole location was adjusted to the north a few feet, leaving approximately 10 feet on either side of the proposed borehole between the fence and the utilities. Badger Daylighting then arrived at MW-34 to clear the hole of utilities to 8 feet bgs. Large boulders were encountered at the bottom. Gas and Public Utility inspectors stopped by to confirm the work area was clear of their utilities.

Well Installation:

The annular materials from 0 to 90 feet were installed today at MW-32 with sand from 18 to 22 feet bgs around the soil vapor probe. The top 10-foot section was sealed with bentonite grout. The surface completion will be installed on Monday when a concrete truck can be scheduled to pour the concrete around the well box.

Samples Collected:

None

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

7/2/2020 – Crew 2 will decontaminate casing and mobilize to MW-34.

7/3/2020 to 7/5/2020 – No work is planned over the holiday weekend.

7/6/2020: Betsy will be on site with Crew #2 to begin drilling the borehole at MW-34.

Other Activities/Remarks:

7/2/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/1/2020

Location: MW-34

Description: Wasatch subcontractor DPS performs GPR underground utility survey. Utilities were identified along the access road. The MW-34 proposed borehole location was moved to the north (towards the fence) to give the utilities more clearance. Borehole stake is visible in midframe.



Date: 7/1/2020

Location: MW-34

Description: Badger Daylighting clears MW-

34 of utilities to 8 feet bgs.



Date: 7/1/2020

Location: MW-34

Description: Many boulders were encountered at the bottom of the MW-34 borehole. View is downward, facing south (east is left of frame, west is right of frame).



Date: 7/1/2020

Location: Laydown Area

Description: Badger Daylighting disposes of the hydrovac soil and water into the soil containment area in the IDW yard.



Date: 7/1/2020

Location: MW-32

Description: Holt pumps bentonite grout into the annular space from 0 to 10 feet bgs to seal the well. Space is left at the top for surface completion (expected Monday).

DATE: 7/2/2020	Prepared by: Kimberly Yauk	
<u>DATE:</u> 7/2/2020	Prepared by: Kimberly Yauk	

Personnel on site, including Contractors:	CDM Smith – Kimberly Yauk Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper VA – Marc Yalom Rowland Hall – Bryan Bailey Rowland Hall – Allen (last name)?
Visitors/Others:	Jessica (Gardener) Brant (Gardener)

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	<u>70 to 85º F</u>	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	<u>Moderate</u>	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Mobilization:

Holt decontaminated casing while they waited for the south side gate to be opened to Rowland Hall off of Sunnyside Avenue. The rig-hauler was ready to go with the rig, bobcat, and a load of casing. The support truck was loaded with fencing to block off the work area around MW-34. Once the gate was opened, the rig-hauler and support truck brought all the materials to MW-34 and the rig was set up over the hole. Fencing was set up around the drill rig, and the rig-hauler and soil roll-off bin were left in the gravel parking lot across from the borehole location, as approved by Bryan Bailey from Rowland Hall. Bryan introduced us to Allen, a groundskeeper, who we can seek out for help if we need anything and can't reach either Ann or Bryan.

The community gardeners were interested in the work going on, so I gave them several fliers to read and pass out to the other gardeners. Jessica suggested laminating one to leave on site for anyone to read. Due to the interest, Marc Yalom printed more fliers out to have on hand, and CDM Smith arranged two fliers into plastic protectors to leave with the community garden.

The site was secured, a lock was placed on the empty roll-off bin, and Holt and CDM Smith left for the holiday weekend.

Samples Collected:

None

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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Projected Work - Near Term:

7/3/2020 to 7/5/2020 – No work is planned over the holiday weekend.

7/6/2020: Betsy will be on site with Crew #2 to begin drilling the borehole at MW-34. Anna Fiorinni from Wasatch will be scheduled to support her as needed.

Other Activities/Remarks:

7/6/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/2/2020

Location: Laydown Area

Description: Holt decontaminates the drill

casing in the laydown area.



Date: 7/2/2020

Location: MW-34

Description: The drill rig is mobilized to MW-34 at Rowland Hall. The rig-hauler and soil roll-off bin will remain in the gravel parking lot. The mini excavator in the foreground is unrelated to the project and belongs to

Rowland Hall.



Date: 7/2/2020

Location: MW-34

Description: The drill rig is set up over the hole and fencing surrounds the work area. The ground around MW-34 is soft with wood chips and plant matter and occasional

weeds.



Date: 7/2/2020

Location: MW-34

Description: There is approximately 10 feet on either side of the borehole between the fencing and the marked utilities along the

road.



Date: 7/2/2020

Location: MW-34

Description: CDM Smith leaves Fact Sheet fliers at the community garden in plastic paper protectors for gardeners to read.



Date: 7/2/2020

Location: MW-34

Description: Holt leaves the drill rig secured behind fencing at MW-34 over the holiday

weekend.

DATE: 7/6/2020 Prepared by: Betsy Bott

Personnel on site, including Contractors:	CDM Smith – Betsy Bott Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	<u>Dry</u>	Moderate	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard in the late afternoon.

MW-32:

Ready Made Concrete arrived at MW-32 with the city approved concrete mix and Holt installed the well vault. Barriers were placed around the surface completion and the rest of the fencing and boards were moved offsite.

MW-34:

150' of 8" piping and 200' of 7" piping was moved to the gravel area near MW-34. Tomorrow the hopper, portable toilet, and sample bags will be moved.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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Projected Work - Near Term:

7/7/2020 – Begin drilling MW-34.

Other Activities/Remarks:

7/7/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/6/2020

Location: MW-32

Description: Ready Made Concrete truck delivered concrete to MW-32.



Date: 7/6/2020

Location: MW-32

Description: View of concrete being poured for surface completion.

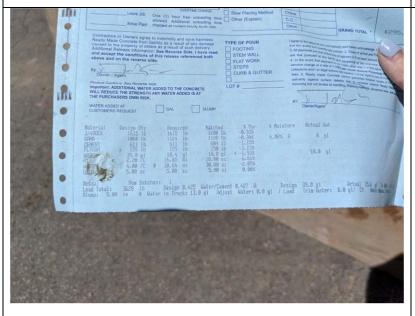


Date: 7/6/2020

Location: MW-32

Description: View of installed surface

completion at MW-32.



Date: 7/6/2020

Location: MW-32

Description: View of concrete batch mix

ticket.

DATE: 7/7/2020	Prepared by: Betsy Bott	

Personnel on site, including Contractors:	CDM Smith – Betsy Bott Wasatch – Anna Fiorini Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	Dry	Moderate	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

<u>Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:</u>

H&S tailgate was conducted at the laydown yard.

Drilling:

Sonic coring operations began at MW-34 and ranged from surface to 130 ft-bgs. The 8" casing was advanced to 120'. No soil samples were collected. The highest PID reading was 52.3 ppm taken at the 40-42 ft-bgs interval.

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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Projected Work - Near Term:

7/8/2020 – Continue drilling at MW-34.

Other Activities/Remarks:

7/8/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/7/2020

Location: MW-34

Description: View of drilling at MW-34.



Date: 7/7/2020

Location: MW-34

Description: View of 40-42 ft-bgs soil core. This interval has the highest PID reading of the day, 52.3 ppm.

DATE: 7/8/2020	Prepared by: Betsy Bott	

Personnel on site, including Contractors:	CDM Smith – Betsy Bott Wasatch – Anna Fiorini Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper
Visitors/Others:	A1 Services – Serviced portable toilet

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	Dry	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig	
Equipment in Use (field	Skid Steer (Bobcat)	
instruments, subcontractor	Rig Hauler	
equip, etc.)	Tender/Water Truck	
	Portable Toilet	

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Sonic coring operations continued at MW-34 and ranged from 130 to 210 ft-bgs. The 8" casing was advanced to 150'. 7" casing was advanced to 210 ft-bgs. Four soil samples and two groundwater samples were collected. The highest PID reading was 25.0 ppm taken at the 140-141 ft-bgs interval. The groundwater sampler will be deployed tomorrow morning and a groundwater sample will be attempted at 210 ft-bgs.

Soil Samples:

MW34-SB070820-141

MW34-SB070820-165

MW34-SB070820-189

MW34-SB070820-205

Groundwater Samples

MW34-GW070820-150

MW34-GW070820-180

Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):

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<u>Projected Work – Near Term:</u>

7/9/2020 – Continue drilling at MW-34.

Other Activities/Remarks:

7/9/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/8/2020

Location: MW-34

Description: View of drilling at MW-34.



Date: 7/8/2020

Location: MW-34

Description: View of 140-142 ft-bgs soil core. This interval has the highest PID reading of the day, 25.0 ppm. Soil sample MW34-SB070820-141 was collected.

DATE: 7/9/2020	Prepared by: Betsy Bott	

Personnel on site, including Contractors:	CDM Smith – Betsy Bott Wasatch – Anna Fiorini Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	<u>Moderate</u>	High		
Humidity	Dry	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Sonic coring operations continued at MW-34 and ranged from 210 to 260 ft-bgs. 7" casing was advanced to 260 ft-bgs. Two soil samples and three groundwater samples were collected. Color-Tec results for groundwater samples were non-detect, including MW34-GW070820-150 and MW34-GW070820-180. Note: there was an extraction issue with MW34-GW070820-150, the vials were recapped and rerun later in the day. The highest PID reading was 2.3 ppm taken at the 234-235 ft-bgs interval.

Soil Samples:

MW34-SB070920-226 MW34-SB070920-247

Groundwater Samples

MW34-GW070920-210 MW34-GW070920-230

MW34-GW070920-260 (Taken at 17:00, will be shipped with 7/10 samples)

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

7/10/2020 - Continue drilling at MW-34.

Other Activities/Remarks:

7/10/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/9/2020

Location: MW-34

Description: View of Holt offloading 6"

casing.



Date: 7/9/2020

Location: MW-34

Description: View of 234-235 ft-bgs soil core. This interval has the highest PID reading of the day, 2.3 ppm.



Date: 7/9/2020

Location: Connex

Description: View of Color-Tec on MW34-GW070920-260.

DATE: 7/12/2020 Prepared by: Joe Miller

Personnel on site, including Contractors:	CDM Smith – Joe Miller Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuper
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	Moderate	Humid		

	 Terrasonic 150 mini-sonic drill rig 	
Equipment in Use (field	Skid Steer (Bobcat)	
instruments, subcontractor	Rig Hauler	
equip, etc.)	Tender/Water Truck	
	Portable Toilet	

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

MW-34 was advanced from 320 to 350 ft-bgs. Two soil samples and one groundwater samples were collected. The Color-Tec result for the groundwater sample was non-detect for MW34-GW071220-320. The highest PID reading was 15.3 ppm in the 334-336 ft-bgs interval.

Soil Samples:

MW34-SB071220-320 + Duplicate MW34-SB071220-349

Groundwater Samples

MW34-GW071220-320

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

7/13/2020 - MW-34 Well construction

Other Activities/Remarks:

7/13/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/12/2020

Location: MW-34

Description: Holt crew tripping in groundwater sampler for sample at 320'.



Date: 7/12/2020

Location: MW-34

Description: Soil core from 348.5-350'. Soil core was hard clayey silt with trace gravel,

moist.

DATE: 7/13/2020	Prepared by: Joe Miller
DATE: 7/13/2020	riepaieu by.

Personnel on site, including Contractors:	CDM Smith – Joe Miller Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuiper VA – Marc Yalom
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	Moderate	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Well construction began at MW-34. The boring was backfilled to 330' with bentonite pellets. The deep 1" screen interval was installed with screen from 315-325' bgs and a sand pack from 312-330' bgs. The second 1" screen interval was installed with screen from 250-260' bgs. The sand pack around the second screen is from 247-262' bgs. The boring has been backfilled to 207' bgs and casing was pulled back to 200'.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

7/14/2020 – Resume MW-34 Well construction

Other Activities/Remarks:

7/14/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/13/2020

Location: MW-34

 $\begin{tabular}{ll} \textbf{Description:} & \textbf{Holt crew installing 1'' PVC for deep zone at MW-34}. \end{tabular}$



Date: 7/13/2020

Location: MW-34

Description: Holt crew removing casing from borehole as they backfill.

DATE: 7/14/2020	Prepared by: Joe Miller
<u>DATE:</u> 7/14/2020	Trepared by:

Personnel on site, including Contractors:	CDM Smith – Joe Miller Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuiper VA – Marc Yalom
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	Humid		

	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	Skid Steer (Bobcat)
instruments, subcontractor	Rig Hauler
equip, etc.)	Tender/Water Truck
	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Well construction resumed at MW-34. The third 1" zone was installed with screen from 175-185' bgs. The sand pack is from 173-187' bgs. The shallow zone 1" screen was installed with screen from 140-150' bgs and a sand pack from 137-152'. The shallow zone well also had a soil vapor probe installed at 20' bgs and a surrounding sand pack from 18-22' bgs. The boring was backfilled with hydrated bentonite to 14' bgs and grouted to ~2.5' bgs.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work - Near Term:

7/15/2020 – MW-34 Surface Completion, Decon Drill steel, load equipment

Other Activities/Remarks:

7/15/2020: A Safety Tailgate will be conducted at the laydown area at 7:15am.

Photos:



Date: 7/14/2020

Location: Laydown Area

Description: Holt crew organizing decontaminated 6" casing.



Date: 7/14/2020

Location: MW-34

Description: Holt crew installing shallow zone 1" well casing.



Date: 7/14/2020

Location: MW-34

Description: Holt crew grouting surface seal at MW-34 from 14' bgs.

DATE: 7/15/2020	Prepared by: Joe Miller
<u>DATE:</u> 7/13/2020	repared by.

Personnel on site, including Contractors:	CDM Smith – Joe Miller Holt Services – Jeff Jones Holt Services – Alex Langdon Holt Services – Aaron Kuiper Holt Services – Colby McCarthy
	VA – Marc Yalom
Visitors/Others:	Atlantic Pacific Trucking

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	Dry	Moderate	Humid		

	•	Terrasonic 150 mini-sonic drill rig
Equipment in Use (field	•	Skid Steer (Bobcat)
instruments, subcontractor	•	Rig Hauler
equip, etc.)	•	Tender/Water Truck
	•	Portable Toilet

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the laydown yard.

Drilling:

Holt installed the Augustyn vault at MW-34. They mobed the equipment from Rowland Hall back to the VA campus. Holt deconned the drill steel and loaded the majority of the drill steel on a semi to haul back to Washington.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

Health and Safety Incident:

Alex Langdon was opening the roll off bin. The hard plastic lid did not open all of the way. As the he was attempting to open the bin, the lid swung open and the plastic caught his left hand. He was wearing gloves and did not immediately notice the laceration, but did know he was struck by the lid. He pulled the glove off noticed the blood and was taken to the University of Utah emergency room.

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

Salt Lake County has a mandatory mask mandate in effect since Saturday, June 27. Masks are required in public.

Projected Work - Near Term:

7/16/2020 - Holt Demob from site

Other Activities/Remarks:

7/16/2020: A Safety Tailgate will be conducted at the laydown area at 6:30am.

Photos:



Date: 7/15/2020

Location: Laydown Area

Description: Semi loaded with casing and extra well materials.



Date: 7/15/2020

Location: MW-34

Description: Augustyn vault well completion



Date: 7/15/2020

Location: Laydown Area

Description: Holt deconning drill steel.

DATE: 7/17/2020	<u>Prepared by:</u> Joe Miller
Personnel on site, including Contractors:	CDM Smith – Joe Miller United Site Services
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	Moderate	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	Portable Toilet
---	-----------------

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at Connex box.

Site Activities:

Deploy PDBs in MW-24. Organize paperwork and Connex box. United services haul temporary fencing.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

Health and Safety Incident:

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Projected Work - Near Term:

7/19/2020

Organize Connex box and IDW yard.

Other Activities/Remarks:

Photos:



Date: 7/17/2020

Location: MW-24

Description: Passive diffusive bag sampler attached to tether.

DATE. 7/13/2020 Prepared by. 30e Miller	DATE: 7/19/2020	Prepared by: Joe Miller
---	------------------------	-------------------------

Personnel on site,	CDM Smith – Joe Miller
including Contractors:	
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow	
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F	
Wind	Still	<u>Moderate</u>	High			
Humidity	<u>Dry</u>	Moderate	Humid			

Equipment in Use (field instruments, subcontractor equip, etc.)	Portable Toilet	
---	-----------------	--

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at Connex box.

Site Activities:

Organize connex boxes and inventory IDW.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

Health and Safety Incident:

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Salt Lake County has a mandatory mask mandate in effect since Saturday, June 27. Masks are required in public.

Projected Work - Near Term:

7/20/2020

Measure DTW in recently installed ZIST wells for development information.

Other Activities/Remarks:

Photos:

No photos taken on 7/19.

DATE: 7/20/2020	Prepared by: Joe Miller
<u>DATE.</u> 7/20/2020	riepareu by. Joe Willer

Personnel on site,	CDM Smith – Joe Miller
including Contractors:	
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow	
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F	
Wind	Still	<u>Moderate</u>	High			
Humidity	<u>Dry</u>	Moderate	Humid			

Equipment in Use (field instruments, subcontractor equip, etc.)	Portable Toilet
---	-----------------

Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at Connex box.

Site Activities:

Measure DTW in new ZIST wells. MW-32 not measured due to car parked on well. Depths to water measured in feet from top of casing.

MW29	DTW	MW30	DTW	MW31	DTW	MW34	DTW
Α	116.36	Α	225.73	Α	130.42	Α	131.04
В	154.31	В	231.82	В	134.93	В	132.88
С	157.38	С	232.69	С	147.99	С	130.33
						D	131.13

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

Health and Safety Incident:

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

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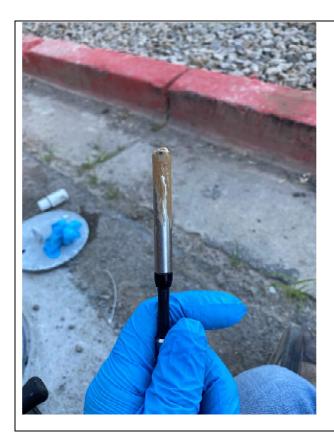
Projected Work - Near Term:

7/21/2020

Haul IDW roll off bin #5495 and move bin from Rowland Hall to VA campus

Other Activities/Remarks:

Photos:



Date: 7/20/2020

Location: MW-30A

Description: Sediment on the probe after measuring depth to bottom.

DATE: 7/21/2020	Prepared by: Joe Miller

Personnel on site, including Contractors:	CDM Smith – Joe Miller VA – Marc Yalom MP Environmental
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	Still	<u>Moderate</u>	High		
Humidity	<u>Dry</u>	Moderate	Humid		

instruments, subcontractor	•	Equipment in Use (field nstruments, subcontractor equip, etc.) • Portable Toilet			
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at Connex box.

Site Activities:

Move soil roll off bin from Rowland Haul to VA campus. Haul roll off Bin #5495 from VA campus.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

Health and Safety Incident:

The George E. Wahlen Department of Veterans Affairs Medical Center is operating under restricted access protocols due to COVID-19. No significant delays were encountered. On April 15th, the SLC VA began requiring "Universal Masking." Universal temperature checks are being conducted at the gate prior to entry.

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Projected Work - Near Term:

7/27/2020

ZIST well development and pump refurbishment.

Other Activities/Remarks:

Photos:



Date: 7/21/2020

Location: VA Campus laydown

Description: MP moving roll off bins to south side of parking area.



Date: 7/21/2020

Location: VA Campus laydown

Description: MP Environmental Hauling soil bin from VA site.

DATE: 7/27/2020	Prepared by: Emilie Rott	

Personnel Onsite, including Contractors:	CDM Smith – Emilie Rott CDM Smith – Neil Smith Wasatch Environmental – Kevin Murphy BESST – Miles Koehler
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	ZIST pump repair materialsWell development materials
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the IDW yard.

Pump installation:

ZIST pumps that had been sent back to BESST for various repairs were installed in the following wells:

- MW-03RB removed to assist in trouble shooting, serving as a functioning pump and tubing system; no repairs were completed on this pump.
- MW-26B removed due to malfunctioning check valve. BESST replaced filter and check-valve spring.
- MW-26C removed due to tubing issues. Re-installed with new tubing, filter and check-valve spring were also replaced.
- MW-23B removed due to malfunctioning pump. BESST replaced filter and check-valve spring.

Pump repairs:

Pumps were pulled and repaired from the following wells. Repairs included changing the filter and replacing the check-valve spring.

- MW-23A
- MW-23C
- MW-25A
- MW-25B
- MW-25C
- MW-26A
- MW-26D

Well development:

Well development was completed at MW-30. Air lifting to remove sediment was completed at MW-30C. Depth to water and total depth measurements were collected in all intervals at MW-30.

Projected Work - Near Term:

7/28/20 – Begin installation of ZIST pumps in MW-30 and others as time allows; continue developing wells.

Other Activities/Remarks:

Photos:



Date: 7/27/2020

Location: MW-23

Description: Conducting pump

repairs at MW-23A.



Date: 7/27/2020

Location: MW-25A

Description: ZIST pump following repairs at MW-25A.

DATE: 7/28/2020	Prepared by: Emilie Rott
	

Personnel Onsite, including Contractors:	CDM Smith – Emilie Rott CDM Smith – Neil Smith Wasatch Environmental – Kevin Murphy BESST – Miles Koehler
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	ZIST pump repair materialsWell development materials
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the IDW yard.

Pump installation:

A ZIST pump was installed at MW-30C.

Projected Work - Near Term:

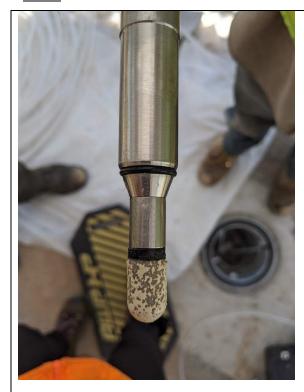
7/29/20 - Neil Smith to demobilize. Team to develop and install ZIST pumps at MW-31 and MW-29.

Issues encountered:

The team installed pumps in both MW-30A and MW-30B and attempted to begin a purge at these wells to ensure the pump were working correctly. At MW-30B, the team saw apparent drop off water production and shortly thereafter breakthrough. The team then pulled the pump and found the filter and pump to be covered in a dark clay-like material. The team did not redeploy this pump for use.

At MW-30A, after initially pumping water, the team was not seeing any discharge at pressures that should have been moving water through the system. The team pulled the pump and found the filter to be covered in a light colored clay-like material. The team did not re-deploy this pump for use.

Photos:



Date: 7/28/2020

Location: MW-30A

Description: Light-colored clay like material covered the filter of MW-30A after attempting to

purge the well.

DATE: 7/29/2020	Prepared by: Emilie Rott	
DATE: 7/29/2020	<u>Prepared by:</u> Emilie Rott	

Personnel Onsite, including Contractors:	CDM Smith – Emilie Rott Wasatch Environmental – Kevin Murphy BESST – Miles Koehler
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	ZIST pump repair materialsWell development materials	
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<u>Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:</u>

H&S tailgate was conducted at the IDW yard.

Pump installation:

ZIST pump were installed in the following wells:

- MW-31A
- MW-31B
- MW-31C
- MW-29A
- MW-29B
- MW-29C

Pump installation:

Well development was completed at MW-31C and MW-29C. Air lifting was used to remove sediment within both of these wells. Depth to water and total depth measurements were collected at all intervals at MW-31 and MW-29.

Projected Work - Near Term:

7/30/20 –Team to develop and install ZIST pumps at MW-34.

DATE: 7/30/2020	Prepared by: Emilie Rott	
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Personnel Onsite, including Contractors:	CDM Smith – Emilie Rott Wasatch Environmental – Kevin Murphy BESST – Miles Koehler
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	ZIST pump repair materialsWell development materials	
---	---	--

<u>Description of Field Activities – including borings completed/started (include footages), samples/data collected, etc.:</u>

H&S tailgate was conducted at the IDW yard.

Pump installation:

ZIST pump were installed in the following wells:

- MW-34A
- MW-34B
- MW-34C
- MW-34D

Pump installation:

Well development was completed at MW-34C and MW-34D. Air lifting was used to remove sediment within both of these wells. Depth to water and total depth measurements were collected at all intervals at MW-34.

Projected Work - Near Term:

7/31/20 –Team to develop and install ZIST pumps at MW-32.

Photos:



Date: 7/30/2020

Location: MW-34

Description: MW-34A cap prior to installation – the team needed to modify an enclosed cap for this interval to account for well vault height issues

encountered.

DATE: 7/31/2020	Prepared by: Emilie Rott

Personnel Onsite, including Contractors:	CDM Smith – Emilie Rott Wasatch Environmental – Kevin Murphy BESST – Miles Koehler
Visitors/Others:	

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F
Wind	<u>Still</u>	Moderate	High		
Humidity	Dry	<u>Moderate</u>	Humid		

Equipment in Use (field instruments, subcontractor equip, etc.)	ZIST pump repair materialsWell development materials	
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Description of Field Activities - including borings completed/started (include footages), samples/data collected, etc.:

H&S tailgate was conducted at the IDW yard.

Pump installation:

ZIST pump were installed in the following wells:

- MW-32B
- MW-32C

Solinst bladder pump was installed at the following well:

• MW-32A

Well development

Well development was completed at MW-32A, MW-32B, MW-32C. A Hurricane pump was used to mechanically remove sediment within MW-32A. Air lifting was used to remove sediment within MW-32B and MW-32C. Depth to water and total depth measurements were collected at all intervals at MW-32.

Projected Work - Near Term:

8/1/2020 – E. Rott and M. Koehler to demobilize.

Photos:



Date: 7/31/2020

Location: MW-32

Description: Team lowering the pump at MW-32B.

Personnel on site, including Contractors:	CDM Smith – Ben Carreon Wasatch – Anna Fiorini VA- Marc Yalom
Visitors/Others:	None

Weather	<u>Sunny</u>	Partly Cloudy	Overcast	Rain	Snow		
Temperature	<u>85+ º F</u>	70 to 85º F	50 to 70 º F	32 to 50 º F	To 32 º F		
Wind	<u>Still</u>	<u>Moderate</u>	High				
Humidity	<u>Dry</u>	Moderate	Humid				

Equipment in Use (field instruments, subcontractor equip, etc.)

<u>Description of Field Activities – including samples/data collected, etc:</u>

H&S tailgate was conducted at the IDW area.

A down hole camera was used at MW-30A and B to inspect current conditions. MW-30A has a blockage at 241' bgs where logs indicate the start of the screen should be positioned. MW-30B was turbid at 254' bgs with some resistance at 274' bgs. After the camera sat on the material at 274', it slowly sank to 281' with more resistance on the camera (e.g. submerged in sediment).

A sample was attempted at MW-23B, however breakthrough was encountered when trying to maintain consistent discharge volume. The water column was then rebuilt at MW-23B.

No samples were collected.

<u>Issues/Problems Encountered/Deficiencies/Deviations from QAPP (and resolutions):</u>

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Projected Work – Near Term:

Continue groundwater sampling.

Other Activities/Remarks:

Photos:



Date: 8/10/2020

Location: MW-30

Description: Down hole camera setup.



Date: 8/10/2020

Location: MW-30

Description: Camera after inspection at MW-30B.

Appendix B

Field Logbook Notes



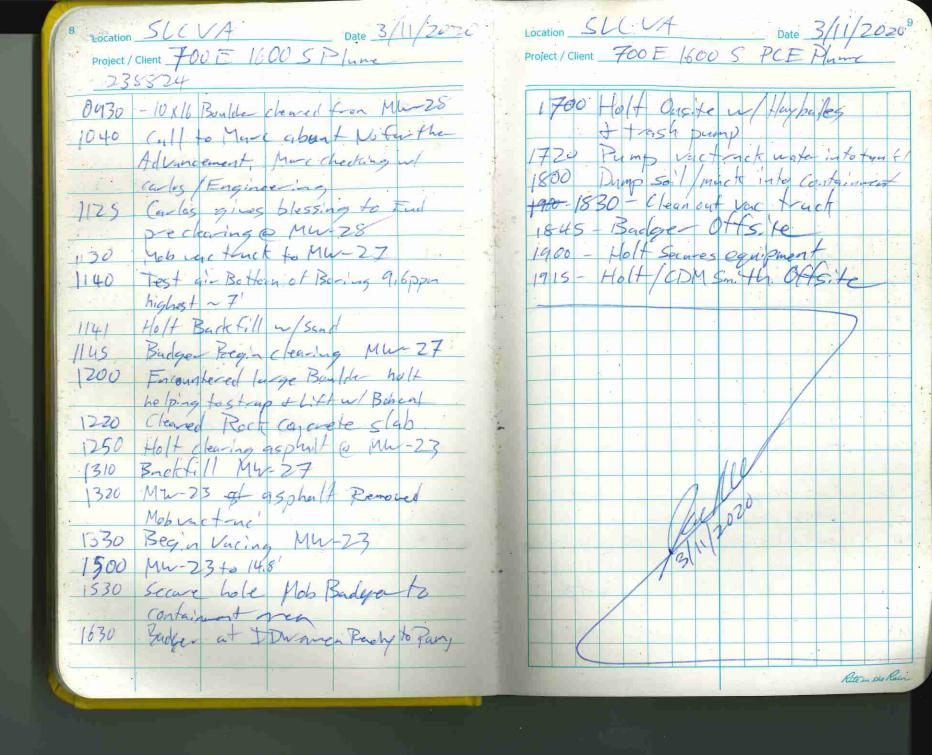
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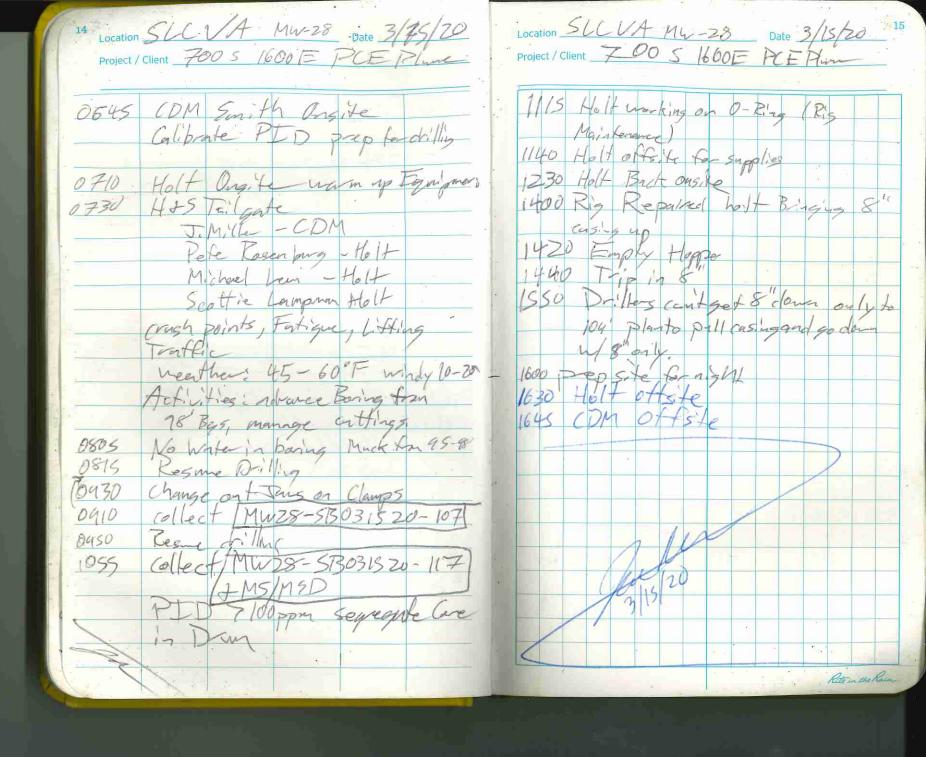
Location SLC VA Date 3/11/2020 7 Project / Client 700 5 1600 E PCE Plune Project/Client 7005 1600 EPCE Plume Notify Engineering Stop, Boiler Plant contractors (BHE) SOURHI about Boring 0700 Ons, te 1015 Activities Preclear borings Decon tooling Locations 1130 Budger Ons te Notaring tools Setup Rige MW-28 reather! High of partly cloudy Kiel Onsite with Dill Begin Breaking converte 1250 1330 Badger Begin vaccing 0730 H+Stailgate J.M. 16 CDM Smith Call from Veil about pre cleaning 1350 Mark Aguilor EPA Ongite 1400 Mar & Varlon VA Mark Aguila- EPA Vuctruck Diver Expects 3 x dunp 1415 Hel Kelle- Wasutch per boring Conlos Aguilar visits Mw-28 Location Pote Rosenburg - Holt 1440 Carles offe, to 1450 Michael Leni-Hult Marc Yalam Ofts 4 Scottie Lamping - Holt Mak Agnilar offs, Le to MW-015 Topics communication, cons 4 puis to MW-28 cleared to 11'10" 1530 Spo He Home sorte Pallet of sand over Boring 1600 1.700 Coned / Flaggel MW-23/27 Aren 0500 - Budger Ong, te - Dust in Songe 1720 Jae Mille Offsite HITS Tallgate of Je 14:14 0515 Holf Mores Pullet of sand 0820 - Prep Vaction of the cleaning 0830 - Login Jonson anste Belles HSome 0845 - Pesme pre change Rete in the Rain

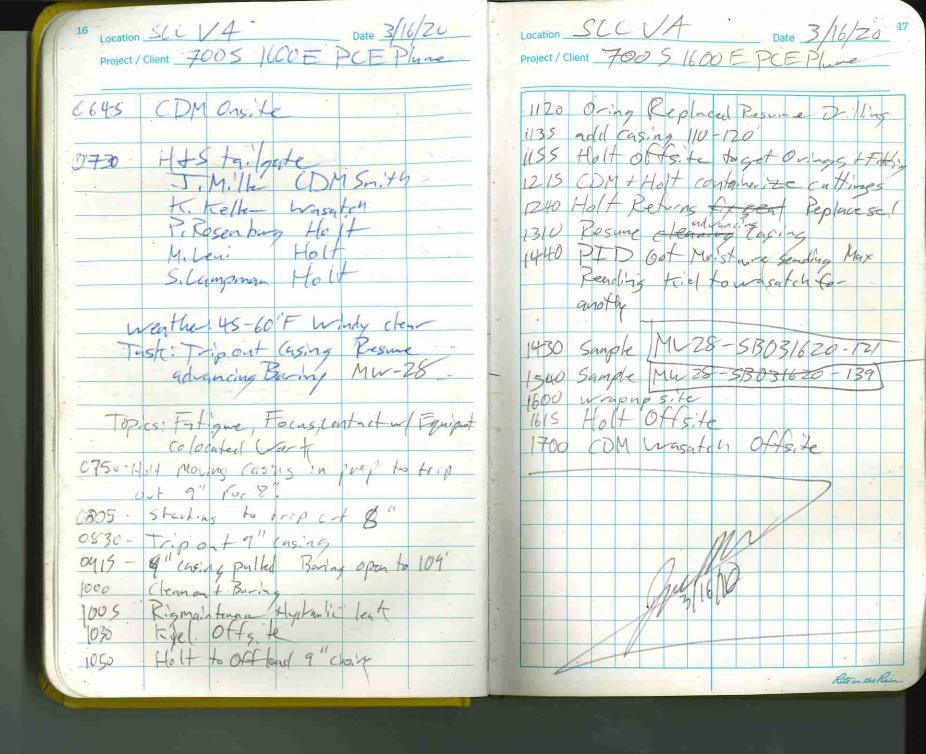


Location SLC VA Date 3/17/20 Project/Client 7005 1600 E PCE Plane 5.4e. 0630 J.Mille CDM SMith Onste 0650 Calibrate PID dieck containment HIS tailgate in lower Lot 0730 JMille. Kielkelher Pete Rosenburg Scottie Compins Mike Leni Marc Yalan Mark Aguiler Tasks : Backfill burng MM-23 Decon tooling, se tup dill Rig Temp 40°F-55°F Clear Holf mores Sound From boning 2800 0810 Carlos Aguilla ons to to impret 08 20 Carles Approves Boring Min-23 PID Serven 3,8ppm 0900 Buck tilled Mw-23 or Sand parter 0425 Pump off containing t waster 0950 Containment Skimmed Call to Well Smith about Dogress 1030 Check on De con loen

Project / Client 7005 1600 E PCE Plume Ste

1045 Call to United Rentals Call from Kathy Vingant Regarding parta potty 208 906 0361 1120 Mob casing to Mr-28 Cocation 1200 Call Carlos to Issue Pen. + 1210 Permit Issued to dig MW-88 1215 Call from United Sources - Holt set Mudtube Muzo 1225 United Rentals Ousite 1330 United Bentals Office 1346 Begin comy Backtill (chenn on t 14/0 Mark aguilar angite 1424 collect Mw28-98 03/220-64 1437 collect MW28-5B031220-16 1515 Dump hopper 1550 Collect MW28-5B031220-22 1640 Collect MW28-5B031220-35) 1700 Dumphoffer 1730 Secare site / Park Surples for Shipping * Not Submitted due to 16 sample har righter PIP 1815 - Offsite Reto in the Rein

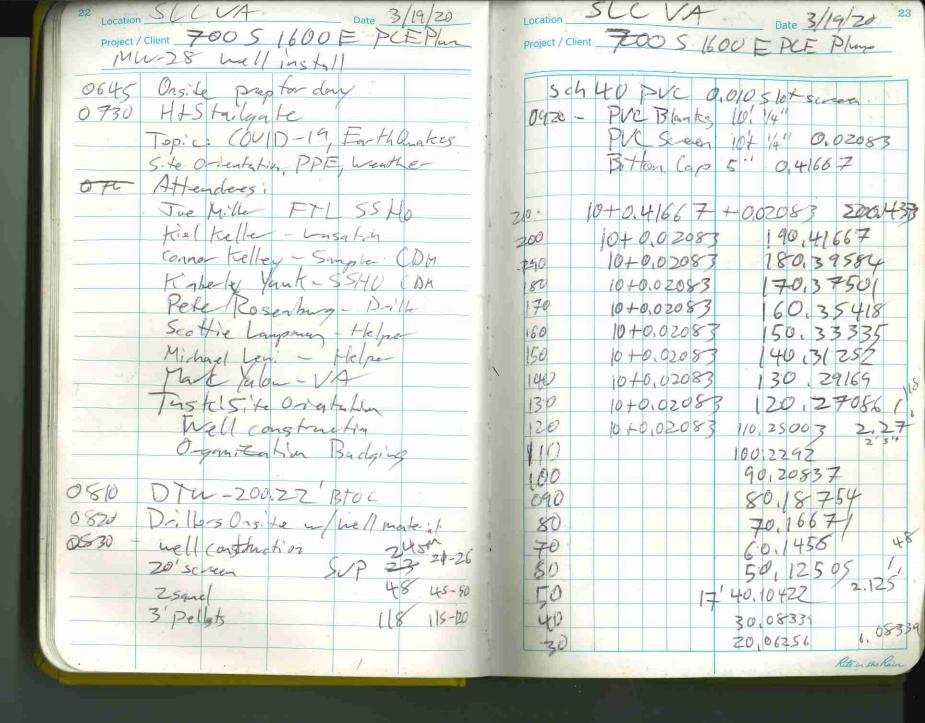




Location SLC VA Mh 28 Date 3/17/20 Location 5LC VA MW-28 Date 3/17/20 Project/Client 7005 1600 E PCF Plyne Project / Client 700 S 1600 E PCE Plung 0645 (DM Onsite 1100 Collect Mu28-5B03/720-165 Activities: Advance MW-28 being 1103 DTEV 139.4 Weather 45-60'F 118 (al to Neily but but + 4011 check in again 162.24/2006 0730 Hts tailgate: Topics: Focus, Litting, Fatigue Determineto advance Boring wellbeing COVID-19 Jac Milbe MW28-513031720-171 Pete Rosenbyy 1400 5-mple MW 8-513031720-183 Michael Ley 145 Sample mw 28-53031720-199 1555 Th 123, 7 m 206 Softie Compinan Kiel Kell FDO2-5B03172000800 winn up Equipment 63.7 0745 Calibrate was teh PPB Rage Holt to laydown area CDM to 0750 Dump hopse Stlend Dillstel JDW great 0800 Dill Rig ingpedien 1730 Pack Sumples for shippy OM ORS 0815 1540 collect MW28-5B03(720-206 0825 Regune Admin Cerren Collect MW 28-513031720-149 0855 150 - 160 geats come Back wet mait for 15min to tag H20 0950 DTN 144.5 casing to 140 collect TMW 28-5803 17-20-156 Run casing to 150' 1009 Rete in the Rei

Location SLL VA Project / Client FOCS 1600 E PCE Plune Site Location SLCVA Date 3/18/20.

Project / Client 7005 1600 E PCF Plume CDM O. 15, Le 0650 1220 Reassonbe Push shead Somple 0707 Earth Quake 1300 Tetler tape sample 0730 HtStailgate: to inake it hold Fit Ferchy (OND-14, Litting) 1310 Sendit down the DTW 147.6 Jac Mille Dush a head Gus tiel keller Pete Recembery Muz8-64031820-211 Michael Leni + colo- tech analysis Scottie Lampingon 1405 Trip in with Alapae Bite 1440 Boring TD 210.5 Torsks; Frigh Mr 28 Borning 1530 Hold off lead Fortland Mob to BdB for Benton & meder pre-cust coof 40-55°F ham up equipment 0510 STen 18419 0415 Advance Coiging to 200 0820 Tripin care Burnel 0830 Kiel dulibrate Magaton PPB Oppm 100ppm work on Jus Rig Minsonne 0916 Resume adding Caring 009 100 pushahed gample fitting to big Rete in the Reis



Project / Client 700 S 1600 E PCE Plume

1645 Sand placed starting at 3/ feet. Bentonie Starting at 45 feet 1120: Sand placed starting at 27 Pet 1725: Ran out of sand App. Approximately 23 feet bgs. Drillers close down for the day Connor and kimberly get oriented to the connex and supplies. 1750: CDM leaves site, Locks gate. 3/19/20 Rete in the Rain

Location SLC VA Plume Date 3/20/20 Project/Client 700 S 1600 E PCE Plume Complete MW-28. Vacuum MW-27 Conditions: Wet last not raining-mistry 39°F, cloudy Plan: Vacuum MW-27, complete MW-28 123'- 0' and surface completion), Halt decon 0645: CDM on site, prep for day 0850 His Tailgate Attendees: and Joe Miller eDM

Pete (Holt) Connor Kelley CDM

8 3/20/20 Pets 3/20/20 gan Jensen Hott Mike Leui Jr Holt Scottie Landman Holt Kiel Keller (;) Wasnich Strope Mark Marc Yavan VA 0900. Hour and a half down time was for drillers to restock sand and get a jackhammer for the asphalt cutting. 6900 contid: Most begins setting up to complete MW-28, Badger The year gets started clearing hole.

Location SLC VA Plume Date 3/20/20 27 Project/Client 100 S 1600 E PCE Plume Complete MW-28, Vacuum MW-27 0915: Complete daily inspections. Host gets sand to complete the final soil vapor probe filter pack Top 10 feet of annular space will be neat cement. 1050: Holt is mixing cement. Sand went from 27 to 21 feet Bentonite went from 21 to 11 feet Badger Vacuum is down 11 feet at MW-27. 1105: Drillers grab more coment tor MW-28 - 6 gallons to 94 165 1110: Badger is clearing MW-27 to 44 feet 1125: Mark check on progress and leaves 1130: Republic Services empties adjacent dumpster more field Vehicle for them. Some of the cement bags got some moisture - drillers have to 5 ft out chunks before mixing. 1200. Drillers pick up more cement all casing is removed and grout that was at surface has settled. Vacuum trick is encountering bouldes this you y stowards

Location SLC VA Plume Date 3/20/20. Project / Client 700 S 1 (000 E PCE Plume Complete MW-28, Vacuum MW-27 1330: Pete outs casing at MW-28 and Carlos A. + 153/20/20 on site to inspect the excavations and give us the permit to drill MW-27 on Sunday. MW-27 Vacuuming is done at 12.7 feet feet deep. 1350: Logan (Badger) mobilizes of the hold street Mike & Scott (Holt) decon the casing Equipment Blanks will be collected of the sampler and casing and submitted with the samples Monday evening. 1355: Boulders and cobbias from MW-27 that were too big will go in a hopper and a pullet of sand will go over the hole Conner is watching it until it gets covered Badger will unload into the containment area. Sunny now 1425: Pallet with bentonite is covering MW-27. The vacuum truck is beginning to unload into the containment + Os your 3/20 Plant

Location SLC VA Date 3/20/20 Project / Client 700 S 1600 E. PCE Plume Mobilize to MW-27, empty Vac 1425: (Continued) The drillers brought the steel casing and samplers to be deconned but will first set the well box and clear up the MW-28 area. Pete estimates about an hour kiel and Connor are helping Logan with the Vac. 1445: Vacuuming begins. Johnny Shellery on site to assist (from Badger). Connor and Kiel add water (tap) to pump to prime it. Fill the first containment tank and add some to the second. Label on second containment tank to match the first. 1455: Water pumped. Prepare to dump soil into the secondary containment area lined with Visqueen. 1500: Drillers have moved the rig to MW-27 and continue to bring the rest of the materials using the forklitt. Mostly Sunny. 3/20/20

Friday. Location SLC VA Date 3/20/25 Project/Client 700 S 1600 E PCE Plume Mobilize to MW-27, Empty Vac Truck. 1500 (continued): Pele sets the well box LATE ENTRY: Joe Miller left for a Call at 1400 and will leave site shortly after it is done to catch his Right home. Kiel gives Kimberly the PID with & Hzopo Calibration gas 1525 : Logan Stopped by MW-28 to get 1525 a signature and left site. Johnny (Badger) also left. 1530: Kiel Checks in with the Holt/ Kimberly Crew at MW-28 and leaves site (Back Monday for repairs.) 1535: Connor back from the connex area - soil just fits in the containment are Holt will need to pick up hoses and pump. 1600: Drillers complete the move to MW-27. MW-28 has cones around it. 1615: Drillers bring Forklift to decon area while CDM grabs bottles and 1630: Collect EBOI-GW032020 Ret 1 00 Met 3/20/20 -

Project / Client 700 S 1600 E PCE Plume

conditions: Overcast, Plan: Decon casing, Set up at MW-27 and begin drilling 0645: CDM onsite, prep for Sampling 0715: His Tailgate Attendees: Kimberly Yank CDM Connor Kelley CDM Pete Holt Mike Lewi Jr. Holt Holt Scottie Landman 0730: Mike and Scottle to decon and Petre will set up 0750: Kimberly leaves site to get paperwork from hotel and buy DI water 0900: Casing is deconned. Drillers bring it up to MW-27 and continue setting up. bringing were significat is Kimberly alibrates the PID 10 23: Begin advancing cising (71) 8"

The State of the 3/22/200 1050 : Begin collecting samples. Targeting higher hits on PID MW27-58032220-13 1055 MW27-980 32220 - 16 MW-27-880322 1115 (MW27-9032220 - 30) 1140 MW27-88032220-40 1205 MW27-58032220-50) 1210 FD03 -08032220 @ 50 feet Drillers stopped around 1205 to dump the hopper. Call with Joe to confirm Field duplicate number.
1220: Drillers will switch to 7" 8"1 casing -> checked with Pete: 0 to 60' will be 9" casing (w/8" core barrel) and 60' onward will be 8" casing with 7" core barrel (for sampling). Drillers take a break. 1230 Drillers start back up - Starting at 50 feet. . 1300: large chunk of sandstone (10") at top of 50 51 feet \$/22/2+

Project/Client 7005 1600 E PCE Plume

1300: (contid) - drillers only recover 50-56 feet (because of the Sandstone chunk. 1310: Sample | MW27-58032220-54.5 +MS/MSD 1315: Drillers recover 56-60 1345: Sample MW27-8032220-701 Text with Doe about the magnetic susceptibility meter. It wasn't reading properly when it wasn't FLAT against the soil come. Added readings from 13' to 60' using sall moisture jars. Will continue from 70 feet at 2-3 foot intervals 1520 Sample MW275032220-75 1535: Sample MW27-9032220-88 1600: Sample MW27-832220-96) Drillers just hit a void from 100 to 110 Feet. 1610: Pete pulled up the rod. It was not a void the drill rod broke: 1615 1FD04-53032220] Drillers begin fishing the rod out. tills Jan 3/22/20 - Remonth

Location SLC VA Date 3/23/20 Project/Client 7005 1600 E PRPCE Plume MW-27 1001-1801 53/23/20 1430: Rain has let up 1450: Sun starting to come out. 1455: MW27-SB032320-1581 Partly sunny, breezes now instead of wind Connor grass the EB samples from the other coster and the custody to Seals. No custody seals. 1510: A lot of rig chatter -very slow drilling. Check drillers breathing Zone and top of hore breathing = 0 ppm top of borehole = 0.1 ppm 164 1525: Drillers hit water at 170 Fest. Over cast again. Pete says it seems got softer to drill around 163 or 165 Feet. Water at 164 ft. 1550; Connor bails a sample 1600: MW27-GW032320-168

Connor moves a field vehicle

log missing from 160-168 (on from)

Falls yout 3/23/20 Attendation

for VA worker.

Rain picks up again.

Location SAC VA Date 3/23/23 41 Location SLC VA Date 3/23/20 Project/Client 7005 1600 F PCE Plume Project/Client 7005 1600 & PCE Plume Drill/sample MW-27, 1001-1801 Drill /Sample MW-27 100'-180' 1735: Connor back on site Finish 1605: Connor logs soil and photogir. magnetic susceptibility and Kimbery preps cooler to shop soil logging photos We were not able to prevent 1745: Done logging. Fack up toneadspace in the VOAS - only collected a VOAs instead of BEENEY 1610: Pouring rain @1605 166

ac and seal the cooler. 83/23/20 1800: Mw-27 dalling area is coappel up, fenced st, and cautiontaped by the pedestrian walkung Bring supplies back to the connex 1630 Sign coc and Zip lock it. Samples collected at 1600 and Tape it onto cooler lid. 1710 were not shipped today 1640 Brief Sun. 168 to 180 Core is and arel in a cooler on ice. out. Connor packs up the cooler and drilles stop drilling, they're all wet and are done. Connor pumps water out of the soil containment area-1835: LOCK Connex and gate 1840: CDM Off site. 1645: Connor leaves the site with samples. Mike and Scott drop of the to the Soil. Gate was locked so they 1650: logging 168 to 180 core now. Mostly sunny now. 1710: Drillers are done and Tenve Site. Sample @PID=30-4. MW27-58032320-175 3/23/20

Location SLC VA Date 3/24/20 Project/Client 700S 1600 E PCE Plume MW-27 (180-220') Weather: 30's of, Overcast Plan: Drill MW-27 from 180 feet to To and collect push-ahead samples. Drop cooler at FedEx in afternoon. 0045: Arrive on site. Make copies of coc 0700: Conner heads to MW-27 to do Calibration of PID and start checklists. 0715; At Mw-27. Drillers are gassing fueling up the rig. Pete checks for water Water meter is dry (with casing Open from 176 to 180 feet. 0730 His Stailgate Attendees: * see HSS Kimberly Yank sheet for details Connor Kelley Pete Rosenburg · Mike Levi Ja Scottle lampman Marc Yalom 0740 Drillers warm up ng & get reidy 3/24/20

Date 3/24/20 43

Project / Client 700 S (600 E PCE Plume MW-27 (1801-1201)

0800: Drilling begins 5B +83/24/20 0910: Collect Sample MW27-032420-185 Call to See to discuss magnetic susceptibility meter - it varies widely sometimes and we have low confidence that all the readings are accurate. We'll do our best to clean the sensor and re-collect data points that look unlikely. 0955: Drilled to 200 feet No water yet. Collect Sample $MW_{27}-SBO_{32}+20-19-19-19_{3/2}=725$ PID=32.5 ppm =3/2=725Soil is wet though so we're close Driller Said Soil got softer at 193 feet but it's not wet enough to be able to sample with the pish-ahead sampler. 1020 Continuing to drill towards 210 the Ceet Clusty breezes, 570 F, Casing Sunny/ blue say south with fack clouds to the NNW wind is Dicking up. 1055: Formation is Jens tight. Lello Yout 3/24/20 - Retendation

Project / Client 7005 1600 E PCE Plume

MW - 27 (180'-220')

Date 3/24/20 45

(1230 nrd) water level from MW-28 12:40 Drilling/Clearing hole continues. 12:45: 183.64' water at Mw-28. 1300: Collect a sample from the Slough that vibrated out of place and was re-cored Calling the lepth 205 Feet but maybe we won't have the lab run this one. 3124 MW27 - SB032420-205 1340: Drivers cleared borehole to 210 feet. Water is at 193.97 Drillers prepare for push-ahead Sample. Partly Sunny again 1340: Decon both water meters. 1400: Collect MW27-58032420-2101 ws First two attempts 1243 were dry. Vibrated the sampler more and got the sample - one of the 3 has zero headspace. 1430: Drilling continues to 220 and Connor leaves to get more string, paper towels and ice Tills Work 3/21/20 - Reten the Rein

46 Location SLC VA Date 3/24/20 Project/Client 70051600 F PCE Plume MW-27 (1801-2201) 1430: Rain begins again.
Cont'd Note that water was very effervescent with the HCl. (Preservative) 1440: Push-Ahead tooling is removed. 1450: Marc stops by For five minutes to check progress. He says the Sunnyside gate will be closed from 0900 to 1500 every day. He also gave us the well ID tag for MW-27. the does not have MW-28 yet. Marc leaves for the day. 1455: Se reminded me that we need to get color-tec samples-MUST get one at the next water sample. Deconned the water level meter 1530: Logging the 210-220 Soil core. It is very water-logged and had low recovery about se of 10 feet. 1535: Collect MW27-58032420-218 0 0/24/20

Project/Client 7005 1600E PCE Plume

MW-27 (180'-220')

Date 3/24/20 47

1535 Cont'd: PID = 0.3-42 ppm across the core Call to Weil & Joe - Dolve want screen at 2301? · Bentonite won't hold 200 feet of casing up · we've at 220 now and continuing to 230 will go into tomorrow. Decide that MW 27 is like Mw-28 and Gw @ 220 1540: Drillers pull ca core barnel to install the push-ahead sampler. Connor leaves to collect the IDW wastewater sample (Bx IL ambers, 3x 40ml VOAS, 2x 250ml polys) LATE ENTRY ~ 1500: Connor returns to the site with String and ice - No paper towels due to coronavines panic buying. Marc has asked the drillers to move their rig for access to a generator.

tills In 3/24/About

Project / Client 7005 | 600 E PCE Plume

MW-27 (180'-220')

Date 3/24/20

49

1730: MW-27 area is secured with sence and caution tape. Close connex boxes, close lid of water containment Hank. Lock on IDW gase is bent and will not close. Call with Connor-Fed Ex changed its hours - He had to drive 10 more minutes towards the airport to find a shipping center with late last-dropott. 1820: Talk with Joe about bent lock Swap locks with Connex #3 (Far left) and Secure the gate. 1830: Close and lock the front gale. 1840: Leave site. LATE ENTRY: 1715: Hort leaves the site Will be a are start tomorrow because they need to pick up more bentonite (085) 3/24/20

__ Date 3/25/20 Location SLC VA Project/Client 7005 1600 E PCE Pure MW-27 Construction Weather: Snow and sleet, 370F, overcast Plan: get final water level and defennine screen zone and soil vapor depths, install well at MW-27, decon equipmet and was things up tomorrow 0750 : COM Smith on site. Drillers are picking up more bentonite. 0810: Drillers arrive, begin fueling rig and donning rain gear 0815: Marc on site He will be working from home from here on there are 3 cases on site. 53/25/20 0830- 4135 Tailgate Attendees CDM Kimberly Yank Conner Kelley COM VA Marc Yalom Pete Rosenburg Molt Holt Mike Jeni de Holt Scott Lampman ty 3/25/2

Location SLC VA Date 3/25/20 51 Project/Client 7008 1600 E PCE Plume MW-27 Construction 0845. Drillers go to pick up well installation materials 0850: Grab a water level from MW-27 + 196.19 feet 6 TOC 0900 : Daily checklists and decon the water level meter Call to Denver to Confirm Soil Vapor probe depths - voice voicemail, send ext LATE ENTRY. 0845. Check borehole opening with PID -> 0.0 ppm 0930 Joe and Neil decide on SUP depths. Kimberly and Connor Strub the water level meter in alconox - deep clean 1010: Drillers back on site 1000 Trillers begin a clean ord non-Soil Vapor Probe Depths 155 (152-157)

13 (110 - 115) 75 (73 - 78)

(45-50)

illo Vant 3/28/2000 Rein

(a5-30)

220-170.611875 = 49.328-48'=1.328

Project/Client 700 S 1600E PCE Plume

MW-27 Construction

1100 Drillers have chaned Loading prepping supplies for well installation Illo Connor drops off tubing and probe tops He has out the 2 top propes lengths (28 = 48) 1115 Joe to 3/24/20 to discuss proper fitting and to number of driller concerns containment method with the vac truck. 145: Probes attached to tubing. 7th pur Drillers are 6 nuns = 60,5%, so prope will go 4.5 feet up the 7th casing cet 6 and 5.25" 1200 Next probe will be up on the 1th piece of casing 1220 Next probe (75') will be 4' and 4.5" up on the 15th piece of casing. 1230 on the 18th piece, the prope will go 1. 328125 ft up or 1' & 3.9375" 1240: 28' probe will go on the 20th piece of casing. 190'+ 0.296875+40625 = 190.703125 220-190,703125=29.2968-28=1.2968 + 13.56

Jank 3/25/28tomarke

1625 Connor leaves to pump water (from soil containment area)

Location SLC VA Date 3/25/20 Project/Client 7005 1600 E PCE Plume. MW-Construction

1625 cont'd: Drillers are close to 120' Once they reach leo feet they will pull all the 8" casing out and only the 9" will remain from o'to 60'. 1640: Bertonite to 116 - begin sand 1050 Sand from 16 to 109 (it was at 10 but some must have been stuck in the casing and shook out then a run was removed). 1700: Fig and overcast roll back in. 1707: Rain begins, does not last. 1713 Bentonite to 79 feet Begin Sand at 79' to 73. 1717: Begin bentonite at 73' 1730: Bentonite is just below too Feet. Driller pulls all the 8" casing up 1800: Bentonite to 51' bas Begin sand from 51 to 44 feet 1815: Bentonle to 30.7 Feet. Sand from 30.7 to 25'1" 1825: Growing with bentonite to 10 feet 1835: Will grout the final 10 feet with coment tomorrow. 1845 Drillers leave site Fell's Haul 3/20/20 Action the Rate

Project / Client 700S 1600E PCE Plume

0645: CDM on site (Kimberly and connor). open connexes, clear snow out of walking and Scopp some frozen Soil /water / mud out of soil containment to make norm for the pump later. 0700: Begin working on Color-Tec 0730 Break to inpet drillers 0735 : Drillers at Home Depot running late. Text Marc 0745: Drillers on site 0755: HES Meeting Attendees CDM Kingerh Yank Connor Kelley COM Pete Rosenburg Holt Holt Mike Leui Jr. Sharper Scott Lampman Holt UA Marc Yalon Weather: Snow overcast, 31°F Plan: sartace completion and great top 10 feet of MW-27, dees n. Soil TOW management and samping &Bs

0815: Drill rig warmed up, drillers top up he bentonite a little 0830: Drillers pick up more water for coment mixing. : 0.850 Call to Neil to discuss surface. completion. 0930 Drillers are getting started with ament mixing. 1000: Neil arranged to the Augustyn Surface completion to be delivered today to the site. 1005: gall to the notel to cheet on. Bottle order delivery - no packages yet. They will call when it arrives compor drains water out of secondary containment into poly tank. Area is ready for Soil transfer 1010: Call United Pentals to let them Know location of portable toilet and that it will be moved by tonight to laydown were (with spare fencing) - IDW area 1030: Conor sets up the colortec. A 724120

1050: Drillers filled cement to the Surface then pulled casing and the cornert settled down 2-3 feet. they are mixing more to fill it up again. They mixed some said in with the coment to help fill the wide hole left by the vacuum truck (called be to confirm that was on). 1105 Call from Mark Augustyn, the is on his way with the surface completions. 1130 Mark on site to drop off 3 completors they are 80 lbs each and veguine a forepod seal on hard concrete. Sigh moice Discuss with drillers. 1195: Begin Color-Tec Jamping Bath is warning up. 1215: Bath is at temperative. Warm samples In both 1220: Set up color tube and needles. 1224. Do the 50 cc purge on MW-28

an at 211' collected 3/18/20 (2)340

Star 3/26/20 Remember

1230: No detection try the 100 cc phase

Project/Client 7005 1600 E PCE Plume

1233: NO after a 3-minute purge at 100 cc. 1245: Put MW-27 @ 220' collected on 3/24 @ 16:40 in the bath. 1247: Purge @ 50 cc for 80 seconds then purge another 50 cc for the 100 cc purge) 1300. No color drange. Both samples were non-detect. LATE ENTRY Call from the hotel. The bottle 12:15 picked up. 1310: Connor leaves to pick up the soil IDW bottles 1330: Lab results are in Deep zones for MW-27 and MW-28 were both ... mon-detect. This is consistent with the Color-tec Samples. 1340: Calibrate the PID - passel. 1350: Connor back on site. 1400: Collect Soil IDW sample IDW \$2-\$32620 time on coc Says 13:30 1500: Drillers are still demobilizing from Mw-27 and removing casing to decon: - × 3/24/20

Location SLC VA Date 3/26/20 61 Project/Client 7005 1600E PCE Plume

1500 contd Connor is doing sample bottle inventory and Kimberly is preparing Equipment Blank labels and the chain of custodex 1545: Drillers are grabbing the fencing and brining arring to the IDW area. Peter is getting the Augustyn surface completion set and revel. 1630 Drillers pour concrete in around the surface completion-adding black die to better match the asphalt. Text to marc (UA) to let him Know our progress 1700: MW-27 is finish. Pete cleans off the well lid. Mike and Scott are moving the soil IDW to the rolloff bin. 1730. Mw 27 is coved off. The lid is clean, and there is only a small pile of tools and buckets left to put away the DW is mostly done. 1745: Drillers to b start Decon. - Filly your 8/20/20 Reterrorte

Project/Client 7005 1600 E PCE Plume

P. Cloudy 1115. Kimberly Youk on site to organize leave supplies in connex, and close out the MW-27 excavation permit with Carlos Aguilar. 1125: Call to Carlos Aguilar - Voicemail. Call his cell phone and reach him. He will most me at MW-27. 1215: Carlos meets me at the site and closes out the permit. 1220 : Back at connex. Leave all paperwork and safety supplies in convex Sweep, remove trash, prep cooler for shipping. 1320: Photograph all IDW drums/tanks/ labels, lock all connexes (will return to drop off field book and tape) 1345: Call to check in with Joe - don't worm about well tag IDS now Leave field book in connex 1350: Leave Ste 3 27 20

Location SUC VA. Date 4/6/20 64 Location SLC V1 Date \$4/6/20 Project/Client 700 5 1600 E PCF Pluma Project / Client 700 S 1600 E PCE Plan Cuttoncrete partah Setup Midtub CDM. Onsite 1245 0700 HAS tailgate at Sw Parkinglot 1305 Topics (OVID-19, Focus Litting 1st Day Book universal Marking 1335 706 to Decon New casing 380" 6" Casing 320" 7" (asing 195k: Decon, Rig Setip work Tone 1345 Setup @ 14w-23 Persone Half Frished Decoring J.M. He CDM Smith CDM OFFE te Pools/ P. Rosenburg Holf M. Len Holf 16/5 S. Langran Holt M. Yelan VA weather! 45-65 overast Setup for Decon
Begin to Mob Rig to Mw-23 locath
(alibrate PTD)
Holt Delivery of 6/7" (asing 0800 0945 0950 1015 Askat Baile Plant about many 1030 carts 1120 Carts Move C 1130 Carlos Agnilar Tissues Setup Fencing Reto in the Rai

Project / Client 700 5 1600 F PC F Place 67

1115 Suple MW23-513040720-49 1200 Holt Mob to Laydon area More 1235 Resume D. 11 1305 Collect Muzz/53040720-54 +MS/MSD 1330 Fedex Freight W/ 2151 Moberat 335 water of Roof Socies Sampling 1345 (Collect MW23-SB040720-63 1415 (collect MW23-5)5040720-75 1448 [Collect M423-513040720-85 1520 Marc Off 7. 70 1525 Collect MW 23-SB040720-93 1600 Callect MW 23-5B040720-97 FD06-SB040720 (1400) 1620 1130 Kel offsite to tedex 1645 Hel Bret Sumple MW 23-530+0720-107 8 (asing to 100' Boing to 110 1730 Rite in the Rain

Location SCC VA MW-23 Date 4/8/2020 65

Project/Client 700 S 1600 E PCF Plyme

Holt offloads & casing to head Boat long year for 6" (one himely Kiel Offsite Holf Beick onsite No6 core hinds Decan gidditing & caging to confine Tripont 7" Casing to so bort m/8" casing 1214 Try in 7" case Barrel 1220 Resure (, (ling @ 120' Collect MW23-5B040820-1241 1355 Collect MW355B040820-133 1455 Callect Mu 23-5B040820-143 1525 Samples net from 147-152 1535 collect 6-absample of hate MW23-64040820-150 collect M w23-\$B040\$20-155 1630 relotigite to reax Holt Freh Rig 1700 1730 Joe Will completes Colortal, 22°C 1745 Offs. te With 4/4/20 Rete in the Rain

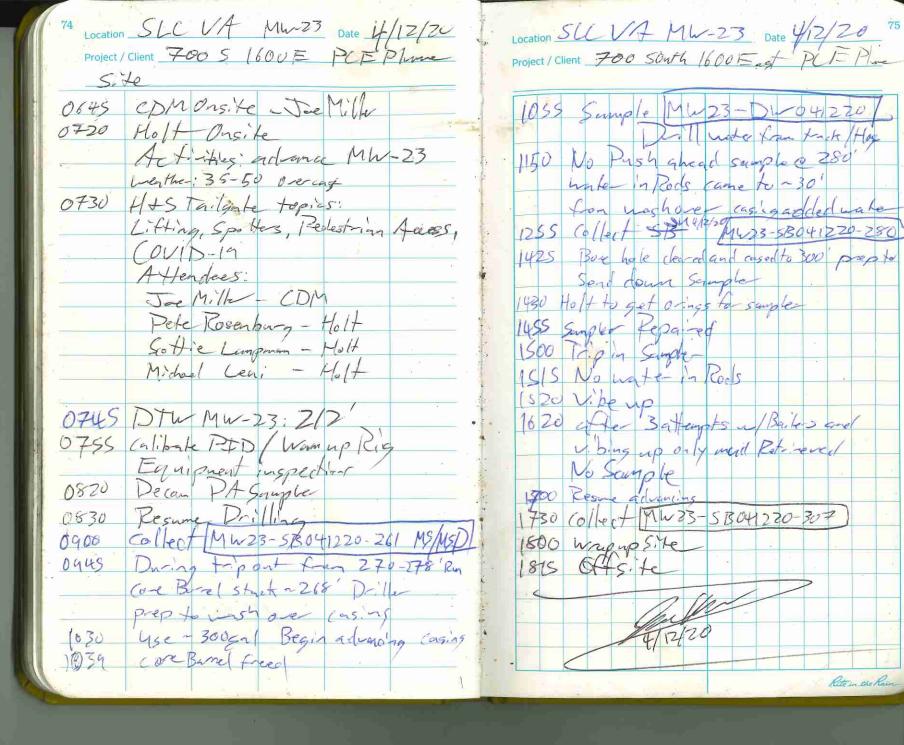
Project / Client 700 S 1600 E PCE Plung

1315 Not sufficient inte e 200 for 1320 Resone de la adding Ross 4/9/20 1340 Resume Prilling 1445 Co (lect M423-9 13040920-208 1450 collect MW23-513040920-218 1540 Trip in push a head surple to 220 1555 Vibe of Depth 1615 Sample collected MW23-64040920-220) + Collectechdup 1630 Kiel to Feclex Holt to Frelkig 1645 Kel Back Holf More poly took to Temp containing 1700 Holt and ungatch offste CDM Screen Souples of colotah MW135 010 5-10 MW13D 6.3 15-30 25 MN23-64040820-150 MW 23 - 640409 20 - 220 CDM OHS.7 1800 Rite in the Rais

Project / Client 780 S 1600 E PC E Place 0645 appo CDM Ong te - J. Milly Activities: Advance MW-23 Hydrovac Mw-26/24 weather: 420F-60F windy HJS Topics: Friday Fatigue, COVDD-19, Focus, Communication, why do you work Safe, Allendoes Miller - CDM Smith Kiel Kelle - Wasintoh Pete Tosenburg Holt Seg Hie Lampman Marc Yorlan Degre Rojac Randow and te - No Extra Have to aruss location DTh Mh 23 192 0810 Calibrate PID Callect EBO4-EN041070 0815 0835 Fran Pusharhead Sample

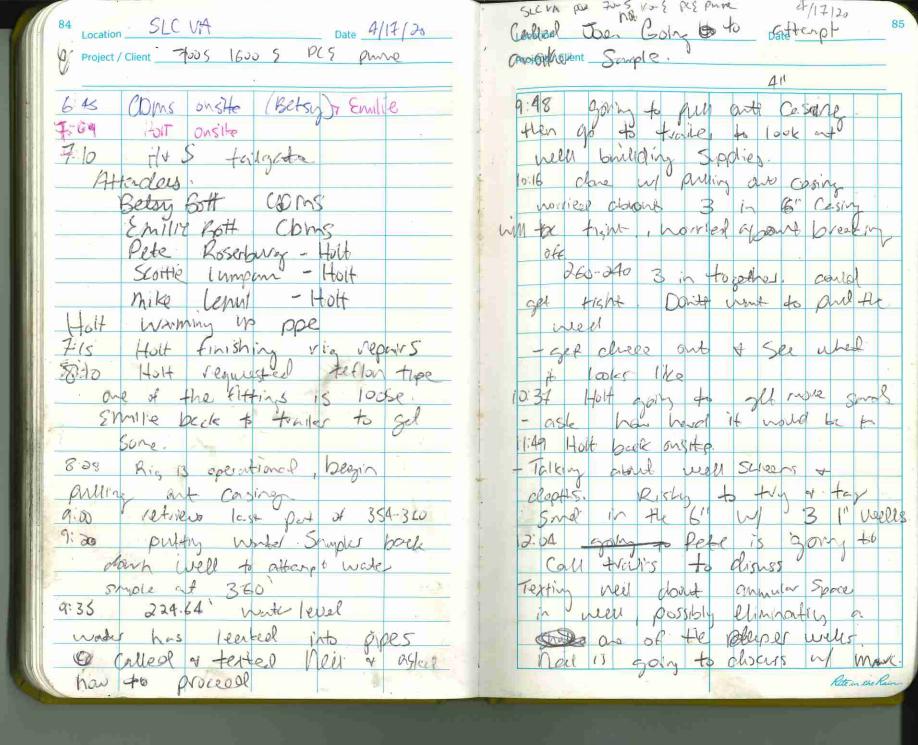
Project / Client 760 S 1600 E PCE Plume

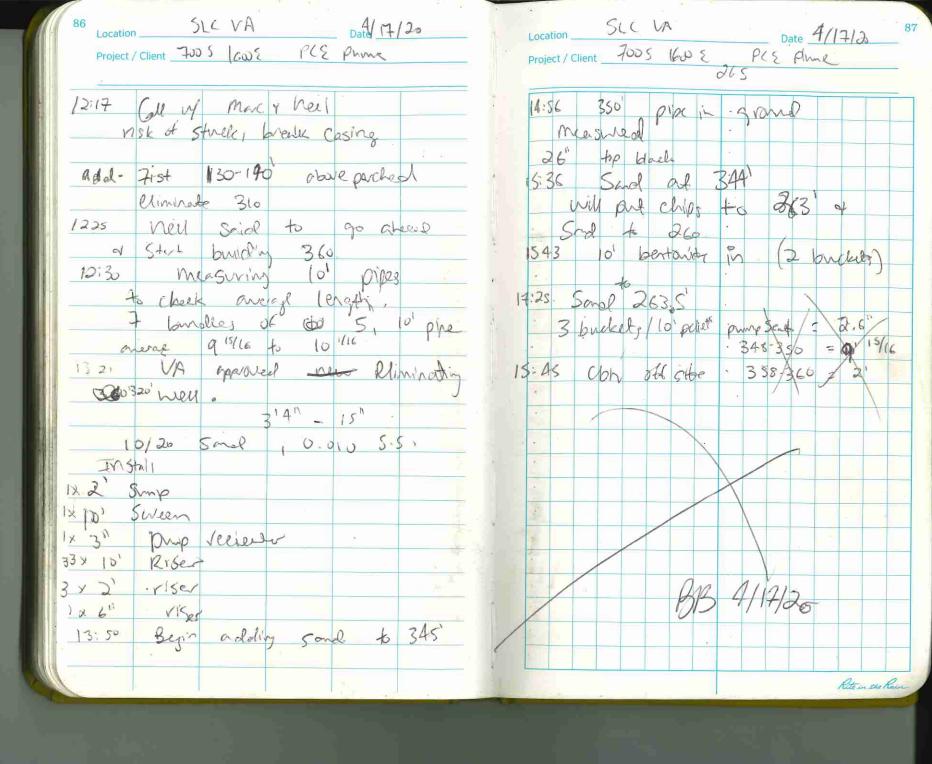
0910 Collect Muzz-580+1024->26 + Mh23- EWOH1020-245 1120 Gw pH 7.40 cond 1.22 7 1/2 DO 2.67 6 pl 7.40 cond 1.22 7/2 DO 2.6 +
0/217-135.4 comp 22.7 (lets) 1120 Checkent Min 2 to pre clearing 1240 Collect MW23-51304020-244 1340 Supp Jours on ? 1400 Sample MW23-515041020-257 1500 Cleanont, casing for PA Sample 1530 collect (BB 05 - 6 wo 41020 on Push ahead Sampler 1535 This in Sample Collect Mh23-GW041020-760 Gu Pumetes Temp 17.21 Com 186 mg/c DH 7.74 DO 3.50-gle OPP-175.3 1616 Kiel offs. Le to Feat 1700 HOLL CDM Rete in the Rais

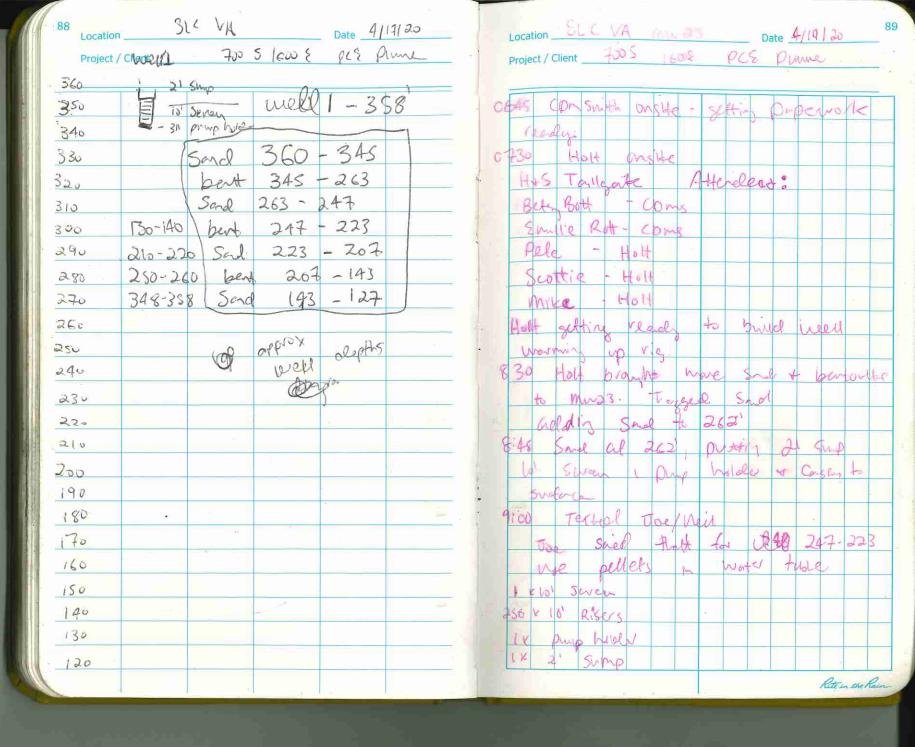


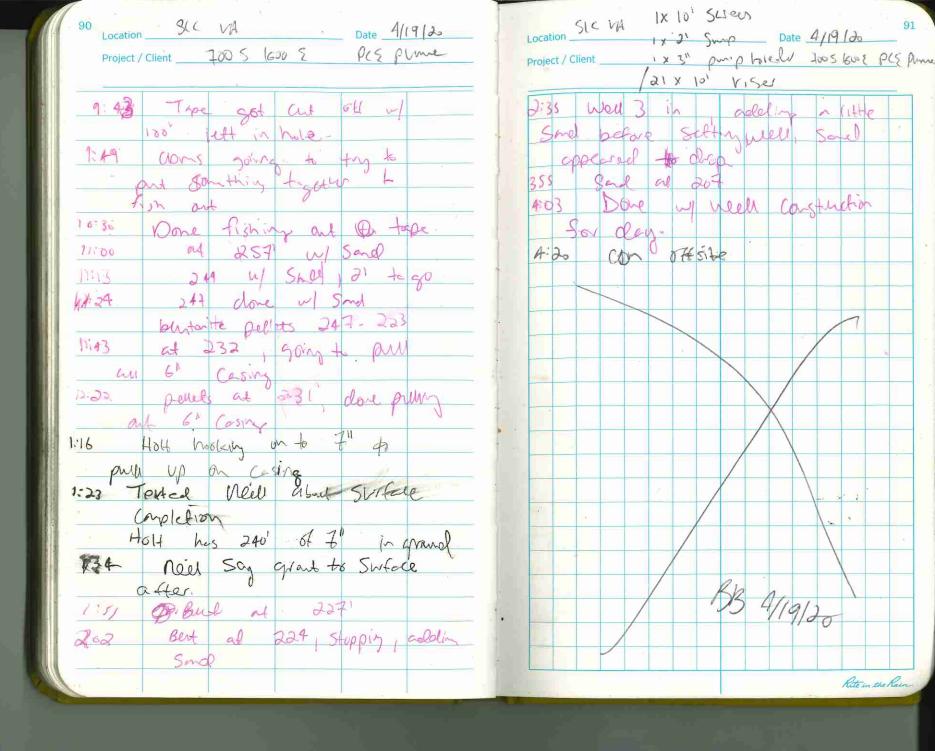
Rite in the Rain

Project / Client 7005 1600 8 Date 1/16/20 83 12:54 Holt balk onsite 240 hell Sylens for Mu-23 Planneel 210 - 2201 Sina 222- 368 250-260 Smal 262-248 310 320 Smal 322 - 308 348-358 Smal 360-346 + 2' Sand above & below Scheens vapor point, if possible onsite to service A Company 13:27 port- a - potty. poit a - potty services V 13 37 14.26 Holf has to so get adolition ports. Day will be only fixing Belsi balk to trales to purp from containment + organize.
1500 Betsy help Joe + Emiles well reports. 1700 Back of traile, check on drikers Holl hopes to be close by vepairs johi to so we can steet tommorgin. Mob of title -86 410 A Me Rain









064s coms onsite opening trule 0720 Hrs Tailgate Attendees: Belsy Both - Coms Emilie Rott - CDMS Pete Roseburg - Holl Scottie Lampman - Hot Mike Leni - Holt 9:40 Holt freling is adding 821 at 200 M Chips, Still Water. 555 bent at 170° 9:39 Marc ansite. Askeelabout if Holt has another jou sel Somewhere in case ofler Jones - fails neil textest book & ship chips were fine up until 20-36' bgs then ground to Surface
10:03 all 7" Cesting and of hole.
10:10 bestainer at 143" addres this

Location SLC VA Date 4/20/30

Project/Client 700 & 1600 & PCE Prome

10:44 Hult had concerns object comor grat, concerned about positional being to not of multing prenew would prefer a bentrite grang us high Spiles v fine Small 20-30 bgs 4 bentante Chips Hull planny on gettin to that point of the going to Store-0:58 close Settin 130-140' well. 271 1 suren adelly Senso, 11:34 1401+ 3 Dr 2' SWP 12:40 Safety Stop work requesting misks. Discussion about mask wearing importance of - MANT VA hes Velievel Geedback Complain 5 about personell not weening Masks. It is mendatory for everyone to comply Attendees : Belty, Emilie, Pete Scottie + mile. Hot barger borderes at hurch that they wed. He wool ones Rete in the Rain

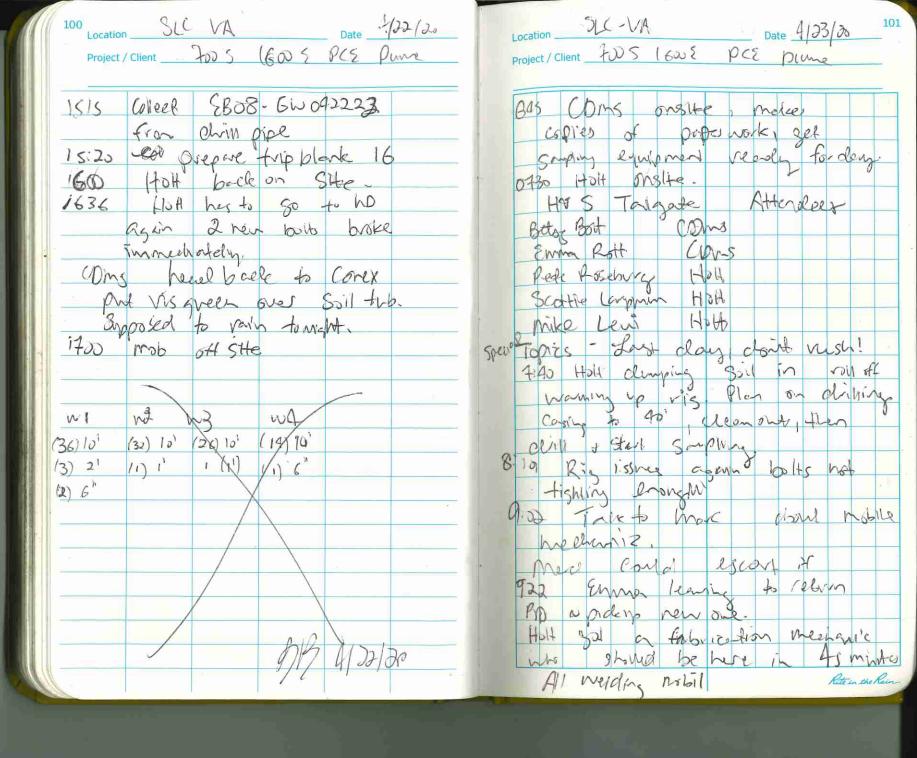
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Project / Client 705 (600 & PC& Pune

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9:30 meeting w/	
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hope to wester electron	snic Siss today
Carlos or Bryon Tresure	
	Pt. 4 P.

Project / Client 700 S 1000 E PCE Plune

Colled Carlos to gome sign at 12/24 mu-23 excavation print won't ; ssur mu 2 b until tomorrow. CARLOS AGUILAR @ VA.GOV Caros will be onsite at 1:30 funnovar to issue permit. Hoth filling in nh 23 ul concele 13:08 Dove in Cement of muss HOH SHIM cleening pipe.
14:00 Hot close puthing my 24. 14:50 Done Gilling in Mu25
Betsyn Peter walked up to Mu26 & win at specing & ferring options Emma of 55 to pick up equipment from Brazer 5 25 Emma both from gravepr organite wave los lives HOH Still oleganing www. 4 Ww26 1730 Mob Offshe-BB 4/21/201



Project / Client 2005 (6005 PCE Pune Date 4/23/20 103

recalibrated PID 04552.2.
1500 Collect MW 24-58042320-62
PD = 6-3
1545 Cornerd mu 28-58042320-77
P10 = 14-8
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16:50 Hot Charing up 5He
proving forcing to encise whole
ever, troming by localing
over
1730 mas Off 54P
24 1/32
B/2 123/20.

Rite in the Rain

2700 Meel at Connex Weather: 55°F, Wispy Clouds, No wind, high of upper 703 0715 Safety Tailgate. Attendees Kimberly Yank 2 DM Tea to Vitlar Emma Rott CDM CDM Kiel Keller Wasatch Tea reads and signs the Site Safety Health Plan. 0720 Emma and Kiel leave to install new bladders and replace the pump at MW-1 0800: Kimberry and Tea collect an equipment blank of of the bladder pump that she already decontaminated. Semma 0830: Tea and Kimberly go to the badging office. Her paperwork is good but the camera is not working we'll have to return later. 0900: Call from Jett (Holt) the driller. - to 4/28/20

Location SLC VA Date 4/28/20105

Project / Client 7005 1600 E PCE Plume

0900 Continued: Jeff is about 1.5 hours away. He wanted to confirm the address (7005 1600 E or Valdez Dr.) I (Kinsely) instructed him to go to the Foothill drive gave to the VA hospital. 0930: I send Jeff a pin of the laydown area. He says one of their crew is 50 miles ahead of him. 1000 Emma and Kiel search for parts to the bladder pump at the connex (Littings that were Cornded). They leave shortly to continue installing bladder pumps 1030 I go in search of the drillers Tea leaves the site to buy ice and ear plugs. 1108 call from Jeff. He and his one w pulled over one smeet before the foothill drive gate They read to the gate 1115 Drillers are on site. They begin to unload the casing. I have told them about the masking police. allo Juli 4/25/20 Rete in the Rein

1130: Tea calls. Not many ear plugs available at ACE. She buys one reusable set. We'll have to look elsewhere. Picks up ice on her way back. 1200: Tea is back on site with ice She checks back in at the visitors center for badging. Drillers have unloaded almost all the casing. The driver of the semi with the casing is not staying on site. He must not be part of the crew. (CRST on seni) 1210: Semi with casing delivery leaves. 1215: Safety tailgrate with drillers 1220: Call to Joe 45428120 to discuss well details, IDW parking lot space and casing requirements 1230: Take drillers to the badging office. 1245: Help Tea pack &B Sample and 1315: Tea has left site to Ship Cooler. Kiel and Emma Ly 4/28/20

Project / Client 700 S 1600E PCE Plume

1315 Cont'd: Stopped by connex to re-supply and have continued back to the wells. Check on driller's status 79°F, Sunny light breeze, mostly sunny occ. wispy clouds. Drillers are setting up to 1400: decon casing Jeff and I Drillers are: Alex Langdon Aaron Kuper discussed how the vig can be set up to minimize trip hazards over the curb space requirements for Staging casing and working.

Driller helpers are neglecting masks. I give Rife Def the 1500: COVID-19 ammendment and reiterate that we all need to be marked at all times, the relays the message to this helpers. For Klift moves Paket of gravel verish Lels Mark 4/28/20 Rete in the Rain

Location SLC VA Date 4/28/20

Project / Client 700 S 1600 E PCE Plume

project/Client 7005 1600 E PCE Plume

1635: Rig was re-positioned so that there is room for fencing without going into the road. The rig now sits parallel to the sidewalk with the feet on one side up on the curb. Prillers put caution tape at either Side of the Sidewalk to prevent foot traffic alongside rig. I also deconned a face master. shield that was in the connex. The person spraying while decomping will wear the face stidd instead of a mask that will get wet and become too clogged to breathe. 1645: Call from tea. She was helping at MW-1 but is finished. She is coming to observe the decon procedure, 1700: Begin setting up fencing at MW-25 site. We could use 4-6 more pieces of fence. C+ 45420

1800: 1705: Emma and Kiel are finished. Emma joins us as we help the drilles secure the fencing. Summary of how work went at the wells. Emma will do the daily report and I will Send her some photos of rig mobilization! 1740: Fencing is secure (but not locked) some cones left out to block spaces. I take end-of-day photos and lock up connex boxes. 1750: Emma and Tea leave site 1800: Leave site Pick up "Authorized Personnel Only" signs per be's request. 4/28/20

Location Sic VA Date 4/29/20 111 Project/Client 7005 1600 E FCE Plume Drill MW-25 0' to 100' 0915 Contid; We find the same five hydrant that the previous drill crew used and fill totes up. [MW25-5B042920-14] 1005: Collect Rost Sample at 14 feet (over 30 ppm) log and photograph core 1100: Collect MW25-58042920-291 1130. Tea and I finish photographing and logging core. Drillers pulled back the casing and gravel sloughed into the hole- They take a break for hunds while we catch up. 1200: We break for Winds / note carding Tea leaves to get labels, ice, and Ziploc bags. 1218: Drivers return from lunch 1220: Tea returns with ice She lavels and I catch up the field notes. 1250 Drillers are Still Working on 20-30 for nerval. tello (face 4/24/20 Rite in the Rain

Project / Client 700 S 1600 E PCE Plume Location SLC VA Drill MW-25 0' to 100' LATE ENTRY. ~ 1030 Marc Stops by to see progress. Masking policy on the VA campus has changed. Masks can be removed while outdoors if proper distance is maintained. Short doughout break. 1330: Collect MW25-SB042920-35/ 1410: Begin collecting [MW25-8B042920] We had someone Walk through the caution tape to try to bring us food. Kindly asked individual to Lave. 1425: Drillers go empty the hopper. Drilling has advanced to 50 feet. 1430. Prep cooler for shipping Samples. Full QC of Sample jars 1450: Make (TB09 - SB042920) Jabels 1515. Tra takes samples to FedEx. Drillers are at 60 feet 1530: Collect MW25-5B042920-54 + 8 4/29/20

Date 4/29/20 113 Project/Client TODS 1600 E PCE Plume Drill MW-25 0 to 100 1600: Tea is back on site. Dillers are at 70 feet. Tea collects PID data while I log the 50 to 60 foot run. 16+0- Tea collects MW25-8B042920-70 1645: Logging and photographing is complete. Drillers are bagging the 80 fort sample 1655: Collect MW25-5B042920-731 @ 16.6 ppm Drillers are now at 90 Feet They have not bagged Samples 1720: 83' to 85' fell on the ground Photographel and PID'd. 1730: Collect MW25-SB042920-821 with PID = 36.0 ppm 1745: Drillers are nearing 100 feet and this will be the last run 1805: Collect (MW25-53042920-94) with PID = 674 PPM Collect Field Dup at 94 feet 1815: FD11- SB042920 will 20 MS/MSD tomorrow. tally fut 4/20/20

Location SLC VA Date 4/30/20 115

project/Client 7005 Neode PCE Plume

Drill MW-25 100 to 150'

0645: Arrive on site. Tea is picking up ice. Gather meters, sample bottles and supplies. 0700: Drive to MW-25. Drillers are on site opening fence and putting up/arranging caution tape Rig is Warning up. 0730: Safety Meeting Attendees: Kimberly Yank Tea Vrtlar Jeff (Jones ?) 45 5/3/20 Aaron Kuper Alex Langdon Weather: overcast, 70°F, high of 78°F, chance of thunderstorms, light breeze from the west 0740: Call to be to discuss if we Will need more than 100 feet of 8-ind casing. And steel builders left talked to Pete and will 0800: use to more feet of 8-non 50 that the 7- was can go deeper telly your 4/30/20

Project / Client 700 S 1600 E PCE Plume

Drill Mw-25 100' to 150' 6940 · Calibration and then scroll to the right to get to the settings. Directions For getting there blindly are on the back cover of this field notebook. 0945: Drillers Start the rig back up. 0950: Check driller's breathing zone. Slight detection (0.4 ppm) is likely due to vig exhaust (number drops when rig is of They also spilled (drops) of fael while changing the filters, but they assorbed them up and the PID doesn't have elevated readings in the vicinity. LATE ENTRY! 0900: Tea and I calibrated the PID and measured drillers' breathing zones. No detections Background today has been 0.0 to 0.1 ppm. 1000: We got the first 10' bug of samples # lly Word 4/30/20

Location SLC VA Date 4/30/20 119

Project / Client 700 S 1600 E PCE Plume

Drill Mw-25 100' to 150'

1320: Collect MW25-88043020-120/ check drillers' breathing zone 0.0 ppm, Marc is around the site watching at a distance. 1345: Marc stops to fell us that we have approval to more the Semi-trucks over by MW-30 in the street adjacent to the parking garage He will email Joe with detacls. 1400: Dalling is slow-going. It became Sunny and not around 12 45 today wind is 10-15 mph from the NW 1440 : Collect Mw25-513043020-1391 Recovery was a little short (9 feet) 30 sample was really in the 138.5 to 139 vange. 1430: Dillers are decorning casing-The 8-inch goes to 120 and the core barnel is at 140'. 7-inch Will be used from 120' onward. 1515: No sign of the new rolloft bin that is supposed to be delivered today. Joe says tomorrow is fine to tally Hack 4/30/20 Rete in the Rais

Rete in the Rais

Project/Client 7005 1600E PCE Plume

Drill MW-25 150' to 210'

Weather: 57°F, Overcast, 5 mph breeze occasionally, high of 770F Humidity 64%

0645 Arrive on site at IDW yard.

Pick up Fully charged PID and equipment. Fea joins me and

refills alconox & ringe water. 0700: Go to MW-25. Drillers are

on site and opening the fence. Marc Yalom is also on

site.

0720 H&S meeting Marc left for

a meeting Attendees:

Kimberly Yank Tea Vitlar

Jeff Jones (Jonsey)

Alex Langdon Aaron Kuper

0730: Calibrate PID, set up sampling table, drillers warm up rig-

0800: Tripping pipe out - the 150-160'

sample is coming up next and will be an MS/MSD.

- to 5/1/20

project/Client 7005 1600E PCE Plume

Drill MW-25 150 to 210' 0810: 50-160 bagged 0815 Collect Mw25-5B050120-153 0820: Begins to Rain 7-MS/MSD Tea goes to get a popup tent. Crow dons rain gear, 0705 Colle of [MW25 -SB050120-164] Driller said it was easier drilling from 160-164 feet. 0915: Log core from 160-170 feet 1000: Drillers did dean-out nun and got lots of slushy mud. We have found the perched zone. The Soil core did not appear wet or saturated, but water likely came in between 160 to 164 when they felt it was easier drilling. Call to De. He says to collect a grab sample in a bailer - no need for the push-ahead sampler. Marz on site 1005: We have gravel clogging the check value prevents water from Staying Clear growd and try

again.

Acillo your 5/1/20

Project/Client 7005 1600 E PCE Plume

Drill Mw=25 1501 to 210'

1015: Coiled 2 of 3 VOAS For water sample. Continue to bail more water. Marc

observes the process. 1045: We got a lot of water on

the 5th bail Enough for a dup or MS/MSD. Called Joe

and he preferred getting a dup and YSI readings.

Collected MW25-GW050120-164/

1050: (FD12-GW050120) collected 1100: Take YSI reading on water

Sample Marc Leaves site.

Collect MW25-SB050120-1761 Check driller's breatling zone.

0.0 ppm. Tea calibrates 451. 1205: Sent Tea to get the Non-Haz.

Wask Manifests in the Connex. After drilling ends today, Tea

will ship samples and I will drive to Suzanne

house to get a signature. 1240: Collect MW25-SB050120-187!

Drillers take lunch.

-Kr 5/120

project / Client 7005 1600 E PCE Plume

Drill Mw25 150' to 210'

1250. Wind picks up, Sky lightens. Still overcast. 1300: Drillers start up again 1400: Soil core from 190 - 200 feet is bagged 1405: Drillers dump previous cores into hopper Take hopper and dump into soil must (#2) 1410: PID readings on core. Marc stops by to check in and leaves again 1420: Collect MW25-8B050120-1931 and field dup 1430: FD13-SB050120 -193 Kg 5/1/20 1520: Drikes bay the 200 to 210 Rot Sample Water encountered in this run. No recovery from 205 to 208 or 205.5 to 208 feet. Soil is saturated from 208-210. 1530: Collect/MW25-5B050120-205 1535: Call Susanne Faidaugh to get

her address and confirm we'll

Stop by to get her signature

on the non-hazardous waste manifest form. Rain begins again.

tally your 5/1/20 Rete in the Rain

Jo 5/1/20

Project/Client TOOS LEOUE PCE Plume

Color-Tec MW-25 1650 I call Susanne to let her know I'm on my way, lock up. 1655: Leave site (Kindery) 1710: Tea has dropped off samples and sends Joe the tracking number. 1725: I get Susanne's signatures on the soil and gu waste Man Fest forms. Head back to the site. 1730: Tea arrives back on site. 1745: Kimberly arrives back on site We plug in the PID to charge and set up the Color-Tec Sampler. 1800. Warming the bath - organize the connex. Review instructions 1830: Bath is up to Homperature. Samples go in fr 3 minutes (MW25- FRGW050120) 1845: Run [MW25-GW050120-164] No defection - did a 50 cc purge (bubbled-no color) did a second 12 pull to get to looce purge (no color change on the Windicator tube. Levelly Veck \$11/20 Rete in the Rais

Location SLC VA Date 5/3/20 129

Project/Client 7005 1600 E PCE Plume
MW-25 drilled 210 to 260'

DE 55: Arrive on site. Drillers are already at MW-25 and Tea arrives with ice shortly after me 0715: H&S Tailgate Meeting Allendees Kimberty Yank CDM Tea Vittar CDM Jeff Jones Holt Alex Langdon Holt Aaron Kuper Holt 0730 - Tea calibrates YSI and PID Water in borchole is at 182.45 feet above Toc (stickup = 3.8 feet 0800: Drillers check the Mw-30 location. There is not enough space to move the series out there without covering the hale or blacking access 0815 Joe says we can move it Wednesday when the was truck Comes through, 03 4 5/3/20 0845: Collect MW25-6W05020-212 label says 900 - (+MS/MSD) 5 of 6 bottles Water is not too turbed for a reading tilly Want 5/3/20

Dssalved Sygn = 7, 33 any/L

= -561

thich turbidily = 51,4 Nils

ORP

= 7.21

1355: The 32 230 to 240 Soil come

5/3/22 14 10: Collect (MW25-38050320-285)

time stamp is 13:55

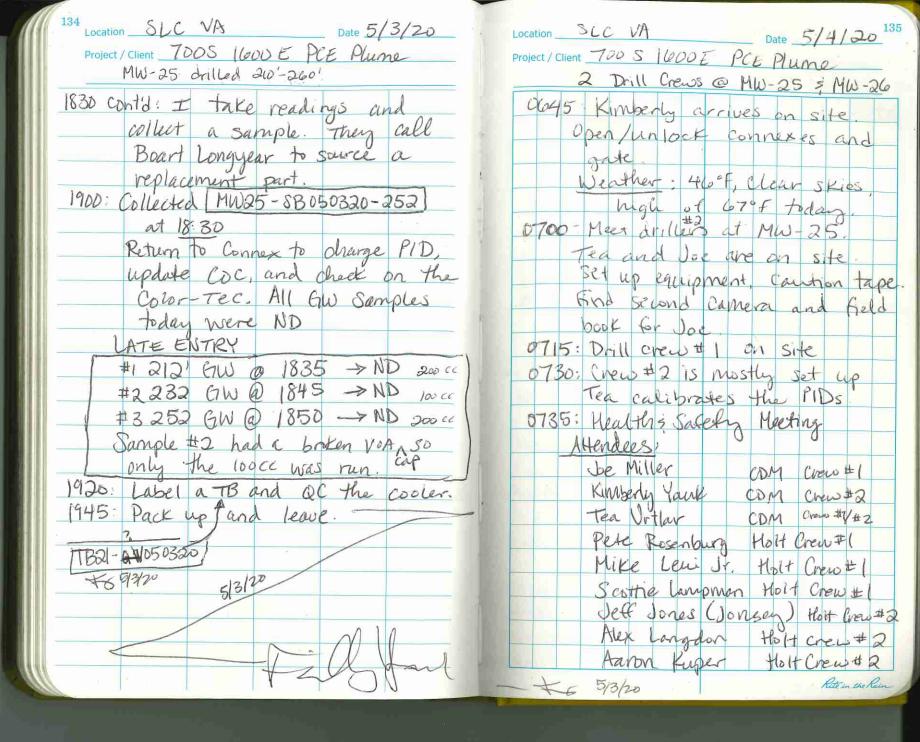
Fulls Harl 5/3/20

1445: Dallers vag 240 to 247' Sample

ahead sampler out.

- + 5/3/20

Location SLC VA Date 5/3/20 133 Project/Client 7005 1600E PCE Plume MW-25 drilled 210-260 1740: The end of the push-ahead Sampler has has become detached from the dall string. The piece that threads it together appears to have vibrated loose (drillers had to vibrate a lot to get the sampler into the formation prior to collecting the Sample). Drillers let us know. We decide to continue and try to retrieve it today. Retreival may damage the Sampler. 1745: Call to be to update him. He is in now town now. Stopped by the site ~10300- 50 and made a trip to Home Depot. 1755: Tea takes water Samples to Connex to run Color Tec 1830: Drillers get 10 feet of soil
(250-260') and the the is there, but broken. Lily Your 5/3/20 Retein the Rain



Location SLC VA Date 5/4/20 137 Project/Client 700 8 1600 E PCE Plume Orew #2 gets push-ahead sempler/o-rings 0910: Sort some papers Doe finds the Mw-26 permit Kimberly takes Completed forms to connex and refills alonox /rinse bottles. 0930: Marc Yalom Check in at the Site. 0140: Drillers (Crew#2) return. They have the sampler but the 0-rings are thinner and will not hold as well. They Source some replacements Kimberly helps Doe log soil at MW-26 1030: Tea will go Dick up Orings. Kimberly Stays w/ Crew #2 who are just getting back to drilling Joe stays w/ crew #1 1045: Tea now heading to hydrapak For the orings. The first stop did not have what they were looking for 1100: Sample 260-270' bagged (core) 1130: Sample MW25-5B050420-264 Drillers First advance 7" outer casing - deillo Jank 5/4/20 Res 5/4/20

Project / Client 7008 1600 E PCE Plume

dil:50: Drillers take land. 12:35 Dallers start back up. They Do a do clean out run with 7" casing at 260' 1400: Hole is clean to 270 with 7-ind casing to 260' Static 1410 Checked and the water water level is at 201. 3 feet with 0.5' sticker. So we have 70 feet of water. 14 30: Push-ahead sampler is advanced to 270. Mater level is 260.92 with 3.29 Stickup = 257.63 feat Joe says it's ox and we Pull the screen open. Get water level again 201-19 W/ 4.19 ft Sticker = 257.00 feet 1530: Water sample | MW25-GW050420-272) 15 Collected YS1: Temp = 18.16°C (in sun) Topso Conduc=1.166 ms/cm

5 7/4/20 pH = 7.35 orp-357.3

Project / Client 7008 1600 E PCE Plume

1540: Samples labeled. Tea will go now to prep the cooler for shipping while Joe and I continue to oversee drilling. Drillers continue on to 280 feet They are switching to 6" outer Casing -1645: 6" casing is tripped in to 270 Drilles will bring it to 280' and leave it for first thing in the morning. I have checked drillers breathing Zone three times sine so since 1400. 1720: MW-25 area was put away and secured Drillers leave site 1730: Tea and I run the MW25-GW 050420-272 Sample on color-tec No color change Bushed, but ND 1830: Closed up and leave site. 514/20 tilly yark Rete in the Rais

Location SLC VA Date 95/20

Project/Client 700 S 1600 & PCE Pluma

0655. Arrive on site. Joe is already here tea arrives soon after. Errab equipment and meters 0705: Head to MW-25. Drillers are O715: Safety Meeting mostly alear mid 40s.

Attendees: meting mostly alear high of upper high of upper loss. Joe Miller CDM Kiruberly Yank CDM Tea Vitian CDM Pete Rosenburg Holt #1 Mike Lew Dr. Hold #1 Scottie Lampman Holt #1 Holf #2 Jeff Jones Alex Langdon Holt#2 Aaron Kuper Holl #2 0730. Drill crew #2 preps to drill from 280' and will decon the Sampler so we can collect an tB sample prior to water 0810: Drilling begins @ MW-25. Parling begins @ MW-25. Parling First thing will be to pull the soil core from 270-280' - \$ 5/5/20

Project/Client 700 S 1600 E PCE Plume

0815: Tea has calibrated the PIDS and YSI 2855: Drillers begin bagging the 270-280' Core. 0900: Collect (MW25-SB050520-272 and Knish logging / photographing core 0940: Drillers are bagging the 280-290. Sample Soil core 0950: United Rentals drops Porta-Potte at MW-25 while Kimberly takes PID readings 1000 Collect Mw25-5B050520-2811 Drillers have deconned the pushahead sampler. Collect (5810-0505201. Need to cheek on name w/ Joe. We need distinguish Rom tonight's EB sample. This was for yesterday. Collected off the push ahead rod (pour through the inside.) His 1030: Called Joe. It's OK the \$10 will change to II on this evenings Els Sample (Dun) fills - Wach 5/5/20 Retern de Rein

Project / Client 7005 1600 E PCE Plume

1040: Sampler is advanced to 272 Feet. No vising to get it injust push water is at 269.89' and Stickup is 4.15' 264.79 Open 3 Water is at 269.79 with 5 feet of stick up. 1105. Send bailer down 1115 Collect [MW25-GW050520-292 YSI Parameters: Temperature=21.93°C Conduct. m5/cm = 1.072 ms/cm Do = 1.12 mg/L ph = 7.48 So SORP = 617.9 Turbidity = >1,000 140: Drillers take lundy. Kinsberly finishes photographing soil core from 280' to 290' and decon water meter and YSI 210: Turbisty - Standards = Oppositions Standard - 0.46 NTUs 1 = NTU Standard > 1.06 NTUS Sample after Station 45 mins = 1,224 NTUS = Settling A 5/5/20

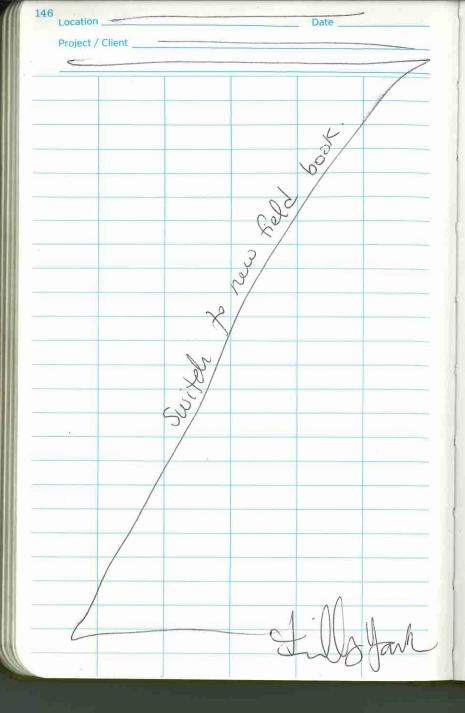
Location 5LC VA Date 5/5/20 143 Project/Client 7005 1600E PCE Plume

LATE ENTRY: Marc Stopped by around 11:50 or so to check progress. Asked if we were making water 1215: Kimberly breaks for Lunda. Tea does magnetic susceptibility \$ 5/5/20 on the soil core then takes fund. +20 1220 Drillers begin drilling to 300 Ceet. 1245: Kimberly back from Lunch. Tea heads over to MW-26 to help doe 1255: Checked log-we will need a Soil MS/MSD today - Joe Says he just got one We are all set for QC samples. 1330: Drillers bag the 290-300 foot \$25/5/20 Sil Core. Collect [MW25-SB050520-299] 1420: Drillers bag core from 300 to 310 but middle uns all Wally gravel that Fell out So no recovery on 302-508 Collect (MW25-88050520-301) Totally different formation -Falls Want 5/5/20 - Reten asker

Project/Client 7005 1600 & PCE Plume

1420 Cont'd: Than previous sample at 299' . Changed from a day 1430 Drillers To a total grave do a 185/6/2. cleanout run and get owing obson to 300 feet (reverse order clean out last) 1515: Logging Soil core Powdry material us gravel has all been effervescent but I didn't think to test the soil that is clay All core from 270 to 310 is effervescent. GW Samples have all been effervescent too. 1535: Caught up we log. Drillers meanwhile have done the clean out and deconned the push-ahead. 1555: Collect [EB12-GW050520] Tea is packing cooler and be is Qcing it. 1610: Drillers attempt to use the push-aherd sampler will only one of the orings that are bigger. The sampler - 5/5/2 Pg

doesn't hold and that last o-ring is forn. 1620 Drillers head to Hydrapak to pick up more o-rings. Mike and Scottie come over to Mew-25 to dump soil cores into the hopper and close the fence. 1730: (rew #2 buys 24 0-rings. PIDS are charging Make copies of coc, heat Color-Tec Water for Mw-25 Sample 1800: Mwa5-Gw050520-292) was ND on the Color-Tee. Sample bubbled but no color change. We did 50cc, 100cc, the switched YOAs and did another 100 cc (2000cc total purge). Decon purge needle. 1810: Close and lock up IDW Yard. 1815: leave 3140 -



The manufacturers of *Rite in the Rain* all-weather writing products are grateful to the numerous environmental experts who have contributed to the development of this book. Should you have any additions, improvements or corrections for future publications of this field book or have suggestions for other environmental field book formats, we welcome your input.

Although much effort has been taken to ensure the accuracy of the following reference pages, J L Darling LLC cannot guarantee the accuracy of the data.

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Common Field Data Error Codes

Error codes are used to explain common mistakes and are written above or close to the mistake. Commonly used error codes include:

- RE Recording Error
- CE Calculation Error
- TE Transcription Error
- SE Spelling Error
- CL Changed for Clarity
- DC Original Sample Description Changed After Further Evaluation
- WO Write Over
- NI Not Initialed and Dated at Time of Entry
- OB Not Recorded at the Time of Initial Observation

Note: Error code should be circled, dated, and initialed when recorded.

Hazard Classifications

- Class 1 Explosives
- Class 2 Gas
- Class 3 Flammable Liquid
- Class 4 Flammable Solids (Potential spontaneous combustion, or emission of flammable gases when in contact with water)
- Class 5 Oxidizing Substances and Organic Peroxides
- Class 6 Toxic (poisonous) and infectious substances
- Class 7 Radioactive material
- Class 8 Corrosives
- Class 9 Miscellaneous dangerous goods

Container type abbreviations (for sampling guidelines)

BR - Boston Round • ABR - Amber Boston Round • AJ - Amber Jug • AWM - Amber Wide Mouth • Poly - Polyethylene Bottles • BOD - Bottle •

CWM - Clear Wide Mouth

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,.	Naming Examples: EB48-SB052720	- 8
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	location matrix date depth	
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	30.	
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2 12 1		

______ Date 3/10/2020 3 Location Min-015 Project/Client Pump Fishing MOW-015 Kiel Keller - come over to mis with delles to Assess area. - Arrived back on the dullers at 0850 - Fishing stocked - 1000 and foots like they are into some thing - slowly polling up and hong Starting to come Casing. 1035 pulled up tobing + String, no pump Driller Measured down with toipe to an obstruction ext ~ 74! W.11 send barb Chaptor back down to see of can grab anything else pour pipe Cone unhoused and dropped ~ 85' of ppe (120 n 135' Dillers don't here and soil Rod to get back down So they have to Source some 1140 I am going to office to get chop sow / help for

Rete in the Rain

Project / Client Mw015

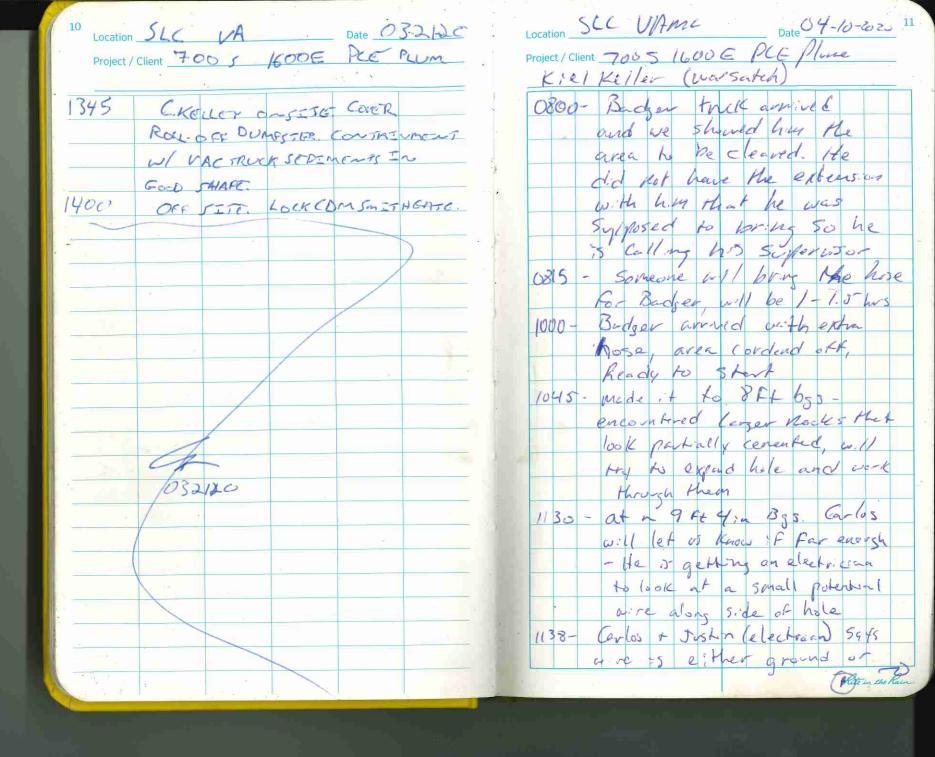
chopping out Asphelt at potholes. - Refurned 1245 with hill - see soys lets get one Mew area opened so van trick can Stort to class - mw-28. - Howard Asphalt at Ma-23 with hill: and pick done at 1330 - storted to promove aspect at Mw-27 at 1340 -14/15 Finished Reproving asphitt at my 27. Pet cus + tape around area - 1440 - checked in on brillers at Mw-015 May are fabing a drill rod to use to try and retrieve fellen ppe -1520 = driller starting to my to retrieve dull pipe. Fabed some rod from sch Do pur -1330 - all drill pipe + herpoon was removed. -1621 - Drillers leaving to get Jack hanner For tomorrow.

Location SLC VA Date 3/10-3/11/205. Project/Client 7005 1600 E PCF Plane

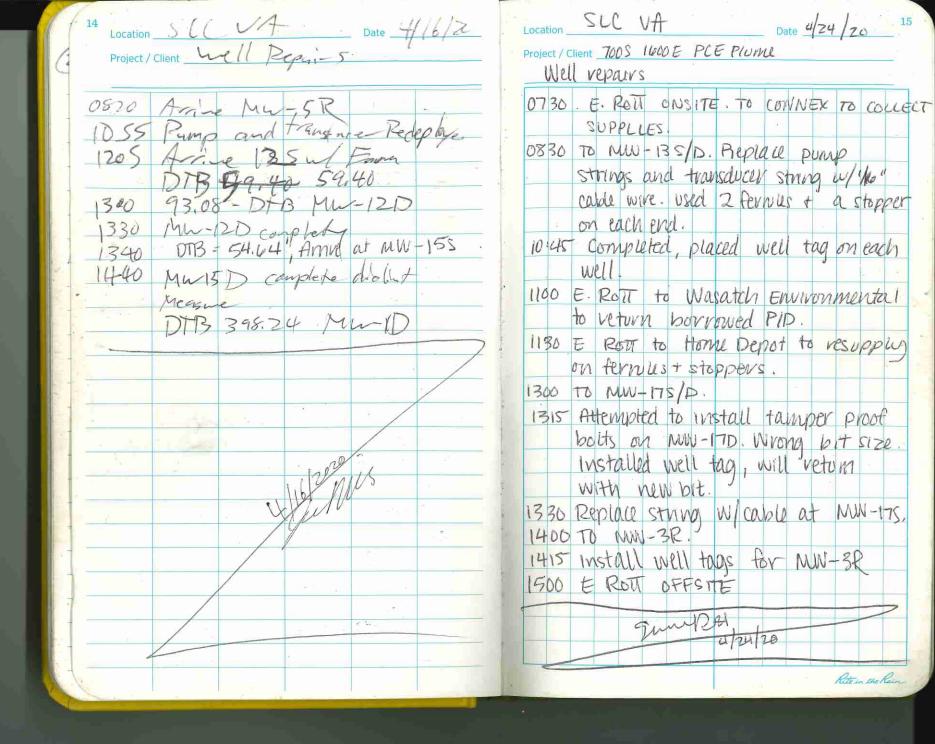
Cont. - 2 put minunent buck on mer-015, 1623 Dr. 165 will come back to move is + somi back to UAMC tonger VAME - pre clearing day 3/11/2020 0730 - tailgate with Joe other that I shock with the dilles while they maid the populater truck from IDW laydown are over to their 0800 - I unlanded the hobors Rosm Pine emison rental into the northern conex. 0845 - Pete From Holt and Spake with Blain, He bead pluser Kran UA who gave Holt permission to get weken from the hydrant be treed bildings G and 41 0900 - drillers built decor area Soft of Dids. 20. Mooding gipe for decor pror to drilling

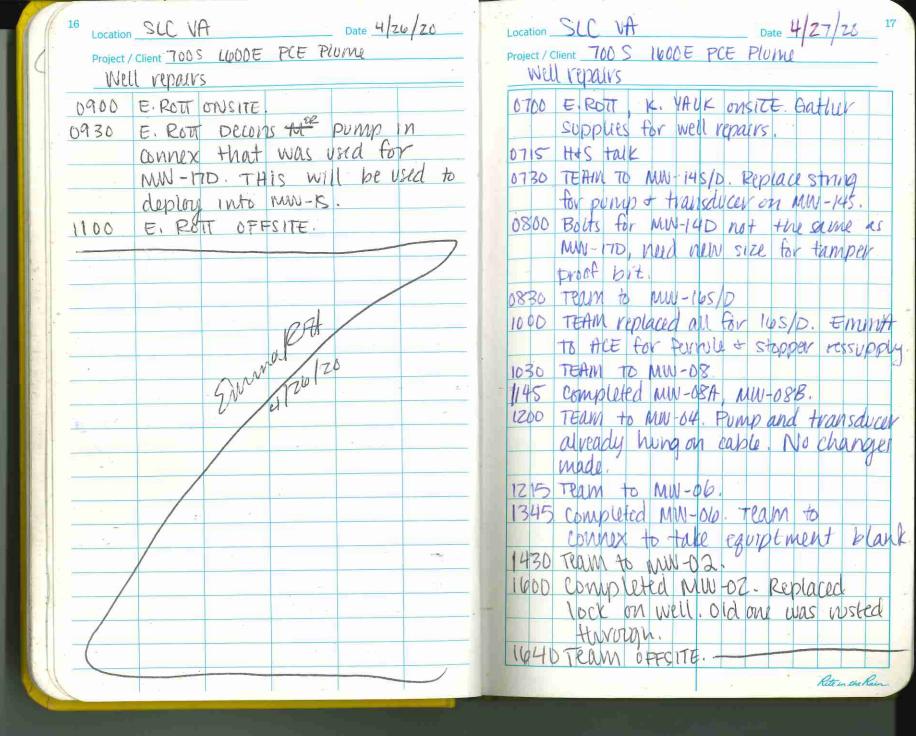
Location 500 VA ... Date 3/11/2020 · Location SLC VAMC Date 3/12/2020 7 Project/Client 700 SILOSE PCE fluxe Project / Client 7605 1600 E PC F Plane Kiel Keller (wasch) 1045 - drillers have pipe inloaded in 0730 - tx: (jake Sate ty with Joe, - Holt, EPA, and UA decon stogery over. We will get 0745 - unlocked gates to IDW area weter at by don't next. So doller ou access their egip. 1400 - water Trick + 2 tokes are Riked: Chipped parement from 2 more 0920 - promped requiring water found Mws. drillers are now decon in Slurry Confainment area into Porge water MST 1455 - I put a J- Ply in MW-0/5 1000 - overseeing drillers gething tooling ready to more to First drill site Site Many As Kirst doil 5-te Mar Mored the dempster at the loading dock by mu-23 as the UA staff wented Did Sakety meeting casitle Joe 1150-+ Pete. Corlos also was Mere and gave is the pent'to dr.11 fear t gorto pot arred 1220 3/12/20 Rete in the Rain

Location SLC VA Date 3-2020 9. Project/Client FOO 5 16008 PCE PL UM Project/Client 7005 1600 = POEPhin 045 HAS tailente up tolt Bute 0415 tel Kut asphalte 0430 Begin Vacuum Exempty 1043 VACTRUCKEN 1167 BGS KALE KELLER OFFSTA 1145 @ 12 FT. MOLE CORBLES 1235 @ 125 FT. BGS 1313 @-12 75 FTBGS. J.MILLER CALLS CARLES AGUAR TO STURMENT IF DODIH IS SUFFICIENT, GEFTMENTE. 1325 C. AGULAR ONSLIE & OK'S 1340 invas appores MW-27 lodes 1351 BADGER TOSTAGENG AREA TO 3-20-20 UNLOFO IDW. 145 HOLT COVERS OFEN HOLE W/ SAMD PALLET 1450 PUMP WHEREGE FOR OF BADGERTAUX INTO HOLDEVG. TANKS. BALGER REGINS EMPTURE THE KITTE CONTINUENT 1525 BADGOR FINISHES EMPYENS TRUCK INTO CON KINNEYT PareR WASHEINSIDE OF TANK. 1530 HAS K. YAUX SIGN FORM OFFSITE. Rete in the Rain



Rete in the Rain



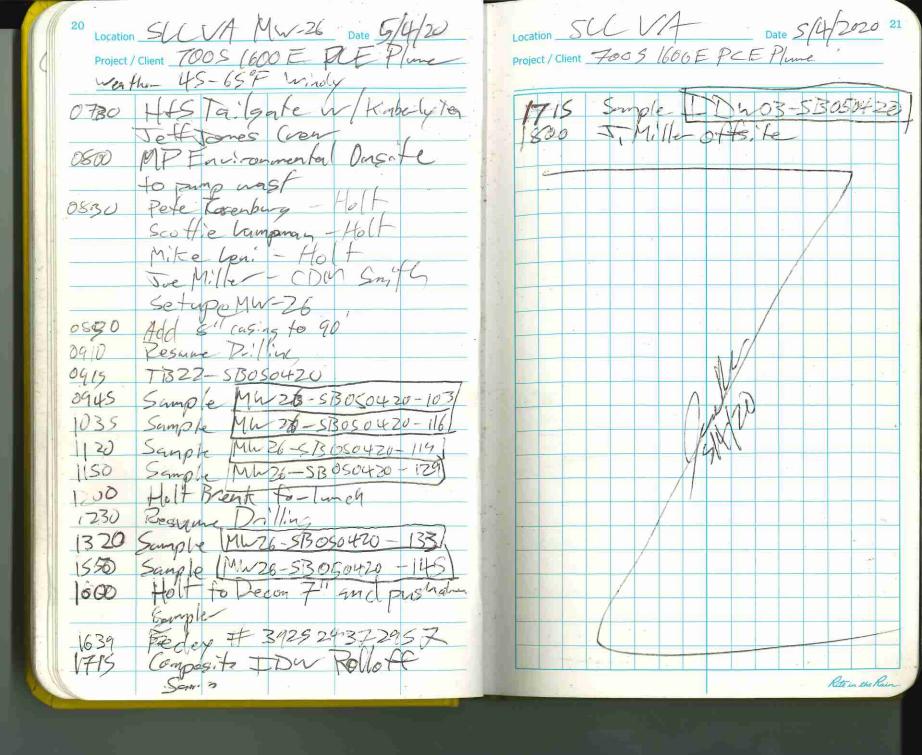


18	SCC VA Date 4/28/20
Droinet /	Client 700S 1600E PCE Plume
	Repairs
0700	E. ROTT T VRTIAR, K. YAUK,
0 100	Kiel Keller (wasatch) onsite.
0715	
0730	E. Rott, K. Kellyto MW-22 for
0.0	well venaivs.
	K. YAUK, T. VRTLAR TO Badging office.
0745	T. Vitlar, K. Yavk to connex.
0815	Collect (EBO1-9842820)
0830	E. ROH K. reller at MW- 72.
, e >	bottom fitting corroded and needs
	replaced, on the campie output
	sidl.
1000	Replaced bladder on MW-22.
1030	E. ROTT, K. Keller back to connex
N.	to find replacement fitting.
1400	Team returns to MW-22 and
	replaces fitting venined previous
e V.	middle portion that was
	correded + served no purpose.
1130	Team re-hangs pump + transducer
	on cable. Install well tag.
1145	Team pulls MW-ZI pump.
	Bladder not properly on
	o-lings.

Location SCC VA Date $\frac{\sqrt{28}}{20}$ 19 Project/Client 700S 1600E PCE Plume Well repairs 1200 Fittings on top of pump finger loose. Replace top part of suage lock.

1230 out tubing ~3' b/c hole

identified on air line. 1245 Replace bladder. 1300 Re-Install transducer + pump on cables. Install well tag 1330 Team to MW-015. 1400 Team measures out 204' tubing and cable. Place new bladder on pump. 1500 Connect tobing + caple to pump and top connection (previously MW-170). 1530 Team places pump in well Team checks and finds the air cine disconnected from quick connect. Attempt to pull up but pump appears to be lodged. 1600 Team places cap on well a will vetorn @ a later date to vetneve the pump. Still connected to water line + 1700 Team offsite 4/28/20 4/28/20



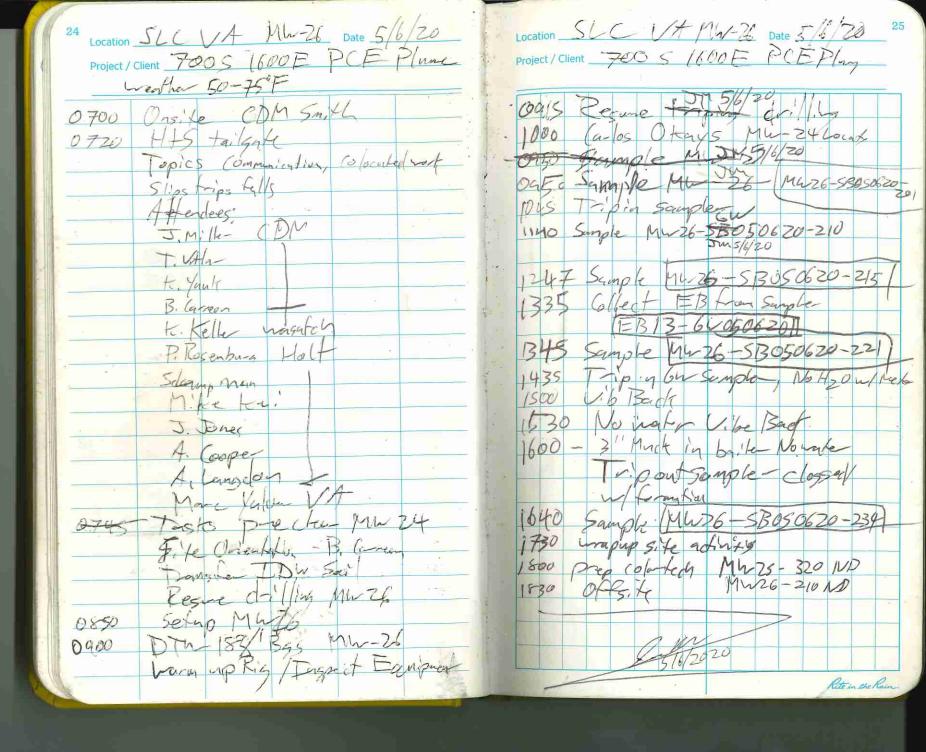
0700 Os. He J. Miller 0730 Joint Hos Tailyate Crev- J.Mille CDM Holf - P. Rosenburg Holf - Mite Leni Holf - Scott Lumpinson Fuel Rig 0750 Task: Prill MW-26 Boning neather 45- 75°F 10-15 app wind warm up Egarpuent 0800 Kesung duilling from 150' Bys 0830 PFD#045671 Holt Dir Jan Pin Falls down 6" (asig 0900 Resure figging out 0910 A Sample M426-5B050520-154 ONS 45 Simple (MW 26 - SB & SO 520 - 168) 1035 MP Environmental Onste tohand 100 Rollott. Too Heavy for truck to han! Mared to laydown area for access w bigger and T We MP Environmental Offs, fe Sample (MW26-5B 050520-172 1120

Location SCCVA ML-26 Date 5/5/20

Project/Client 7005 1600 E PCE Plane

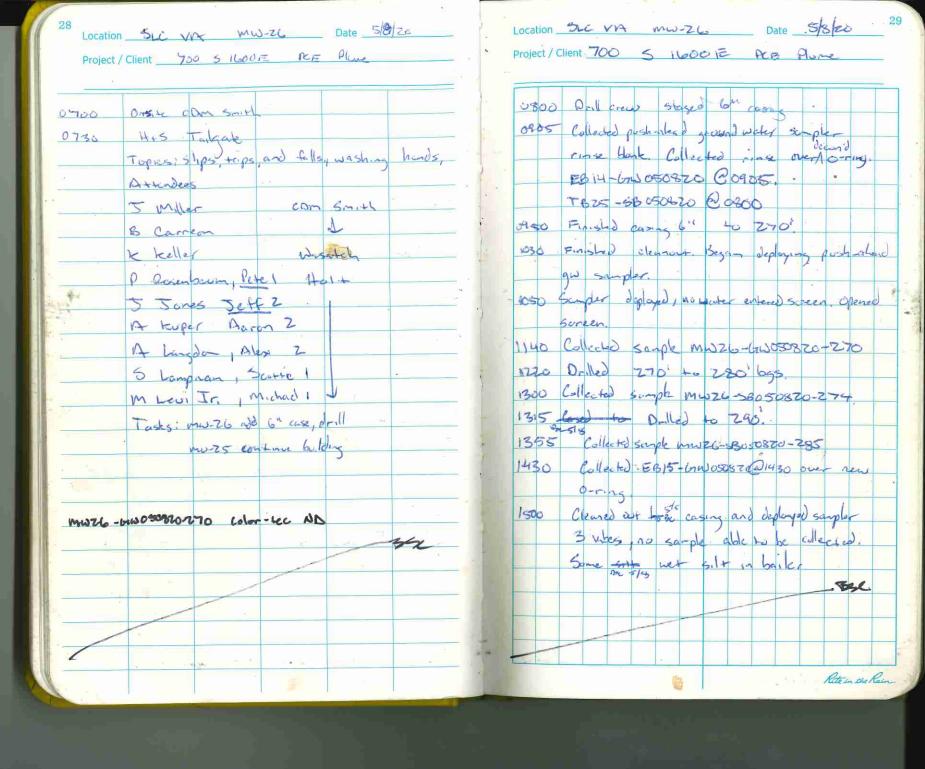
Sample MW26-5B050520-188 + Dip /FD14-5B050520 (1000) 1340 Dtw 186 530520-15 Collect / EB11-64050520 I som deconned sample MP Environmental Hauls of Rollot Trip in Sample 1515 Vibe Back 1540 Vo muter in Buter vibe Back To out sample ~ No 64 allect Sample out open fuet classed 1709 Wap upsite 1730

Rite in the Rais



one to com south 0000 14 5 to late. 0-130 Topics: slps, trips, fells, common cettern, protecting daylighted holes Attenders com Smith J Myller B. Carreon Wasatch K Keller 401+ P. losenbaum J. Jones A. Cooper kuper A. Landon & F- S, Lanpman M. Levi 5n Marc Yalom VA Tasks Buld mouzes Continue dalling mwzk Samples (C-+) mw26-610050720-240 Colorace ND Q1730 mw 26 - 17050720 -250 Colortec ND @1750 · Location buc Vo MU-75 Date 5/7/20 Project / Client 700 3 1600 5 PCE Place

Finded cleanous Admiced to 240, sunded out alead campor lost are opening by Opened push dead, No weter On 3rd vila Sounded water at 1973 for below row Seurs to a sounder error Tripped set out to serve on oring from Pulled 40' out, doller to collect surple Priller and spend post dece before confination of no water entering puch died pour to opening Collected sample MWZ6-GWO507Z0-ZHOBING Tripped out, tripped back .. Stered drilling 240-250 1225 Collected sample mw26-8050720 247 @1515 1315 Gledad FD15+58050770 @ '0800' Tripped in Gow Singler. Dry before opening push ahead @ 250' Collected groundwater Sande at 1920, mwz6-invoso720- 250 Tamp 19.06 00, 1.020 molem, 1.52 00, 7,47 pit, -537,7 mv. Tripped out Grus Samples 1430 Collected so. 1 sample MNZ6-50050720-251 @ 1545 MW 20-4B 050720-209 @16 Stein the Rain



Project / Client 700 SILOOF PCE Place

0800 - Daill com continued on most - Collected +826-53051020@0800 0935 - Collected MWZ6-38051020-299 8 0935 Still within day unit, will come to 310 and assempt 600 sample stere 1100 Colleged muze 38051020-308 @ 1100 1145 Collected ringe that EB16-600051020@1150 1200-1245 Munpled to collect pushahand grandustor Ix grapher sample. When these times. Could not collect sample w/ the banker. Aftenpland to push surper part 316' bonehole to 2311' and collect a sample, still could not rolling the sto retrieve form in consection toucher where doll not meet push ahead sander. Note that louter does not go past rod/supler consider. Will attempt gas semple @ 320: 45% 320'. 1515 Collected soil so-ple at 1515. MUZGESBO 71020-314 1700 During led water sample ar 1700. V. land, redeployed Da. lec. No sample collected. W. Il lane samples open ever night. BRE

Supplies: water sample kists, formers inon

5/1/20 Location SLC VA MW-26 Date Project / Client 700 5 160 E PCE Plume

0730-0830 Collected MW-26-CHU051120-320 BOSSE Drille com lets to get supplies 0 800 000 Troped out go surpler. Tropped in cone barrel. 0930 1800-1010 Prilled from 320' to \$30' Replaced teeth within jours 0,500 1055 Collected mw26-50051120-327 @1055 1130-1140 Orilled from 330'-340' Collected 5617-17W051120 Collected mwz6-58051120-334 1230 Finished cleanout. opened push ahead son sampler. Used sounder to gauge the bottom before and a few opening. Opened sampler 0.4'. Before 342.0 Afre 342.4 No sample collected as 340. 16:5 Onles from \$40' - 350'. Low reques 1805 Collected MWZ6-58051120-348 @1805 In recovery on core (4' of 10') Bottom quarter had permente granely son kase of ador and 150 for detection Tagged Bittom ino water 12 901 -

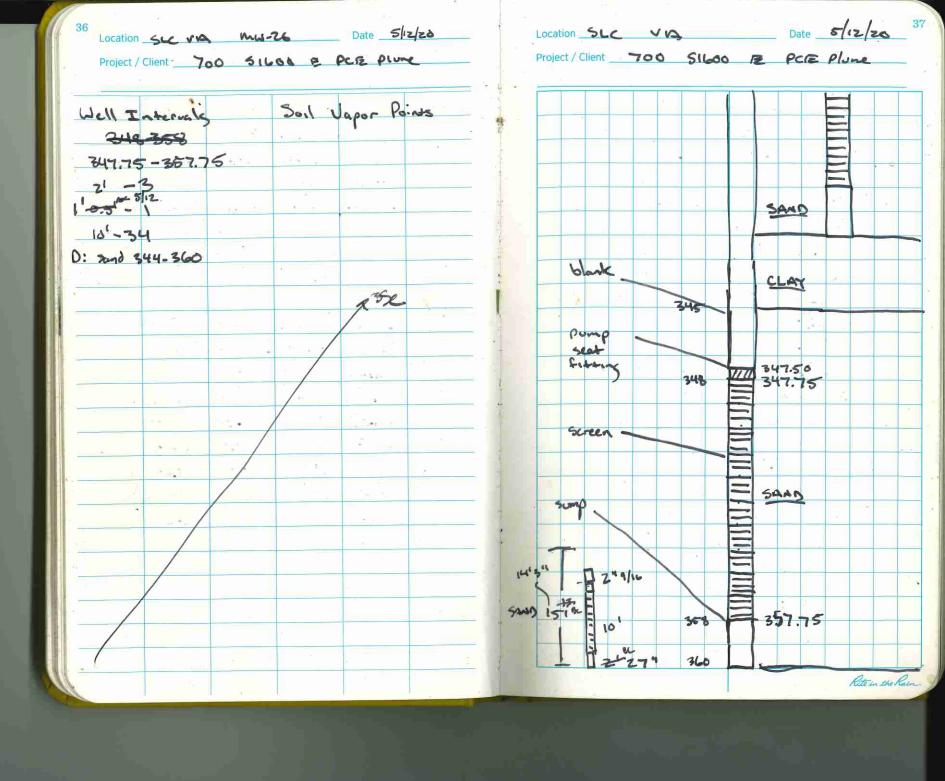
Rete in the Rain

Project / Client 700 5 1600 & PCE Plane

com onite 0700 ULS telepte. 0730 Topics: fratsic, weather, housekeeping Attenders: can South JM.ILEr B Correon B Boot Holf P Roseybaun 3 Lampaca m Lui Sr. J Jones 10 Euper A Lungdon More Yalon VA SEL.

Supplies: gloves / charge consera

Attempted water sample @ 350', unsuccessful, Vibed the sangler for a third time and the formation approved to still not produce water. Began impping out samples and will drill +0360. Collected mw26-5005120-355 @ 1015 Collected F017-58051220 @0800 Collected EBIX? [m) = 51220 @1100 #1215 (-llected mw26-6 w031220-360@1215 Collected FO 18-Comosizzo @0800 1316 1318 1325 Tempe: 24.14 23.28 25.13 50 600 2 1. 204 1.230 1.229 ∞ = 4.19 1.36 1.05 8 7.6pH 7.32 71.2 ORP(W) -128.8 7.54 7.59 -302.6 -236 To confirmed 360' no final changes necessary Sol



M Levi Jr.

J Jone.

A Kupel

A Langdon

M Yalon

J Rerez

All Weldy

P Dasalvia
C. VA

421 -0-0 ped

1300 Crees dropped 40° of well well a down
the casing Attemption to trop down
course and attention to dropped casing.
Chops to 323
300 ft casing
228-52 = 276 326-42 - 296 = 286

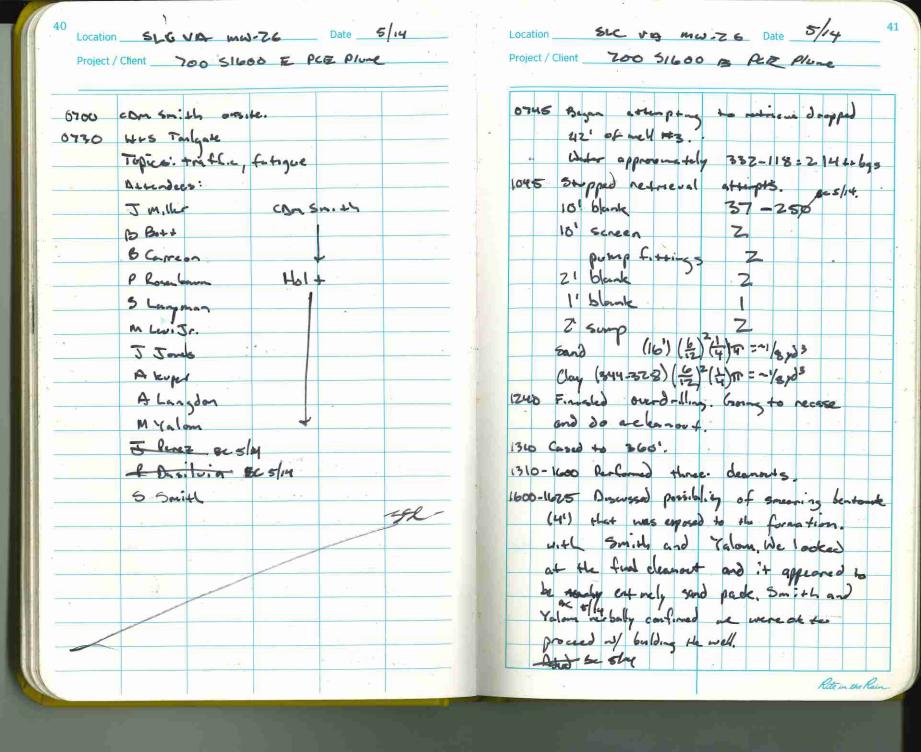
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1800 Lect 516. Rete in the Rejuin



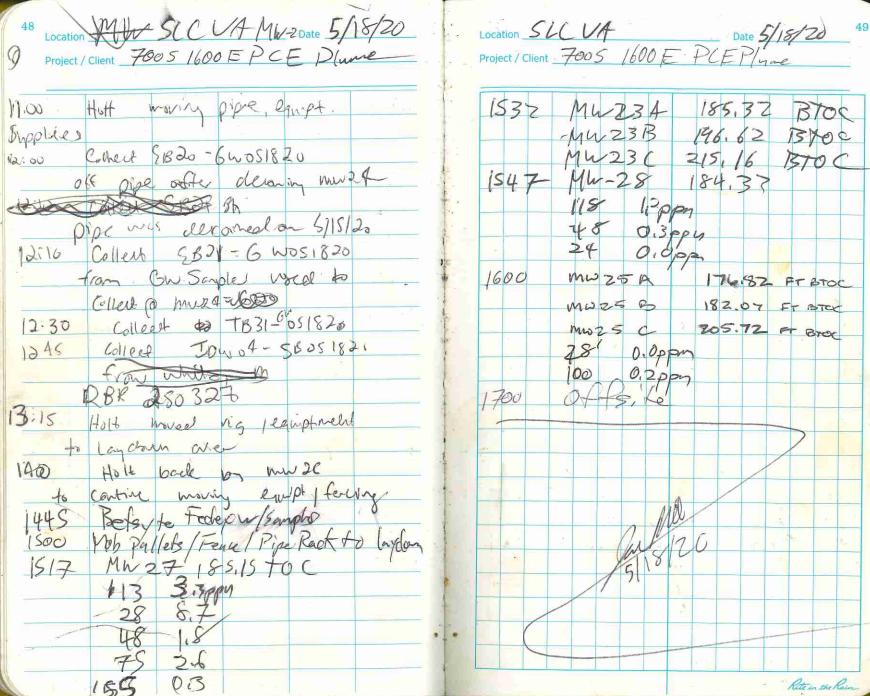
Project/Client 700 SIGOD & Peter Plane

Chan Smith arosite 0780 HLS Tailgate Topics: treffic, fatigue Attenders: 5m. Mer Con sm-12 B Boss B Carreon P Rosenbau Holt M Lais J Jours A kuper Alandon · VA M Yalon 5745 Rept to saw Shy 2340 fologo, seems bridged potentially some said residual from over druling. Sand inter of 342-360-6+675. Well A: 205-215 B: 235-245 c: 315.325 D: 348-358 1000 sterter hanging well C again Rite in the Rai

Location SLC va mw = 26 Date 5/17

Project / Client 700 S 1600 PCE Plune

Com. Smith on- site 4. 5 Talgate Tapics: traffic Atunders: com smith B Boy P Rosenbaum M Lui Jr. 5750 Added silica sand to filter pack them Be Rom winch though lead. It led some 7" cosing sections 6910 Finded Well Zee B and pack from 231 - 250 FT-1665. 0925 States adding benton ick tables from 231 +0 216. Well B Surrened 205-215. 1025 Franked con streeting easing using 20-10 blank, 1-10' slotted, 1-2' 3-1' hese Frield five pick from 201-218. 1254 Ronard backfull to 140' and began tropping out 7" casing. 1400 Firsted remone 7" casing. Rete in the Reis



Date 5/26/20 51

Project / Client 700 5 1600 7 PCF Plume 5/27/20

MW-29

0645: Arrive on site. Open connexes and grab equipment, calibrate the PD. Water in secondary containment is holding. 0700 - Meet drillers and Nolan Konen at laydown area Jacob is filling water in a tote. 0715 H&S Meeting Atkndees Kimberly Yank COM CDM Nolan Konen Jeff Jones Holt Alex Langdon Holt Dabo Jacob Oaks Holt weather: Mostly cloudy low 60s, Scattered raindrops 0730 flead with Nolan to check on PVC casing at MW-26. We will hold off on the completion and wait to hear from Ben and Betsy about the construction. 0800: Write up a summary of lithology at Mw-25 for Jeff 0810: Nolan goes to the badging office.

0840:	Nolan Returns. I (Kimberly) call	
	dispatch to ask about using	
	Sunnyside Gate after 9 am	
	1 60	
0850;	Dispatch returns my call refer \$ 5/27/2	b
	after talking to the police. They	
1	Say we can use it until 9 AM but	o.
	it will close at that time and	
	we'll have to call in again, I	
	confirm it is DK to go out the	
	gate when cars are coming in.	
	They say yes. Some police cars	
	have shown up so we go to	
	talk to them and to the gate	
	staff. Jeff brings the rig over	
0900:		
	police and will move comes to	
	allow us to leave. Officers	
*	Ferris and Dennis watch the gate	
	while we move casing and bobcat;	5
	Support vig out Nolan and I	
	direct traffic away and let them	
	Know the gate is closed and to	
	use the Foothill Drive.	
	- Jes your 5/27/20	
	3 3 3	

0945. Getting rig over the hole.	- 1
Figuring out signs/cones to	
deter traffic.	
1030: Alex goes back in with the	
bobeat to move the tote by	
MW-26 over to the decon area	_
Cit drips and there is an inspection)
1100: Tote is moved Meanwhile Jeff	4
looks for items he needs to drill	4
including pipe dope	-
1130: Nolan leaves to lock the gate to	-
the IDW yard (we wan't keep it	1
dunny locked in case of the inspection	1
Drifters break for Junch.	1
125: Nolan returns. We stop for lunch.	1
Drill rig Fires up!	1
1230 Plastic Set up for sample cores.	
Fully sunny day now High of 805	
1340: Pull 20 to 10 foot come	
1350: Collect [Mw29-58052720-16]	
Drillers pull the next to feet of co	re
1410: Collect (MW29-8B052720-24)	
14/30; Drillers bag 30 to 401	
1200 Jan 5/27/20 Retein the Rais	20

Project/Client 700S 1600 E PCE Plume

Location SLC VA Date 5/28/20 Project/Client 7005 1600 E PCE Plune MW-29 1540: Drillers have picked up tooling to fish out the broken casing. first attempt to "wash it out" did not work. Drillers go to pick up some 6 inch casing (to go over it?) 1550: Nolan heads out with the shipment to FEDEX. Drillers are tripping in casing. Drillers pulled out steaming cone barnel. I checked with the PID - breathing Zone 15 0.0 ppm but vapors at the mouth of The casing are as high as 4.0 ppm. 1620: They got the broken casing out no water was added Nolan is back. We pack up as to 7/25/20 the drillers prepare to load up the 7-inch casing. 1645: Nolan goes to drop equipment at the Connex and I call in to Dispatch to see if we can got the gote to Stay open an extra 20 minutes -fells fail 5/28/20

1645: Meanwhile Peter was going to go buy
a new orders 5128120 a new gauge but stores need to order it. He orded one to his hotel. 1700: An officer closes Sunny side Gate He doesn't know anything about Keeping it open. Drillers are still loading the 7-inch. 1705. No one came to open the gate back up. Drillers drive the casing 1730: Casing E \$ 5128/20 is unloaded. Drillers go back for more. Nolan checks in The grout is soft enough to be aske to dig out with a spoon. The threading appears to be about an inch below the grout. 1735 Nolan goes to see if he can clean out around the caving a bit. I make calls to search For a 1-inch wide bottle brush. 1755: Drillers return with another load of 7-ind casing (rack of 12) Ace Hardware sells a bottle brush set. The smallest is It inch

Location SLC VA Date 5/29/20 Project/Client 7008 1600E PCE Plume MW-29 0645: Arrive on site. Load up gear, calibrate PID, Nolan arrives on site spon after. 0700: Meet drillers at MW-29 0715: 475 Meeting AHendees Kimberly Yauk CDM Smith Notan Konen CDM S

Jeff Jones Holt

Alex Langdon Holt

Jacob Oaks Holt CDM Smith Holt weather: high in the 90's, 75°F Currently, mostly sunny, no wind 0730 Drillers warm up the rig while Nolan and I (Kimberly Yank) Set up the sampling table. We set the plastic sheeting down Slightly over to prevent too much prowning of the grass. 0840: Drillers bag soil core (115' to 120') Collect MW29-SB052920-115 0900: Drillers bring out 120 to 130' core Collect MW29-SB052920-1221 plus MS/MSD - tills you 5/29/2 Rete in the Rain

Project / Client 7005 1600 E PCE Plume

MW-29

(200 Drillers break for lunch 1220: Collect MW29-SB052920-155 timestamped [11:55] 1250: Drillers Start back up. Notan left for the University Clinic. The rash on his hands is on his arms now too He Said it was on his feet last night Sand email to let Neil and Nathan Know. 1330 : Drillers bag 160 to 170' Soil Core Collect MW29-SB052920-167 1400: Nolon is back on site. log 160 to 170' Soil core. 1410: Collect (MW29-SB052920-178) 1445: Check drilles breathing zone 0.0 ppm everywhere. Finish logging 170 to 180' cone. 1505: Drillers Straggling. Very wet drilling. They got to 182 but got mostly slough, They don't know where the water is coming from they're going back to the to get 182 to 170 core. +2015 Yand 5/29/20 Rete in the Rain

Project / Client 100 S 1600 E PCE Plume

NW-29

1120. Install Sampler Samples is dry (<1 foot of water inside rods 1130: Jonesy vibes it open and pushet it open with air. No water a few more attempts to vilor it. At 1911 bass 1140: Break for hunch and wait 12:10 Check for water None. Dallers pull it up Jampler has not opened. Jeff vibes it above ground and it opens fine. Of rings are holding - won't change them unless they break but We could try skinner ones with teflor tape. 1235: Trip the sampler back into the hale Neil (called him) suggested we push ahead farther, so Jet Is going to 192. Push sampler to 1921. Jeff will push Parther, pull it back a foot, and air it / vibe it open. That should give room -> Fullo York 5/31/20 Retein the Rain

Location SLC VA Date 5/31/20⁶⁹
Project / Client 700 8 1000 5

1408 Bay the 190 to 200 soil core. 1410: Collect [MW29-SB053120-198] @ 62.8 ppm 1440: Drillers bag 200-210' Spil core switches to clay reading 0.0 at the top (at 200 to 205') I checked the PID with a dry erase to marker richeck that it was working. Spiked to 38 ppm just fine Cleet Mw29-88053120-2071 1455: Random background air reading of 0.5 ppm. Check drillers' area and no detections. After a Minute or 2 it went back down 207 to 0.0 Strange. 1500: Collect FD 22 58053120/ @ 198 1515 Finish logging and photographing 200 to 210. Trip Blank Will be #35 It's 87°F and mostly Sunny, moderate to strong gusts. 1520: Collect [MW29-58053120-217] 1530 Logging Core 1550: No Sont 5/31/20 water sample > Fells Var 5/3/ Peroto Rain

Location SLC VA Date 5/31/20 71

Project/Client 7005 1600 E PCE Plume

MW-29 1735: I ask if Jeff can get it past 230' (he says no) I ask him to see if he can vibe it farther. He does and pops it open at 230. 1745 Jeff Vibes it to 230' and pops it open water level measurement 287 4 ft bgs. 1755: Drivers put 224.7 7 top back on casing and it will sit overnight to get sampled To Morrow morning. Drillers refuel rig and dump hopper in vollott bin. [800 Drillers leave site. Nolan and I go back to the connex to run the Color - Tec and return equipment. The groundwater sample at MW 29 at 191" bgs was ND

for VOCs. Purging the second VOA did not produce bubbles on the

first aftempt due to plugged needle. 1915 Leave Site. 1912 5/31/280 marken

Location Stc VA Date (0/1/20 73

Project/Client 7005 1600 E PCE Plume
Mw-29

0910: Sampler is removed from borehole. 0950: Collect [Mw29-3Bo60120-240] The whole core from 230 to 240 was 0.0 on the PID. Saturated with water from 235 to 240 ft bgs. + 6/1/20 1045: Drillers bug 240 to 250 sample Soil core. PID reads 0.0 So I check w/ dry erase and it's not he pump is working. Works w/o the filter on Change filter and re-Measure Highest detection is 17.2 ppm @ 250'. 1100: Collect MW29-SB060120-250! timestamped 1045] 1105 Drillers do a dean out run before we do an EB and water sample. 1110: Notan and Frank head over to Mw 29 because Holf Crew #1 is not here yet. 1120 Driles Finish clean out and go to landown yard yard to to

Project/Client 7005 1600E PCE Plume

MW-29

1440: Drill another 10 feet and try again Drillers (Crew#1) landed. Neil says to drill another 10 fect. Sampler was deconned Notan went to Wasatch and coolers weren't in yet. They inte arrived after he left so he turned around and came back (This was at 15 1430) 1530: Nolan is back and doublebagging ice. I'm prepping the 1630 Collect MW29-SB060120-26 256 Drillers will do a clean out run from 250 to 260 and install the push-ahead so that the hole doesn't close up overnight (if it does, the Sampler will be at the correct depth. 1705 Collect & 611/20 1630: Finished taping cooler. Nolan brings samples to FedEx 1705: Collect [EB24-GW060120

Project/Client 7005 1600 & PCE Plume MW-29 Crew #2 borehole we bail and get enough for 2 VOAs. 1130: Bailer Keeps coming up dry (three tries, have tried Fresh value is clogged) Joe - tris on He Says try once more after lunch. 1240 Bailer comes back dry again 1305: Call to Neil. He says to check with the lab and see if 2 VOAs is OKay. 1315: Call to Raman Singh (310) 618-8889 ×119 Voicemail. Leave her a message. Meanwhile drillers begin 1330: Collected MW29-GW060220-360) @ 11:00 timestemp Lab is ok with only 2 and Neil is ok with higher reporting limits if there is too much sed ment. Drillers are deconning samples.

Location Sic VA Date 0/2/20 79

LATE ENTRY: Collected EB25-GW060220 @

Location SLC VA Date 6/3/20 81 Project/Client 7005 1600 E PCE Plume MW-29 Crew #2

0640 Arrive on site. Pick up supplies, Calibrate PIDS (new Sheets now) 0710 Head to laydown yard, Marc stopped in to drop off doughnuts 0715: Safety Meeting Attendees Kimberly Yank COM Smith Frank Morris Nolan Konen Jeff Jones Holt Alex Langdon Jacob Oaks Pete Rosenburg Mike Lewi dr. Scottle langoman We discuss masking. VA campus Still requires universal masking, regardless of distance- Drillers Voice concern about masks while working in the heat. Crew# Will set the Augustyn at MW-26 crew 2 mill begin drilling In afternoon, IDW more gement will be done. Rete in the Rain

Project/Client 700 S 1600 E PCE Plume 85

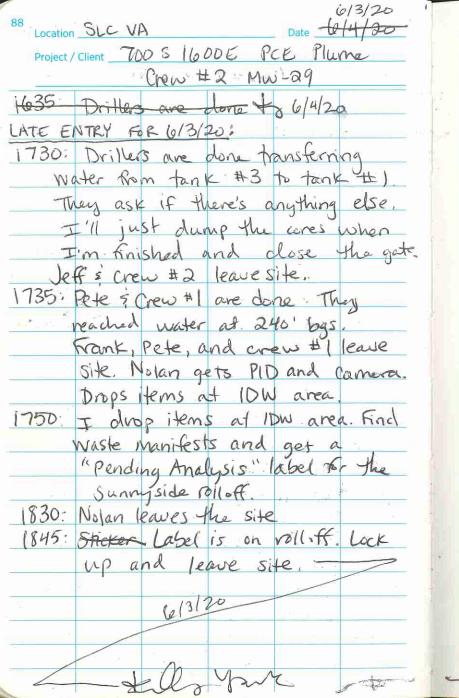
MW-29 Crew#2 1330: Sunny W/ some clouds, Still/ no wind, not 1335: Drillers bring 310' to 315' soil core. It has changed to Something harder and the auger bit can't get through it so Jeff will bring the outer casing down to 310' and do a deamont before getting the 315 to 320' core. 1335 Cont'd: Collect [MW29-5B060320-314] (It's more like 313.5') I realized on the 300-310 Foot core, I missed it in my notes where I Saw a 10.2 ppm @ 310 feet so I targeted 10 feet from the previous sample by mistake. The 314 Should be Smiler 1420: Call from Frank. Their PID Started Plashing the maximumnot sure the problem so we'll send Nolan over with magnetic Susceptibility meter and trade him the space PID.

Rete in the Rain

Location SLC VA Date 6/3/20 87

Project/Client 7005 1600 E PCE Plume
Crew #2 MW-29

1540: Begin double - bagging ice. Neil Says to continue to 330 and my for water. Notan arrives with MW-30 samples. We work on ice, coc, and cooler prep. 1600 : Drillers loag 32 - 330' core. Water on top has infiltrated in from the casing but bottom of core is Dry to moist. Add [MW27-8B060320-328] to the cooler and coc and tape it up. 1630: Noian leaves with the samples. I finish the magnetic susceptibility Drillers start bringing the bobcat into the IDW yard to work on transferring water to Post Poly tank # 1 from #3. In the morning they will remove the spil. 1645 Call to Neil - drillers say even getting the sampler into the formation will be difficult and will likely break the samples Neil says well Continue drilling.



Project/Client 7005 1600 E PCE Plume Crew # 2 = MW-29 0640: Arrive on site and calibrate The PIDs, pick up YSI and turbidity meter, pick up supplies. 0700: Head to Laydown yard for H&S Meeting 0710: 43 Safety Attendes Kimberry Yank com Smith Frank Morris Nolan Konen Jeff Jones Holt Services Alex Langdon: Jacob Oaks Pete Rosenburg Mike Lewi Jr. Scottie Lampman 0730. Text Marc to see if I can drop of the Non-Hazardous Waste Manifest hard copies. No answer. Craw # 1 prepares to collect water @ 240'. Crew # 2 yorks on soil removal from the secondary containment bin. 0850: Frank tells me there is an augur crew across from Mw-30 in parking lot.

Location SLC VA Date 6/4/20

Project / Client 700 S 1600 E PCE Plume

NW-29 crew #2

1145 Nolan picks up the magnetic Susceptibility meter. 1150: VA Police come open the gate For the bobcat to come in and unload. 1220: VA police come back again to let the crew back out. In the future we need to not use a box truck to deliver these because they are impractical / unsafe to unload without room on the sides. 1230: Drillers brought bentonite pailets. They head back in to MW-30 to get fencing from the Crew # (1245 call Neil to confirm we can Store the pallets in the parking lot. We discuss Pett Pellets vs chips. Neil says it is up to the drillers to prevent bridging if me use chips. 1300: Catch up the notes. Photograph Soil Core. 1320. Drillers did a clean out run and bring casing in to be deconned

1320 Cont'd: Hotel called . Soil Sample sets are ready 1410: Call VA dispatch to open gate. Drillers need to bring the casing in for decon.
1415: Call to Nolan They likely will not need more -soil sets today 50 I de con my equipment and gather it all up.
1500 Call Jacob (driller assistant). Ask if they can move the concrete pallet over by Mw-26 and clean it up. (Marc asked for this earlier this morning). They agree.

1510- Begin double-bagging ice and
1500
cont'd: prepping for shipping. 1530: Nolan heads over with his samples, we fill out coc and do cooler QC 1600: Cooler is done. Drillers finished getting supplies (Jonsey bought bentonite, and other pellers (See photos)

Project/Client 7005 1600 E PCE Plume

1610: Notan leaves site. Drillers Gence was built over 3 parking spaces for the Pallets) 1620: Drill crew #2 leaves ste. (No point in starting bentonite back fill this late in the day I head to check on trank's Crew's progress But first the Porta-potty Service guy comes out to clean our toilet ("orange restroun" "A Company Portable restrooms") I help the guy open the fence and put comes around the front of his truck (sticks out into the road.) His truck Droke a comple tree branches. on the pine tree) I text Frank to check his status. 1640: Service guy leaves. I finish closing the gase (one foot - thing missing) Head in to check on Kan K's Rete in the Rain - Is 6/4/20

Betsy B.

6/4/20

Location SCA Date 6/5/200 9

Project / Client 7005 6005

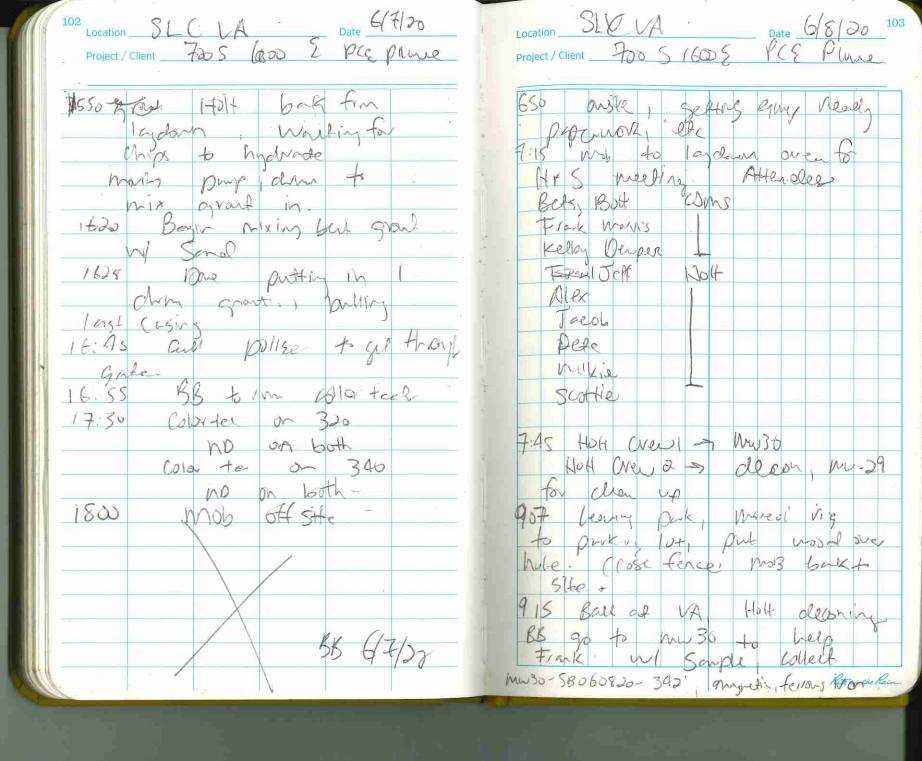
BB printing profites onsite onerly tal results. CUA) 6 690 Cell USA marifeel Signell. not Sign She would orviles. truele getting GAS Ivante onsite Quip ready, aliveration 1010 7:10 WOB to landown CN90-HVS neething Hws meting Attendeds Bets Bott Cons come Frank movis Jet Jores Holf Blake Alex Lagolon Joed OAKS fele N-Strantel melcie Scotle 1 topic Heat Scholy 7.45 BB & HOH 2 WOD to parked my 29 Im v Holt 1 musts to mu 36 Chipany up from 340 Adrian MPW) Stopped by to take

Location $\frac{SUVA}{Project / Client}$ $\frac{QWA}{Poject / Client}$ Onsite BB KP 645 getting supplied less up / paper woh HAS meeting at laydon 7:15 Attender area Bets, Balt Coms Kelig Denper Frank Movis Hollo Pete Rosenby Scottie Comprise muzie Lewi Jeff Jones Alex L. JECOL OCKS 7:30 mos to Park, check dup ster con fit I nove hole. 7.85 warming up vig dumping 8:00 Jet to le hopper to Perès Crew-8:30 feel back from surtilling laggers. Begin bent & pulling Caginer

Location SLC VA Date 475 101

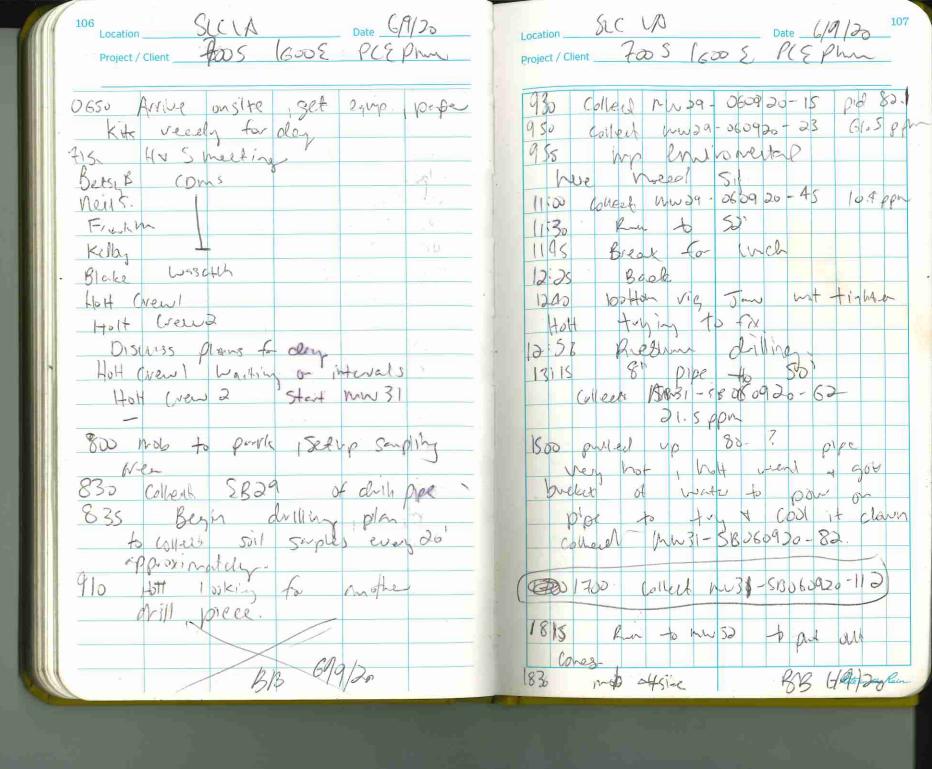
Project / Client 725 600 8 PC8 Pune

tubing & SUPS Overage 1010 Olme U1 Well A install lightnin - Stophork 10:15 10:43 , Stop work Lichtnin 1200 lighting Shire down ares appelin Sarah Sand. 0100 M 1240 (cjohn m orge anan 14:00 Beel Dave Chips bent , u stablin begn 1436 ar o 68, 64-68 adolm 63.8 1490 bentate chips abint grant JER potend is benefit disussed mile Sup thism portland Carlol oraden on other be nells -40 1452 Begin 5 hal 1500 hydrate bent @ 11' beto Rite in the Rain

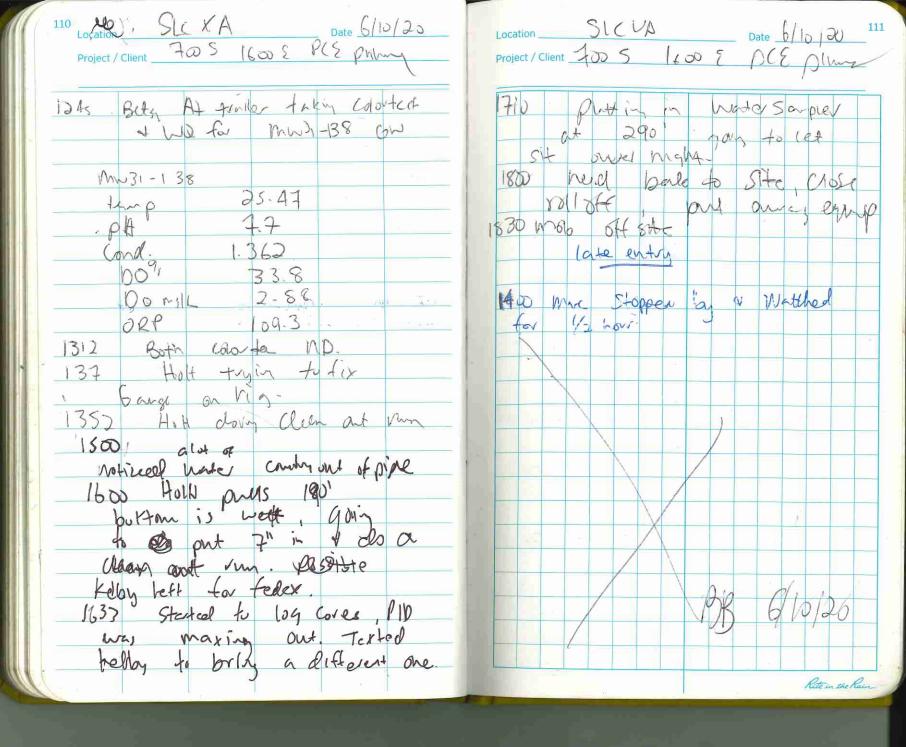


Project / Client 700 \$ 1600 \(\Square \) PCS Date PCS Date Project / Client 700 5 (600 E) PCE Phase 10:00 Dare Hot Crew 1. Warting [10 Called VA to go \$56 ~ 1400 Cide ichne on Sunny siele on construction decisions Taxt Veil 10:15 Go to Connex to meet man pulling tack out of drivering + Woman driving On S.S. neil, and sample to coole most of meterials to park they Truck Aigned over into Center of Street Jeff helped Put me from trusk + Alex (Jacob also hiped at Scene Smd, bent, etc.

11:3 toff back, that morning
ferring to my 31 parking Hoth put at comes of swelled traffic around accident until fre department ambulance (pilite arrived lot once 1230 took pies of must are 14-35 Return to must, see Scerne formy orange must 130/4 waying Levering to mu-31. Call from MP 1458: Go to la down wear to get last they will delike you vol off of tain of other to UA 1600 Hall beef w lest of pipe tohnovon afeirmoon-& imported it to overing lot 12:33 Hot vetting vis. Holf thisteel nain gips mob offsite BB mob offste . Putting back well const Musi. All pipe is doonned Rite in the Rein



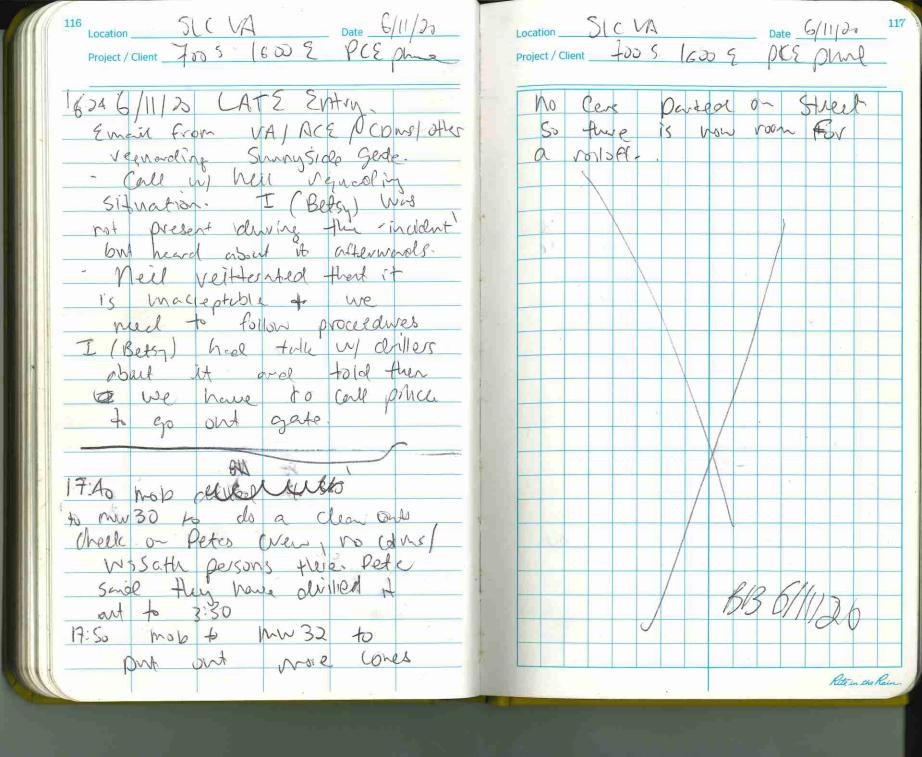
Project / Client 7205 1600 & PCE Project Location SUC 1/2 Date 6/10/25 109 Project/Client 7005 1600 & PCE phone 830 Holf moved pallel ont 630 Avrive onsite prut fraku 7:18 was to laydown yard & Nord Screty welling. Attended mudg thole to prevent anyone from 11Am phywood Star up Rig Bets B Coms 9:15 begin chung 115 > 130 Super heral drilling Kelly b. Frakm.) 130 -1000 beging pulling com may hydric drip, cleaved Men S. 10:45 Hot polled up 30-138 HIH Pete Scottie took beiner clown 4 purileel Mikie Alex up full bailer 10:45 Comed Mw31-60061020-138 Jacob 11:00 Collect MN 31 - 513061020-133 Blake Wesate # FD 25 - 064020 kiel Comen Mr 31- 58061020- 159 VA Morc. about 1-1.5' of gravely Discuss plans to today 7.45 Mob to mw30 i mke some Signs were derwered + lander und 5th that he's wet Caused Too I heil to age it Somple 3. a' below if were oly & thy Snip time is von for volloff hot to somple 800 mos beek to pok + willows eguip ment Rite in the Rain

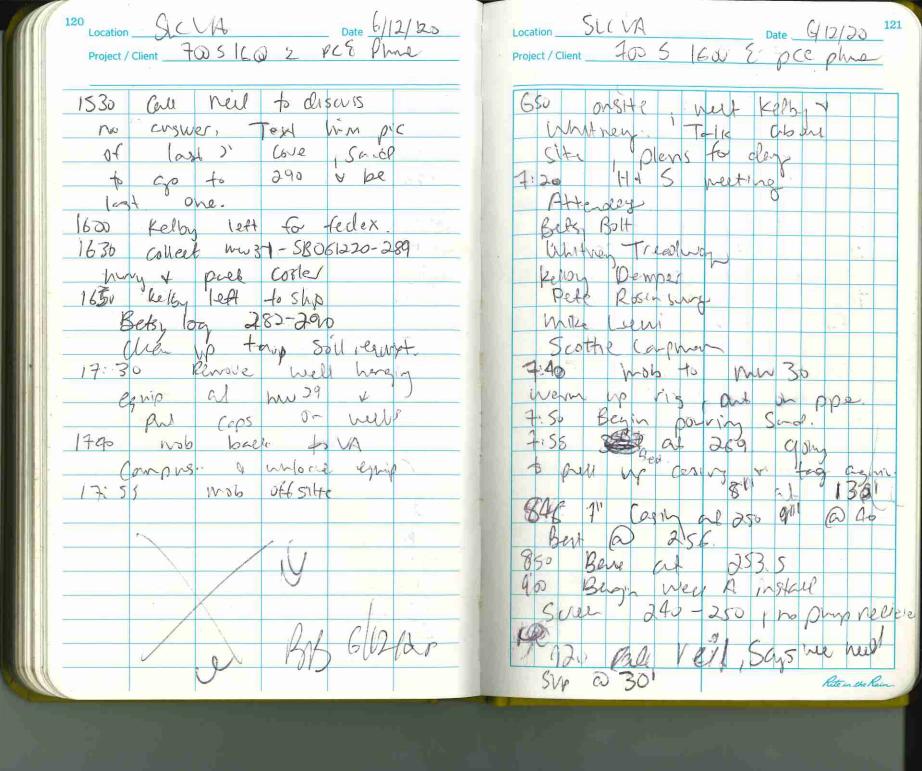


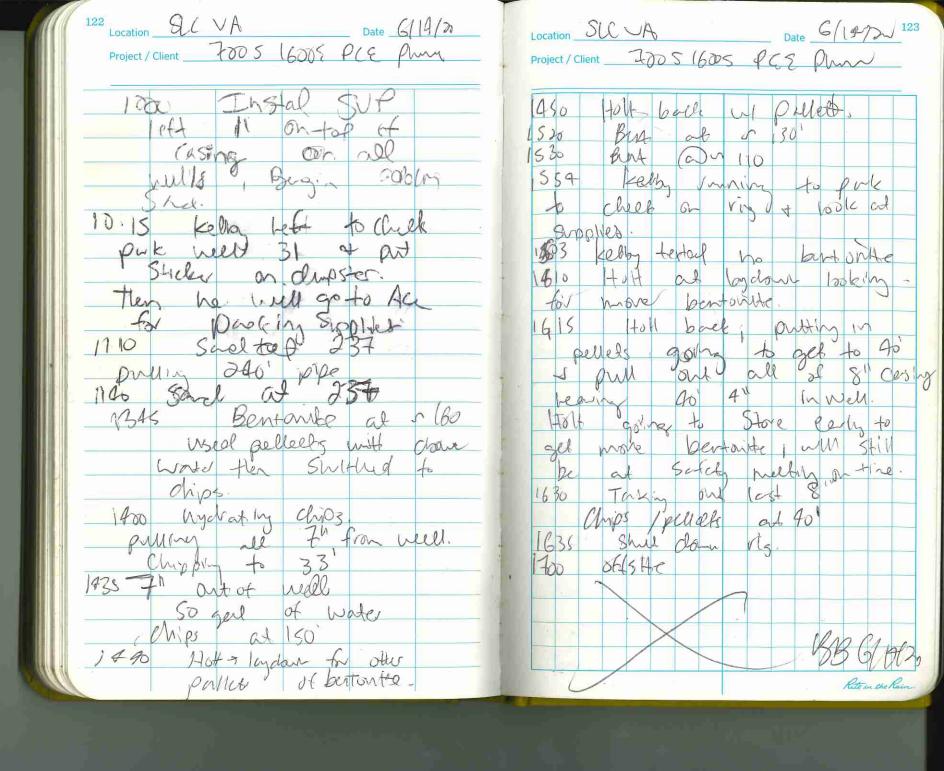
Location SICM Date G/II/2s 115

Project / Client 705 605 905 905 905

	0
In Samplet	
14:30 MAR Sampl	of Coled Clay
all below 100	
15 22 Mass	OTW, Felson reality
and house cla	n de vo woies
t-1000 101 100	C c aib
tried whire type	al la ille
12011 13 7	Ci.
160 Memored	dias from well
1610 removed of 3 mples of	lenione of the
goine to try	I may time.
tunning min	book In.
(63) Collect 18	W31-GW061120-250
DTW @ 221.8°	
160s Kelby going	
vun cow tee	
17: 20 Ball a	
Collar ten	on both MO
Wa Parqueter	
Tenp 17.81	
Cond. 1.054	
100 1.25	
PH 7.42	
DRP - 88.2.	
	Rite in the Rain







Project/Client 700 5 1600 E PCE PLURAS SHE

to soe Miller + Air Vac crew 1000 Preparing to mix + pump grand Using Cetro Pure gals Growt + filter pack sand, 1020 Begin pumping grout through 20ft 1-inch PIC tremie pipe 1046 Ful 9-inch casing 1100 Holt has added a couple larges of bent onins in areas of large void space between uffs of bentonite growt. 1105 Joe M. onsite. 1115 Grant at 3.5 ft bgs. 1130 How offsite. They are going to get lunch, then demoto from MW30. 1245 Holf Returns Rosume landing Mutais 1325 Mob Rig /totas to laydon 1400 Holf Back e MW-30 to load up more materials 11645 Hat has been mounty sipes and supplies to lay down. 1725 Holt/CDM offsite Rite in the Rain

126 Location SLC VA P (mc Date 6/16/20		
Project/Client 7005 1600 F PCE Plane		
0700	CDM Onsite J. Mill / whitney treading	
0715	HJS Talyate	
	Attendees	
-	Joe Milh - CDM Smith	
	Whitney to eadnay - (DM Smith)	
	Pete Rosenburg - Holt	
	Michael Leni - Holt	
-	Scottie Lorgan - Holt	
	Topics Focus, well in Put, Drundius	
	with Public, Tentfic	
0725	Begin loading -ell Materials	
0755	Head to park now.	
0755	Head to park now. Unload Supplies at MW-31	
0820	Head to park now. Unload Supplies at MW-31 Borenole TD: 278 ft bgs.	
0755	Head to park now. Unload Supplies at MW-31 Borehole TD: 278 ft bgs. Crew returns to laydown yard	
0820	Head to park now. Unload Supplies at MW-31 Bosehole TD: 278 ft bgs. Crew returns to laydown yard to get filter for rotating head on	
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0820	Head to park now. Unload Supplies at MW-31 Borehole TD: 278 ft bgs. Crew returns to laydown yard to get filter for rotating head on rig. JM is currently looking for more screen, we only have 2 × 10 ft screens. WT stays	
0820 0833	Head to park now. Unload Supplies at MW-31 Borehole TD: 278 ft bgs. Crew returns to laydown yard to get filter for rotating head on rig. JM is currently looking for more screen, we only have 2 × 10 ft screens. WT stays at we site to seep ing secure.	
0855 0855	Head to park now. Unload Supplies at MW-31 Borehole TD: 278 ft bgs. Crew returns to laydown yard to get filter for rotating head on rig. JM is currently looking for more screen, we only have 2 × 10 ft screens. WT stays at well site to seep rig secure. Host back onsite. Teplace filter.	
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0855 0855 0811	Head to park now. Unload Supplies at MW-31 Borehole TD: 278 ft bgs. Crew returns to laydown yard to get filter for rotating head on rig. JM is currently looking for more screen, we only have 2 × 10 ft screens. WT stays at well site to seep rig secure. Host back onsite. Teplace filter.	
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Project/Client 700 S 1600 E PCE Prune

MW-31 were installation

for about 3 minutes. 0925 Adding onips again. 0943 Pete contined a Jeff they had 260' 7-indi and 100' of 8-inch. Hout already pulled 10ft, so 250' now 1003 Rul 10ft of Fineh, now 0 240' 1015 Crew to get piece to have Casing out lay down yard.
Bont on ite is at 241 ft 695. 1045 crew back onsite, Rete noticed whe in read needs to be fined. They have to go sack to yourd to get tools. 1105 Erew back, begin to fix ng. 1145 Still working on rig. 1230 Crew to laydown yard to check other rig + get tools, then lunch 1320 Crew back onsite. Continue working on rig. 1345 Crew to Home depot for piece to Work on the Rigg Sell official

1450 Begin Building tecpwell 2'sup + Reine 10 - 0.02056A screen pump Becieve 1515 AM casing in. 2+4 Sump + 10+1 xran + 230 + blank + 1+1+5+5+1 blank ~ 2 ft below grade. Chips now at 240 fg bys 1520 Pull 1 x 1 ft off top 2 and Surton w/ 2 + Leinen pieces at ~ 3 notes believe grade. 1538 Begin adding #12/20 sand. 1614 Pull 10ft of Finch casing ~ 230ft now. 1620 Continue adding Sand. 1637 Sand at 225 ft bgs. Begin adding bentonite timerelease pellets (3/8" coated) Cetco solb buckets. 1040 Pull loft of Finan rasing at 220 A now. Add Dellets. 1655 Pull 1044 of Finch casingat 210 ft now. Add pellets. 1711 200 ft of Fingy on Bert at 204 Abgs 1730 Au offsite. W/14 6/10/20

Project/Client 700 S 1000 PCE Plume

MW-31 Installation 0715 Has tailgate meeting Stoet done even meets up with HOLF development wen I load equipment + supplies of our At park will oneck we at mu-29 B (mid-wee) 0810 ULO MW-29 B = 15394 F4 BTOX 0828 A+ MW-31, warm up rig. 0848 Begin adding bontonite pellets. Rete said bent was actually at 207 ft by at the end of yester day. 0907 Bent at 202 ft bgs. Begin installing 1-inch Puc casing, SCH 80, 10ft Screen (20 Slot) 1 7 ft sumpt end capt cin. * pump receiver + 190 ft blank +1ft 0938 Begin adding sand, #12/16 in 50 cb bags woods Pur * confined u/ J. Miller, based on we + nearby MW-29B, to include pump receiver in This well. 1014 Pun 10+1 of Finch, 19041 in now What 6/17/20 Rite in the Real

1350 Sand at 135 H bgs. Begin

Project/Client 7005 NOOE PLE Pleme

MW-31 Installation.

adding bentainte peutols. 1355 Pull 10f4 of Finch @ 130 now. 1410 Pull 1014 of First, @ 120 now. Per convo w/ s miller, or to hydrate bent up to 10-12-94 w/ hydration. 1420 Full loft of Finch, 0110 naw. 1430 Pull loft of First, @100 new. 1442 Add water to hydrate, chips/pellets just below 100 ft. ~ 50 gal. 1450 Pull last 100ft of Finch. 8 mch casing is at 100 fl. Adrican Boogaard w/ dept. Public utilities its stopped by to talk about utilities at mw-32, which was cleared as ut earlier this week. 1505 Begin adding bentante again. 1520 Pull 10ft of 8 mch, o 90 ft now. 1530 Pull 10tt at 8 inch, @ 80ft now 1540 pull 10ft. of 8 inch, @ 70 ft now. 1547 Pull 104. of Birch, & 60ft now. 1555 Pm 104. of Birch, @ 50ft now. W/hA 6/7/20 Rete in the Rail

Location SLC VA Date 6/18/2020 133 Project / Client 700 S 1600 E P(E Plume MW-31 well installation 0715 HAS tailgate maeting. 0730 Finish unloading pipe from truck and load up for graving. 0750 Fill toke w/ water hour ddg. 6 0805 Rig To warming up. Unload water and grown supplied. 0845 Hot is breaking apart hoses to prepare for grading. Bentonite is at 144 bgs. 10 ft of 8-inch cashy in hole. 0900 Pumping and mixing growt - bentonite growt w sans mough 1" PVL tremse (10f1)
0930 Grant complete at 3 ft bgs.
Begin demobing ut 2945 Cirout at 23 ft bgs, added Some Sand at top. Pump what's Left of grout in hopper. Begin Lets demobing. 1015 WT to notel. 1030 ut on site again 1120 Hout ready to tat up and won't for gate opening. 1140 Through gate + at lay down. W/WA 4/18/20 Rete in the Rain

Location 5664 Date 6/19/30 Location SCC VA Date 6/22/2020 137 Project/Client 7005/600E PEE Plum Project/Client 7005 1600 E PCE Plume Mare Rollott B- 6/22 from UA Carpus 0715 Health and Safety tailgate to Alway MW-32 location meeting w/ driv over. Attendes: Se Miler whitney 1230 Onsite for Han RBR 250327 Treadway (CDM Smith) Carlos Aguilar Signs off Refrieres MW30 Remit Jeff Jones, Aaron Kuper, Alex rungdon (Her4) Holt Regumes want continue loading Tasts de con pipes (+B sample) Tire Service Onside load egleipment + supplies, 1430 Tire Service Offs. Te 1650 Lander up Berk Black P. mobilize to MW-32 Loaded up Back Black Parking lot Holt Com of 5, 4 15sues masks dealing w/ public heat, slips, trips, fails, moing machinary, pinoh parts, traffic la your day Saturday 0725 Joe M + Jeff to mw 32 Site to check art logistics of mobilization, 0730 (van fills water tank for dean 0745 Doe of Seff back only 0755 Unload Flat bed. 0800 Deconning Dipe w/ pressure washer 1045 Collect EB36 SB COLORED OF drill vod from nw 31. # 0700 TB467 062220 (7847)

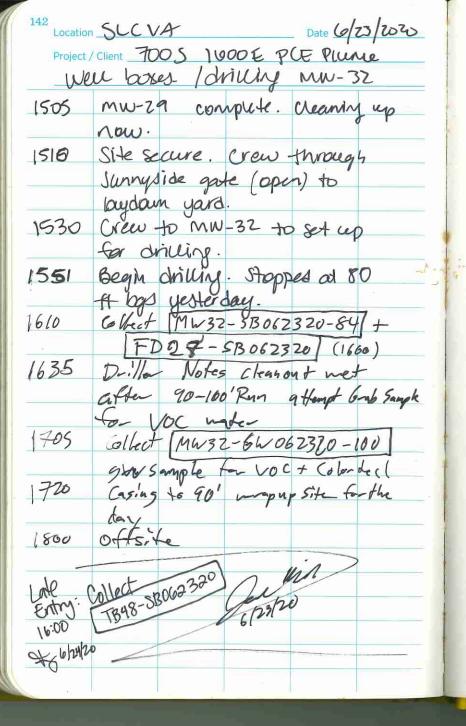
Location SLC VA Date 672 2000 Location SLC VA MW-37 Date C/27/20 139 Project/Client 7005/1000 & PLE Plume. Project / Client 7005 1600 F PC& Plume MW-32 mobilize + drill MW-32 drill 1500 Mank Augustyn chelines 5 Vanlts 1115 An offsite to MW-32, W/ 1520 Collect [MN32-5B062720-55 Plathes IN to pick up ice. 1700 Joe & felt w/ flood bed back 1540 Marc Yalon Onsite 1550 Marc Offs. Fe 1640 Freel Rig Boing to 80' Greel to 70' to laydown. Joe told even to stick to Sporth side of street don't block diveways, and keep talk polite as we have 700 Holt to Ut anyong for Forgs Spectators. 1730 Holtons te u/ Face Joe a Jeff back on site. Holf to VA for home Fence / Brown Holf Back my Force Shap 100 ft of Binch unloaded. 1275 Calibrate PID # 045671 (PINE) 1230 Drillers break for lunch. 1300 J.Mille Anthor offeld Book D-illes for er up whitney to convey for Vignoen 1315 add 10-81 caping 1320 whitney Returns Wigner 1335 Glect MW32-5B062220-14. 1400 collect Mh32-STO 62270-27 1420 No Sample co Heard During Run 3 cares hot and Melted Plaghic Bags pid Rend 13.5 Rete in the Rain

Project / Client 7005 1600 E PCE Plume

well boxes.

roll off #5495. Laboles + onice. 0920 HOLL back orsite. 0927 Craw back at MW-30. Joe adjusted the life heights on the casing and added top caps. 0940 Holt begins mixing and pairing concrete. 1145 mw-30 complete, site secured. Head to laydown yard + fill poly W/ water: 1210 wi called vA police to open Sunnyside Goute. 1218 Set up to install well box at mu-31. Qui to Joe adjusts casing heights and adds labeled caps. Quick weak for lunch for Hoct 1245 How crew digging out around when for concrete pad. 1350 MW-31 complete, move to MW-29. Adjusted casing height. 1425 After asking concrete, adjusted Casing roights once more before setting well box.

WIND U 23/20 Return the Run



Location SUC VA Date 6/24/2020 143 Project/Client 700 S 1600E DCE Plume MW-JZ drilly 0715 Health + Safety Tailgake meeting. Attendees: Whitney Treadway, Joe Miller, Kimberly Yank (consnith), Left Jones, Aaron Kuper, Alex Lungdon (Hat) Tasks: continue drilling at MW-32 Issues: masks, traffic, heavy machinery, slips, trips, facts, hood, pinch points 0750 Au on site at MW-32 Prepare for drilling. 0810 Begin driving at 100' at MW-32 0840 Crew unloading First of casing. 0850 Halt to pickup Fences ground Ms/1050 Mw 30, 29, 31, Collect (Mw32-SB062420-105) 0852 Boring to 110' hole cased to 100' open to 99' Dtw 84.5 Bgs 0951 Driv over back onside, 1000 begin driwing again. mare onsite. 1035 Holt crew offsite to get more casing. 1055 Hord even back on the Tripping in Finen casing now. MWA 6/24/20 Rete in the Rain

Location SC(VA MW-32 Date 6/24/20 145

Project/Client 7805 (600 E PCE Plana 5.)

1710. The sampler did not open-	- likeley
due to the formation. Drille	B pull
Sampling rod and gw.	sample
will be attempted at	160 feet.
1725 MW-32 site is secure. +	tolt
leaves ste due Miller joi	لم لم
Kirnterly, Maria, and Breau	ma at
the connexes	
1730: Small detection in Mw-32	9w
Sample @ 120 Feet -> 0	,5 on
the LL color Tech Tu	ae
with the 100 cc purge	
This corresponds to \$35 mg/	
(~25 to 45 Mg/2 expects 1800: Secure site, dump old color	To lange
Syndre interpolar tark	class
Samples into poly tank,	Marge
1820: Loque site with Maria and	Breanna -
Joe Locks gate. Connexes (
. IDW fence is secure.	
6(24/20	
at -	2
till fail -	Reto in the Pare

146 Location	SLC VA Date 7/1/20
Project /	Client 700 5 1600E PLE Plume
ML	J-34 Utility Lock / Budger Hydro-unc
	Arrived at MW-34. Met with Whatch
-	1 / 000
0810	DBCussel proposed well 5th and will bete
	segan.
0830	GPRS finds utility line curry East and
	meet along paved road. Proposed to more
	MW-34 North 3 At faved the Perce.
0830	GPRS will forward report to Western.
*	GPRS and Westell of Site.
0842	Offsk to ful Boyler truck-
0905	Bolger fruit arrives of MW-34. DBCuss
	about hydro-we down to 8'
0912	
1010	Badger recites ~ 8' with hydro-vac.
	Bould field of approximately 7'. Hole
	was cheetel angled do reach & good-
	No signs of willitres down to 8.
1015	ELM WHIRS serves aboves at MW-41.
	Confirms MW-34 By clear of gas imes.
(0)0	Kim Y, and Not write on MW-34.
1035	Km 7, and Bodger Affe back to UA to
	dup hydro-vice truck. Asit books boultfilly
	MW-34-
1415	MW-34 covered with grote and core - Office both to VA.
	711/20

The manufacturers of *Rite in the Rain* all-weather writing products are grateful to the numerous environmental experts who have contributed to the development of this book. Should you have any additions, improvements or corrections for future publications of this field book or have suggestions for other environmental field book formats, we welcome your input.

Although much effort has been taken to ensure the accuracy of the following reference pages, JL Darling LLC cannot guarantee the accuracy of the data.

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Common Field Data Error Codes

Error codes are used to explain common mistakes and are written above or close to the mistake. Commonly used error codes include:

- RE Recording Error
- CE Calculation Error
- TE Transcription Error
- SE Spelling Error
- CL Changed for Clarity
- DC Original Sample Description Changed After Further Evaluation
- WO Write Over
- NI Not Initialed and Dated at Time of Entry
- OB Not Recorded at the Time of Initial Observation

Note: Error code should be circled, dated, and initialed when recorded.

Hazard Classifications

- Class 1 Explosives
- Class 2 Gas
- Class 3 Flammable Liquid
- Class 4 Flammable Solids (Potential spontaneous combustion, or emission of flammable gases when in contact with water)
- Class 5 Oxidizing Substances and Organic Peroxides
- Class 6 Toxic (poisonous) and infectious substances
- Class 7 Radioactive material
- Class 8 Corrosives
- Class 9 Miscellaneous dangerous goods

Container type abbreviations (for sampling guidelines)

BR - Boston Round • ABR - Amber Boston Round • AJ - Amber Jug • ... AWM - Amber Wide Mouth • Poly - Polyethylene Bottles • BOD - Bottle • ... CWM - Clear Wide Mouth

Project / Client 7005 1600E PCE Plume

0730 Bodger is on site to clear MW-30 and MW-24. They set up with Kiel @ MW-24 in parking but adjacent to building 6 0800 Tea and Ben finish calibrating Ysi and PIDs. Kimberly gets Signatures on 455 form from the badger crew 0830. Tea and Ben go to the badging office to get Ben's badge. 0845: Daily checklists. The sampler is set up wi new o-rings. We do a test run in the air and the sampler holds tight while vibrating Drillers begin tripping it into the hole Tea comes back 0920: Ben is back w/a badge. we start going over water Sampling procedures and Color-Tec Sampler 0930 Sampler is in place but the casing is 9 feet in the air. Joe says to do another clean-out run and drillers trip Sampler back out Project / Client 700 S 1600 E

Marc back at MW-25 to check on 1000: things the had left after the HES or was elsewhere on site. The drillers got the sampler out and it was still together and day so these 0-rings are holding well. Drillers begin cleanout run. 1010: Marc leaves again. I fill out field procedures checklist, soil Sampling portocol clucklist and push-ahead sampler checklists for the time spent at 1 5/6/20 MW-25 +011:30 Drillers have push-ahead advanced to 310.5 feet. Measured with water meter to 308.68 (meter gets Stude inside sampler and won't go down the whole way. It is dry Drillers preumatically you the sampler open and pull back casing to expose screen. 10:40: Water neter to check water Not getting a clear reading. Can't tell if I'm getting to water

Project/Client 700 S 1600 E PCE Plume

Cont'd: OR 115 tout is if the moter is hitting drips on the Casing. Drilless are on lund. 7130. Tea and Ben come over be says we don't need a water level realing after it's open we can just send a bailer down. Ben eats while Tea/Kimberly tie the bailer and 1220 Start it down & Hito Ben joins as and we bail down. 576120 pull up nothing We try again. We can hear the bailer kitting the bottom. The bailer feels day when we remove it. 300: We send the bailer down a fliend time. Left tries too, but it doesn't seem like there's water. 1330: We decide there's no water. We must have cased off the gravel unit we saw yesterday. 1345: Drillers pul the samples. It comes up closed Calthough Jeft soid he dropped to it back down and that could have closed it It's also clean-screen and orings. Project/Client 7005 1600 E PCE Plume

1400: I check with Joe. He says we should stick to drilling another 10 feet and see what we get. Drillers Switch over to drilling. Tea goes to the connex to pick up an MS/MSD Soil sample Kit. 1430: Tea is back. The wind picked up a lot in the past hour or two Caution tape is being pulled and ripped away Water meter is deconned are and ready for next time. PID is reading 0.1 ppm background levels. Check drillers' breathing zone. Drillers bag the 310-320' sample Collect [MW25-SB050620-312] Drillers vibed the sampler open 540 Water was @ 279 w/ 4 foot Stickup = 275' bgs to water. 1645. We had 2 or 3 dry runs with the bailer. World present but not holding Switched bailers.

Location SLC VA Date 5/6/20 9 Project/Client 700 S (600 E PCE Plume

1645 Cont'd: Collect [MW25-GW050620-320] Drillers pull the sampler out, then wrap up for the day. Tea back on site from shipment 1700: Tea is doing magnetic susceptib. on the 310 +320 foot come. 1730: Equipment picked up. tosi Closing fence, drillers refuel the rig. 1740: Drillers leave site. Tea warms up the Color-Tec. Joe drops equipment at connex and goes to close soil rolloff bin. 1815 DM Offs, Le

Location SUCVA MW-25 Date S/7/20 11 Location SLC VA MW-25 Date 5/7/20 Project/Client 7005 1600 F PCE Plane 5,7e Project/Client 7005 1600 F PCF Plune weather 45-65°F lishdy Weither 40°F-75F Windy 3/8/75 M 5/7/20 Screens Onsite Prep premate / Figurary 0640 Task: MW-25 Build well 318-308 Sand to 305 MW-26 Resume dilling 240 -> 230 Soudto 227 HIS failgate Just of MW25/26 200 7210 Sand to 187 0730 Topics: Fortigue , ash pants , Hest Sand 102.97 Stress Slipstrips Falls, Covid Sand 30-25 1229 Tag Butom 316 Godon for Attenders: J.M. /le CDM Jean aut B. Gran Ow K. Keller Hott Tressith Discussion w/marcabout DSR Ga P. Rose Halt. USE Technology to alcolate Solilento - Reduce Blex detects in D. Ming Single S. Campuan Holt Snap sample for a tesia, Holt 1345 Tagged hobe e 314.8' J. Janes A. Kuper Holf To: let Cleaner Onsity A. Lingden Holt wann up Egnipus 0805 Teinp Begin adding Sand 10/205/4 0830 Advance casing to 320 / Cleanort Beginadding Sand to 305' 0900 Cull uf group about screen internal Bentonte pellets 1/4" Non conto Claim out complete 0430 1750 - Chips . 272 close up 5.42 Mob Drill Rods to Laydown 1000 not casing to well site 7800 Offs te 1030 Holt Break for lanch 1130 Holt Resums Begin Bally MW-25 1200 Rete in the Rais

Location SCC VA MW-25 Date 5/8/20

Project / Client 700 S /600 EPCE Plane

1200 Holt Bat for land anding some 2 243 sup MW-25 B interfed 231 per Sump + Botton cap 10' screen 24/-231 3 Punp Recipie + 231 Blank PUC Get MW-24 permit for Golos Sand to 226' Begin adding sollate Baild MW-254 Benton Le to 244 Screen 211.5 - 201.5 Blank PUC 201-0.5 BGS (6"ontys SVP 100, Z8 Resume Backing out casing 1625 Jup 5/07 Forelago's yet 10/20 Silica Send to 197 Casing pulled to 150 chips to 157 1800

Rete in the Rein

14 Location SL(VA Date 5/10/20 Project/Client 7005 1600 & PCE PLME

7:00 toste provon l'equipment. Task mus - Build well Mester-Suny 60' F 2:30 HOS Tollgate out mu-25 See below 714 Suno 103-98 30-25 - fever chips on top - grant portural cement swifter 1.50 I' & por popos 10' clary need to go get pipe to fish it HOS tailages topics: des , traffic Toe observed cois tryingto pass bolocato in Street. Holl clans everything correctly close need to worken and for other people. that clo unsafe things Att dees J. Miller B. Correra B Bett - Clams & Rosenburg, Scottie Compnen, Mike (Quai-Clear) J. James, A Kuper, A. longelow Ver 2 HOH

8 15 Doe left SHe to pickup suscreen a moder 8.40 Hot clone prune out Casing. Oisenss Chips should on to 103, Sonal 103-98. 8:31 Holf begin powing claps The back and thopped off Surveyer. Coints go Chell on Ben, then go of tr. to Sish and thinks a pur propon Gw mus 9.53 Butonike to 130'
10:22 8" of 120
Barronto alphost to 163' 1608 Bein coldling Sonal 11-17 Sand of 97 Bein Bertonde to 30' 11:46 Chapter up to - 60' Jeff Says that they will run and of bentonite before they get to 30". Bestriller by 8"
are only getting 1-1.5' in 8" latos on here - 20 bags (eft.

1120 Hold working on installing

vell vant.

236 Breil for lunch.

helpers to walk on moving

pallets until Ste treffic dues

down of prevent vahielys from

type, to speed around (coursing accidet.

Project / Client 700 1600 2 fc plume 21

7:00 come onste, setting emprent really, somple Kits, propermore. 7:25 No 5 talgate Topics: Traffic / Falique Attendees: BBott - Coms J Miller - CDrs B. Conson Coms J. Jores - HoH A langoen - HoH. A. Ruper - Holl Partogenburg - Holl S. Lampney - Hold m. Lein - +161+ (RH) 7.35 Hot warming up arou vig gettine comes & Fereing 3ch. Begin pussing in sipe 8-05 Clleit Marsa - SB051220 - 43 - Clerk Mu24-5BOSD20 - SC 840 UFD 16- SBOS 1220 (8:50 Am) 1000 Called Mus 9-5805/220-61 put piece of Caging in to fy about

putting on ppe

9:05

Stat drilly

pure 130- 35.

pured 125-130, he han realing

Collect MW 24- SBOS 1820-132

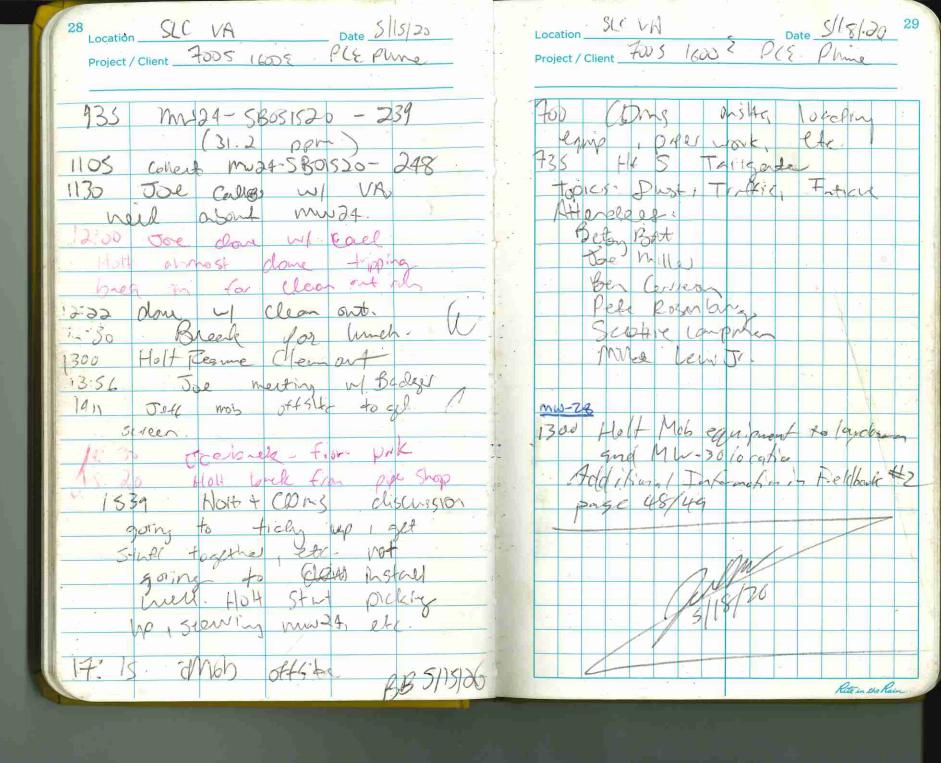
(24.7 ppn)

22 Location SLC VA Date S/12/20
Project / Client 7005 (600 & PER PLVNS 1100 Wash over casing to try to Fine (are Painel Used goorox, 200gal Collect My 24-58 051220 -84 11:45 Brak for buch. 11:15 12:33 Bala Fran wuch princial 85-90' 1205 1330 Mb Sample PID below 80-85 print to 100' no Sample corrected, low hits 1916 Trouble getting Core bornel out. 120 Check mul2+-58051220-104 1990 How propag water from Ry Containert 1515 Te Call to Marcaport holde escort to Mu-De location/Rig 17.05 mw24-5B051220-119 58.8 ppm 17:45 Hot at 125' bas 18:15 Offerte BB 5/12/28

24 Location SLC VA 13 Date 5/13/26 Location SLC VA Date 5/14/13 25 Project/Client 705 1605 PCE Plume

Holl A 135-140 930 mw24- 5BOS1320-149 1025 Stated Kning Hult (Nothing on Vanilla special Born do Chryling 1100 @ 150-155 Carect mv24-5BOS1320-152 1130 155-160 n 5mole going to try to contect perhed water small 11:40 Hold tolk lunch 12:00 Collect mid 4 - 6w 051320 - 160 4 ms/msp 12:45 Holf balk from buch. 1330 Guer mud4 - SBUS1320 - 166 1430 GILONMW24. SBOS1320-170 1500 175-180 1555 collect Mw24-5B051320-186 + FD19-5B051320 1600 Dall Rig Break Auge Bacc 17:20 Beten working up Colortech 1800 Colorted results no for 16 BB 5/13/20 mos offste

70 CONSMILL ONSHE 4:25 H+5 Tengente Topics: Traffic, Frage, Don't VASh. - Fishing on mw21 evens Crews - continue christing must 8:07 - 146.20 to god chi Capel mu 24- 25/120-192 (23.5 pom 0:50/ Cillect my 24-051420-202 - (33.4 ppn) 1145 Betsy to was atch for sample Supplies, Joe Mille Superising Holt Beak for lach 1200 1230 - Expain Printes, write up how she did.x writepscreen placement pypoplace what measurers to e being long 1300 Betsy Back on ite 1310 Jang Replaced, Holf extrude supple from Cox barre & Postures dr. Iling 13.43 on pipe is wet at -185



Project / Client 700 S 1600 E PCE Plane

Begin adding Sand 10/20 be as Pull Back -ell settled - as' Continue to add Sand pull casing 10' Resam 1415 pull casing 10 Resure 1440 Tag tape stack @ 40! Dull 10 casing redusing 1500 Resur Pullo' casing sand to 201 Begin adding Bonton it chip had P-11 10 casing Resume adding Resure adding Pull 10 rast-Benton Le Chit Pall to casing byelfale tales torking to sold the 1635 Pull casing Chils to 100' Pull Gang to 110 chips to 1720 bef + gite F-2

Project / Client 7005 1600 E PCE Pluc St 37

0700	Ongit	e e Co	une jos	load up	Egopon
5730	f	10000000	e_@	180	- CO.
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0812	Begin	1/8/	core to	errel +	q" (aging
0845			220-		
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	F020-5	305277	Oc go	c (29'	Parent
1015	mw30-	50507	20-48	01015	
1125	mw30-5	30522	20-53	e 1125	
		3			

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2220-102 01536
lagedonnare to
C Toe to Come
1/2
2/20
Pote in the Rain

Weather: 68°F, light breeze, mostly Sunny, some clouds 0850: Arrive on site (Kimberly Yauk) Will be meeting Mark Augustyn to pick up surface completions 6- MW-24 and MW-30 (3) 0900 Head to Sunnyside Park to check on come placement. Call en noute saying MP Environmed, is already there to drop off the soil rolloff bin. It gets placed in the most southwest Corner Landscaping crew is out mowing the lawn. 0920: Photograph bin and place cones then head back in to the site. 0930: Call from the delivery guy (Richard) with the Zist tubing. We're held up by a semi truck making a delivery loe says to leave the pallet by the laydown area. 0940: Mark Augustyn on site He drops two completions at the

0940 landown area and leaves cont's He'll send the invoice to Neil. 0945: Pallet is dropped off. Richard leaves the site. 1000 Blake arrives on site from Wasatch He reads SSHP and Signs it. We check out the Secondary containment and poly tanks. Trash pump has 1020 Holt is on site at the laydown area. Jeff Comes over to find us. 1030: H: S tailgate AHEnders: Kimberly Yank COM wasath Blake Jeff Jones Holf Holf Alex Jacob 1045: Blake oversees completions and I take Jaco's to the budging office. 1115 P Drillers Set up ad MW-24

Project/Client 7005 1600 & PCE Plume Project/Client 700 S 1600 E PCE Plume

115 Cont'd: Hole is filled with
bentonite, not concrete and it
is not set yet. Drillers will
have to dig some out.
I drive around to check out
the other crew's site.
1145: Retern to MW-24. Crew is
mixing concrete. Blake and I
go to Sunny side Park to check
out the sites and meet Badger
(expected spon)
1200: Badger arrives - Rich Gonzalez
and Daniel Arellano.
We show them the holes and
call Jeff over to confirm
locations are ox.
1230: Holt has issue with PVC
heights at MW-26 - one is
for now they should first
For now they should first
Clear Soil from IDW yard
to make more room for badger.
1345: floit finishes remains soil.
Badger Existes clearing MW-29.

1445: Holf gets per gravel to fill open hale Drop off Some fencing. Badger clears MW-31 to 10 Ceet (PID= 0.6 ppm) MW-29 was 0.3 ppm Dand 8.5 feet deep-very gravely 2056 blye cosbled. 1500 : Badger goes to IDW yard but will wait for us before unloading. Holt fills bore hous with pea gravel (MW-29) and pea gravel and bentonite (Mw-31) 1530. Meet Badger at 10w yard empty water into the Secondary containment the Site. (wasatch) 1540: Wolan Konan arrives on site. 1630: Tried Dumping water offnot working Dump Soil Badger is Jone. Rite in the Rain

Project/Client 700 S 1600 E PCE Plume

650 Hoto: Badger leaves site. to MW-26. Holt put fencing around both drilling locations. I bring Zist short connecting pieces and we lower 325tickups and raise one. Last stickup is high left thinks the Completion will just have to be above ground. Will buy 2x4 wood and plywood for the park. 1730: Close up for the day Drilles eave site. Head to Connex with Nolan. Show him the PIDS and Color-Tec. 1820: Swing by Jaydown area and badging office so Nolan Knows Where they are. 1830: Leave site for the day.

Location 516 - VA Date 6/1/20 Project / Client 700 5 1600 E PCE Plume

0700 - F. Marris onsite at MW-29 For Failgate that angeting wo/ CDM Swith crew and HOLT drill crow# 2. 0800 - Weather 760 F Partly cloudy Clearing with Gogs low 900 F. PPE for D 0815 - Followed Nolan to badging offices, 09:0 - Photo taken waiting for badge, four of sits log down and comex boxes. Move sampling equip to drill site. 0950 - Picked up VA badge and make to MW-30 location. Wasting on Host drill crew. 1015 - Nolan to store to supplies 1120 - Nolan and Frank to MW-29. Observed magnetic susceptability readings 1210 - Break To lunch while drill crew drocn. 1240 - Back onsite @ MW-29 Still WOD for MW-30 continuation 1312 - Pushahead samples down @MW-29 -250. WL = dry in sampler @ 248.6 bgs UNL = 154,526gs behind rods in CSg.

Project / Client 700 S 1400 E PCE Plane

MW-30

0650- F. Morris arrived onsite at MW-29 for tailgate meeting Drill crew#2 ensite weather: High expected upper 80 F not as hot today, clear to partly cloudy PPE: All activities Level D 0705 - Moved to laydown for satuly briefing and loading supplies. 0745 - Mobe to MW-30 setup to drill @ 110' 0800 - Inspect and fuel drill ma 0805 - Warming up will install 80 casing to 110 clean and then start drilling core. 0825 - Cosing down to 100 bas Thread popped. Shut down temp. to Eheck w/ Jeff to borrow coupling I Mark onsite 0835 - Ratrieved new compling and will drill out us core barres to 120 0940 - PID no air flow error. Nolon to retrieve another PID from Kim 0945 - start core run #13 120-130 1015 - Retrieved Run # 13 MW-30 SROW 023 1025 - Started core runt 14 130-140 The Rete in the Rain

Location SLC - VA Date U-2-20 Location 52C - VA Date 2-2-2047 Project/Client 7005/600E PEE Plume Project/Client 7005 1600E PCE Plume MW-30 MW-30 1105 - Refrieved core run # 14 to the 1525 - Retineving core 170 to 180 Note: BZ @ back girsund oil ppin 1630 - Retriving core 179 +0190 Dollar's encountered hard rone and Note: Notan to process samples shortened ran. Sample MW-30-5B060220135 and skip for quick Turn Around 1215 - Started Run #15 (131'-140) 1200 - Refue ling drill rig and seems 430 - Retrieved core 136 - 140' rig. Drilled to 190 bgs today 1140 - Started Run #16 (140' -150) 1765 - Nolan back onsite to Kelp 1202 - Retireved core 140' to 150' evith photos of last 2 runs of core 1215 - Break for Junch (14014) continued logging and magnetic suscept. readil * Note: 5 ample MW-30-5B060220-178 1245 - Drill crew started to advance cornd @ 1525, Will ship on 4/3/20 8 to esq to 130' and 7"\$ 199 1945 - Driller elean and secure to 140° MW-30 5, Ac. 1305. Switch to 6th Come barrel 1800-F. Morris and Nolan mose to For Run #17 (150'-160') MW-26 to mest Kim and replace 1315-IDW disposal run after ZIST riser that was to high for drilling to 160 Feet will delay installing flush mount surface retrieval. completion Kin documented 1345 - Refriered core 150 to 160 procedure with shotos. 1845 - F. Morris Offsit Samplad MW-30-5B060220-151 1420 - Retrived core 160 to 170 sampled (MW-30-58060220-169) Ligher P. PID 104.7 ppm and magnetic 4:22 Frank Rite in the Rain

Project / Client 700 5 1600 E PCE Piume

1300-Back to MW-30 and retrieving the next core run (204 to 210) 1325 - Drill crew to dump IDW drill outtmas. 1405- Retrieved core 210 - 218, Started PID and mag reladings but both instrumento crapped out. Will hold off logging this run. Notante get the extra PID form Kins. 1430 - Drill crew#1 proceeding W/ coring next run from 218 basi 1450 - Nolan back onsite w/ Mark VA representativo Molan toprocess samples 1455- Retrier and Core 2/8 to 230 * Sampled MW-30-53060320-222] 1605 - Retrieved core 230 - 235 Water on core barrel. Pete Jays water was probably 240 to 241 Based on drilling. Drill crew will advance 7 cs to 240 and clean out be for p Bushahead in the morning 1 1635 - Retrieved core 135 4 445 Sample (MW-30 SB060320-237) 1735-F. Morris offsita

Project / Client 7005 1600 E RE Plume

MW-30

0915 - Driller to get teffor tape O-ring on pushahead sampler. 0930 - Deem pushaherd sampler and collected Fred Blank EBZ6-GWO60420 0950 - Probe down to depta 237-238 WL= 230.8 bas / Will collect Sample MW-30-GW060420-2371 Very tarbil pH=6,64, temp=18,56, ORP=-118,8 cond = 1.430 m/cm DO=4.52 Note: sample was very furbed and unable to till 40-m VOA vial- Wo air and fines entrapped. 1105- Trip out rods for Run# 29 1115-Retrieved core (245-250) and (250-260) Lower core borrell (100 Core (5 Cag@ 260 and cleaned out to depth 1215 - Break for Lunch 1245 - Worllers of more IDN and decon pushaherd tool. 1248 - Checked WI in casing a 236.4 1310 - Drillers back from decon pushahead fool. Start tripping in For push @ 260 bgs

Location 546-VA Date 6-4-20

Project/Client 7005 1600E PCE Plume

MW-30

Note: Drillers use teflow tope around O-rings to help seal screen from dropping during installations. 1335 - First attempt at opening sereen did not produce water tring vibrate 1355 - Second attempt did not yield water @ 261-262. Will trip out and inspect sampler. 1420 - Screen caked w/ mud (no water) screen was fully open - Photo taken 1430Will trip in core barrel for 10' run, 1505 - Retrieved core 260 - 270 3 mmg Led MW-30 5B 060420-266 1520 - Drillers adding of prasing 40 270 bys. 1600 - Tripping in 6" romind core barrel. 1645- Retrieved core 270'- 280' 1705 - Drillers refueling rig and will deen push ahead tool. 1715 - Cleanup Site @ MW-30 1730 - Check in w/ Kim at Connex 1755 - F. Morris offeite Frank K. M

Project / Client 7005 1600 & PCF Plumo MW-30

0630- F. Morris arrived onsite. Proceeded to comex to load equip-0650 - Calibrated PID # 045671 0715 - Arrived at landwar for tailgate & Health & Safety meeting. 0735 - Mober to MN-30 to setup, Blake (Wasatch) arrived for tailgate @ 0730, Blake of Fsito to get ice and water. 0800- Drill Crew #1 warming up drill Tig. Blake back onsite MW-20 0805- Tagged bottom at 278' 0810-WEV= 230,7 bas Prop. for pashahend tool @ 278'-280' 0825 - Start tripping in push tool 0845 - Sampler dolla 239-280 WL = 234 bas in pipe/rods. 0850 - Sangle MW 30-GW060520-280) 0915 - Trip in with core barrel. 1000 - Retrieved core 280-290 bgs. BZ = 0.1 to .4 pam > 50mpled MW30-5B060520-286) MS/MSD Note: Saturated Zone 288.5 to 290 bgs. 1100 - Retrieved core 290 to 300 650 1125 Priller - break for furch

0745- Mase to MW-30 For setup

0805 - Start tripping in cul push tool

0900- 5anpled MW30-GWO60720-320

0920-5+art core run 7 360320 bgs

1135 - Pitkup site after storm bleer

through ripping up plastic Sheeting and fent. Mag Susapibility meter

got wet Tred to let it digout

1145 - Continua to trip core bartel

1156 - Retrieved core 320 to 330'

1245- Retrieved core 330 to 340

1340-62 csq to 340 x cleaned out

Sample MW30_58060720-336

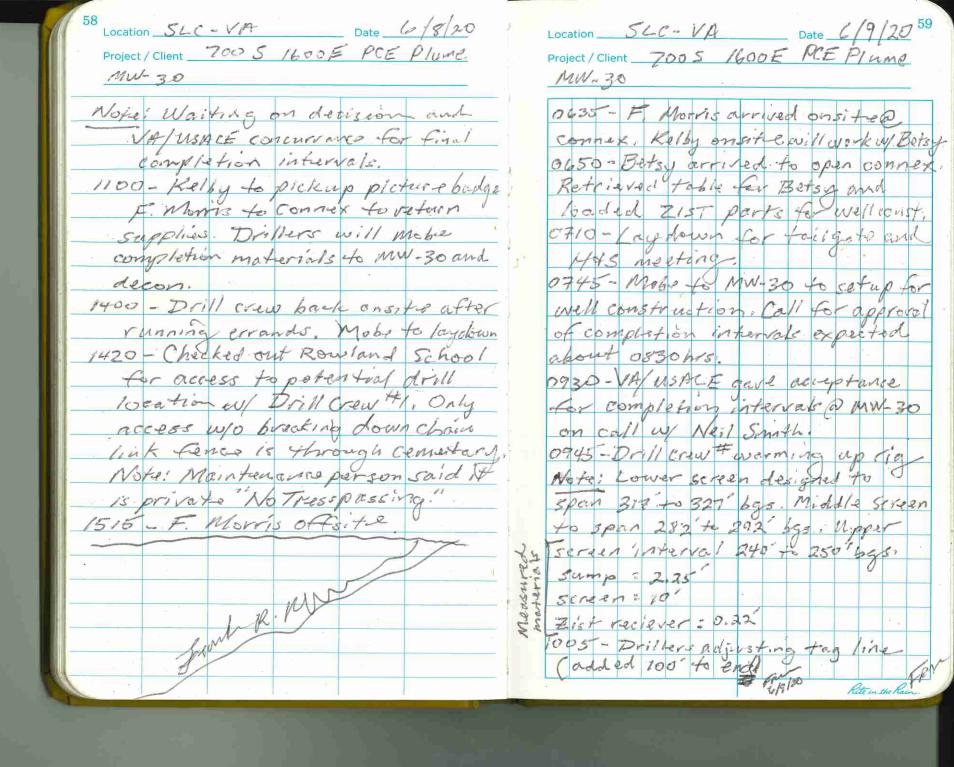
to sample GW @ 320'

0958-Tripping out rods

Location SLC TVA Date 6/5/20 Project / Client 7005 1600E PCE Plume MW-30 -1/30- Equipment blank sampled off of pushahund probe EB27-GN060520) 1200 - Install push sampler to ~ 300 Kest. Boring tagged @ 297' due to some collapse. 1245 - Sampled MW30-GW060520-2981 pH: 7.02 . 1310 - Drillers swap out push fool for core sampling, 1415 - Retrieved core \$ 300 - 310' 15:5 - During retrieval of core 310-320 drain phylots of water on rods-up inside 1520 - Retrieved core 310' - 320' top 3 missing (washed out?) 1520 - Took opportunity sample * 1010 - Lightning, stop work; @ high PID reading > 400 ppm 1550 - Drillers will case off openhala and prepare to GW sample on Junday @ 320 1730 - Site secured F. Morris offsite June R. M.

Location <u>SLC - VA</u> Date <u>V/8/20</u> 57 Project / Client 700 5 1600E PCE Plymo MW.30 Weather: 41° 1 light rain 0645 - F. Morris arrived onsite No one at connex (locked gate) Reviewed completion recommended Intervals a MW- 30 0655 - Kelby arrived onsite @ connex. Drive to lay down area 0705 - Drill crew # 1 arrived onsito 0715 - Betsy arrived a lay down area for tailgate and Hts meeting 0740 - Mobe to MN-30 and warm 4 terrosonic rice and attempt core retrieve 0810 - Core barrel loosened up and start tripping out Work on Jaws 0925 - Refrieved core 340 to 350 1005 - Bety arrived and helped process last core run and sampled highest PID Zone @ 343 for ferrous inon and filled soil Lags for future mag. Jusep 1011- Neil out to MW-30 to discuss completion intervale. We both agree that the last 10 come was not likely to yield much water. 1050-Mare Yalom (VA) onsite @ MW-30

Rite in the Railey



Project/Client 7005 1600 F RE Plume

MW-30

1310 - Pulled another 10 60 039 to 310 Age 1330-Lost spliced togline 100 in bontonite a 304 by S. Go Cohing 350- Doll Full crew was successful at retrieving lost togline, 1357 - Putiel 6" pc = 9 to 300 bgg :405 - Tagged bentonite @ 297 added 1/2 buckle A pellots and toraged bentom @ 295,2 1420 - Install middle well 4751 B Jump/screen/Zis 4 reciever and riser keep well hanging in working positio 1445- Add Filter And KAR Delay honkin 1515 - Pulled 6" 0 csq , to 290 bes Trouble changing out schacles between casing inline outline runs. Well dropped below completion interval Will need to hook up and lift through some sand park - 1.5 - successful 1535 - Continued to and filter pack Tagged sand @ 285 bgs. Pulled csq 3 to 5 and contindoling sand 11/2 1555 - Pulled 6" \$ csg to 280'

Location St.C - VA Date 6/9/20 Project/Client 700 5 1600 E PCE Plane MW-30 1020 - Start well construction chuck exireling. Tag depth @ 350 openhole 1025 - Adding benforito med chips Pure Gold 5016 bags (4)(2) tag 334" 1040 - Pulled 6" Besey back to 330 1048 - Add 1/2 bucket bentonite pellets Pol-Plus CETCO 3/6" Coated Tablets" or 14" Pel - Plug (non conted) to 330 hop 1055 - Started adding sump/screen/1886 F. Marris to scrowings up 5 riser so as not to use up short comes and Sump (2') o. res. (ZIST C) Desprest 1132 - Well + riser hung at 329.2 bys. Start adding filter pack (Washed dilica Sand 10/20) 50 16. bags 17H 111+1/2 1215 - Driller had to pull well string up " of release hanger coupling. Then dropped to proper level. 1250 - Pulled 6" O Casin SiD Viep of sand @ 314,4 6gs. Added to bag more, 313.8 40p of filter pack. 213.8 1305 - Add coated pelletsup to 295 bgs No.# Buckets M1/2 from

Location SLC - VA Date 6/9/20 Project/Client 7005 1600E PCE Plume MW-30 1600 - Tagged sand @ 279.5, Will add one more half bag. 1605 - Tagged @ 275 will vibe sand pack down and re-tagatter compaction. 1610 - Top of sand @ 281 add one more baggi 1415 - Top & filter pack Zist B medium depth @ 278.9 bgs. 1625 - Pulled 6" \$ csg + 270' Adding panton, to pellots up to 253 bgs, 1630 - Drill crew will leave pellets to swell overnight with n3 open hole and check in the morning Tagged bentonite pellets @ 273 Will install ZIST (A) tomorrow, 1645 - Chacked in up Neil and Batsy with an update on Mer-30. 1700 - F. Morris offsite grown CW

Date 6/10/20 63

Project/Client 700 5 1600 E PCE Plume

MW-30

0640 - A Marris arrived onsite at lay down area. 0700 - Drill Cruw#, arrived onside 0705 - Mare Yalom arrived fortaileato meeting and plan for foday 0725- HAS Briefing completel 0740-727040 to MWX 30 For ZIST(A) completion Tagged bentonito@ 273' 0750 - Warming up Terra sonic 150 1158 0810 - Continue adding bentons to pollots fo 253 6gs. (Pel-Plus 0815 - Pulled 6" \$ csa (240) 0830 - Taggal benfonite @ 294 6gr. 0850 - Tagged bentonite @ 257 bas after phylling 6" of cse (250" Address one more bucket of pellets 0900 - Tagged benton to seal @ 253.7 Drillers will begin hanging well string sump / severen and riser (Note: no zist reciever for shallow completion) 0940 - Started adding tilter packa 253.7 40 at least 237 1000 - Prep to pull remainder of 6 Pros (7"\$ set@ 240)

up all three well completions sellen!

Project / Client 700 5 1600 E PCE Plume

MW-30

Fret and were exposed after disjount isint. Exact amount is centroununtil Fiser gasing is out and extruded 735 - Notre ed Neil Jon: the and Beter Both Holt drill grew contacting their officials. It pulled, as it appears, the completions are completely destroyed. 1458 - Discussed options up/ Meil but don't see any good ones, Best might be to drill out w/ larger diametest tooling but would be risky a depate greater than 300 in these collusion sight conditions 1530 - Took photos of cut and extruded risers; Sounded bottoms but either 4 to 5 freed of bottom for EAST (A). EAST (B) could not out to turthan than 1280 possible brusk at hugh 1648 - NEIV arrived to discuss MW-30 aptions. We shink best option to bear 8 0 csg at 130 sand ream out up 7' & down to the 330 if they have enough 7" casing. Rite in the Rain

Location SCC VA Date 6 12/20 69

Project/Client 7005 1600 2 766

MW 30 Install

* Still tagging sand at bottom of Casing ~ 280 - Plan to remaile next section of Casing + re-messure. 1650: Casing removed - 270 casing in ground, tag depth 273' Likely natural formation collapse and minimal filter Pack around screen Planto leque for new re- measure on Sunday Am. If open to a deeper depth, can add more filter Pack of needed. 1715: Off site

Location SLC VA Date 6/17/20 Project/Client 700 5 1600 F. P.CEPlum neither 50-65% chance of Rance Holf Development (ver Orgite 0750 Kiel Kelle Escat to Budging office Calibrate VSI to 36520 0810 Setup, MW-27 presheresh 0900 Such Buile 0435 In gote Harders Lift (rugh Hazirds tiel tolle Justin Raveret Begin Bailing 1005 Begin Surphing 1930 1165 270:1" Tag TD Bail Silty Letsette Resoure Bailing Joe miller 1200 Inch Breek lunch over bailed one more home -1230 very little sed nent 1240 setting up to pump

- Holt tips over Hoppe 2/ -205g/ -te-/5:14 Serbert rads were deployed and less than 10gg/lons Readed dais Dare Valor VA - Carlos Agenta y were Not Rid 1340 - Scripes up Remaining 1345 Reguest Analytical data for M427 Sont to UA 1406 186.90 DTW B65 Paryo On sinp off 360ga / total tral tob 757 in to Dall Dup BO Purp A- ped out of full-27 Tag Bo Hon 220'2" Holt our offs, te Collect Blank of deconnect Sugb = B32-64061720 TB42-64061720 Rite in the Rain

Project/Client 7005 1600 F PCF Plane 0648 Onsite HIS tailgrafe Topics coup points Spills Attendors J. Mille CDor Som. Hs. Whitney freadray I wasn'th Pete Rosenburg Holt Scottie Lampurer

Ronnie Buret Jostin Ranging 07ths Ask Brile plant guys to me Stem L'the track By well

0-150 Kiel Keller (grasation) taking uples 0750 Set of at me 24 of the developers Sireca 201.5 - 239.5 (should be)

800 184.58 water tesged bottom tagged at 239'11 bas felt like no sed in below

0805 ruching 0955 Come soubby, will let settle Location SLC VA Date Glarko 75 Project/Client 7003 (GOSE PCO Plane

1905 - nothing so Hed out out pail a the 0920 - Buled 3 imes jet a randi was or pre shows no sed will Set us of to purp you 100- water depth! 18455 1040 - Story is to Rempty total 1110 - Sterling to puny your like last line but calculation from Time to 250501 1200 - EB - GWOG 1820 - From Swab - property done at 1151 Son to empty tot now 1240 - Developer 5 are asced to pur 28. I have toles emply and we are ready to start 1245 - MW28 - Screen: 140-210 680 DTW: 185.73 TD: 209.3 bgs tagged.
225 gals total pumping needed

Location SLC VA Date 6/25/2079 Project/Client 7005 1600 E PCE Plume MW-32 Sunny moderate breeze; hat 1045 Cont'd: Drilles leave to get porta-potty I call Joe to let him Know the Status - I think we can get a Sample 1105 Drillers are back with the porta-potty. I ask them to install the push ahead sampler at 175 feet 1130: Sampler advanced to 175 but casing has water crew pulled it back up and it appears closed so we're not sure how water got in Change washers 6/25/20 & 6/25/20 D-rings and re-try. 124 1200 Northen asks about 2-inch casing. We are hearing from More about it. 1210: Sampler advanced, Drillers take lunch, 1215: check water level - it was day when they advanced it and now that they attempted to open it there is water to 164 feet (11 feet of water) TOM breaks for lunch. Emma stops to check in 1230: Emna leaves for Are Hardware.

Project/Client 700S 1600 E PCE Plume MW-32

1240: CDM done with lunch. Prepare bailer (First bailer had a crack on the bottom)

1250: Collect MW32-GW0602520-175] 1300: Northan says Rowland Hall well is a "go" and drillers should prepare to have 2-indh casing for

2 wells. CDM Staff does chain of custody and finishes logging. 1330: Drillers continue - they do a 175-190'

run. Collect MW32-88062520-186

Bottom of 190 was very hard and dry so drillers continue to 200 feet.

1445; Call from Kelby about hotel.

Lobel [TB 49 + SB062520]

1530: Drillers by 90 - 200' Soil core. Bottom is dry to moist gravelly 514 Drillers go another 10 feet

1010: Drillers bag 200-210 Soil core

Collect [MW32-SB062020-203/ 16ho: Bottom is moist to wet sandy gravel / gravelly sand so I ask the drilles to advance

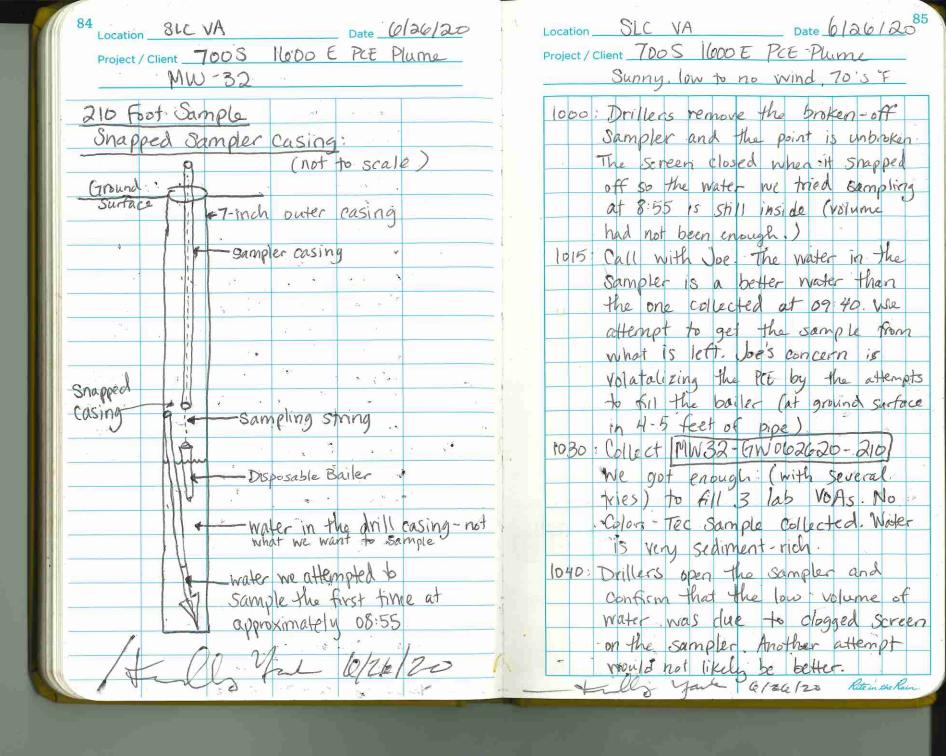
the push-ahead sampler,

Location SLC VA Date 6(25/20 81 Project/Client 7003 1600 & PCE Plume

1630; Drillers go to pick up more 7-ind casing pritters 1700: Drillers neturn of Bring outer casing down to 210 feet 1730: Drillers advance the push-ahead 1750 Sampler to 210. 1800: Push-ahead Sampler is in place \$ 612512 Check to see if it's dy-it's not. There are 8 feet of Water in the casing. We will try again in the morning. Drivers close everything up. Breanna gets PID charges from the connexes and locks everything up 1810: Drilles leave site. 1820: CDM - Breanna, Maria, & Kimberly leave Site. LATE ENTRY: 1650: Collect EB38 - (710 SB062520

not from the sampler Screen.

to Romland Hall visit later today



Location 8LC VA Date 6/26/2087 Project/Client 7008 1600 E PCE Plume

MW-32

1300: Go to meet Marc and Ann Bennet at Rowland Hall. 720 Guardsman Way, North Parking Lot 1330: We discuss the location and accessibility. We agree on a location in the targeted area on the north side of the access road, East of the retaining wall that has non-native Fill on it. Weeds are not too bad. 1345 30 x 70 Foot area is marked with Spray paint for utility Clearance, Leave Rowland Hall and Head back to MW-32 Note: Mare was interested in the drillers' schedule next week. Marc Will be out of town July 3 to July 7th. 1400: Drillers continue drilling from 230 feet (dry to moist gravelly silt) No water encountered. 1430: Collect Ferrous Iron Sample Will need to do an EB and Clasific 6/26/20

Project/Client 7003 1600 E PCE Plume

Mw-32

1600: Kelly takes samples to FedEX 1620: Kelby back on site. Cog and photos are caught up to 250. 15 for Dallers are down to 270. 150 I ask if we can stop for the day and pull the core on Sunday It ff agrees. Slight issue with casing. but he Figured out a way to close the hole overnight. 1700: Drilles refuel rig. We discuss option to work on Saturday instead of Sunday. No one has a preference We stok to original plan. We begin closing down for the day. EB sample will be first thing in the morning. Hopefully we can get gn a 270 too jest thought the formation was looser / less clay. 1745 bock rolloff and leave site. Kelby and I drop items off at Connex, charge PIDS, drillers drop off samples to decon on Junday and throw track. 1800 Lock gate and all leave VA hosp tills you 6/26/20 the in the King

Sampler "

Location SLC VA Date 6/28/20 91 Project/Client 7005 1600E PCE Plume MW-32

0745 Cont'd: Drillers to what small maintenance items they own without turning on rig they will wait until 8 am For Bise complaint reasons. 0800: Warm rig up 0830: Drillers Gag 260-270' Spil Core 0835: Drilles start a deanout run and bring the casing down to 260' (as far as they can go with the 7-inds). The batter for the camera did not charge even though it was plugged in all day Saturday. Use phone Soil come is still clayer but seems to be getting wetter will try the push-ahead. 0940: Push-ahead sampler is just touching slough on the bottom Check water level and it is day in the Sampler. 0945 Jeff advances the sampler to 370 through the sitty grave

Location SLC VA Date 6/28/20 Project / Client 7005 1600 E PCE Plume

10745 Cont'd Jeff opens (attempts to open) sample. at 270 but it's dy. He thes to vibe and pull it back more and it's still day but it feels like it should be open (air pressure etc.) 0950: We want a half hour to see if water will come in. 1017: Check water level again. Still Day Jeff tries to open it more. 1020; Resident at 1331 (across street from well) came out to ask how long we will be drilling. Commented on the weekend work and wanted to Know what follow-up work would be occurring (will the drill rig be back for monitoring no, it's a much smaller operation) I gave him a flyer and pointed him to Shannon Smith's contact into. 1030: Must be day left vibes again. 1035: It! day. Drillers trip it out to see if it opened or if it's dogged. 1130: Drillers advanced the push-ahead again (it news opened last time)

1180 Contide This time they used only one oring with plenty of tefton tape additionally they wrapped tefton tape around the seam of the point to further prevent it from falling out: 3 The sampler would only go to 167 this time, Jeff coundn't get it to go more. Campler is dry Jeff opens the sampler 1130 With Sampler open, there is N2. Seet of water in the Sampler. We wait 20 minutes for water to come in. 1150: Send bailer down 1200: Collect MWS2-6W062820-270 1210: Kelby runs Cofor - Tec on the 270 Foot gw sample. I group text Neil Nathan/ Joe A- confirmation that we are done if it is ND. 1250: Kelby's results on Color-Tec are non-detect. 1300: Tentative OK from Nathan and Joe. Drillers start pulling > Project / Client 7005 1600 E PCE Plume

1300; the core barrel out.
1315: load core barrel onto mick to bring back to laydown area for decon. I watch dark clouds to the southeast for lightning 1320: Clouds lighten slightly Rain Spatter 432 1330: Some thunder. Drillers are just closing up the fence we close and lock the roll off bin. 1400: At the landown yard. There is sin! Hunder and lightning in the rainclouds to the west. We shelter in our cars for a little while. 1425: Weather Bug app lists nearest strike In the past 30 minutes at 3.4 miles away Distant Hunder 15 Still audible Blue patches to the sky lightning is out by Morgan now, 15 + miles away. 1430: Lightning is along the wasotch front. 1450: East lighting is >10 miles away West lightning is coming but > 30 miles.

Location SLC VA Date 6/28/20 95 Project/Client 7005 1600E PCE Plume

1455 Holt begins decon of sampler and Core barnel. 1500 We gras the sampler after it is 1520: Collect (EB40-QW062820) of the deconned push-dread sampler Deconned after Mw-32 @ 270' 1525: Collect 15841-8B0628201 off the deconned soil core barrel (looked like 6 inch diameter - Joff confirmed it was what was used at MW-32) 1545: Site is picked up / secured. 1550: Kelby leaves site with Holt. Kimberly locks samples into Connex and looks for soil vapor probe size (at Jeff's request) 1420: Lock corner and gates. 1625: Leave Site llo Vach 6/28/20 Rtom the Rois

Project / Client 7005 1600 E PCE Plume

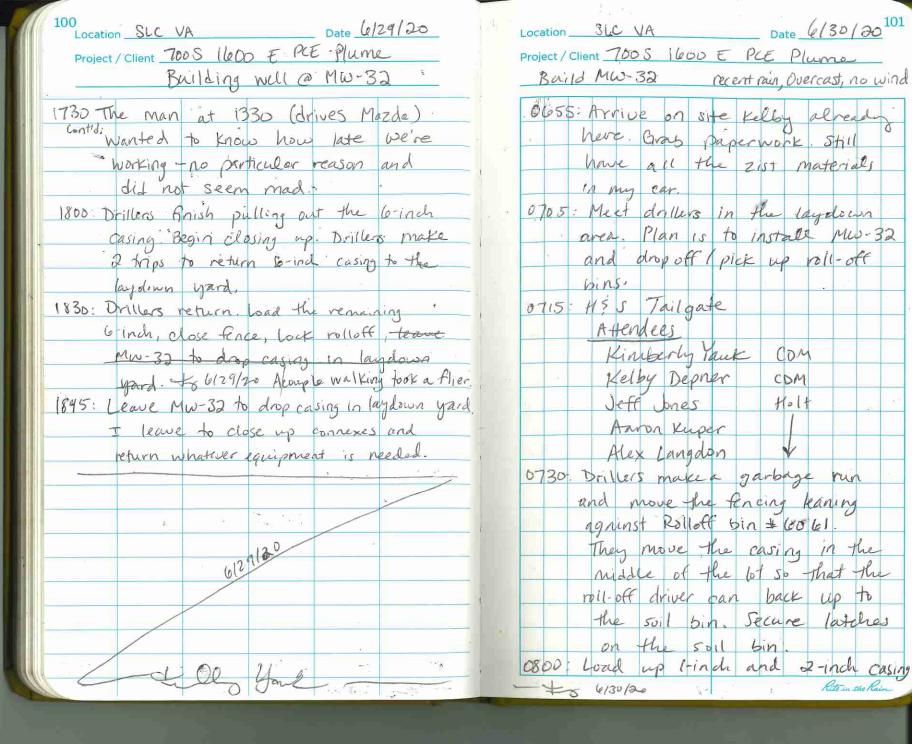
0645: Arrive on Site. Kelby is already loading things. Put Scanned papers into file, grab equipment and samples (from yesterday. Kelby brought fresh (ce). 0705: Meet drillers in laydown area. Plan 13 to get final approval on Screen intervals at MW-32, drillers to buy annular materials. Safety Meeting - discuss lightning and rain 0730: Drillers fix sides of decon containment Containment - they were falling over then leave to start getting supplies. Jonsey has a 9:30 chiropractor appointment. 0800; Kelby and I make IDW gw sample sets and labels. We will sample poly trinks #1 = #2. 0830 Call to discuss zones - Na WENTS 2-inch from 14-124 and Finds from 172-180 and 260-270 feet . (no zist receivers) 1 6/29/20

0900; Let drillers know the plan. Jonsey needs written approval From the Utah Water Agency in order to install with those specifications because by law, the 2-inch can't go deeper than 100 feet if we have 2 other Hinds wells to install (due to annular space) 1000: Sample Tank # 2 Late Enty: Collected/DWOG-GW @ 0845 1 062920 1000 Contid : Collect 1 DW07-EW0629201 from poly tank #2 (Black) 1100: Bag ice and prep coolers. 110: Kelby gets more ice 1130; Drillers back on site 1200 bated with some casing (should take 3 trips to bring it all). 1315: bringh casing installed. Drillers go to pick up cone barrel and for tiles Jul 6/29/20 Reter Rite in the Rain

Project/Client 7005 1600 E PCE Plume 99

68°F. Sunny! cumulor clouds

1500; I didn't see it before thous emptied the happer. I leave to go pick 1600 1 February Zist is prepared and I go find the threaded top 1630: We begin setting the deepest well. Top Cap is marked "B" but the label is coming of 1705 Deep casing is at depth W/ 2 Not sump from 272 to 270 and screen from 270 to 260. Drillers bring annular material's over on a pallet. 1730 Sand filter pack is in place and drillers pull out all the 6-inch Casing- The man at 1331 was outside Watching. He had no further questions. He was interested in how deep we were and wants to Know if the results are made public. His name is Ken Smith. He and his wife are from Packamento originally. Retein the Rain



102 | SLC VA | Date 6/30/20 Project/Client 700 S 1600 E PCE Plume Build MW-32 53°F, Overcast 0830: At MW-32 Begin unloading casing and starting up the rig. Kelby cleans off some 6-Ind sections for the tops of the casing. 0900 I responded to Marc's email to Ann (Per Marc's request). Ann was not expecting the bin and does not want it until this affermor or tomorrows. I respond to clarify and send Kelby to look for the delivery guy to intercept in case deliver guy doesn't call Prist. 0910: Sand is up to 257 Feet. 0930: No word on rolloff detiveny. Neil wants a soil vapor probe around 20 feet with 2 feet of sand on either side. No response from Ann. 1000: A city utility guy stopped by to ask about the MW-34 location. His map isn't working right now, but he thinks its just a storm >

Location SLC VA Date 6/30/20 103 Project/Client 700S 1600 E PCE Plume Build MW-32 56°F, Rain (000); a storm drain in our area He WIII look at the markale covers and a water line coming of the school He does not want our utility locators to open his big manhole (For safety). He left his card Adrican Boogaard, 801-243-I email Gene Streiter to ask about the soil bin. Grout is at 1240 feet Rain propably isn't helping the process. 1100: Call from MP Environmental (cinad) Driver is being located. 1105: Chad says MP driver will arrive in 1 to 1.5 hours (12-12:30). I text Marc and email Ann (Rowland Hall) 12:15: Drilless have casing out up to 2001 and are still grouting. No call from MP yet. 12:30: Kelby heads down to MW-34. Ann. will open the gate For us. Drillers go to drop casing of in laydown area and take lunds

Location SLC VA Date 6/30/20 Project/Client 7008 1600 E PCE Plume Duilding MW-32 1235: Call from MP Environmental driver (Jeff?). He is in town I just saw him drive by. He thought he was meeting us at the VA, so I told him to go to the soccar field off sunnyside and look for the white corrolla. I tried dropping him a pin but sent it to chad by mistake. 1250: MP drops bin number 5956 at Rowland hall across the access road from the well site, leaving space for the Salt pile and excavator. 1305: MP picks up the bin at MW-32 (#6/22) and brings it to the laydown yard where Marc-will be waiting to sign the waste manifest. 1330: MP driver drops #6122 of and PICKS up bin # 606) (leaves #6122 in the space of the old one). Marc signs waste manifest and MP signs and leaves.

Location SLC VA Date 6/30/20 Project/Client 700S 1600E RE Plume Building MW32 : Sunny now 65°F 1335: Drillers Start back up with grouting at Mw-32 while I just Knished a call with Betsy to catch her up. LATE ENTRY: 1250: EMAX received the wrong bottles for DW07 and DW06 sulfide/cyaride They need to be preserved with NaOH - ZhAC. Will need to sample again-might need to hurn on this. 1400 Emailing lab to confirm what bottles they will need Asking Neil if we Want to ve sample 10 w06/07 now or next week Drilles are approaching the next screen interval (183 is where sand will begin) 1500: We will need to order more reactive cyanide and reactive suffice bottles from the lab. Cherie confirms we want the reactive tests for both. Kelby found a set of Keys in the connex (far left one) and it was left open. Call to Neil

106 SEC VA Date 6/30/28 Location SLC VA Date 6/30/20107 Project/Client 7005 1600 E PCE Plume Project/Client 7005 1600 & PCE Plume Building MW-32 Building MW-32 Sunny Some class 1815: Jeff remembered the probe will 1510: Called Marc. It was someone from the VA looking for air monitoring we were hanging the 2-inch. we pulled the top 10- foot section equipment. Kelby waits to see if She will return, then Marc calls to DAF, then vaised the next 5 and confirm she will not. We keep the 10 foot sections up and ZIP-Keys to give to Marc tomorrow tied the probe 1/2-way down morning. Drillers have installed the 10-foot section at 20 ft bgs. middle will with screen from 170-180' and sand cap to hang casing from 183 to 1671 No foot removed) 1530; Kelby returns to MW-32. air line /4-inch toflon tubing 1590 Drillers are working on growing up 5 foot PUC from 167 to 127 feet with bentonite -2" PUL SCHBO. 1620: Kelby goes back to the hotel we don't have anything else we Dzie need from him. Plan is for him co foot casing to oversee utility locator tomorrow at Cho+ 21ptes 8 am. Soil 1730: Emailed list of supplies we will need Napor probe to order more of Emailed Ann to confirm survey tomorrow and staging planned tomorrow at Mw-34. Sand 274-257 10 Feet T 1800: Setting the 2-inch casing the rest of the way down.

Soil Vapor probe: 20165

170-180 (17) 260-270(1")

Screens: 114-124 (2")

211-128th (25)

167-183

Project/Client TOOS 1600 E PCE Plume

Build MW-32*

20:15: Double-dreak bottle count, grab MW-32 log to Scan the top 100 feet for Breama, Lock gate and go to landown yard to count 1-inde casing. 20:20: we have 310 feet of Zist casing left plus one screen and a 5-foot section 20:25: Leave site

Project/Client 7008 1600 E PCE Plume

Clear Mw-34 / Build Mw-32

0830: The fence. There is still 10 feet of space on either side 0845: Badger is having some trouble Finding Rowland Hall. Putting the address 720 Guardsman way didn't work in google maps. 0850: Badger Sits still while Kelby 100K5 - badger is at the admissions Office (?) -> At Rowland Middle School. Kelby drives over to find him and bring him to the school. 0900: Jeff and crew are installing bentonite now at ~85 feet bys, casing is up to 80 feet 1000: Contact Adrigan from Coy Public Utilities to let him know our location. He says he will take a (00K .. 1015: Alex brings sand to MW-34 and I accompany to get Badger in to the Diw area Jeff and Aaron continue pouring bentonite at 80 to 75 feet. 1020: Elm Utility stops at MW-34 to check gas

Project/Client 700 S 1600 E PCE Plume

Build MW-32

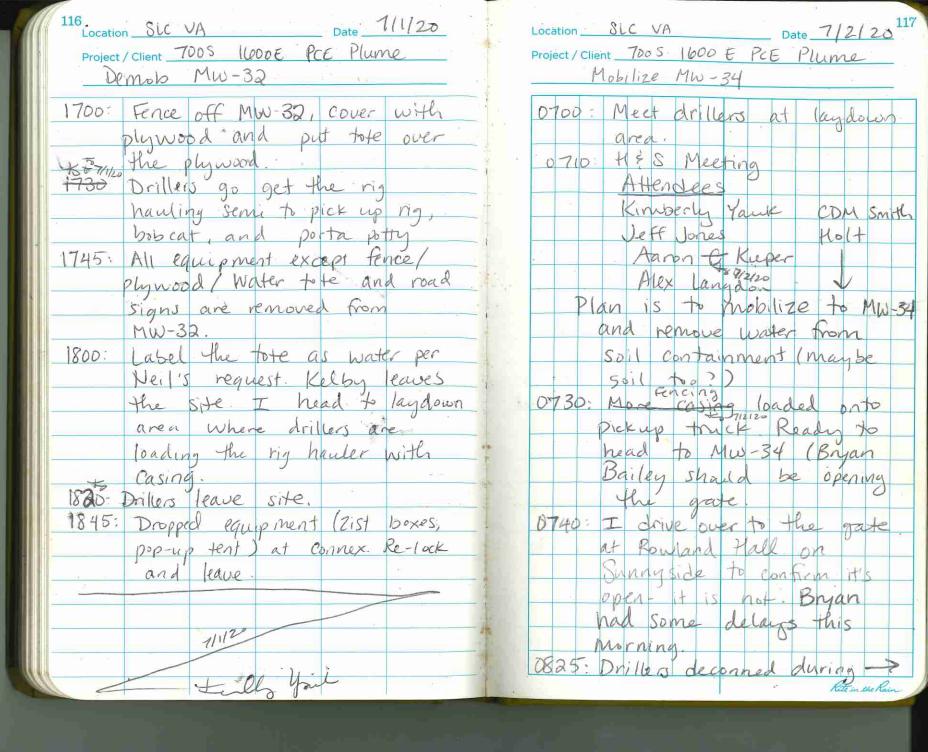
1130: Jost and crew are at 24 feet bgs with bentonite at Mw-32. They bring it up to 22 feet and install sand from 18 to 22 feet. 1200: Drillers leave to laydown area to get more annular materials. Kelby is watching the hole. There's about 2 feet left but it's wider at the top. After finishing bentonite at MW-32 Veff and crew will Dick up more sand For MW-34 I text Brian Bailey at Rowland Hall. He can open the 40-ft gate for us. 125 Dillers are back. Break for lunch 1245 or 1250: Drillers unload bentonite growt (powder on a pallet - not chips) and prepare to grout the top of the well. 1315: Drillers mixed bentonite grout in a drum and pumped it into the top 10 feet Pull Final casing.

Project/Client 700 S 1600 E PCE Plume MW-32 (Build) 82°F, Sunny 1325: Drillers removed all casing now grout sunk a couple feet. The last of what was in the drum gets poured in Bentonite was mixed two bags to ~30-35 gallons of water. Drillers clean up hoses and mixing equipment. Travis confirmed what weil told me this morning - we will need to hire a concrete truck to make the surface completion - scheduled for Monday. 1345: Rig towers down off MW-32, 1400: Drillers bring a load of materials to the laydown yard. Kelby has found a grave and come from the school groundskeeper. Joe okays its and Kelby will leave it and pump water out of the containment area. 1520: No dollers returned yet. Porta potty is serviced. 1530: Orange Toilets leaves: Drillers arrive at MW-32.

Project/Client 7005 1600E PCE Plume

Demolo MW-32

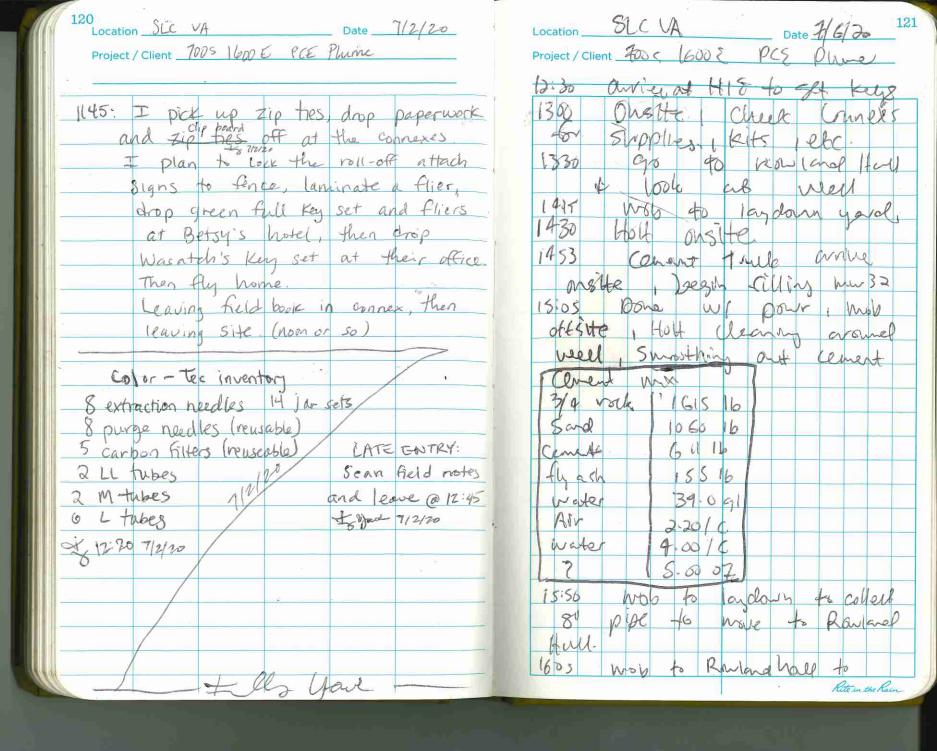
1535: Drillers dropped caring, found materials (Partland Cement) to fill the rest of the hale. Jeff says it will be no issue to drill through and I Said it's of as long as it prevents people from being able to fall in. Drivers pack up the rig. They Will bring the rig-hander over to pick up the rig, and 111/20 boscat, and tote, then will leave it overnight at the laydown area, Fill it with casing, and bring it first thing in the morning to Mw-54. I text Bryan Bailey at the School to get the gate opened for us tomorrow. 1545: Drillers take a load of materials and casing to the laydown area and pick up the rig hauter. 1680 Drillers bring fence to laydown



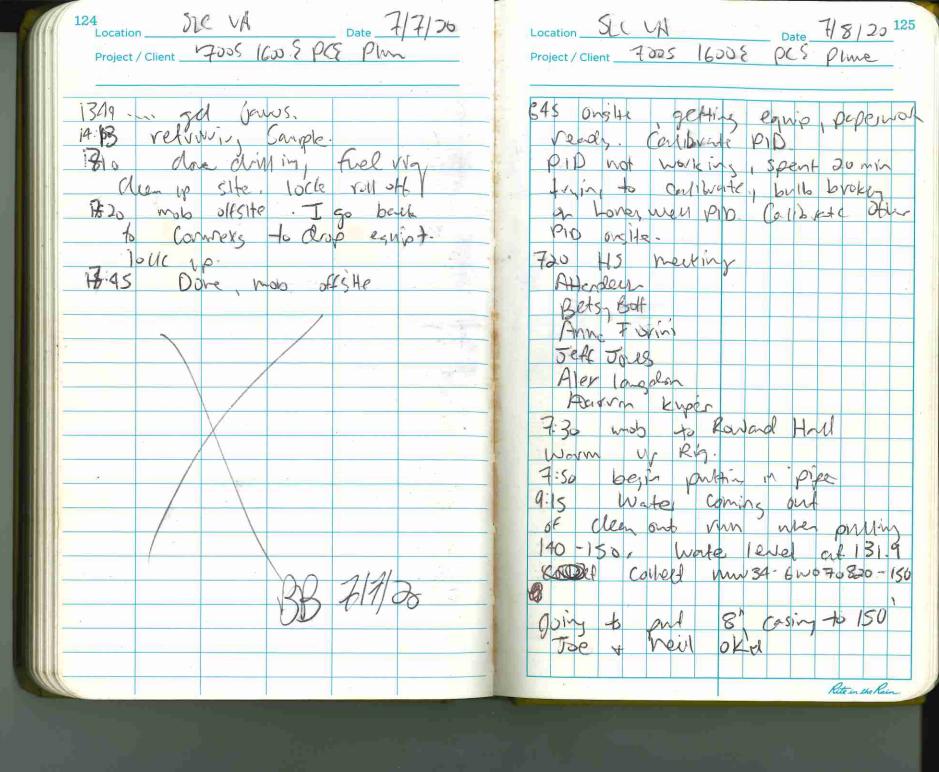
Location SLC VA . Date 7/2/20 119

Project/Client 7605 1600 E PCE Plume
Mobilize MW-34

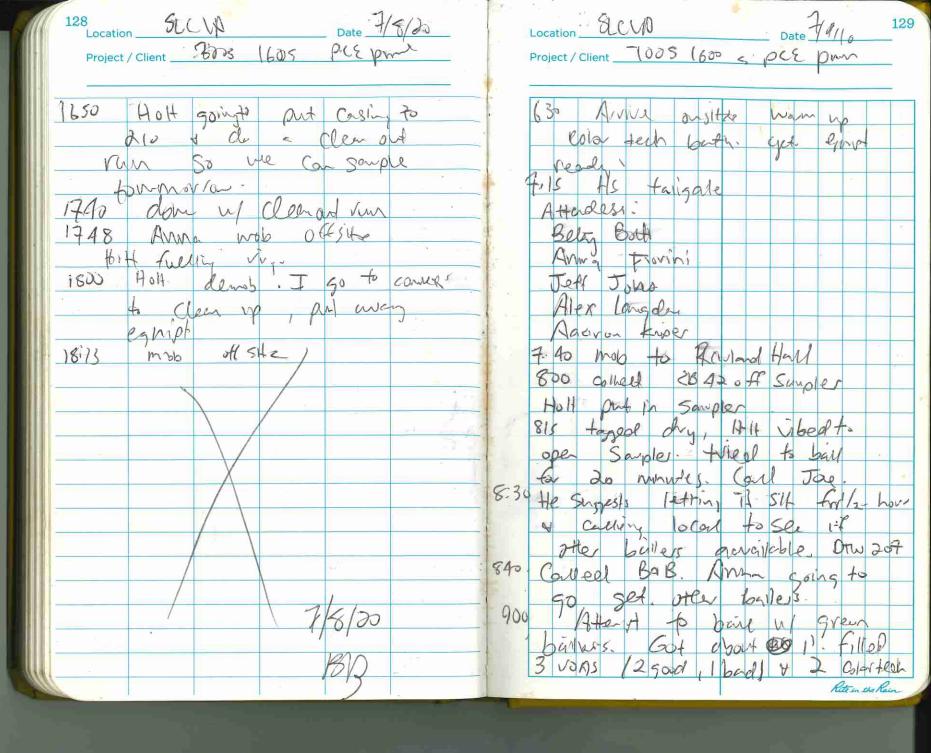
1005, Drillers install fence around Rig. Ground is soft. Aaron tripped while carning fence. Maybe purchasing some phynopol is a good ide Fence will need "Authorized Personnel only " signs. Somehow drillers got 8-plus pieces of fence w/o signs. 1015 Bryan stopped by to introduce Allen Can help us get things if we need anything and have trouble reading Ann or Bryan. Bryan and Allen keep up the grounds/ Keep it Secure. 1045: Regusted more Fliers from Marc Stop at MW-32 to move "No parking signs " 1105: Fiers done Mark will meet me at laydown area 1110: Mare drops off fliers and I breif him on where we're at. I grab anthorized personnel signs and the lock for the voll-off. 1185: Drillers are done The secure the straps on the pickup and leave.



645 onshe Anna already onsite by connexes, Local Clars we equipment print
onl ceess everned
4:15 mos to ladon yeld for H& S neuting Atte dees = Beter Both Anne Jeff Jones Mer lengdon 7.30 mob to most Set up pap up tent tille Chairs
750 begin putting in 1st 8"
815 begin drilling
1200 Break for lunch, chilled to 80'. Back fra when Aprivading begin pulling pipe up 80' Sample
399 unite pulling 80-90 Love
Cove barrel too hot to touch. Holt goly to laydown youd for



130 putting in Simpler tried Vibing it Ax. thought I tagged water and otomin Sewal times bailers. hel ein bottoms 1400 pring Sampler to inspect 1900 Sandler dolort open gory to try again 1430 of al approx 1721 put barie down, retrieved very Silly wroter Styried wy vons 2 god I bad. 440 Collect my34-6w 070820-1801 Begin driling again A i Service onste 1500 Service porte porty Collect Mu 39 - SBO 720820-189 Anna left for fedex. 154€ 1613 Hold pulled 200-20 bottom looks les Rete in the Rain

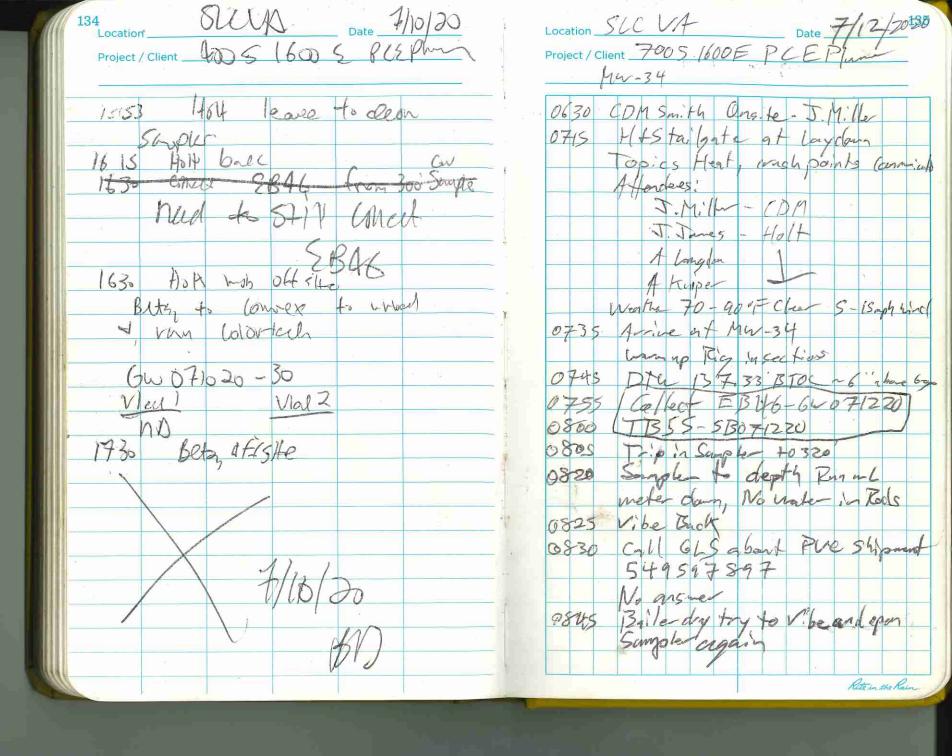


Location SCVN Date 4/9/20 131

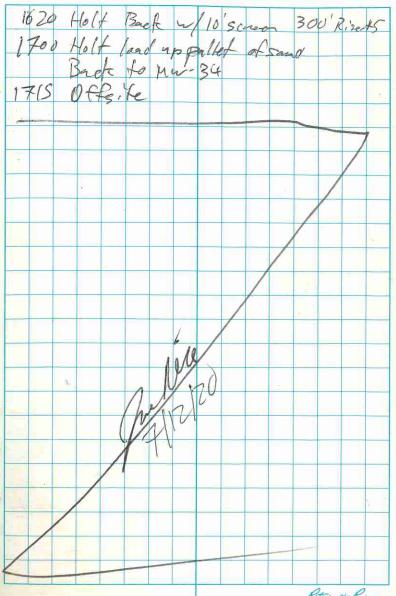
Project / Client 200 5 (600 & pc2 plm

1510 Conert &BAA or	5 sopre
Holt tripping in	Sample
1555 tried	By to ball
o' bate	Soly to let Sit.
1609 1-10 H gov-17	5 Sch 6" sipe
Roma left for	fedex
1700 cheel mu	34-64070920-160
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Tirally got 1710 holt pull	.75' of water
1710 holt pull	my Smoler.
v putty in	9 10 OVIII
tomorron	morning
1800 Carawing 1	y color litel
Suple TIO	Vially VIM?
210	an an
230	no mo
0,60	NO UB
1830 mals of (514p	
	2/4/
XBB	7/9/28
	Rite in the Rain

Rite in the Rain



Project / Client 700 \$ 1600 F PCE Plum



Location 5 C C VA Date 7/13/20 139

1000 Begin adding PVC for deep tone 1020 Agreen hands to 665 for Z'st Dollar Begin adding 10/20 Sund Full 10 of 6" casing Sand to 312 Begin adding Bonton Chy off lead Dess + PUC Shipment Hold Resumes 3 Screams Besst Ode 20 x 3=10 60 x 10 600 R. 5 & Plus 160 Riser @ Connex Pull Bengining 6" casing Benforito to 26 2' Begin adding PUC Add Sound 10/20 from 262' Sand to 247' Begin adding chips Chips to 207 wrap up Co thechy Holt Mos 7" (vs.ing Back to lay clar

Rite in the Rain

Location SCC VA 140 Location SLC VA Date 7/14/70 ____ Date 7/14/26 141 Project / Client 7005 1600 E PCEP (nom Project / Client 706 5 1600 E PCE Plus 7 Casing Remarce from Burins CDM Os. Le - J. Mills 0650 Building Par A Sup 150-152 HIS Tailgate at laydorn 0715 Topics: Hent Shess, communication, Crush points Lifting SUP @ 201 Lather 65-90'F Clar Lesure adding Sand 10/20 40 17 todop of F'casing they Attenders: Go to B + B to - war sand Joe Mille _ CDM Holf Retras 4/ San Jeff Jones - Holt Topof Sand to 137' Aaron Kriger - Holt Alex Langdon Holt San Hydrafel Bentonite Task Complete Mn 34 wellingtall 1510 10/20 Sand 18-22 wang SU Reserreding Bertante 10+5 865 14 Bes Holt decorning 7" casing 1515 Arrive & Mw-34 wellowing change Begingranfing Holt bading 8" casing to 4-1" wells warm up/Inspect Rig Harl to laydong Resme Buff filling from 207 Holf fan (extra well Male it 0820 J. Mille to 6Afford Farmant e come the Benton te to 186 Bigin Bailling 0900 Zone Buell Sung 187-185 Screen 185-175 1800 Begin adding 10/20 sand to filter pack Roa 0910 Sand to 173 Begin adding Benturit 0931 Marc Valon Ons, ty 0945 Pall Remaining 7" Casing

Add Benton 4

Rite in the Rain

0645 Justille Onsite at conney Alex lander cut hand while morning Equipment, Joe Miller notitied and done him to omegymany room at University Hospital Whah Alex faten inside The Milk ugiting outside Notification Made to Nathan Smith and Neil smith Affalt Doller Teff Jones Call w/ Nathan about Nothicoting 0740 Call to Carlos VA SEFETY and 0920 Notify him of the incident Atlantic Pacific Freight ways onside (100 Trucking leaving w/ 8" 7" 6" 1215 (asing / [EB47-6w07/520] from 1220 Frince Mr34 to set well box 1230 Surface Completion Pickup Alex from Energony Room 85 Liches 2 tendens I Fractive Okay to war fifable

Project / Client 700 5 1600 E PCE Plane

1350 Holf Mob Equipment to Raturn ToUA 1400 Holt offlagel and de con additional 95 ing and drill 100/5 Colby Metar thy - Holt ons. to 1500 Collect Blank Es485 1520 EB48-58050-58071520 from because drill Roll @ MV-34 Holt more dryn go'l to Rollo A Mab Frem E. He

0640 CDM Holt Pasite H+5 failate H+S toilgate Jee Mille CDM Jeff Jones Holf Colby McCathy - Holf Alex Langohn - Hol Opics: Communication, Focus, Conshippints Weather 70-95 F Hazy to Chur Holt Continues to load Eggspand 7/16 0.700 2800 1 6/27 + 1356 8 - SB071620] Collect [] DW09-5B071620 from Rolloff 584T Call to United Series topick up forcing Holt Crens imm up/Ingpect 0930 Water Mick + Righanter Holt OFF 5, te !! 0945 Jac to Cornex to again 30 and 000 Got more Sumpling Kits

Project / Client 7005 1600 F PC F Plane

1200 Sample IDW10-53071620 From Rowland Hall Rolloff Bin # 5956 1230 To smithe for Ice/ Ziplacks Sumple Du11-64071620 to Reather Cyanide / Salfacy Content 1'
Offs, te to feder to
Ship 2 Cookers, 2 PID's + Magnetic Samples shipped to Enax PIDs to PINE to Enax 1500 May Meter to KD Jones Rite in the Rain

Z15+ Development 7005 1600E 6/8/10 6/8/20 1615: Through 2nd nitro tenk-Author Med Smith - Com Smith Still 4. turbed. Plan to discous Personal Blake Downey wesatch development approach with Activities 215T welldevelopment / Pump Install BESST (Pumping or al- 1,41) PPE D Trunsfer esuipment of water to Weether: Othercast, 50s, rain laydown yard 1000: On site of Ipw yard, load supplies offsite. 1200. A+ MW-25 1730: B Zore DTW: 182.80 BTS Pump Receive 231 Broc Water column 48.21 Center of water whom 206.9' 1215: Mad adoption parts for diverter. 1400: Mobilize back to mw-25-B Lower Stinge to 207' * No water discharge up to 110 ps. * Contacted BESST, recommended lowering Stinger closer to pump receiver. Lower Strage to 225' Begin purging/lifting e Mw-25.B 1455 1510. Turbility Sample over-runge Switch nitroses extenders water 1535: Stell turbed. Rite in the Rain. 108 6/8/20

2157 7005 1600 E PLE Plune 6/9/20 6/9/20 Author - Meil Smith - Com Smith 1530 Install Pomp at MW-25-B Personne! Blake Downey - wasatch Static WL . 182.60' Activities 215T Development / pump install Pump receider 231 PPE 1640: Stop Prograg @ Mw-25-A Weather Clear 605 Punp settings: 100 Ps. 40 s went 1 10 s discharge 7.5: On site Talgate meeting Turbidity 17-1 NITU 275ml/nin * Plan to install pumps + purge only airlift if turbid / lots of sediment * Note: Cable at Mw-25c has a broken ferrule with sharp 900 MW-25 C Setup edges in the 100p. Covered with DTW. 206.45 Pump receiver + 307' - 2100' water tape for now. 1650: Start pirsing MW- 25-B + Pien to install Pump + purge Begin purging MW 25c- 30g /30g, 160 Ps; 11001 1740. Stop purging Settings: 100 PS: ~100 mL/min * Air break thro grickly dende to 305 recharge / 205 discharge lower pressure + more slowly purse to present breakthry Turbidity 3.30 NTU 1240: Purging at 40 Rech. /12 Disch flow 1815: All personnel offsite. good w lo break thru Purging stopped at MW-25-C 1430 Final Settings. 30s vent / 20rdischarge 170 PSI . TUB 1.41 NTU Begin Pinge @ MW-25-A PURP FECUNEY 2 200 Start slowly with low pressure, Rite in the Rain.

2157 7005 1600E PCE Plumi 6/10/20 6/10/20 Author: Neil Smith Com Smith 1015: M. Sm. to offsite. B. Downey Activities: ZIST development / Pump install to continue ZIST purging then measure (set punp in mw-236 PRE: D Personnel: Blake Downey - wasstel interval. 1300 x Return to site. B. Downey setup Westler: 5, my, 70, /80, a) mw-23 c. Recenser ~348' 715: Setup at laydown, H+S Tailgate DTW = NM TD-353 , V-soft Plan todevelop linstall at MW-23 1330; unable to purge extuer mw-23A Coordinate gate access w/ Marc Yelom. or mw-23 3 due to low 815: Setup at MW-23 B recharge. Air blows the luge : DTW: 194.8' eura at lower pressures. TD: 263.5' 1415: Install pump at mw-23c. Percentera 250 per constidiagram * Mote: Tubing will be spliced ctop 1535: Carnot purge any of the three of cap. Tubing roll ended intervals due to slow recharge. with 28" extra Locations may require add't development Begin set to purge at MW-237 930 (air lift) to clear sediment. Start Clow Pressure. will Plan to Pull pumps tre-deselop Byin attaching new PUMP. at a later date Deploy at MW-23-A 9501 1630: Equipment back at Connex, WL: 185' (We meter error, would Wasatch affecte. Nismith not turn off) to nw-30 location TD: 223 1745: Off site. Receiver ~ 210 per const notes W. 1012 Eleliol20 Rete in the Rain.

8 215T 7005 1600E PCEPune 6/11/14 6/14/20 1040: Nz eyl. nder empty @ mw-ZiD Authori Mail Smith - Com Smith ar 1. ft. Check DTW/TD Personal: Blake Downey - wasatch DTW not mensured TD=3575 BTX Activities: ZIST Development / Install Bother of server ~ 358' bgs -PPE. D removed ~ 6' sediment. weather: Sunny, 805 Ingtall Pump 715: Hts Tailgate 1120 Setus at MW-26-B 800 Setup at MW-Ze for development. DTW: 193.53 TD: 249.2 PUMP receiver 2 235 per constinutes + well casings not marked, will new -1130. Stor 720ging MW-26 A to use TD measurements First settings 50 recharge 10 discharge Pump receiver depths 2 205, 235, 315, 348 1 St well - MW-26-A DTW=188.9' TD= 218.7' 1205: Pump set ct MW-26 B Receive a 205' per construction notes Begin Pursing Begin Perging MW-26A * Trouble with check value - try 910: Messure DTW/TD @ MW-26D Pushing No through, SAKKE PUMP DTW= 222.21, TD-351.5 1340: Setur at MW-26C silty I turbed, soft bottom DTW : 218.6' TD: 328.5' BTOC · Peccewer 2 348 per wist. notes Receiver ~315 per const notes * Plan to try air lift first Deploy pump at MW-26C Set stage ~ 285 , Pressure ~ 140ps, *Tuning is availabled 1 Strick to sheath 9401 Begin air lift. water becomes at top of mw-266 pump. more tucked over time Connet strip off to attach 1000 MW-26 A tohing full. Turbidity 3:84NTO Adjust pump settings connections / cap. Final: 50 recharge / 10 Disc. 110 Psi Wy West 4/11/20 Rete in the Rain

2157 7005 1600 E PCE Plume i/12/20. Astron: Med Smith - Com Smith Personnel Blake Downer wasetch Activities 1 215 F Development / install PPE: D wenther Sony, 80, 1905 715: 1+5 Tailgate Plan to re-purgo @ mw-26 B with new pump. 750: Setup at MW-Z6 B. Begin Purge 900: Still unable to purse mw-263 Acts like check value obesny seal when pressure ~ 50 Psi 980: Discuss w/ Noah + Miles (BESST). Likely problem is that spring on check vialue too weak to seal for this location. Plan to send Pump beck for heavier (10-16) check spring. Also ship back tubing with Sacket serled to tobing. 1040: Pulled MW-26C Pump. It has Jacket Stick to tibing and cannot be connected to run.

Rite in the Rain.

Sediment inside the.

215T Deployment 13 1300 Measure DTW (TD at mw-304 DTW: 226.30' TD: 241.97 BTOC * Note: Drilling notes indicate Mw. 3013 screened 282-292', and Mw-304 screened 240-250: Measured TD, & including 2' sump, indicates these wells may be installed lo' shellower than planned. Will verify pump receiver depth during pump installation, at mw. 308, No bentonte noted on the Wh meter so possible that wells will be OK to sample. 13301 Break. 1350: Kimurphy to assist E. Rott and Milkochlar to deploy/ purge MW-23. Access to Rowland Hell and Sunnyside Park likely on Tuesday 7/28 1775: All personal offsites 7/27/20

Rite in the Rain.

Weather: Sunny, 907= PPE: Level D

Task: ZIST Well repairs

Personel: E. Rott (author) (comsmith) K. Murphey (Wasatch)

M. Koeniur (BESST) N. Smith (CDM Smith)

0730 Team onsite. Has meeting ut tailgate.

0800 Team organizes equiptment and load vehicles.

0900 Team to MW-03R. Places pump back in MW-03RB. BESST had pump to troubleshoot issues with other wells.

0920 Team to MW-25. Pull pumps from MW-25A/B/C. Replace filter with

new filters, and I psi spring with 10 psi spring.

0942 Repiace aluminum fernile + cable connected to top of pump on MW-25C with stainless due to corrosion.

Air gas delivered nitrogen tanks. N. Smith, K. Murphy to begin 1000 well development at mw-30. project / Client VA / 7003 1600E PCE Plume

1021 E. ROTT, M. Koenler to MW-20: Pull MW-20A, replace filter and 1040 Pull NW-260, replace filter and 140 Place new primp + new tobing into MW-26 E. Used pump that what sent back to BESST during first deployment 1260 Place purip + old tubing into MW-265 1240 Team to MW-30 to get magnet from

development team. 1300 E. ROTT offsite to get hard hat for M. Koehler for working in/near MW-23. 1400 E Rou onsite. Team to MW-23.

Replace filter + spring at mw-zzA. 1415 Replace Filter + spring at MW-23C. 1445 Put MW-23B back in from BESST.

1515 Begin Purge at MW-23B to test the New Filters & Springs.

1519 Start at 20 psi, 10 on 120 off. Proposition of 2 cycles. Increase to 35 psi 1526 increase time on to 20 on 120 off

35 psi. Still seeing long recharge

Project/Client VA / 7005 1600 = PCE Plume

1541 Up pressure to 45 psi, reduce to
15 on 120 off. ~ Bos recharge 1546 Up pressure to 55 psi 1553 Up pressure to 65 psi 1647 Take wells on other page. Final settings at MW-23B 180s off 50ar 48 on at 130 psi. 1700 Team to know we and pump depth at ZIST wells, calculate volume of water that will be still standing (at MW-Z3B = 150 mL), assume max discharge / cycle. 1710 Tested discharge precatoge with bubble method 1740 Team cleanups, to connex to unload. 1800 Team offsite.

Date 1/2

Project / Client WA | 700S 1600E PCE PW ML

Weather: Sunny, 900F PPE: Level D Task: ZIST Pump deployment, well development Personell: E. Rott (author), N. Smith K. Morphey (Wasatch), M. Koenler (BESST) 0730 Team onsite. H+S meeting at failgate. Heat, traffic, slips/tnps/falls. 0800 Team to MW-30 for pump installation. 0830 E Rou offsite to exchange rental vehicle. 0840 Install MW-30A. No pump receiver, hanging by wire on cap with wather. Hung at ~ 237' 0930 Hang MW-30B. Pump felt like it was dragging on something on its way down last coupu feet. 0940 tubing at MW-30B dropped further after out, needed to spice tubing and wive. Team will need to be careful lithing pump system in Future. 0945 E. ROM ONSITE. 0950 Spuce on MW-30B Will be 210'

project / Client VA 700S 1600E PCE PWME deploying passive samplers. 1300 Team to begin deploying at MW-30A. 1430 Begin purge at MW-30A. Breakthraigh / bubble surge. 1500 Evident pump is not functioning Team to pull pump. 1530 Pump filter at MW-30A. Filter covered in light - colored silt, day material. This was also Seen in some of the discharge water, suspended then settled. 1000 Team duesn not put pump back in well, need to discuss with VA about passive in this interval ! potential well construction issues. 1610 Begin install and purge at MW-30C. 1730 Final settings at MW-30C: 160 psi , 705 on, 3-4 min off expected 300mi/nun per discharge more may mean running it dry. can change cettings on ZIST controller to indicate min rather than S 1800 Field team offsite. SP 4/28/20 Rite in the Rain

Project / Client VA 700S 1600E PCE Plume

Project / Client VA 760S [600E PCE Plume

Weather: Sunny, 900F Task: Well development + ZIST pump install. PPE: Level D Personels E. Rott (author, CDM Smith), K Murphey (Wasatch), M. Koehler (BESST). 0730 Team onsite. H+S meeting at tailgate. M. Yalom (VA) onsite. E. Rott gave 0735 him an update on work so far. Told hum we will be at MW-34 today, 0745 M. Yalom offsite. 0800 Team to MW-34. MW-34A WL=132.93 btoc 0813 TD = 153.14' btoc 0818 MW-34B WL= 135.40' btoc TD = 188.22 btoc 0822 MW-34C WL = 131, 68' 670C TD = 263 27 btoc MW-34D WL = 134.11' btoc 0828 TD=328,20 btoc 0840 Set development at MW-34D at 231 At bloc. Set at Wopsi for airlift 0845 Set pump at MW-34A at 148 ft 6toc 0900 With new well cap & tubing, PVC riser at MW-34A will not

0900 allow for well to be locked. Team consider options for modifications to cap to shorten the amount of PVC to fit. End MW-34D development E. Rott to connex for another drum for well development use. 1014 E. ROTT back to MW-34. Spoke with Neil Smith about MW-34A cap. He suggests dulling angled holes into a cap for MW-34A that way tobing doesn't kink. Team to assess possibility 1020 Deploy pump at MW-34D. at 315 bto 1029 Start development of MW-34C. Sct struger at 200' booc, begin airlift atops * 0905 Note: purged until water visibly clear. Well flowed very fast using minimal nitrogen. 1084 End development of MW-34C Water running clear, purged ~ 20 gallons 1100 K. Murphy able to drill angled holes into well cap. An + water line will come

out at opposite sides of cap at ~ 45° argie

and wire will come out of top of cap.

1145 Finish deployment of MW-34A.

Project / Client VA 700S 1600E PCE Plume

Start purge on MW-34A 1150 Deploy pump at MW-34B at 175' bloc. 1200 Deploy pump at MW-34C at 250'btoc 1360 1320 Begin purge at MW-34B. 1455 Final settings at IMW-34B: 195 ps1, 355 on, 120 off [150 ml / discharge 1505 Begin purope at MW-34C. 1512 Water flowing backwards at MW-34C. Pull pump and work on check value. 1520 Replace o-ring on check-value spring on MW-34C! Send pump back down. 1540 Breakthrough at MW-34A after . Solid stream of water. Will attempt to build water cownin again 1556 MW-34C seeing surges of air/water,

behaving as through filter is clagged. 1615 Team determines to pull MW-34C. Filter is evidently covered in sittly Isant material. Most likely due to water being stirved up during development. Will not try and purge MW-34C. or MW-340 until well has time to settle.

Date 7/36/26 57

Project / Client VA 700S 1600E PCE Plume

1630 E. Rou calls N. Smith. Discuss challenges with low submergence pumps (MW-34A). Discuss other sampling possibilities in the short ferm. 1700 Team packs up at MW-34. To connex to unload. 1730 Field Heam offsite.

Location SLC

Weather	: SUL	anu	100°F	-	
Tack:	Pump	dan	laction	1	-

PPE: level D well development

Personnel: E. ROTT (Author, CDMSmith)

K. Murphey (Wasatch), M. Koenler (BESST) 0730 Team onsité. H+S meeting at tailgate. Area next to laydown yard

installing new crane. Crew to work around. 0800 Team to MW-32, car on top. To MW-29c to mark 0830 Return to MW-32, car moved. Set traffic control

0853 MW-32A WL=83.42'6toc

TD = 123,85' btoc

PVC shavings + sedimenton WIM when

pulled up is 11 m/20

0859 MW-3280 WL= 82,67' btoc

TD = 273,15' btoc 0902 MW-32B WL=82,77' btoc

TD = 183 14' btoc

0942 Begin development of MW-32A using

32, HARACONE bomb. Begin development of MW-32C using

air lift. Set stringer at 178' btoc 1010

Finish development at MW-32C. Purged

until clear discharge, ~ 30 gal 1020

Finish development of MW-32A

Project / Client VA 7005 1600E PCE PLUME

1020 water running clear after punging ~ 47 gall. Steady Flow throughout, swifted pump during development to get redunant stivled up.

1035 Begin development of mw-32B. Set stinger at 133' btoc. 100 psi air lift

1100 End development at MW-32B Purged ~ 20 gal, water running clear at end.

1105 Install MW-32C at 260' btoc.

1115 M. Yalom (VA) onsite. Delivered well tags for newly installed wells.

1120 K. Murphey dulled holes in cap for MW-32B for aw and water unes to allow

for cap closure.

1150 Install Solunst pump at MW-32A at 119' bloc, switched fittings at top to 2

"124" cwagelock to work with "4" x 1/4" tobing

1230 M. Yalom offsite.

1240 Deploy pump at MW-32B, set at top of screen. Need to put lock on MW-32

1309 Team to MW-29 to continue building water column at MW-29A and C.

1310 E. Rott to fedex to ship back pump + controller to field Environmental.

Appendix C

Utility Locate Reports





Utility Locate Report

SITE

VA Plume, Salt Lake City, Utah

2/21/2020

PREPARED FOR

CDM Smith

PREPARED BY

TWS ENVIRONMENTAL, LLC
Denver, CO

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CLIENT NAME: **CDM Smith**

CLIENT ADDRESS: 555 17th Street

Suite 500

Denver, CO 80202

VA Plume – Salt Lake City, Utah PROJECT NAME & LOCATION ADDRESS:

Jeff Baker TWS PROJECT MANAGER:

TWS TEAM REPRESENTATIVE: Jeff Baker



Fig 1. MW-25



Fig 2. MW-23, MW-27, and MW-24



Fig 3. MW-26



Fig 4. MW-28



Fig 5. MW-30



Fig 6. MW-29 and MW-31

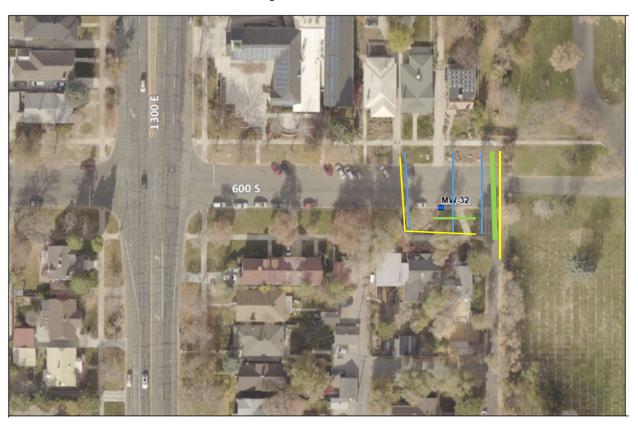


Fig 7. MW-32

2.1 Site Location

The sites are located at OU-1 Remedial Investigation 700 South 1600 East PCE Plume Salt Lake City, Utah.

2.2 Equipment on Site:

- SeekTech SR-20 Line Tracer and Underground Utility Locator
- SeekTech ST-305 Line Transmitter
- Schonstedt GA-52-Cx Magnetometer
- Ground-penetrating radar: GSSI UtilityScan/ rough terrain cart

2.3 Equipment Capabilities:

Electromagnetic Induction

Electromagnetic Inductions consists of two steps. First, a transmitter is used to transfer an alternating electrical current to the pipe or wire to be located. Next, a receiver is used to analyze the transmitted signal, and localize the position and depth of the facility. The transmitter can transfer the signal to the facility either by a direct connections, or by inducing a signal. The direct connect method introduces a signal into pipes or cables (or the fluids within pipes) that is radiated from the facility to aid its detection and location. The surface-induced method generates a signal at the ground surface that will induce a response in the cable, pipe or tracer wire underground.

Typical applications:

- Conductive utilities: Steel or copper pipes (water service, gas service) Copper telecom cables.
- Tracer lines on non-conductive utilities

Limitations:

- EM/RF locating requires a conductive object (pipe, cable, conduit, or tracer) into which a radio signal can be introduced. The signal cannot travel through non-conductive (insulating) materials. The signal may be interrupted or lost on a conductive utility that is not continuous (damaged, broken, corroded, repaired with non-conductive materials, or constructed of segments with non-conductive gaskets, i.e. rubber)
- RF locating requires some level of access or prior knowledge to effectively introduce the radio signal. An exposed portion (or end) of a utility is needed for direct connections or to utilize an inductive clamp. A point of well-known location and direction is needed for an inductive drop.
- RF locating signals are susceptible to "bleeding" onto nearby conductive utilities. Due care will be taken to recognize and minimize bleed-off, and to confirm utility locations with alternate methods. All utility marks should be afforded and industry-standard tolerance zone of 24" to either side.

- A known (or visible) point of connection is generally needed to identify the function of a utility.
- A hand-dug or vacuum-excavated test hole should be used to precisely confirm horizontal or vertical locations of any utility.

Magnetometer

The GA-52Cx magnetic locator detects the magnetic field of ferromagnetic objects. It responds to the difference in the magnetic field between two sensors that are spaced approximately 20 inches apart. This difference is referred to as the "signal strength" and is represented in the instrument by an audio tone.

Typical applications:

 Locating ferrous pipes/utilities: Steel or other ferrous metal objects or pipes can be located with this tool.

Limitations:

• The instrument will not detect non-ferrous metals, such as gold, silver, copper, brass and aluminum.

Ground-Penetrating Radar (GPR)

350 MHz "HyperStacking" GPR Antenna – GPR works by sending a tiny pulse of energy into a material and recording the strength and the time required for the return of any reflected signal. Our GPR system uses state of the art HyperStacking Technology which provides excellent near-surface resolution and increased depth penetration in all soil types. We will be able to quickly search the location and depth of service utilities such as gas, communications, and sewer lines – as well as other metallic and nonmetallic targets including underground storage tanks and PVC pipes. For rough terrain conditions, we are able to place the unit into a rugged utility cart to complete the search.

Principle of operation:

Ground- penetrating radar (GPR) uses a pair of radio antennas (transmitting and receiving), moved together across the ground surface. The transmitted radar wave penetrates into the ground until it reaches an "interface", or boundary, between materials of differing electrical properties. The wave is then reflected and detected by the receiving antenna.

Typical applications:

- Non- conductive utilities: Plastic pipes, gas and water main/services, etc. Bituminous fiber pipe ("Orangeburg", "Bermico"), asbestos-cement pipes ("Transite"). Cast iron pipe with rubber gaskets, or other insulating materials.
- Subsurface structures: Buried tanks, cisterns, septic tanks, cesspools, dry wells and oilwater separators. Buried vaults, manholes, and utility tunnels. Historical building foundations and other structures.

Limitations:

- For an object to produce a signal that is able to be interpreted by operations, the transmitted radar wave must penetrate to the depth of the object of interest, reflect, and return the receiving antenna.
- Depth of penetration is reduced by soils that are electrically conductive, due to water saturation or otherwise. Depth of penetrating is reduced by especially rocky, mixed, or inconsistent soil. A metallic ground surface (i.e. steel plate), or standing water, interferes with penetration of the transmitted signal into the soil.
- A reflection of the radar signal depends on the "interface", or boundary, of materials of differing electrical properties such as the encountered at boundaries between soil layers of differing compaction, or at the surface of a hard object embedded in the soil. The reflection is weakened when the boundary has a lower contrast in electrical properties. An object of a give diameter will producte a reflection of decreasing strength with increasing depth to cover. Generally, one inch of diameter is required, per foot of cover, to produce a strong reflection.
- A known (or visible) point of connecting is generally needed to identify the function of a utility.
- Any utility, subsurface structure, or anomaly located with GPR and marked on site should be afforded an industry – standard tolerance zoned of 24'.
- A hand-dug or vacuum-excavated test hole should be used to precisely confirm horizontal or vertical location of any utility.



3.1 Physical Setting

The site is located in Salt Lake City, Utah. These sites are a combination of the VA hospital campus, an adjacent park and a residential neighborhood to the North of the campus. There are a total of ten (10) boring locations that were completed on this round of work. There were a total of 7 locations across the VA campus, a total of 2 locations in Sunnyside Park and 1 location in the neighborhood off of 600 South. The majority of the locations on campus were in parking lots, a loading dock area and an access road on the North side of a parking structure. The locations in Sunnyside Park were in grassy areas and the single location in the neighborhood is located in the roadway/street parking area of 600 South. Once all health and safety discussions, a tailgate meeting with the VA staff, and a site walk were completed, the crew proceeded to clear the area around each proposed boring location. This occurred over the course of three days starting on Tuesday, February 18th and wrapping up on Thursday, February 20, 2020. The temperature was in the low to mid 30's during this engagement. Skies were mostly clear and there was a light breeze in the afternoons.

3.2 Results

TWS personnel worked on site to locate and mark utilities, and to survey the areas of the proposed boring/well locations on the VA campus on February 18th and 19th and completed activates in the park and residential locations on February 20, 2020. Methods used include both radio-frequency (EM/RF) locating and ground-penetrating radar (GPR) as well as utilizing a magnetometer/pipe locator. As disclosed at the bidding stage, GPR penetration rates in the Salt Lake area were expected to be between 0-3 feet bgs. Depths beyond that may be impacted by soil conditions and data quality may be affected. Utilities located and marked in the vicinity of the work areas included anomalies/unknowns (possibly roots), electrical, gas, water and communication. There were also storm water drains and sewer networks across the properties. A combination of paint on the ground and paint and pin flags in the grassy areas were utilized to mark out utilities and anomalies in the general areas where there are proposed boring/well locations are planned.

3.3 Project Photos (VA Campus)



Salt Lake City Utility operated water infrastructure near MW-25.



Electrical lines in the parking lot near MW-25..



Originally proposed location for MW 25, note proximity of water line markings.



Anomalies noted in pink in the area of proposed location for MW 26 (to the East of location in the courtyard)



Utility corridor to the West of the proposed area for MW-26.



Natural Gas and Propane lines as well as power and communications near proposed location for MW-24.



Sewer line in vicinity of proposed work area for MW-28.



Anomaly and sewer near proposed area for MW-28.



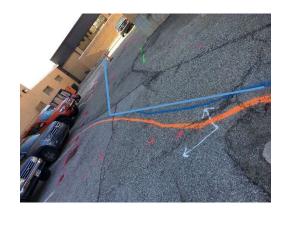
Vault filled with salt (?) near proposed work area for MW-23.



Water, electric and anomaly (pink) near proposed work area for MW-27.



Water, sewer and anomaly (pink) near proposed work area for MW-23.



Water, sewer and communication between proposed work areas for MW-23 and MW-27.



Oil water separator and drain lines near proposed work area for MW-30.



Electrical lines in planter and drain lines near proposed work area for MW-30.

3.4 Project Photos Continued (Sunnyside Park and 600 S. Neighborhood)



Electrical line and sewer to the East of proposed work area for MW-29.



Water line and sewer to the South of proposed work area for MW-29. Anomaly in pink.



Water lines to the West and Electric to the South of proposed work area for MW-31.



Water lines to the West of proposed work area for MW-31. Anomaly in pink to the North.



Gas, ~60" sewer line and water lines to the East of proposed work area for MW-32.



Water lines to the East of proposed work area for MW-32.



Job Summary

Job Date: 7/1/2020

Customer Wasatch Environmental Phone Number 203-512-2					203-512-2515	
Billing Address		City		State		Zip
2410 W California Ave		Salt Lake City		UT		84104
Job Details						
Jobsite Location	500 Foothill Blvd.					
City	SLC					
State	UT					
WA Number	202403					
Job Num						
PO Num	1637-005G					
Lead Technician	SWARTZ, RYAN	Phone	612-704-0456	Email	ryan.swartz@gp	rsinc.com

Thank you for using GPRS on your project. We appreciate the opportunity to work with you. If you have questions regarding the results of this scanning, please contact the lead GPRS technician on this project.

EQUIPMENT USED

The following equipment was used on this project:

- Underground Scanning GPR antenna. Typically capable of detecting objects up to 8' deep or more in ideal conditions but maximum effective depth can vary widely and depends on site and soil conditions. Depth penetration is most commonly limited by moisture and clay/conductive soils.
- Electromagnetic Pipe and Cable Locator. Detects electromagnetic fields. Used to actively trace conductive pipes and tracer wires, or passively detect power and radio signals traveling along conductive pipes and utilities.

Work Performed

Ground Penetrating Radar Systems performed the following work on this project:

Underground Utility

The scope of work included scanning the specified area to locate underground utilities. A tracer signal was sent along any accessible metallic utility or tracer wire, and the area was scanned with GPR to locate any additional targets. The locations of any detected utilities and anomalies were marked directly at the site with paint, flags, stakes, or other appropriate means, and results were reviewed with onsite personnel unless otherwise noted.

- Scan a 20x20ft area around a boring location.
- The effective depth of GPR will vary throughout a site depending on surface and soil conditions. In this area, the maximum effective GPR depth was approximately 4 feet.
- Scanned a 20x20ft area around a boring location(stake represents boring location). One utility line was detected (possible power or communications line). This utility was marked out with paint on the ground. White painted corners represent scan area.

Scan area and markings were reviewed with the customer onsite.

Pictures



Job Summary

Job Date: 7/1/2020



Utility Limitations

TERMS & CONDITIONS

http://www.gprsinc.com/termsandconditions.html

SIGNATURE

Contact Name

Anna Fiorini 203-512-2515 mc@wasatch-environmental.com









Appendix D

Traffic Control Plan





Appendix E

Salt Lake City Traffic Control, Engineering, and Right-of-Way Permits





Traffic Control Permit

Salt Lake City Community and Neighborhoods Division of Transportation 349 South 200 East #150 Salt Lake City, Utah 84111 Telephone (801) 535-6630 E-Mail TechPermit@slcgov.com

Permit # TRN2020-01443

Organization Name: CDM Federal Programs Corp

Address: 10560 Arrowhead Drive Suite 500 Fairfax, 22030

Contact Person: Joseph Miller Phone: 3033832328 Cell: 5136021619

Barricade Company: Barricade Phone:

All work conducted in the public right of way shall conform to the current edition of the M.U.T.C.D. part 6. The Organization issued the Traffic Control Permit shall be responsible for all barricade placement and maintenance.

Project Name / Description: Test boring including monitoring well for VA hospital.

Genreal Work Type: Staging Specific Work Type: Barricade

City Project # Public Way Permit #
Special Event Permit # Block Party Permit #

Closure Type	On Street Name	From Number	r To Numbe	er <u>Side of Street</u>
Street	E 600 South	1328	1330	S
<u>Full Road</u> <u>Closure?</u>	<u>Start Date</u>	End Date	<u>Barricade</u> <u>Manual Fig</u> #	<u>Description</u>
No	06/10/2020	07/10/2020	TA-6	SHALL USE TA-6 FOR SHOULDER WORK WITH MINOR ENCROACHMENT.

Approved By: Joseph Jacobsen Issue Date: 6/3/2020



Authorized Vehicle Parking Permit

Salt Lake City Community and Economic Development Division of Transportation 349 South 200 East #150 Salt Lake City, Utah 84111 Telephone (801) 535-6630 FAX (801) 535-6019

Permit # TRN2020-01469

Organization Name: CDM Federal Programs Corp

Address: 10560 Arrowhead Drive Suite 500, Fairfax, 22030

Applicant Person: Joseph Miller Phone: 3033832328 Cell: 5136021619

Requirements/Restrictions:

1.) Permit shall be displayed in Winshield (driver side)

2.) If space is occupied by another Vehicle or you have a problem with Meter bags call 801-535-6628

3.) Do not block travel lanes, Sidewalks or driveways

4.) Permit may be revoked for violations of restrictions

<u>From:</u> 06/10/2020 <u>To:</u> 07/10/2020

Approximate Meter No Meters

Address:

Meters:

Restricted Parking Type:

Comments: Work area for drill rig. Staging area for temporary dumpster and drill equipment.

Approved By: Jacob Fenton Issued Date: 6/8/2020

SALT LAKE CITY CORPORATION

ENGINEERING DIVISION 349 SOUTH 200 EAST, SUITE 100 SALT LAKE CITY, UTAH 84111 PHONE (801) 535-6396 FAX (801) 535-6093 engpermit@slcgov.com



ENG2020-01164

Assigned Inspector: Jack Crockett Office Phone:

Cell Phone:

Please contact inspector 24 hours before beginning work

PERMIT TO WORK IN THE PUBLIC WAY

	PERN	III IO WO	KK IN THE	PUBLIC WAY		
Job Address:					Contractor 1	Phone
1310 E 600 S				1	Phone1: Phone2: FAX:	
Applicant Name: Business Name CDM Smith			e:	Mailing Address:		
Traffic Control Plan			Starting and E	nding Dates	<u>Fee</u>	
Barricade Manual Figure	TA6		Begin Date:	06/10/2020	Total Fee:	\$242.00
Traffic Permit Number:	TRN20	20-01443	Expiration	07/10/2020		
Certificate of Insurance as Per Ci Bonds As Per City Ordinance – C State Contractors License As Per	Chapter [14.32.070		Number: Number: Number:		
Work Type: Test Bore Drawing Included: No APWA Standard:						
Field Contact: Joseph Phone:	513.602.	1619				
Comments or Additional Requ Installation of monitoring well. J						
Notice: CALL 24 HOURS BEFO for all other inspections or 48 hor parkstrip street tree requires w (801) 535-7818, before any exca BEFORE EXCAVATION COM	urs if wo vritten a avation v NTACT	rk is scheduled uthorization fr with in ten feet BLUE STAKE	on holidays and wo om Salt Lake City of a street tree, for CS – 811 or 1-800-	eekends. Digging wi y Urban Forestry. Cor inspection and aut 662-4111	thin ten feet (Contact Urbar horization.	10') of any n Forestry at
		•	•	work in the public wa	•	
Applicant agrees to the terms on Print name of Applicant:	the reve	rse side and to a	ny increase in fees	should they be requi	ed by Engine	ering.
Signature of Applicant: Joseph Miller Permit Issued By: Jack Crockett Date: 6/4/2020					6/4/2020	
2 chilic lobded by, such crockett						
** WO	RK GU	ARANTEED - 3	3 YEARS FROM	ACCEPTANCE DA	TE **	

ACCEPTANCE OF CONDITIONS. It is understood and agreed by the Permittee that performing any work under this permit constitutes acceptance of Title 14 Chapter 32 of the Revised Ordinances of Salt Lake City and the City's Regulations for controlling construction, excavation and obstructions in the Public Right ¬of ¬Way, latest revision. PROXIMATE WORK. Applicant agrees that no other work shall be done under this permit except that specifically set forth herein. It is the applicants responsibility to verify the exact location of city and private facilities prior to commencing excavation operations.

PERMIT AND DRAWINGS AT JOB SITE. The permittee shall have at the work site a copy of the permit, the traffic control plan, and the City approved drawings. NOTIFICATION. Notify the assigned inspector 24 hours before commencing work. Provide the following information: permit number, name and telephone number of permittee, date/time work is to commence. location of work and any other information which may be relevant to the work.

commence, location of work and any other information which may be relevant to the work.

CONFORMANCE TO EXISTING LAWS AND CITY SPECIFICATIONS. Permittee agrees to be fully informed of all federal, state and local laws, ordinances, rules, regulations, and City Construction Specifications which, in any manner, affect the work, and at all times shall observe and comply with such laws, ordinances, rules, regulations and specifications. The City Engineer reserves the right to shut down and/or issue a citation for violation of these provisions.

ENVIRONMENTAL LIABILITY. Permittee agrees to indemnify, defend and hold harmless Salt Lake City, its officers, agents and employees against any claims, losses, damages, or expenses, including, without limitation, any fees or penalties imposed by the United States Environmental Protection Agency, the Utah State Department of Environmental Protection Agency, the Utah State Department of Environmental Quality or any other government or regulatory agency and any attorney's fees or costs sustained on account of, or related to, the presence, release, discovery or creation of hazardous wastes or similar materials as those materials are defined under applicable federal or state statutes or regulations, including, without limitation, the Resource Conservation and Recovery Act of 1976.

STANDARD SPECIFICATIONS AND STANDARD DRAWINGS. Comply with all Salt Lake City Standard Specifications and Standard Drawings for cutting surface, traffic control, backfill, compaction, selection of subgrade materials, asphalt and concrete surfacing requirements. Printed copies of the Regulations and Specifications can be obtained through the City Engineer's Office.

WÁRRĂNTY. Permittee shall guarantee the worksite restoration for a period of three years from completion and acceptance of the work, reasonable wear and tear excepted.

SPECIAL CONDITIONS

EXCAVATION OPERATIONS BLUE STAKES. Before commencing excavation operations, Permittee shall call "Blue Stakes" at 811

TRAFFIC CONTROL DEVICES. Traffic control devices must be in place before excavation begins.

ENVIRONMENTAL CONTROL DUST AND DEBRIS. Keep dust and debris controlled at the work site at all times. If necessary, wet down dusty areas with water and provide containers for debris.

WHEEL CLEANING ORDINANCE. Conform to Section 18.20.210 of the Revised Ordinances of Salt Lake City, 1987. The ordinance describes the City's requirements for keeping the public way clean.

NOISE. Permittee shall control noise in accordance with the Salt Lake County Health Department Noise Ordinance.

CLEANUP. Remove all equipment, material, barricades and similar items from the right of way. Areas used for storage of excavated material will be smoothed and returned to their original contour. Vacuum sweeping or hand sweeping is required when Engineer determines cleaning equipment is ineffective.

CONFORMANCE TO ENGINEERING REGULATIONS. All provisions of Salt Lake City Engineering Regulation 5¬R¬4, "Regulations for Controlling Construction in the City's Public Way", and other pertinent Engineering Regulations, will be adhered to. Engineering Regulations can be obtained in the office of the City Engineer, 349 South 200 East, Suite 100, Salt Lake City, Utah 84111.

TRAFFIC INTERRUPTION. Construction operations will be conducted in a manner to minimize the amount of interference or interruption of roadway traffic. Except during emergency conditions or unless authorized by the Engineer, construction operations such as excavation, backfill and pavement restoration on major/collector and CBD streets are prohibited during peak traffic hours of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.

TRAFFIC CONTROL MANUAL. All provisions of the current "Traffic Control Manual" shall be adhered to. This manual provides regulations concerning traffic control construction barricades, road closures, public and private access, traffic control signing, traffic control in Central Business Area and traffic control devices.

EMERGENCY INFORMATION. Permittee shall clearly post on barricades in letters not less than two inches (2 in.) high emergency information consisting of the name and emergency telephone number of the permittee, and the permittee shall cause at least one such barricade per block to be erected at every job site until the work is complete and formally accepted by the City.

STREET EXCAVATION IN WINTER. Excavation of City Streets during the winter months (herein defined as November 15 to April 1) will be allowed only if the work is a new service connection, required maintenance or emergency, or otherwise approved by the Engineer. Permanent patching of City streets excavated in the winter may be delayed until April 1, provided the permittee provides and maintains a temporary asphalt surface until such time as the permanent surfacing is accomplished.

PRECONSTRUCTION PICTURES OF EXISTING PUBLIC WAY IMPROVEMENTS. Prior to commencing the permit work, the permittee is encouraged to secure pictures of the

PRECONSTRUCTION PICTURES OF EXISTING PUBLIC WAY IMPROVEMENTS. Prior to commencing the permit work, the permittee is encouraged to secure pictures of the conditions of the existing public way improvements such as curbing, sidewalk, landscaping, asphalt surfaces, etc.

TIME LIMIT. Unless authorized otherwise by the Engineer on the permit, all paving and replacement of street facilities shall be done within seven (7) calendar days from the time the excavation commences, or within three (3) calendar days on major or collector streets from the time excavation commences, except as provided for during excavation in winter or during weather conditions that do not allow paving according to applicable standards and specifications. If work is expected to exceed the above duration, the permittee shall submit a detailed construction schedule for approval. The schedule will address means and methods to minimize traffic disruption and complete the construction as soon as possible. EXCAVATION WITHIN 10 FEET OF STREET TREES. Before commencing excavation activities, Permittee shall contact Salt Lake City Urban Forestry (801) 535-7818 for an inspection.

WillisTowers Watson IIIIII

Telephone:

860-241-4438

Website: E-mail: www.willistowerswatson.com danielle.m.bechard@willistowerswatson.com

April 23, 2020

CDM Smith Attn: David Martin-CFO 10560 Arrowhead Drive, Suite 500 Fairfax, VA 22030

RE:

Bond Number: 9340850

Obligee: Salt Lake City Corporation, Engineering Division
Description: Work in the Public Way Permit Performance Bond

Attached is the completed document per your request. This was issued based upon the information you provided to our office and we urge you to check all of the information for accuracy (i.e. Power of Attorney, signatures, dates, amounts, description, etc.).

Please verify that the form attached is the form required and complete the execution with the proper signature(s) and seal.

If a premium is charged, our invoice will follow under a separate cover. Please note the premium payment for this bond is due upon receipt.

Thank you for the opportunity to service your surety needs. Should you have any questions, please do not hesitate to contact any member of your Willis Towers Watson Surety Team.

Sincerely,

Danielle M. Bechard

WORK IN THE PUBLIC WAY PERMIT PERFORMANCE BOND

PERMITTEE Name & Address: CDM Federal Programs Corporation	SURETY Name & Address: Fidelity and Deposit Company of Maryland			
10560 Arrowhead Drive, Suite 500 Fairfax, VA 22030	1299 Zurich Way, 5th Floor Schaumburg, IL 60196-1056			
Contact: Dave Martin	Contact: Donna M Planeta			
Telephone Number: (703) 691-6501	Telephone Number: 617-638-3700			
Facsimile Number: (703) 267-6083	Facsimile Number:			
BOND AMOUNT:	CITY			
\$15,000	Salt Lake City Corporation			
Bond Number: 9340850	Engineering Division			
	ATTN: Permits Department			
	349 South 200 East, Suite 10	0		
	P.O. Box 145506			
	Salt Lake City, Ut 84114-550	06		

- 1. Surety, as surety, and Permittee, as principal, hereby jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns to City, as obligee, for the performance of each of Permittee's obligations under each and every Permit to work in the public way (each a "Permit") issued to Permittee by the City Engineer and each obligation described in Sections 14.32.070 and 14.32.075 of the Salt Lake City Code (each obligation under a Permit or the Salt Lake City Code being referred to herein as a "Performance Obligation"). If Permittee performs each Performance Obligation, Surety and Permittee shall have no obligation under this Bond; otherwise this Bond shall remain in full force and effect.
- 2. Notice to Surety, City or Permittee shall be sent by registered or certified mail, postage prepaid, by facsimile, by hand delivery, or by overnight delivery service for which a delivery receipt is required, to the address shown on this Bond. Notices shall be effective on the date on which such notice was sent. Notice may be sent by facsimile. Facsimile notice shall be effective on the date of transmission provided that a confirmation establishing the successful transmission of the notice is sent by first-class mail, postage prepaid, along with a copy of the notice transmitted, no later than twenty-four (24) hours after the facsimile notice is transmitted. If any notice requires a period of less than seven (7) days for response, the notice shall be sent by facsimile. If the time for response to any notice expires on a Saturday, Sunday or a legal holiday in the State of Utah, the time shall be extended to the next business day.
 - 3. If Permittee fails to perform a Performance Obligation, and such failure to perform has not been waived by City in writing, City may notify Permittee and Surety, at their respective addresses described above, that Permittee is in default and may formally terminate Permittee's right to perform the Performance Obligation.
 - 4. Upon termination pursuant to Section 3, Surety shall promptly and at Surety's expense exercise one of the following options: (a) Surety may undertake to perform the Performance Obligation

itself, through its agents, or through independent contractors, or (b) Surety may determine the amount, not to exceed the total amount of this Bond specified above, for which Surety believes it may be liable to pay, and tender payment therefore to City. City has sole discretion to accept payment.

- 5. City may declare Surety to be in default pursuant to the following procedures: (a) after declaring Permittee to be in default as provided in Section 3, City shall issue an additional written notice to Surety, demanding that Surety perform its obligations under this Bond; and (b) Surety shall respond to City within 15 days after receipt of City's additional notice, either denying the claim or accepting liability and exercising its options under Section 4. If City declines to accept the payment tendered by Surety pursuant to Section 4(b), or if Surety fails to proceed pursuant to Section 4 with reasonable promptness, or if Surety denies the claim in whole or in part, City, without further notice, may pursue any remedies available to City.
- 6. After City has terminated Permittee's right to perform the Performance Obligation, and if Surety elects to perform the Performance Obligation as provided in Section 4, then the responsibilities of Surety to City shall not be greater than those of Permittee under the Permit, and the responsibilities of City to Surety shall not be greater than those of City under the Permit. To the limit of the amount of this Bond, Surety is obligated, without duplication, for: (a) the responsibilities of Permittee for performance of the Performance Obligation, and (b) any additional legal, design professional, and delay costs resulting from Permittee's default and resulting from the actions or failure to act of Surety under Section 4.
- 7. Surety shall not be liable to City for obligations of Permittee that are unrelated to the Performance Obligations. No right of action shall accrue on this Bond to any person or entity other than City or its heirs, executors, administrators, or successors.
 - 8. Surety hereby waives notice of any change to the Permit.
- 9. This Bond is and shall be deemed "continuous" and shall apply to all Permits issued to Permittee by the City Engineer from time to time. Surety understands and agrees that one or more Permits may be outstanding for one or more active projects at the same time. This Bond shall be deemed to secure Permittee's obligations under each and every outstanding Permit, and with respect to all active projects, the same as if a new bond were executed for each and every separate Permit. However, Surety's liability under this bond shall not, despite the existence of multiple permits to Permittee, exceed the full amount stated above. The number of Permits covered by this Bond shall not be limited.
- 10. Surety shall have the right to withdraw as surety and terminate this Bond, and may do so upon giving thirty (30) days prior written notice of such withdrawal to Permittee and City, and this Bond and Surety's obligations hereunder shall terminate thirty (30) days after receipt of such written notice by City; provided, however, that Surety's obligations hereunder shall continue in full force and effect, notwithstanding such notice and termination, with respect to all projects that were commenced before such termination and the Permits issued in connection therewith, and for the three year period provided for in Section 14.32.075 of the Salt Lake City Code.
- 11. Any suit or action commenced by City under this Bond shall be in a court of competent jurisdiction in Salt Lake City, Utah. Any suit or action by City under this Bond must be instituted, if at all, within three (3) years after City's approval of the work referred to in the Permit.

DATED this	23rd	_ day of	April	
				PERMITTEE:
				CDM Federal Programs Corporation David A. Martin Date: 2020.05.04 15:59:26-04'00'
				Its Dave Martin
				SURETY: Fidelity and Deposit Company of Maryland
				By 7 12 1890
				Its Donna M Planeta , Attorney Lact , was a constituted and the constituted and the constituted are the constituted as a constituted and the constituted are the constituted as a constituted as
				Machinia (*)

Exhibit A

(Here set forth any applicable limitation on number of Permits, or maximum aggregate liability, covered by this Bond.)

Obligee Salt Lake City Corporation, Engineering

ZURICH AMERICAN INSURANCE COMPANY COLONIAL AMERICAN CASUALTY AND SURETY COMPANY FIDELITY AND DEPOSIT COMPANY OF MARYLAND POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint Donna M Planeta, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: any and all bonds and undertakings, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York, the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 19th day of June, A.D. 2019.

ATTEST: ZURICH AMERICAN INSURANCE COMPANY COLONIAL AMERICAN CASUALTY AND SURETY COMPANY FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Robert D. Murray Vice President





By: Dawn E. Brown Secretary

State of Maryland County of Baltimore

On this 19th day of June, A.D. 2019, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, Robert D. Murray, Vice President and Dawn E. Brown, Secretary of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Scal the day and year first above written.

No constitution of the con

Constance A. Dunn, Notary Public My Commission Expires: July 9, 2023

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 23rd day of ______, 2020__.







Brian M. Hodges, Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
www.reportsfclaims@zurichna.com
800-626-4577



Disclosure Statement

NOTICE OF DISCLOSURE FOR AGENT & BROKER COMPENSATION

If you want to learn more about the compensation Zurich pays agents and brokers visit:

http://www.zurichnaproducercompensation.com

or call the following toll-free number: (866) 903-1192.

This Notice is provided on behalf of Zurich American Insurance Company and its underwriting subsidiaries.



CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY) 04/10/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s)

ocitinoate does not come rights	to the certificate fiolaet in fied of such t	indoi scinci	11(3).		
PRODUCER		CONTACT NAME:			
Aon Risk Services Northeast, Boston MA Office		PHONE (A/C. No. Ext):	866-283-7122	FAX (A/C. No.): 800-363-010	05
53 State Street Suite 2201		E-MAIL ADDRESS:			
Boston MA 02109 USA			INSURER(S) AFFORDING CO	OVERAGE	NAIC#
INSURED		INSURER A:	LM Insurance Corporat	ion	33600
CDM Federal Programs Corporati		INSURER B:	Liberty Insurance Cor	poration	42404
10560 Arrowhead Drive, Suite 5 Fairfax VA 22030 USA	500	INSURER C:	ACE Property & Casual	ty Insurance Co.	20699
		INSURER D:			
		INSURER E:			
		INSURER F:			
COVERAGES	CERTIFICATE NUMBER: 57008141358	31	REVISIO	N NIIMBER:	

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS,

	CLUSIONS AND CONDITIONS OF SUCH				_	Limits sho	wn are as requested
INSR LTR	TYPE OF INSURANCE	ADDL SU	IBR VD POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
В	X COMMERCIAL GENERAL LIABILITY		тв7611в8т8z6040	01/01/2020	01/01/2021	EACH OCCURRENCE	\$2,000,000
	CLAIMS-MADE X OCCUR					DAMAGE TO RENTED PREMISES (Ea occurrence)	\$1,000,000
						MED EXP (Any one person)	\$10,000
						PERSONAL & ADV INJURY	\$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:					GENERAL AGGREGATE	\$4,000,000
	POLICY X PRO- JECT X LOC					PRODUCTS - COMP/OP AGG	\$4,000,000
	OTHER:						
	AUTOMOBILE LIABILITY					COMBINED SINGLE LIMIT (Ea accident)	
	ANY AUTO					BODILY INJURY (Per person)	
	OWNED SCHEDULED					BODILY INJURY (Per accident)	
	AUTOS ONLY HIRED AUTOS ONLY AUTOS ONLY AUTOS NON-OWNED AUTOS ONLY					PROPERTY DAMAGE (Per accident)	
С	X UMBRELLA LIAB X OCCUR		XEUG28194687004	01/01/2020	01/01/2021	EACH OCCURRENCE	\$1,000,000
	EXCESS LIAB CLAIMS-MADE					AGGREGATE	\$1,000,000
	DED RETENTION						
Α	WORKERS COMPENSATION AND		WA561DB8T8Z6010	01/01/2020	01/01/2021	X PER STATUTE OTH-	
A	EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE N		AOS WC5611B8T8Z6020	01/01/2020	01 /01 /2021	E.L. EACH ACCIDENT	\$1,000,000
_ ^	(Mandatory in NH)	N / A	WI	01/01/2020	01/01/2021	E.L. DISEASE-EA EMPLOYEE	\$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below					E.L. DISEASE-POLICY LIMIT	\$1,000,000
	DEPOTION OF OPERATIONS (LOCATIONS (VEHICLE						

OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Contract Name and Number: USACE KC, W912DQ18D3008; Task Order Name and Number: 700S 1600E PCE Plume RI, W912DQ19F3048; Site Name: 700 South 1600 East PCE Plume Superfund Site. Salt Lake City Corporation, Engineering Division, Attn: Permits, PO Box 145506, Salt Lake City, UT 84114-5506 is included as Additional Insured in accordance with the policy provisions of the General Liability policy.

CERTIFICATE HOLDER	CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE

U.S. Army Corps of Engineers Kansas City District Attn: Josephine Newton-Lund 601 E. 12th Street/CENWK-PME-S Kansas City MO 64106 USA

Aon Risk Services Northeast Inc.





ADDITIONAL REMARKS SCHEDULE

	_
Page	ot

AGENCY Aon Risk Services Northeast, Inc.		NAMED INSURED CDM Federal Programs Corporation
POLICY NUMBER See Certificate Number: 570081413581		
CARRIER See Certificate Number: 570081413581	NAIC CODE	EFFECTIVE DATE:
ADDITIONAL REMARKS	t	

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM, FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

	INSURER(S) AFFORDING COVERAGE	NAIC#
INSURER		

If a policy below does not include limit information, refer to the corresponding policy on the ACORD ADDITIONAL POLICIES certificate form for policy limits.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIM	IITS
	WORKERS COMPENSATION							
В		N/A		WA761DB8T8Z6030 MA & PR	01/01/2020	01/01/2021		

POLICY NUMBER: TB7611B8T8Z6040

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

- A. Section II Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:
 - 1. Your acts or omissions; or
 - The acts or omissions of those acting on your behalf:

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

- The insurance afforded to such additional insured only applies to the extent permitted by law; and
- 2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.
- **B.** With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

- All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
- 2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.
- C. With respect to the insurance afforded to these additional insureds, the following is added to Section III – Limits Of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

- 1. Required by the contract or agreement; or
- **2.** Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations		
Any Person or Organization to whom you become obligated to include as an Additional Insured as a result of any contract or agreement you enter into.	Per the contract or agreement		
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.			

Policy Number TB7-611-B8T8Z6-040 Issued by LIBERTY INSURANCE CORPORATION

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION TO THIRD PARTIES

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE PART
MOTOR CARRIER COVERAGE PART
GARAGE COVERAGE PART
TRUCKERS COVERAGE PART
EXCESS AUTOMOBILE LIABILITY INDEMNITY COVERAGE PART
SELF-INSURED TRUCKER EXCESS LIABILITY COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
EXCESS COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
COMMERCIAL LIABILITY – UMBRELLA COVERAGE FORM

Schedule

Fuest Address on medition address.

Name of Other Person(s) /	Email Address or mailing address:	Number Days Notice:
Organization(s):		
A Schedule of each person or		30
Organization provided to us by		
the First		
Named Insured within 15 days of		
written cancellation notice		
received by		
the First Named Insured for any		
reason other than nonpayment of		
premium		
As Required by Written Contract		

- A. If we cancel this policy for any reason other than nonpayment of premium, we will notify the persons or organizations shown in the Schedule above. We will send notice to the email or mailing address listed above at least 10 days, or the number of days listed above, if any, before the cancellation becomes effective. In no event does the notice to the third party exceed the notice to the first named insured.
- B. This advance notification of a pending cancellation of coverage is intended as a courtesy only. Our failure to provide such advance notification will not extend the policy cancellation date nor negate cancellation of the policy.

All other terms and conditions of this policy remain unchanged.



NOTICE OF CANCELLATION TO OTHERS – SPECIFIED PARTIES

Named Insured			Endorsement Number		
CDM Smith,	Inc.		017		
Policy Symbol	Policy Number	Policy Period	Effective Date of Endorsement		
XEU	G28194687 004	01/01/2020 to 01/01/2021	01/01/2020		
	Issued By (Name of Insurance Company)				
ACE Propert	y and Casualty Insuranc	e Company			

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the following: ENHANCED COMMERCIAL UMBRELLA LIABILITY POLICY

The policy is amended as follows:

Section VI. CONDITIONS, is amended to add the following:

Notice to Others

- 1. If we cancel the Policy prior to its expiration date by notice to you or the first "Named Insured" for any reason other than nonpayment of premium, we will, as set out below, send written notice of cancellation, via such electronic or other form of notification as we determine, to the persons or organizations listed in the schedule set out below (the "Schedule"). You or your representative must provide us with both the physical and e-mail address of such persons or organizations, and we will utilize such e-mail address or physical address that you or your representative provided to us on such Schedule.
- 2. We will send or deliver such notice to the e-mail address or physical address corresponding to each person or organization indicated in the Schedule at least 30 days prior to the cancellation date applicable to the Policy.
- 3. The notice referenced in this endorsement is intended only to be a courtesy notification to the person(s) or organization(s) named in the Schedule in the event of a pending cancellation of coverage. We have no legal obligation of any kind to any such person(s) or organization(s). Our failure to provide advance notification of cancellation to the person(s) or organization(s) shown in the Schedule shall impose no obligation or liability of any kind upon us, our agents or representatives, will not extend any Policy cancellation date and will not negate any cancellation of the Policy.
- 4. We are not responsible for verifying any information provided to us in any Schedule, nor are we responsible for any incorrect information that you or your representative provide to us. If you or your representative does not provide us with the information necessary to complete the Schedule, we have no responsibility for taking any action under this endorsement. In addition, if neither you nor your representative provides us with e-mail and physical address information with respect to a particular person or organization, then we shall have no responsibility for taking action with regard to such person or entity under this endorsement.
- 5. We may arrange with your representative to send such notice in the event of any such cancellation.
- 6. You will cooperate with us in providing, or in causing your representative to provide, the e-mail address and physical address of the persons or organizations listed in the Schedule.
- 7. This endorsement does not apply in the event that you cancel the Policy.

XSE-52238 (04/19) Page 1 of 2

SCHEDULE

Name of Person or Entity	E-Mail Address	Physical Address
Per schedule on file with the Producer noted on the Declarations, provided such schedule is provided to us by such Producer at the time the Producer is notified of cancellation as referenced above.		

notified of cancellation as referenced above.			
All other terms and conditions of the pol	icy remain unchanged.		
	Autho	orized Representative	

XSE-52238 (04/19) Page 2 of 2

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION TO THIRD PARTIES

- A. If we cancel this policy for any reason other than nonpayment of premium, we will notify the persons or organizations shown in the Schedule below. We will send notice to the email or mailing address listed below at least 10 days, or the number of days listed below, if any, before cancellation becomes effective. In no event does the notice to the third party exceed the notice to the first named insured.
- B. This advance notification of a pending cancellation of coverage is intended as a courtesy only. Our failure to provide such advance notification will not extend the policy cancellation date nor negate cancellation of the policy.

	SCHEDULE	
Name of Other Person(s) / E	mail Address or mailing address	: Number Days Notice:
Per Schedule on file with Broker P	er Schedule on file with Broker	30
All other terms and conditions of this policy	y remain unchanged.	
Issued by LM Insurance Corporation		
For attachment to Policy No. WA5-61D-B8T82	Z6-010 Effective Date: 1/1/2020	Premium \$

WM 90 18 06 11 Ed. 06/01/2011

Issued to CDM Smith Inc.

Policy Number TB7-611-B8T8Z6-040

Issued by Liberty Insurance Corporation

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Change Endorsement

Named Insured **Endorsement number CDM Smith Inc** 005

The following changes are effective as of the effective dates shown below and will terminate with the policy. All other provisions of the policy remain unchanged.

Change Description

Effective Date: 05/15/2020

The following form(s) are added:

Additional Insured - State Or Governmental Agency Or Subdivision Or Political Subdivision - Permits Or Authorizations Relating To Premises, Form CG 20 13 04 13

Issued: 05/19/2020 CRF

POLICY NUMBER: TB7-611-B8T8Z6-040

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – STATE OR GOVERNMENTAL AGENCY OR SUBDIVISION OR POLITICAL SUBDIVISION – PERMITS OR AUTHORIZATIONS RELATING TO PREMISES

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

State Or Governmental Agency Or Subdivision Or Political Subdivision:

Salt Lake City Corporation

Engineering Division

Attn: Permits

PO Box 145506

Salt Lake City, UT 84144

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

A. Section II – Who Is An Insured is amended to include as an additional insured any state or governmental agency or subdivision or political subdivision shown in the Schedule, subject to the following additional provision:

This insurance applies only with respect to the following hazards for which the state or governmental agency or subdivision or political subdivision has issued a permit or authorization in connection with premises you own, rent or control and to which this insurance applies:

- The existence, maintenance, repair, construction, erection or removal of advertising signs, awnings, canopies, cellar entrances, coal holes, driveways, manholes, marquees, hoist away openings, sidewalk vaults, street banners or decorations and similar exposures; or
- **2.** The construction, erection or removal of elevators; or
- **3.** The ownership, maintenance or use of any elevators covered by this insurance.

However:

- **1.** The insurance afforded to such additional insured only applies to the extent permitted by law: and
- 2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.
- **B.** With respect to the insurance afforded to these additional insureds, the following is added to **Section III Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

- 1. Required by the contract or agreement; or
- **2.** Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

Appendix F

Salt Lake City VHA Daily Excavation Checklists



Daily Excavation Checklist (To be completed by the CP)

Site Location: Mw-29	Precleuing
Date: 3/10/20 Time: 124	s CP: J.M:16/
Soil Type: Gare	
Soil Classification:	Excavation Depth: 10' Excavation Width: 2
Type Of Protective System	Used:)//

1. General Inspection of Jobsite:	15 6
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily 	res
before the start of work.	15
B. CP has the authority to remove employees from the excavation	Yes
immediately.	-
C. Surface encumbrances removed or supported.	NA
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	NA
E. Hard hats worn by all employees	Yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	Yes
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	165
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	145
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	Yer
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Yes
L. Employees are not permitted underneath loads handled by lifting or digging equipment.	Yes
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	yes
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Ves
B. Exact location of utilities marked.	ye.
C. Underground installations protected, supported, or removed when excavation is	0
open.	1/4
3 Means of Access and Egress:	. 1
A. Lateral travel to means of egress no greater than 25 feet in excavations four	UT

eet or more in depth.	
 Ladders used in excavations secured and extended three feet above the edge rench. 	NA
C. Structural ramps used by employees designed by a CP.	1/4
Structural ramps used for equipment designed by a registered professional Engineer (RPE).	NA
 Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface. 	VA
Employees protected from cave-ins when entering or exiting the excavation.	NA
. Wet Conditions:	141
A. Precautions take to protect employees from the accumulation of water.	Yes
s. water removal equipment monitored by a CP.	Yes
C. Surface water or runoff diverted or controlled to prevent accumulation in the excavation.	VX
Inspections made after every rainstorm or other hazard-increasing occurrence.	M
i. Hazardous Atmosphere:	1 -1
A. Atmosphere within the excavation tested where there is a reasonable cossibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	yes
Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	Yes HA
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the last.	N4
Testing conducted often to ensure that the atmosphere remains safe.	Yes
Emergency equipment, such as breathing apparatus, safety harness and feline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	NA
. Employees trained to use personal protective and other rescue equipment.	Nes
Safety harness and lifeline used and individually attended when entering bell oftom or other deep confined excavations.	NA
. Support Systems:	,
Materials and/or equipment for support systems selected based on soil inalysis, trench depth, and expected loads.	NA
Materials and equipment used for protective systems inspected and in good ondition.	WAS
C. Materials and equipment not in good condition have been removed from ervice.	M
Damaged materials and equipment used for protective systems inspected by	VA-
Protective systems installed without exposing employees to the hazards of ave-ins, collapses, or threat of being struck by materials or equipment.	NA

	F. Members of support system securely fastened to prevent failure.	VA
	 G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. 	NA
	H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
	 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. 	NA
ı	J. Backfilling progresses with removal of support system.	VA
ı	K. Excavation of material to a level no greater than two feet below the bottom of	1
ı	the support system and only if the system is designed to support the loads calculated for the full depth.	NA
ı	L. Shield system placed to prevent lateral movement.	WA
	M. Employees are prohibited from remaining in shield system during vertical movement.	NA-
I	Corrective Action and Comments	
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Signature of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location:	MW-28	Prechering	
Date: 3/11/20	Time: 0800	CP: Jue Mille	
Soil Type: (mel		
Soil Classificat	tion:	Excavation Depth: 101	Excavation Width: >
Type Of Protect	ctive System U	sed: VA_	

Indicate for each item: YES - NO - or N/A for not applicable. Provide date item last inspected if not required daily

1. General Inspection of Jobsite:	_
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work. 	Yes
	1
 B. CP has the authority to remove employees from the excavation immediately. 	yes/
C. Surface encumbrances removed or supported.	NA.
 D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	NA
E. Hard hats worn by all employees	yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	yes
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	yes
	14
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Yes
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	yes
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Yes
L. Employees are not permitted underneath loads handled by lifting or digging equipment.	Yes
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	Ves
2. Utilities:	
A. Utility companies contacted and/or utilities located.	yes
B. Event location of utilities marked	yes
 C. Underground installations protected, supported, or removed when excavation is open. 	Yes
2 Magne of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MA
A. Lateral traver to means of egrees the great	1.

me track

feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge trench. 	1/A
	1/4
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional Facilities (RPE)	1/4
Engineer (RPE).	WM
E. Ramps constructed of materials of uniform thickness, cleated together on the	1/A
bottom, equipped with no-slip surface.	10/1
F. Employees protected from cave-ins when entering or exiting the excavation.	$L_{V/2}$
4. Wet Conditions:	_
A. Precautions take to protect employees from the accumulation of water.	yes
B. Water removal equipment monitored by a CP.	Yes
C. Surface water or runoff diverted or controlled to prevent accumulation in the	VA
excavation.	VH
D. Inspections made after every rainstorm or other hazard-increasing	NA
occurrence.	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	445
exposing employees to a hazard.	11
Adequate precautions taken to protect employees from exposure to an	Vice
atmosphere containing less than 19.5% oxygen and/or to other hazardous	yes
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	17 -
containing flammable gas in excess of 10% of the lower explosive limit of the	Yes
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Xes
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NH
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	145
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	INT
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	1/4
analysis, trench depth, and expected loads.	NI
 Materials and equipment used for protective systems inspected and in good 	1/1
condition.	NI
C. Materials and equipment not in good condition have been removed from	. 11
service.	NA
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	M
back into service.	1//
 E. Protective systems installed without exposing employees to the hazards of 	.11
cave-ins, collapses, or threat of being struck by materials or equipment.	WH

F. Members of support system securely fastened to prevent failure.	VA
 G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. 	VA
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	NA
J. Backfilling progresses with removal of support system.	NA
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	VH
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical movement.	NA
Signature of CP/COR Date	
	ano.

Signature of CP/COR

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-23	Burna Location	
Date: 3/12/20 Time:0800	CP: J.M.1/6-	
Soil Type: (25x /		
Soil Classification:	Excavation Depth: [4, 5]	Excavation Width: 2
Type Of Protective System U		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	Yes
B. CP has the authority to remove employees from the excavation immediately.	Xes
C. Surface encumbrances removed or supported.	NA
D. Employees protected from loose rock or soil that could note a hazard by falling	1/25
	405
E. Spoils, materials, and equipment set back at least two feet from the edge of the	Ves
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	405
U. Wallawaya and bridges aver executions six feet or more in depth are equipped	V4
Warning yests or other highly visible clothing provided and worn by all	Yes
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	Yes
K. Employees are required to stand away from any vehicle being loaded or unloaded.	yes
	X-15
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	Yes
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Ves
B. Exact location of utilities marked.	40
 C. Underground installations protected, supported, or removed when excavation is open. 	xe,
3. Means of Access and Egress:	
	UA

feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge 	VA
trench.	VI
C. Structural ramps used by employees designed by a CP.	NA
 D. Structural ramps used for equipment designed by a registered professional 	111
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	NA
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	1/5
B. Water removal equipment monitored by a CP.	yes
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	Yes
D. Inspections made after every rainstorm or other hazard-increasing	1/1
occurrence.	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	١,
possibility of an oxygen deficiency, combustible or other harmful contaminant	Yes
exposing employees to a hazard.	0/
B. Adequate precautions taken to protect employees from exposure to an	,
atmosphere containing less than 19.5% oxygen and/or to other hazardous	tes
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	V-cs
containing flammable gas in excess of 10% of the lower explosive limit of the	120
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Y-es
E. Emergency equipment, such as breathing apparatus, safety harness and	V
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	, ·
F. Employees trained to use personal protective and other rescue equipment.	yees
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	1027
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil	WA
analysis, trench depth, and expected loads.	MI
B. Materials and equipment used for protective systems inspected and in good	NA
condition.	MX
C. Materials and equipment not in good condition have been removed from	VA
service.	my
 D. Damaged materials and equipment used for protective systems inspected by 	
a registered professional engineer (RPE) after repairs and before being placed	WA
back into service.	
 E. Protective systems installed without exposing employees to the hazards of 	114
cave-ins, collapses, or threat of being struck by materials or equipment.	1011

F. Members of support system securely fastened to prevent failure.	NA.
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. 	NA
Backfilling progresses with removal of support system.	NA
C. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
Shield system placed to prevent lateral movement.	VA
Employees are prohibited from remaining in shield system during vertical novement. Corrective Action and Comments	NA
Signature of CP/COR Date	ø

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: Mw-285	LCVA	
Date: 3/13/20 Time: 07/5	CP: J.Miller	
Soil Type: Gard		
Soil Classification: NA	Excavation Depth: 40	Excavation Width: (2"
Type Of Protective System U	Ised: VA	

1. General Inspection of Jobsite:	
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work. 	Yes
 B. CP has the authority to remove employees from the excavation immediately. 	YES
C. Surface encumbrances removed or supported.	VA
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	Yes
E. Hard hats worn by all employees	Y03
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	yes
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Yes
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Yes
 Warning system established and utilized when mobile equipment is operating 	NA
near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or	Yes
unloaded. L. Employees are not permitted underneath loads handled by lifting or digging	Yes
equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	yes
2. Utilities:	
A. Utility companies contacted and/or utilities located.	yes
B. Exact location of utilities marked.	ve
 Underground installations protected, supported, or removed when excavation is 	
open.	1
3. Means of Access and Egress:	VA
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MA

fact or more in donth	
feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge trench. 	NA
C. Structural ramps used by employees designed by a CP.	IVA
D. Structural ramps used for equipment designed by a registered professional	1//
Engineer (RPE).	NH
E. Ramps constructed of materials of uniform thickness, cleated together on the	1/4
bottom, equipped with no-slip surface.	NIT
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	Ves
B. Water removal equipment monitored by a CP.	Jus
C. Surface water or runoff diverted or controlled to prevent accumulation in the	1
excavation.	yes
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	40
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	970.0
possibility of an oxygen deficiency, combustible or other harmful contaminant	yes
exposing employees to a hazard.	
B. Adequate precautions taken to protect employees from exposure to an	The same
atmosphere containing less than 19.5% oxygen and/or to other hazardous	405
atmospheres.	100
C. Ventilation provided to prevent employee exposure to an atmosphere	Tally St
containing flammable gas in excess of 10% of the lower explosive limit of the	V49
gas.	4.
D. Testing conducted often to ensure that the atmosphere remains safe.	yes
E. Emergency equipment, such as breathing apparatus, safety harness and	. /.
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	The said
F. Employees trained to use personal protective and other rescue equipment.	Yes
G. Safety harness and lifeline used and individually attended when entering bell	er A
bottom or other deep confined excavations.	WA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	W/A
analysis, trench depth, and expected loads.	VA
B. Materials and equipment used for protective systems inspected and in good	.11
condition.	NA
C. Materials and equipment not in good condition have been removed from	1/4
service.	MI
D. Damaged materials and equipment used for protective systems inspected by	. //
a registered professional engineer (RPE) after repairs and before being placed	WIT
back into service.	Wante.
E. Protective systems installed without exposing employees to the hazards of	1/4
cave-ins, collapses, or threat of being struck by materials or equipment.	IVI

F. Members of support system securely fastened to prevent failure.	11/4
 G. Support systems provided in ensure stability of adjacent structures, buildings, 	,
roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an	
RPE.	NA
I. Removal of support systems progresses from the bottom and members are	111
released slowly as to note any indication of possible failure.	NA
J. Backfilling progresses with removal of support system.	44
K. Excavation of material to a level no greater than two feet below the bottom of	
the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical	11
movement.	MI

Signature of CP/COR

Printed name of CP/COR

Date

Daily Excavation Checklist (To be completed by the CP)

Site Location: Mw-28		
Date: 3/75/2 Time: 0730	CP: J.M.16	
Soil Type: 6 mols 6:1/4	sand	
Soil Classification:	Excavation Depth: 78	Excavation Width: 2
Type Of Protective System	Used: NA	

1. General Inspection of Jobsite:	
A Executations adjacent areas and protective quetoms inspected by a CR daily	V
before the start of work.	Yes
B. CP has the authority to remove employees from the excavation	Ves
immediately.	
C. Surface encumbrances removed or supported.	Yes
D. Employees protected from loose rock or soil that could pose a hazard by falling	Yes
or rolling into the excavation.	
	Yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the	40
excavation.	_
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	Ves
H. Walkways and bridges over excavations six feet or more in depth are equipped	
with standard guardrails and toe boards (fall protection).	14
Warning vests or other highly visible clothing provided and worn by all	V
Citibio Acco cyboaca to bapilo tolligata trame.	145
J. Warning system established and utilized when mobile equipment is operating	NA
near the edge of the excavation.	18/1
K. Employees are required to stand away from any vehicle being loaded or	Yes
unloaded.	1-
L. Employees are not permitted underneath loads handled by lifting or digging	yes
equipment.	1-
M. Employees prohibited from working on the faces of slopes or benched	Ves
excavations above other employees.	res
2. Utilities:	
A. Utility companies contacted and/or utilities located.	XS
B. Exact location of utilities marked.	yes
C. Underground installations protected, supported, or removed when excavation is	
open.	40
3. Means of Access and Egress:	•
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	.,4
trench.	M
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	INIT
Engineer (RPE).	M
E. Ramps constructed of materials of uniform thickness, cleated together on the	114
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	VA-
4. Wet Conditions:	, ,
A. Precautions take to protect employees from the accumulation of water.	Y-5
B. Water removal equipment monitored by a CP.	Vec
C. Surface water or runoff diverted or controlled to prevent accumulation in the	1
excavation.	Yes
D. Inspections made after every rainstorm or other hazard-increasing	,
occurrence.	YES
5. Hazardous Atmosphere:	-
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Yes
exposing employees to a hazard.	1/
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	X5
atmospheres.	1
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	10.4
 D. Testing conducted often to ensure that the atmosphere remains safe. 	Ye5
E. Emergency equipment, such as breathing apparatus, safety harness and	1.4
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA_
could or do exist.	1
F. Employees trained to use personal protective and other rescue equipment.	1/25
G. Safety harness and lifeline used and individually attended when entering bell	IA
bottom or other deep confined excavations.	WH
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	WA
analysis, trench depth, and expected loads.	Nu
B. Materials and equipment used for protective systems inspected and in good	1 K
condition.	IVI
C. Materials and equipment not in good condition have been removed from	1/01
service.	Yes
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	Y/A
back into service.	MH
E. Protective systems installed without exposing employees to the hazards of	IA
cave-ins, collapses, or threat of being struck by materials or equipment.	NI

3/15/2	
	44
osnostive Action and Comments	
movement. Corrective Action and Comments	14
L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical	NA
the support system and only if the system is designed to support the loads calculated for the full depth.	WH
J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of	yes
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. Possibility Possibi	Ves
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	1/1/

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW 28	SLCVA	
Date: 3/16/10 Time: 07	45 CP: J. M. 1/4	
Soil Type: (201 - 15:	1/	
Soil Classification:	Excavation Depth: // 9	Excavation Width: 10"
Type Of Protective System	n Used:I/	Excavation Width. 10

1. General Inspection of Jobsite:	
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work. 	yes
before the start of work.	10
 B. CP has the authority to remove employees from the excavation immediately. 	Ves
C. Surface encumbrances removed or supported.	Ves
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	YES
E. Hard hats worn by all employees	Yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	yes
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	yes
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	v4
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Yes
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	LA
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Yes
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Yes
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	yes
2. Utilities:	
Utility companies contacted and/or utilities located.	Yes
Exact location of utilities marked.	145
Underground installations protected, supported, or removed when excavation is open.	45
3. Means of Access and Egress:	<i>Y</i>
	NA
a series and the contract of t	V/

feet or more in depth.	-
B. Ladders used in excavations secured and extended three feet above the edge	NA
trench.	7-1
C. Structural ramps used by employees designed by a CP.	NA
 D. Structural ramps used for equipment designed by a registered professional 	NA
Engineer (RPE).	NT
E. Ramps constructed of materials of uniform thickness, cleated together on the	VA
bottom, equipped with no-slip surface.	VIT
F. Employees protected from cave-ins when entering or exiting the excavation.	WA
4. Wet Conditions:	744
A. Precautions take to protect employees from the accumulation of water.	WY
B. Water removal equipment monitored by a CP.	Ves
C. Surface water or runoff diverted or controlled to prevent accumulation in the	1
excavation.	Y-25
 D. Inspections made after every rainstorm or other hazard-increasing 	xes
occurrence.	100
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	445
exposing employees to a hazard.	
B. Adequate precautions taken to protect employees from exposure to an	1600
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Yes
atmospheres.	
 C. Ventilation provided to prevent employee exposure to an atmosphere 	101
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
 D. Testing conducted often to ensure that the atmosphere remains safe. 	y-es
E. Emergency equipment, such as breathing apparatus, safety harness and	1411
lifeline, and/or basket stretcher readily available where hazardous atmospheres	N/T
could or do exist.	-
F. Employees trained to use personal protective and other rescue equipment.	Yes
G. Safety harness and lifeline used and individually attended when entering bell	WA
bottom or other deep confined excavations.	10//
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	NA
analysis, trench depth, and expected loads.	/**
B. Materials and equipment used for protective systems inspected and in good	VA-
condition.	-
C. Materials and equipment not in good condition have been removed from	Yes
service.	_
D. Damaged materials and equipment used for protective systems inspected by	11/1
a registered professional engineer (RPE) after repairs and before being placed	UA
back into service.	1,,
E. Protective systems installed without exposing employees to the hazards of	ML
cave-ins, collapses, or threat of being struck by materials or equipment.	VI

F. Members of support system securely fastened to prevent failure.	TIVA
G. Support systems provided in ensure stability of adjacent structures, buildings	10.1
roadways, sidewaiks, walls, etc.	1//
H. Excavations below the level of the base or footing supported, approved by an	14
RPE.	NA
I. Removal of support systems progresses from the bottom and members are	1//
released slowly as to note any indication of possible failure.	NIT
J. Backfilling progresses with removal of support system.	40
K. Excavation of material to a level no greater than two feet below the bottom of	1
the support system and only if the system is designed to support the loads	V4
calculated for the full depth.	//
L. Shield system placed to prevent lateral movement.	M
Employees are prohibited from remaining in shield system during vertical movement.	h //
Corrective Action and Comments	IV4
•	

Signature of CP/COR

Printed name of CP/COR

3/16/10 Date

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA	MW-28	
Date: 3/17/20 Time: 0800,	CP: J.M. le	
Soil Type: Grave /9:11/9	and	
Soil Classification:	Excavation Depth: /40	Excavation Width: 10"
Type Of Protective System I		

1. General Inspection of Jobsite:	
Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	U
B. CP has the authority to remove employees from the excavation immediately.	- y
C. Surface encumbrances removed or supported.	145
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	yes
E. Hard hats worn by all employees	Yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	res
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Ves
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	ins
. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Ye
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	NA
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Ves
L. Employees are not permitted underneath loads handled by lifting or digging equipment.	Yes
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	W4
2. Utilities:	
A. Utility companies contacted and/or utilities located.	¥65
B. Exact location of utilities marked.	Ves
 Underground installations protected, supported, or removed when excavation is open. 	
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	M
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	MA
F. Employees protected from cave-ins when entering or exiting the excavation.	VA
4. Wet Conditions:	1
A. Precautions take to protect employees from the accumulation of water.	yes
B. Water removal equipment monitored by a CP.	yes
C. Surface water or runoff diverted or controlled to prevent accumulation in the	Yes
excavation.	Ye5
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	yes
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	X85
exposing employees to a hazard.	
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	yes
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
 D. Testing conducted often to ensure that the atmosphere remains safe. 	Yes
E. Emergency equipment, such as breathing apparatus, safety harness and	/
lifeline, and/or basket stretcher readily available where hazardous atmospheres	WH
could or do exist.	,
F. Employees trained to use personal protective and other rescue equipment.	yes.
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	10 . /
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	NA
analysis, trench depth, and expected loads.	1
B. Materials and equipment used for protective systems inspected and in good	INT
condition.	/-
C. Materials and equipment not in good condition have been removed from	NA
service.	10.1
D. Damaged materials and equipment used for protective systems inspected by	1/1
a registered professional engineer (RPE) after repairs and before being placed	MI
back into service.	-
E. Protective systems installed without exposing employees to the hazards of	11/1
cave-ins, collapses, or threat of being struck by materials or equipment.	111/17

F. Members of support system securely fastened to prevent failure.	WA
 G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. 	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	M
 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. 	VA
J. Backfilling progresses with removal of support system.	Y45
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	M

Signature of CP/COR

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VI	4		
Date: 3/18/20 Time: 0745	CP: JM://w		
Soil Type: Gard 5:17	And		
Soil Classification:	Excavation Depth: 207	Excavation Width:	10'
Type Of Protective System U			

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	T
before the start of work.	1
B. CP has the authority to remove employees from the excavation	
immediately.	
C. Surface encumbrances removed or supported.	-
D. Employees protected from loose rock or soil that could pose a hazard by falling	
or rolling into the excavation.	1
E. Hard hats worn by all employees	-
F. Spoils, materials, and equipment set back at least two feet from the edge of the	
excavation.	45
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	yes
H. Walkways and bridges over excavations six feet or more in depth are equipped	
with standard guardrails and toe boards (fall protection).	VA
Warning vests or other highly visible clothing provided and worn by all	1
employees exposed to public vehicular traffic.	Yes
J. Warning system established and utilized when mobile equipment is operating	1.
near the edge of the excavation.	1/25
K. Employees are required to stand away from any vehicle being loaded or	W
unloaded.	145
L. Employees are not permitted underneath loads handled by lifting or digging	14
equipment.	15
M. Employees prohibited from working on the faces of slopes or benched	WA
excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Ves
B. Exact location of utilities marked.	Yes
C. Underground installations protected, supported, or removed when excavation is	1
open.	Yes
3. Means of Access and Egress:	1/4
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	v 01
trench.	VA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	M
 E. Ramps constructed of materials of uniform thickness, cleated together on the 	1.10
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	yes
Water removal equipment monitored by a CP.	yes
 C. Surface water or runoff diverted or controlled to prevent accumulation in the 	yes
excavation.	-
D. Inspections made after every rainstorm or other hazard-increasing	Ves
occurrence.	/
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	100
possibility of an oxygen deficiency, combustible or other harmful contaminant	485
exposing employees to a hazard.	-
B. Adequate precautions taken to protect employees from exposure to an	4.05
atmosphere containing less than 19.5% oxygen and/or to other hazardous	180
atmospheres.	-
C. Ventilation provided to prevent employee exposure to an atmosphere	NA
containing flammable gas in excess of 10% of the lower explosive limit of the	10,7
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Yes
E. Emergency equipment, such as breathing apparatus, safety harness and	NA
lifeline, and/or basket stretcher readily available where hazardous atmospheres	10//
could or do exist.	-
F. Employees trained to use personal protective and other rescue equipment.	Yes
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	1
6. Support Systems:	1 4 70
A. Materials and/or equipment for support systems selected based on soil	INA
analysis, trench depth, and expected loads.	1.71
B. Materials and equipment used for protective systems inspected and in good	NA
condition.	-
C. Materials and equipment not in good condition have been removed from	NA
service.	177
D. Damaged materials and equipment used for protective systems inspected by	1
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	-
E. Protective systems installed without exposing employees to the hazards of	11/1
cave-ins, collapses, or threat of being struck by materials or equipment.	MI

E M. J.	
F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings.	111
oadways, sidewalks, walls, etc.	NA
 H. Excavations below the level of the base or footing supported, approved by an RPE. 	NA
. Removal of support systems progresses from the bottom and members are	500
released slowly as to note any indication of possible failure.	Hes
I. Backfilling progresses with removal of support system.	WAY
C. Excavation of material to a level no greater than two feet below the bottom of	1
he support system and only if the system is designed to support the loads	NA
calculated for the full depth.	
Shield system placed to prevent lateral movement.	NA
 M. Employees are prohibited from remaining in shield system during vertical novement. 	M
(my/hin 3/30)	0.10
Signature of CP/COR Date	8/00

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: VA Hospi	ke su: MW-28	
Date: 3/17/20 Time:	CP: Kimberly Youk	
Soil Type: NA		
Soil Classification: NA	Excavation Depth: Q(o'	Excavation Width: 8"
Type Of Protective System Used: NA		

1. General Inspection of Jobsite:	
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work. 	Υ
B. CP has the authority to remove employees from the excavation immediately.	Y
C. Surface encumbrances removed or supported.	NA
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	NA
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	Y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Y
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Y
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	иΛ
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Y
L. Employees are not permitted underneath loads handled by lifting or digging equipment.	NA
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NΑ
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Y
B. Exact location of utilities marked.	Y
 C. Underground installations protected, supported, or removed when excavation is 	NA
open.	1.41
3. Means of Access and Egress:	1.75
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NΑ



feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	MA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	NA
Engineer (RPE).	121
E. Ramps constructed of materials of uniform thickness, cleated together on the	010
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	NA
Water removal equipment monitored by a CP.	AU
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	Y
D. Inspections made after every rainstorm or other hazard-increasing	Y
occurrence.	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	AN
exposing employees to a hazard.	1411
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	AU
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	ΑИ
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	1.1.
F. Employees trained to use personal protective and other rescue equipment.	NA
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	NY
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	NA
analysis, trench depth, and expected loads.	NA
B. Materials and equipment used for protective systems inspected and in good	11A
condition.	M
C. Materials and equipment not in good condition have been removed from	Y
service.	(
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NK
back into service.	
E. Protective systems installed without exposing employees to the hazards of	AVA
cave-ins, collapses, or threat of being struck by materials or equipment.	.01

F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	44
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	NA
J. Backfilling progresses with removal of support system.	NA
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical movement.	NA
0	

Corrective Action and Comments

tille Vak	3/19/20
Signature of SP/SOR	Date
Kimberly Yauk	
Printed name of CP/COR	

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-Z7		
Date: 3 /20/30 Time: 09 30	CP: J. Willer K Yand	
Soil Type: VA	•	
Soil Classification: V4	Excavation Depth: 0 - LS	Excavation Width: 2
Type Of Protective System I	Jsed: V4	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	Yes
B. CP has the authority to remove employees from the excavation immediately.	Yes
C. Surface encumbrances removed or supported.	ye5
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	yes
E. Hard hats worn by all employees	res
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	xes
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Xel
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	MA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	4cs
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	M
K. Employees are required to stand away from any vehicle being loaded or unloaded.	yes
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Kes
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NH
2. Utilities:	1 1
A. Utility companies contacted and/or utilities located.	Xe
B. Exact location of utilities marked.	ves
C. Underground installations protected, supported, or removed when excavation is	1' '
open.	1 ye
3. Means of Access and Egress:	1/1
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	UH
D. Structural ramps used for equipment designed by a registered professional	1//
Engineer (RPE).	MA
E. Ramps constructed of materials of uniform thickness, cleated together on the	11
bottom, equipped with no-slip surface.	UV7
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	ves
Water removal equipment monitored by a CP.	ves
C. Surface water or runoff diverted or controlled to prevent accumulation in the	100
excavation.	40
 Inspections made after every rainstorm or other hazard-increasing 	1105
occurrence.	Ve)
5. Hazardous Atmosphere:	t.
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Yes
exposing employees to a hazard.	(/
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	X-es
atmospheres.	/
C. Ventilation provided to prevent employee exposure to an atmosphere	,1
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
 D. Testing conducted often to ensure that the atmosphere remains safe. 	Jes
 E. Emergency equipment, such as breathing apparatus, safety harness and 	'L M
lifeline, and/or basket stretcher readily available where hazardous atmospheres	W
could or do exist.	1.5. /
 F. Employees trained to use personal protective and other rescue equipment. 	VO
G. Safety harness and lifeline used and individually attended when entering bell	K 11
bottom or other deep confined excavations.	IVT
6. Support Systems:	_ , '
A. Materials and/or equipment for support systems selected based on soil	a A
analysis, trench depth, and expected loads.	MI
B. Materials and equipment used for protective systems inspected and in good	1) 6
condition.	J. Y.
C. Materials and equipment not in good condition have been removed from	1/1
service.	V
D. Damaged materials and equipment used for protective systems inspected by	1
a registered professional engineer (RPE) after repairs and before being placed	n/A
back into service.	IV/J
E. Protective systems installed without exposing employees to the hazards of	0//
cave-ins, collapses, or threat of being struck by materials or equipment.	V

F. Members of support system securely fastened to prevent failure.	MA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	WA
H. Excavations below the level of the base or footing supported, approved by an	10.
RPE.	W
Removal of support systems progresses from the bottom and members are	111
released slowly as to note any indication of possible failure.	NO
J. Backfilling progresses with removal of support system.	ves
K. Excavation of material to a level no greater than two feet below the bottom of	1
the support system and only if the system is designed to support the loads	11/4
calculated for the full depth.	IVI,
L. Shield system placed to prevent lateral movement.	(1)
M. Employees are prohibited from remaining in shield system during vertical	10
movement.	IN/L
Corrective Action and Comments	10
Standard of CRICOR Date	(01)
(Level 11 3/201	W
Signature of CP/COR Date	

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC PCE	Phine - Mw-a8	
Date: 3/20/20 Time: 0915	CP: Kimberly Yau	K
Soil Type: NA		
Soil Classification: NA	Excavation Depth: 2101	Excavation Width: 8"
Type Of Protective System Used: NA		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	11
before the start of work.	Y
B. CP has the authority to remove employees from the excavation	V
immediately.	Y
C. Surface encumbrances removed or supported.	NA
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	Y
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	Yhu
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	Y
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
 Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. 	Υ
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	NA
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Υ
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Y
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	Y
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Y
B. Exact location of utilities marked.	V
 C. Underground installations protected, supported, or removed when excavation is open. 	NA
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	AIL
A. Edicial liave to means of egress no greater than 20 feet in excavations four	NK

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a or :	
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
A. Precautions takento protect employees from the accumulation of water.	Y
Water removal equipment monitored by a CP.	NA
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	Y
D. Inspections made after every rainstorm or other hazard-increasing	./
occurrence.	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Y
exposing employees to a hazard.	,
B. Adequate precautions taken to protect employees from exposure to an	.14.
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
 Testing conducted often to ensure that the atmosphere remains safe. 	NA
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	Y
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	Park
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	1 A 1 A
analysis, trench depth, and expected loads.	NV
B. Materials and equipment used for protective systems inspected and in good	A74
condition.	NV
C. Materials and equipment not in good condition have been removed from	J
service.	Y
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	AN
back into service.	1
E. Protective systems installed without exposing employees to the hazards of	
cave-ins, collapses, or threat of being struck by materials or equipment.	NI

G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	E. Mambara of support system accuraty factored to provent failure	NA
H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.		
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Teleased slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.		
J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.		MA
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.		AM
the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.		
Calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.		NV
L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.		
M. Employees are prohibited from remaining in shield system during vertical movement.		NA
movement.		VAD
		1/14/

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SALTLAKE C	er VA	
Date:3-22-20 Time:0930	CP: CONNOR KELLEY	
Soil Type: V/A		
Soil Classification: NA	Excavation Depth: /2 . 7	Excavation Width: 9"
Type Of Protective System I	Used: ✓/A	

Indicate for each item: YES - NO - or N/A for not applicable. Provide date item last inspected if not required daily

1. General Inspection of Jobsite:	_
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work. 	465
B. CP has the authority to remove employees from the excavation immediately.	105
C. Surface encumbrances removed or supported.	NA
 D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	M
E. Hard hats worn by all employees	165
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	YES
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	YES
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	~/A
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	YES
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	MA
K. Employees are required to stand away from any vehicle being loaded or unloaded.	YES
L. Employees are not permitted underneath loads handled by lifting or digging equipment.	465
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	YES
2. Utilities:	
A. Utility companies contacted and/or utilities located.	455
B. Exact location of utilities marked.	455
C. Underground installations protected, supported, or removed when excavation is open.	~/A
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MA

W. 42 25

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	NA
trench.	
C. Structural ramps used by employees designed by a CP.	AM
 D. Structural ramps used for equipment designed by a registered professional 	4/4
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	414
bottom, equipped with no-slip surface.	NY
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	Y
B. Water removal equipment monitored by a CP.	ŇA
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	Y
D. Inspections made after every rainstorm or other hazard-increasing	1/
occurrence.	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	,
possibility of an oxygen deficiency, combustible or other harmful contaminant	Y
exposing employees to a hazard.	,
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
atmospheres.	. 4/1
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	Y
G. Safety harness and lifeline used and individually attended when entering bell	. 14
bottom or other deep confined excavations.	NA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	NA
B. Materials and equipment used for protective systems inspected and in good	
condition.	NX
C. Materials and equipment not in good condition have been removed from	V
service.	1
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
	IVI
back into service. E. Protective systems installed without exposing employees to the hazards of	
e. Protective systems installed without exposing employees to the nazards of	NA
cave-ins, collapses, or threat of being struck by materials or equipment.	,

* 3/20/20

F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	N/A
H. Excavations below the level of the base or footing supported, approved by an RPE.	N/A
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	NA
J. Backfilling progresses with removal of support system.	W/A
K. Excavation of material to a level no greater than two feet below the bottom of	// /A
the support system and only if the system is designed to support the loads calculated for the full depth.	N/A
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical movement.	VES/
Corrective Action and Comments	MA.
(m 1/m) 3-2-	2-20
Signature of CP/COR Date	
CON-OR KELLEY	
Printed name of CP/COR	

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-27		
Date: 3/23/20 Time: 0915	CP: Kimbery Yank	
Soil Type: NA	1 5 9	
Soil Classification: NA	Excavation Depth: \ 0	Excavation Width: 8 1 9"
Type Of Protective System U	Jsed: NA	

1 Conoral Inspection of Johsite:	
General Inspection of Jobsite: A Eventuations adjacent gross and protective systems inspected by a CP daily.	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	Y
before the start of work.	-
B. CP has the authority to remove employees from the excavation	Y
immediately.	Y
C. Surface encumbrances removed or supported.	1/
D. Employees protected from loose rock or soil that could pose a hazard by falling	ΙY
or rolling into the excavation.	V
E. Hard hats worn by all employees	_
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	Y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Y
H. Walkways and bridges over excavations six feet or more in depth are equipped	-
with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all	
employees exposed to public vehicular traffic.	ΙY
J. Warning system established and utilized when mobile equipment is operating	
near the edge of the excavation.	NP
K. Employees are required to stand away from any vehicle being loaded or	./
unloaded.	ΙY
L. Employees are not permitted underneath loads handled by lifting or digging	V
	Y
equipment.	,
M. Employees prohibited from working on the faces of slopes or benched	ΙY
excavations above other employees.	<u>.</u>
2. Utilities:	
A. Utility companies contacted and/or utilities located.	1
B. Exact location of utilities marked.	Y
C. Underground installations protected, supported, or removed when excavation is	l v
open.	Y
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	NA
trench.	JAN
C. Structural ramps used by employees designed by a CP.	NA
 Structural ramps used for equipment designed by a registered professional 	
Engineer (RPE).	AN
E. Ramps constructed of materials of uniform thickness, cleated together on the	NA
bottom, equipped with no-slip surface.	1414
F. Employees protected from cave-ins when entering or exiting the excavation.	AM
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	NA
B. water removal equipment monitored by a CP.	Y
 C. Surface water or runoff diverted or controlled to prevent accumulation in the 	V
excavation.	Y
Inspections made after every rainstorm or other hazard-increasing	Y
occurrence.	Ĭ
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	NA
exposing employees to a hazard.	
Adequate precautions taken to protect employees from exposure to an	.11
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
atmospheres. PID	->Y
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	M
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	STH-Y
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	_Y
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	NV
B. Materials and equipment used for protective systems inspected and in good	1
condition.	Υ
C. Materials and equipment not in good condition have been removed from	V
service.	Y
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	,
E. Protective systems installed without exposing employees to the hazards of	NA
cave-ins, collapses, or threat of being struck by materials or equipment.	101,

F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings,	NA
roadways, sidewalks, walls, etc.	IAM
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
Removal of support systems progresses from the bottom and members are	NIA -
released slowly as to note any indication of possible failure.	NA -
J. Backfilling progresses with removal of support system. NA Today	Y-7
K. Excavation of material to a level no greater than two feet below the bottom of	
the support system and only if the system is designed to support the loads calculated for the full depth.	ΝА
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical movement.	NA
Corrective Action and Comments	
	7 1
	100

Printed name of CP/COR

Signature of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SALT LAKE	CET VA		
Date: 3-24-20 Time:	CP: C.KELLEY		
Soil Type: ~/k			
Soil Classification: ~/A	Excavation Depth: 180' E	Excavation Width: 9"	
Type Of Protective System Used: ~A			

1. General Inspection of Jobsite:	
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily 	YES
before the start of work.	10>
B. CP has the authority to remove employees from the excavation	105
immediately.	
C. Surface encumbrances removed or supported.	NA
D. Employees protected from loose rock or soil that could pose a hazard by falling	YES
or rolling into the excavation.	
E. Hard hats worn by all employees	153
F. Spoils, materials, and equipment set back at least two feet from the edge of the	405
excavation.	_
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	163
H. Walkways and bridges over excavations six feet or more in depth are equipped	W/A
with standard quardrails and toe boards (fall protection).	~/^
 Warning vests or other highly visible clothing provided and worn by all 	Ve-
employees exposed to public vehicular traffic.	Yes
 J. Warning system established and utilized when mobile equipment is operating 	WA
near the edge of the excavation.	110
K. Employees are required to stand away from any vehicle being loaded or	res
unloaded.	
L. Employees are not permitted underneath loads handled by lifting or digging	163
equipment.	10)
 M. Employees prohibited from working on the faces of slopes or benched 	YE3
excavations above other employees.	
2. Utilities:	
A. Utility companies contacted and/or utilities located.	VES
B. Exact location of utilities marked.	163
C. Underground installations protected, supported, or removed when excavation is	NA
open.	10/1
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MA

feet or more in depth.	Τ-
B. Ladders used in excavations secured and extended three feet above the edge	1
trench.	NA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	,
Engineer (RPE).	WA
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	11.11
Precautions take to protect employees from the accumulation of water.	405
Water removal equipment monitored by a CP.	NA
C. Surface water or runoff diverted or controlled to prevent accumulation in the	1.
excavation.	YES
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	465
5. Hazardous Atmosphere:	_
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	V
exposing employees to a hazard.	Yes
Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
atmospheres.	,
C. Ventilation provided to prevent employee exposure to an atmosphere	-
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
pas.	
Testing conducted often to ensure that the atmosphere remains safe.	rer
E. Emergency equipment, such as breathing apparatus, safety harness and	
ifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	75g
3. Safety harness and lifeline used and individually attended when entering bell	NA
ottom or other deep confined excavations.	7
5. Support Systems:	
Materials and/or equipment for support systems selected based on soil	~A
analysis, trench depth, and expected loads.	~ /K
3. Materials and equipment used for protective systems inspected and in good	NA
condition.	10/14
C. Materials and equipment not in good condition have been removed from	
service.	TES
D. Damaged materials and equipment used for protective systems inspected by	
registered professional engineer (RPE) after repairs and before being placed	MA
pack into service.	
E. Protective systems installed without exposing employees to the hazards of	NK
cave-ins, collapses, or threat of being struck by materials or equipment.	"

 F. Members of support system securely fastened to prevent failure. 	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	Nh
 Excavations below the level of the base or footing supported, approved by an RPE. 	NA
. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	MA
J. Backfilling progresses with removal of support system.	NA
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	Mh
Employees are prohibited from remaining in shield system during vertical movement.	reg

Signature of CP/COR
Printed name of CP/COR

3-14-10 Date

Daily Excavation Checklist (To be completed by the CP)

Site Location: SALT LAKE	CITY VA			
Date: 3-25-20 Time: 0900	CP: C. KOLLEY			
Soil Type: NA				
Soil Classification: V/A	Excavation Depth:	290'	Excavation Width:	811
Type Of Protective System I		-		

1. General Inspection of Jobsite:	
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work. 	res
 B. CP has the authority to remove employees from the excavation immediately. 	W3
C. Surface encumbrances removed or supported.	NA
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	155
E. Hard hats worn by all employees	KES
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	15
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Y65
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	W/A
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	YET
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	MA
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Yer
Employees are not permitted underneath loads handled by lifting or digging equipment.	Y63
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	V63
2. Utilities:	
A. Utility companies contacted and/or utilities located.	805
B. Exact location of utilities marked.	YES
 Underground installations protected, supported, or removed when excavation is open. 	NA
3. Means of Access and Egress:	
	N/A



feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	10
trench.	11/11
C. Structural ramps used by employees designed by a CP.	NID
 D. Structural ramps used for equipment designed by a registered professional 	
Engineer (RPE).	MA
E. Ramps constructed of materials of uniform thickness, cleated together on the	1.
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	MA
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	4ES
B. Water removal equipment monitored by a CP.	MA
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	YES
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	YES
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	455
exposing employees to a hazard.	, -,
B. Adequate precautions taken to protect employees from exposure to an	1.
atmosphere containing less than 19.5% oxygen and/or to other hazardous	11/4
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	105
 E. Emergency equipment, such as breathing apparatus, safety harness and 	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	/- ///
 Employees trained to use personal protective and other rescue equipment. 	105
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	MA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	16
analysis, trench depth, and expected loads.	NA
B. Materials and equipment used for protective systems inspected and in good	11/4
condition.	NA
C. Materials and equipment not in good condition have been removed from	
service.	YES
D. Damaged materials and equipment used for protective systems inspected by	,
a registered professional engineer (RPE) after repairs and before being placed	MA
back into service.	
E. Protective systems installed without exposing employees to the hazards of	NA
cave-ins, collapses, or threat of being struck by materials or equipment.	17/1

 F. Members of support system securely fastened to prevent failure. 	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. 	NA
J. Backfilling progresses with removal of support system.	MA
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	MA
M. Employees are prohibited from remaining in shield system during vertical movement.	125
Corrective Action and Comments	

3-15-10 Date

Signature of CP/COR

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-27		
Date: 3/24/24 Time: 0900	CP: Kimberty Yank	
Soil Type: NA		
Soil Classification: NA	Excavation Depth: /o '	Excavation Width: 2 feet
Type Of Protective System U	Ised: NA	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	1.
before the start of work.	Vye
B. CP has the authority to remove employees from the excavation	1
immediately.	Vye
C. Surface encumbrances removed or supported.	NA
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	Y
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	Y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Y
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	NA
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Y
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Y
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	Y
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Y
B. Exact location of utilities marked.	Ÿ
 C. Underground installations protected, supported, or removed when excavation is open. 	NA
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA
71. Editord detroi to modifie of egrees no greater than 20 feet in executations four	141

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	NY
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	141.
Precautions take to protect employees from the accumulation of water.	NA
B. Water removal equipment monitored by a CP.	NA
C. Surface water or runoff diverted or controlled to prevent accumulation in the	John
excavation.	Y
D. Inspections made after every rainstorm or other hazard-increasing	-
occurrence.	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	
	V
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	/
atmospheres.	YIN
C. Ventilation provided to prevent employee exposure to an atmosphere	- / /
containing flammable gas in excess of 10% of the lower explosive limit of the	
gas.	AN
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	14.
F. Employees trained to use personal protective and other rescue equipment.	Y
G. Safety harness and lifeline used and individually attended when entering bell	ALA
bottom or other deep confined excavations.	NA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	NA
analysis, trench depth, and expected loads.	INC
B. Materials and equipment used for protective systems inspected and in good	AIA
condition.	NA
C. Materials and equipment not in good condition have been removed from	.,
service.	Y
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	
E. Protective systems installed without exposing employees to the hazards of	NA
cave-ins, collapses, or threat of being struck by materials or equipment.	INI

F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, oadways, sidewalks, walls, etc.	NA
 H. Excavations below the level of the base or footing supported, approved by an RPE. 	NA
I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	A 725 5 3/20
J. Backfilling progresses with removal of support system.	Y
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	NA
Employees are prohibited from remaining in shield system during vertical movement.	NA
Signature of CP/COR Date	

Kimberly Yank

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: 500	/A	
	0 CP: 5M: le	
Soil Type: Gare		
Soil Classification:	Excavation Depth: LU	Excavation Width: 8"
Type Of Protective System	Used: \(\lambda\)	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	11
before the start of work.	4
B. CP has the authority to remove employees from the excavation	120
immediately.)xe
C. Surface encumbrances removed or supported.	ye
D. Employees protected from loose rock or soil that could pose a hazard by falling	1/0
or rolling into the excavation.	Ye
E. Hard hats worn by all employees	yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the	
excavation.	yes
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	yes
H. Walkways and bridges over excavations six feet or more in depth are equipped	
with standard guardrails and toe boards (fall protection).	VA
 Warning vests or other highly visible clothing provided and worn by all 	Yes
employees exposed to public vehicular traffic.	10
 J. Warning system established and utilized when mobile equipment is operating 	NA
near the edge of the excavation.	IV/)
K. Employees are required to stand away from any vehicle being loaded or	yes
unloaded.	yes
L. Employees are not permitted underneath loads handled by lifting or digging	XES
equipment.	7
M. Employees prohibited from working on the faces of slopes or benched	VA
excavations above other employees.	1
2. Utilities:	
A. Utility companies contacted and/or utilities located.	40
B. Exact location of utilities marked.	jes
 C. Underground installations protected, supported, or removed when excavation is 	
open.	YS
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	

feet or more in depth.	
	,
 B. Ladders used in excavations secured and extended three feet above the edge trench. 	NA
C. Structural ramps used by employees designed by a CP.	1/1
D. Structural ramps used for equipment designed by a registered professional	WA
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	. /1
bottom, equipped with no-slip surface.	VA
F. Employees protected from cave-ins when entering or exiting the excavation.	VA
4. Wet Conditions:	1
A. Precautions take to protect employees from the accumulation of water.	Vies
B. Water removal equipment monitored by a CP.	1/4
C. Surface water or runoff diverted or controlled to prevent accumulation in the	10.1
excavation.	Yes
Inspections made after every rainstorm or other hazard-increasing	160
occurrence.	18
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Xes
exposing employees to a hazard.	1
B. Adequate precautions taken to protect employees from exposure to an	IA
atmosphere containing less than 19.5% oxygen and/or to other hazardous	V/I
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	. //
containing flammable gas in excess of 10% of the lower explosive limit of the	MI
gas.	1. 1
 D. Testing conducted often to ensure that the atmosphere remains safe. 	Ves
 E. Emergency equipment, such as breathing apparatus, safety harness and 	501
lifeline, and/or basket stretcher readily available where hazardous atmospheres	WI
could or do exist.	
 F. Employees trained to use personal protective and other rescue equipment. 	Ves
G. Safety harness and lifeline used and individually attended when entering bell	1/A
bottom or other deep confined excavations.	Mil
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	141
analysis, trench depth, and expected loads.	NA
B. Materials and equipment used for protective systems inspected and in good	. 11
condition.	NA
C. Materials and equipment not in good condition have been removed from	
service.	yes
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	
E. Protective systems installed without exposing employees to the hazards of	W.
cave-ins, collapses, or threat of being struck by materials or equipment.	NA

F. Members of support system securely fastened to prevent failure. G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	VA VA VA YES VA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	WA VA
H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	WA VA
I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	VA VA VA VA
I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	VA YES VA VA
J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	VA YES VA VA
J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	VA VA VA
J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	Yes VA VA
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	VA VA
the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	VA VA
Calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	VA-
L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	V4
 M. Employees are prohibited from remaining in shield system during vertical movement. 	N.
movement.	11
	N/A

Printed name of CP/COF

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA	-Mw-23	
Date: 4/4/20 Time: 0725	CP: J. Mille	
Soil Type: Gree		
Soil Classification:	Excavation Depth: /45	Excavation Width: 9"
Type Of Protective System U	lsed: V4	

1. General Inspection of Jobsite:	
 A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work. 	-
B. CP has the authority to remove employees from the excavation immediately.	-
C. Surface encumbrances removed or supported.	V
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	Yes
E. Hard hats worn by all employees	xeg
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	yes
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	WA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	M
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	449
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	44
K. Employees are required to stand away from any vehicle being loaded or unloaded.	feg
Employees are not permitted underneath loads handled by lifting or digging equipment.	Yes
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	xe
B. Exact location of utilities marked.	Ve
 C. Underground installations protected, supported, or removed when excavation is open. 	Ke
3. Means of Access and Egress:	10-
A. Lateral travel to means of egress no greater than 25 feet in excavations four	1/4
A. Lateral have to means of egress no greater than 25 feet in excavations four	WY

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	. //
trench.	NA
C. Structural ramps used by employees designed by a CP.	1/4
D. Structural ramps used for equipment designed by a registered professional	3/1
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	. 11
bottom, equipped with no-slip surface.	MA.
F. Employees protected from cave-ins when entering or exiting the excavation.	1/A-
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	Ves
Water removal equipment monitored by a CP.	405
C. Surface water or runoff diverted or controlled to prevent accumulation in the	1
excavation.	Ves
D. Inspections made after every rainstorm or other hazard-increasing	Ve5
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Xes
exposing employees to a hazard.	1
Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Ves
atmospheres.	'
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	WA
gas.	
Testing conducted often to ensure that the atmosphere remains safe.	Yes
E. Emergency equipment, such as breathing apparatus, safety harness and	
ifeline, and/or basket stretcher readily available where hazardous atmospheres	1/A
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	yes.
Safety harness and lifeline used and individually attended when entering bell	INA
oottom or other deep confined excavations.	10/1
S. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	Vtp
analysis, trench depth, and expected loads.	YES
3. Materials and equipment used for protective systems inspected and in good	2an
condition.	Hes
C. Materials and equipment not in good condition have been removed from	1605
service.	Yes
D. Damaged materials and equipment used for protective systems inspected by	111
a registered professional engineer (RPE) after repairs and before being placed	IVIT
back into service.	
E. Protective systems installed without exposing employees to the hazards of	1/1
cave-ins, collapses, or threat of being struck by materials or equipment.	1V'T

F. Members of support system securely fastened to prevent failure.	1/A
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	WA
I. Removal of support systems progresses from the bottom and members are	XIA
released slowly as to note any indication of possible failure.	10/1
J. Backfilling progresses with removal of support system.	195
K. Excavation of material to a level no greater than two feet below the bottom of	+11
the support system and only if the system is designed to support the loads calculated for the full depth.	WAT
L. Shield system placed to prevent lateral movement.	1/4
	1//
M. Employees are prohibited from remaining in shield system during vertical movement.	NA
Corrective Action and Comments	
2 15	
16.111	
July 4/7/2	0
Signature of CP/COR Date	

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

	Soil Type: MA Excavation Depth: 360 Excavation Width:	Sid CT
-	vation Width:	

>	A. Lateral travel to means of egress no greater than 25 feet in excavations four
1	3. Means of Access and Egress:
3	open.
1	B. Exact location of utilities marked.
	A. Utility companies contacted and/or utilities located.
d	2. Utilities:
Na.	excavations above other employees
Se	equipment. M. Employees are the permitted directneam loads handled by lifting or digging
So	unloaded. L. Employees are not possitted and away it off any venicle being loaded or
7	near the edge of the excavation. K. Employees are required to stand away from
8	J. Warning system established and utilized when mobile or in worn by all
8	I. Warning vests or other highly visible clothing protection).
50	H. Walkways and bridges over excavations six feet or more in doubt.
Z	G. Barriers provided at all remotely located expension
See	excavation.
400	E. Hard hats worn by all employees
Jes	or rolling into the excavation.
de C	D. Employees protected from loop supported.
5	C. Surface encumbrances remained and a secavation
yes	B. CP has the authority to remove employees from the expension
+	before the start of work.
	A Excavation of Jobsite:
	1 Constitution unity

Memorandum 00Q.44

adders used in excavations secured and extended three feet above the edge adders used in excavations secured and extended three feet above the edge nch. Structural ramps used by employees designed by a CP. Structural ramps used for equipment designed by a registered professional structural ramps used for equipment designed by a registered professional edgineer (RPE). Ramps constructed of materials of uniform thickness, cleated together on the Ramps constructed of materials of uniform thickness, cleated together on the excavation.	2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
E. Ramps constructed of materials of bottom, equipped with no-slip surface. bottom, equipped with no-slip surface. bottom, equipped with no-slip surface.	NA.
A Wet Conditions:	3
A. Precautions take to protect employees from the accullulation	RA
	F.
D. Inspections made after every rainstorm or other hazard-increasing	St.
5. Hazardous Atmosphere: A. Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible or other harmful contaminant	yes -
exposing employees to a nazard. B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous	¥
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the	7
D. Testing conducted often to ensure that the atmosphere remains safe. D. Testing conducted often to ensure that the atmosphere remains safe.	
E. Emergency equipment, such as preduing apparation, each could or do exist.	-
F. Employees trained to use personal protective and other rescue equipment. G. Safety harness and lifeline used and individually attended when entering bell hottom or other deep confined excavations.	= See
Support Systems: A. Materials and/or equipment for support systems selected based on soil controls transh and expected loads.	nA
B. Materials and equipment used for protective systems inspected and in good	A.A.
C. Materials and equipment not in good condition have been removed from service	yes
 D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed 	N. A.
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	yes

Bass Am	Corrective Action and Comments	emaining in shield system during vertical	A Employees placed to prevent lateral movement.		K. Excavation of material to a level no greater than two feet below the bottom of		released slowly as to note any indication of possible failure	RPE.		F. Members of support system securely fastened to prevent failure.
		3	A	8	4	1	B	Z	So o	8

One copy shall be provided for both the contractor conducting the work and COR (VASLCHCS)

Signature of CP/COR

Printed name of CP/COR

Date

Daily Excavation Checklist (To be completed by the CP)

Site	ocation: SI/ (A
Data	ocation: Stc VA
Date.	111/20 Time: 900 CP: Buts Voll
0011	pe: na
Soil C	assification: As Excavation Death
Type (
7,00	of Protective System Used: no Excavation Width:
	o for a second s

1. General Inspection of the	
General Inspection of Jobsite: A. Excavations, adjacent	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily B. CP has the public in the control of Jobsite:	_
B. CP has the authority to	1.
B. CP has the authority to remove employees from the excavation	120
C. Surface encumbrance	lye
C. Surface encumbrances removed or supported. D. Employees protected from least	0
D. Employees protected from loose rock or soil that could pose a hazard by falling F. Hard both.	yu
E. Hard hate wors by all on.	11000
E. Hard hats worn by all employees	yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the	40
G. Barriera provide to a m	1.00
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	iyes
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection)	yes
with standard guardrails and toe boards (fall protection).	WA
. Walling vests of other highly visible clothing	ve
employees exposed to public vehicular traffic.	14.4
. Warning system established and utilized when mobile and	yes
near the edge of the excavation.	na
C. Employees are required to stand away from any vehicle being loaded or	7101
Employees are not as it is	us
. Employees are not permitted underneath loads handled by lifting or digging quipment.	yes
Employees prohibited 6	yes
Employees prohibited from working on the faces of slopes or benched xcavations above other employees.	-
xcavations above other employees. Utilities:	400
Utility companies controlled and the survey	-
. Utility companies contacted and/or utilities located Exact location of utilities marked.	4,00
Underground installations and the	sts
supported, or removed when excavation is	
Means of Access and Egress:	nΑ
Lateral travel to means of sever	
Lateral travel to means of egress no greater than 25 feet in excavations four	18

eet or more in depth. 3. Ladders used in excavations secured and extended three feet above the edge	M
get of more in department of the excavations secured and extended times lost used in excavations	
	MA
C. Structural ramps used by employees designed by a CP. D. Structural ramps used for equipment designed by a registered professional	10
D Ctructural ramps used for equipment	M
Engineer (RPE). E. Ramps constructed of materials of uniform thickness, cleated together on the	nA
E. Ramps constructed of materials of uniform trickness,	
bottom, equipped with no-slip surface. F. Employees protected from cave-ins when entering or exiting the excavation.	MA_
F. Employees protected from cave-ins when single	0-0
Wet Conditions: A. Precautions take to protect employees from the accumulation of water. A. Precautions take to protect employees from the accumulation of water. A. Precautions take to protect employees from the accumulation of water.	Mo
A. Precautions take to protect employees from the asset	nA
B. Water removal equipment monitored by a CP. C. Surface water or runoff diverted or controlled to prevent accumulation in the	(SPS)
excavation.	
excavation. D. Inspections made after every rainstorm or other hazard-increasing	413
occurrence.	
Hazardous Atmosphere: A. Atmosphere within the excavation tested where there is a reasonable A. Atmosphere within the excavation tested where there is a reasonable	Lin
A. Atmosphere within the excavation tested where their is a possibility of an oxygen deficiency, combustible or other harmful contaminant	yo
exposing employees to a hazard.	
The state of the s	04
atmosphere containing less than 19.5% oxygen and/or to and	AN
atmospheres. C. Ventilation provided to prevent employee exposure to an atmosphere	
C. Ventilation provided to prevent employee explosive limit of the containing flammable gas in excess of 10% of the lower explosive limit of the	MA
gas.	Lye
D. Testing conducted often to ensure that the atmosphere remains safe.	10
E. Emergency equipment, such as breathing apparatus, safety harness and lifeline, and/or basket stretcher readily available where hazardous atmospheres	nA
could or do exist. F. Employees trained to use personal protective and other rescue equipment.	Cycs
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	nu
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	M
analysis, trench depth, and expected loads.	M
B. Materials and equipment used for protective systems inspected and in good	
condition	NA
C. Materials and equipment not in good condition have been removed from	1.7
service.	1/4
D. Damaged materials and equipment used for protective systems inspected by	/
a registered professional engineer (RPE) after repairs and before being placed	MA
back into service.	-
E. Protective systems installed without exposing employees to the hazards of	ye
cave-ins, collapses, or threat of being struck by materials or equipment.	1

F. Members of support system securely fastened to prevent failure.	yes
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	be
H. Excavations below the level of the base or footing supported, approved by an RPE.	mo
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	MA
J. Backfilling progresses with removal of support system	69
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	nA
L. Shield system placed to prevent lateral movement.	M
Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	no

Daily Excavation Checklist (To be completed by the CP)

ш	Site Locality (In CP)
- 1	Site Location: SLC- VA
- 1	Date, 4/19/20 Time: :4
- 1	Soil Type: AA CP: Bels, Both
Γ	Soil Ole in
ŀ	Soil Classification: AA Excavation Device
L	
	Type Of Protective System Used: np Excavation Width:
	Indicate for an a second

1 and daily	
General Inspection of Jobsite: A. Excavations adjusted.	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily B. CP has the authorite.	
before the start of work	
B. CP has the authority to remove employees from the excavation	1
immediately	ge
C. Surface constitution	
C. Surface encumbrances removed or supported. D. Employees protected from lease.	ye
D. Employees protected from loose rock or soil that could pose a hazard by falling F. Hard hate.	1A
or rolling into the excavation.	7
L. Hald hals worn by all ample	11 /4
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	ye.
excavation. excavation.	13
G. Barriers provided at all remotely leads to	145
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	lyts
with standard quardralle and excavations six feet or more in depth are equipped	Lyns
with standard guardrails and toe boards (fall protection).	MA
" Training vosts of other highly visible clothing and it is	-
employees exposed to public vehicular traffic.	1 yes
J. Warning system established and utilized when making the control of the control	1
	lin
K. Employees are required to stand away from any vehicle being less to	yes
L. Employees are not permitted underneath loads handled by lifting or digging	1/2
M. Employees prohibited from working on the faces of slopes or benched	lges .
excavations above other employees.	
2. Utilities:	1201
A. Utility companies contacted and/or utilities located.	
B. Exact location of utilities marked.	yes
Linderground installations marked.	-
 Underground installations protected, supported, or removed when excavation is open. 	00
	NA
Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MM
Sites validite four	

eet or more in depth. 3. Ladders used in excavations secured and extended three feet above the edge	M
eet or more in depth.	111
3. Ladders used in excavations soon	nA
rench. C. Structural ramps used by employees designed by a CP. D. Structural ramps used for equipment designed by a registered professional	m
Structural ramps used for equipment doos, Engineer (RPE). E. Ramps constructed of materials of uniform thickness, cleated together on the E. Ramps constructed of materials of uniform thickness, cleated together on the E. Ramps constructed of materials of uniform thickness, cleated together on the E. Ramps constructed of materials of uniform thickness, cleated together on the E. Ramps constructed of materials of uniform thickness, cleated together on the E. Ramps constructed of materials of uniform thickness, cleated together on the E. Ramps constructed of materials of uniform thickness, cleated together on the E. Ramps constructed of materials of uniform thickness.	m
E. Ramps constructed of materials of uniform union	1
bottom, equipped with no-slip surface. F. Employees protected from cave-ins when entering or exiting the excavation.	MP
F. Employees protected from cave-ins when entering or	TAA
Wet Conditions: A. Precautions take to protect employees from the accumulation of water. A. Precautions take to protect employees from the accumulation of water. A. Precautions take to protect employees from the accumulation of water.	
A Precautions take to protect employees from the accommon	nA
B. Water removal equipment monitored by a CP. C. Surface water or runoff diverted or controlled to prevent accumulation in the	Ses
excavation.	hes
excavation. D. Inspections made after every rainstorm or other hazard-increasing occurrence.	1,10
5. Hazardous Atmosphere:	1011
A. Atmosphere within the excavation tested where the harmful contaminant possibility of an oxygen deficiency, combustible or other harmful contaminant	yes
exposing employees to a hazard. B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous	M
atmospheres. C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the	ΛA
	hlo
D. Testing conducted often to ensure that the atmosphere remains safe. E. Emergency equipment, such as breathing apparatus, safety harness and lifeline, and/or basket stretcher readily available where hazardous atmosphere	s M
could or do exist.	Capo
F. Employees trained to use personal protective and other rescue equipment. G. Safety harness and lifeline used and individually attended when entering be bottom or other deep confined excavations.	ell nA
6 Support Systems:	
A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads.	ne
B. Materials and equipment used for protective systems inspected and in good condition	d M
C. Materials and equipment not in good condition have been removed from service.	yes
D. Damaged materials and equipment used for protective systems inspected a registered professional engineer (RPE) after repairs and before being place back into service.	a nn
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	NK

F. Members of support system securely fastened to prevent failure.	NA
 G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. 	nA
H. Excavations below the level of the base or footing supported, approved by an RPE.	na
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. Post fills	nA
J. Backfilling progresses with removal of support system	nn
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	am
L. Shield system placed to prevent lateral movement.	A
M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	yes/nx

!!		_
Below Both	4/19/26	
Signature of CP/COR	2/11/20	_
Signature of CP/COR BSTS/ BOTT	Date	
1) () ()		

Daily Excavation Checklist (To be completed by the CP)

Site Least	, and wy title CP)
Site Location: SLc-VA	
Date: 4/2°/2° Time: 9:00	CP: Both 804
Soil Classification	
Type Of Protective S	xcavation Depth: 360' Excavation Width (20)
Type Of Protective System Use	ed: np Excavation Width:
Indicate for each it	

1. General Inspection	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily B. CP has the authority to	
before the start of	
B. CP has the authority.	
B. CP has the authority to remove employees from the excavation	120
C Sudan Control of the excavation	
C. Surface encumbrances removed or supported. D. Employees protected from Jacob	by
D. Employees protected from loose rock or sall the	no
D. Employees protected from loose rock or soil that could pose a hazard by falling into the excavation. E. Hard bets worselved. E. Hard bets worselved.	1/18
F. Spoils, materials, and equipment and	12
F. Spoils, materials, and equipment set back at least two feet from the edge of the	14
3. Barriers provided at all accounts	1 12
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	1
Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	-
vith standard guardrails and toe boards (fall protection).	m
	110
employees exposed to public vehicular traffic.	100
. Walling System established and utilized when motify	1
ear the edge of the excavation.	45
. Employees are required to stand away from any web-1-	20
nloaded.	res
. Employees are not permitted underneath loads handled by lifting or digging quipment.	101
quipment. quipment.	
. Employees prohibited from working on the force of	yes
I. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	,
Utilities:	20
Utility companies contacted and/or utilities located.	
Exact location of utilities marked.	49
Underground installations	9~
Underground installations protected, supported, or removed when excavation is	1
	M
Means of Access and Egress:	
Lateral travel to means of egress no greater than 25 feet in excavations four	m
- South Chedvalions Ioul	. 17

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G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical.	F. Members of support system securely fastened to prevent failure.	NA
I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	 G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. 	na
J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of he support system and only if the system is designed to support the loads calculated for the full depth. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	VI L.	na
C. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	eleased slowly as to note any indication of possible failure.	ha
A. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	I. Backfilling progresses with removal of support system	na
w. Employees are prohibited from remaining in shield system during vertical wy/	C. Excavation of material to a level no greater than two feet below the bottom of he support system and only if the system is designed to support the loads calculated for the full depth.	
w. Employees are prohibited from remaining in shield system during vertical wy/	Shield system placed to prevent lateral movement.	nA
Corrective Action and Comments	w. Employees are prohibited from remaining in shield system during vertical movement.	yaln
	Total and Comments	
*		

Barry Both	
Signature of CP/COR	

4/20/20 Date

Printed name of CP/COR

One copy shall be provided for both the contractor conducting the work and COR (VASLCHCS)

BOTT

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC-V	A @ WW-23	
Date: 4/21/21 Time: 415	CP: Betsu Both	
Soil Type: NA	,	
Soil Classification: nA	Excavation Depth: 360	Excavation Width: 41
Type Of Protective Syste		7

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	tyes
B. CP has the authority to remove employees from the excavation	-
mmediately.	yes
C. Surface encumbrances removed or supported.	nΑ
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	yes
E. Hard hats worn by all employees	her
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	jes
 Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	W
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	hA
. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	ges
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	Ges/V
 Employees are required to stand away from any vehicle being loaded or unloaded. 	izes
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	415
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	ΛA
2. Utilities:	
Utility companies contacted and/or utilities located.	yes
Exact location of utilities marked.	is
Underground installations protected, supported, or removed when excavation is open.	M
3. Means of Access and Egress:	
A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	nΛ
	111

fact or many in doubt	_
feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	na
trench.	MA
C. Structural ramps used by employees designed by a CP.	MA
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	na
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	M
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	030
B. Water removal equipment monitored by a CP.	nA
Surface water or runoff diverted or controlled to prevent accumulation in the excavation.	yes
D. Inspections made after every rainstorm or other hazard-increasing occurrence.	yes
5. Hazardous Atmosphere:	,
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	40
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	M
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	nA
D. Testing conducted often to ensure that the atmosphere remains safe.	Lata
E. Emergency equipment, such as breathing apparatus, safety harness and	yes
lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	yes
F. Employees trained to use personal protective and other rescue equipment.	400
G. Safety harness and lifeline used and individually attended when entering bell bottom or other deep confined excavations.	mo
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads.	M
 B. Materials and equipment used for protective systems inspected and in good condition. 	AN
C. Materials and equipment not in good condition have been removed from service.	ye
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	g n
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	NA

F. Members of support system securely fastened to prevent failure.	MA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	Não
H. Excavations below the level of the base or footing supported, approved by an RPE.	nA
I. Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	M
J. Backfilling progresses with removal of support system.	AN
K. Excavation of material to a level no greater than two feet below the bottom of	
the support system and only if the system is designed to support the loads	an
calculated for the full depth.	
L. Shield system placed to prevent lateral movement.	nA
M. Employees are prohibited from remaining in shield system during vertical movement.	M
Corrective Action and Comments	10
Au Bo Alaile	

Daily Excavation Checklist (To be completed by the CP)

Sito La	, 01)	
Site Local Date: 4/3	1 Time (a) Mw-26	
Soil Type	MA Bets Both	
Soil Clas	cation: nA Excavation Depth: 9 Excavation Depth:	-
Liybe Of F	tective System Used: 01 Excavation Width: 10	1
Indicate 4		

1. General Inspection of Jobsite:	
A. Excavations, adjacent essential	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily B. CP has the coult.	
B. CP has the authority to remove employees from the excavation	110
immediately	18
C. Surface and J.	1.
C. Surface encumbrances removed or supported. D. Employees protected from least	lyc
D. Employees protected from loose rock or soil that could pose a hazard by falling into the excavation.	ye
or rolling into the excavation.	1
E. Hard hars worn by all amounts	I I I I I I
F. Spoils, materials, and equipment set back at least	izes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	10
G. Barriers provided at all remotely to the	1463
Barriers provided at all remotely located excavations, wells, pits, shafts, etc. Walkways and bridges over excavations six feet or more in.	140
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	yes
with standard guardrails and toe boards (fall protection).	MA
. Walling vests of other highly visible clothing available	-
employees exposed to public vehicular traffic.	yes
J. Warning system established and utilized when mobile equipment is operating	0
	MA
K. Employees are required to stand away from any vehicle being loaded or	-
	45
Employees are not permitted underneath loads handled by lifting or digging	/
quipment.	yes
M. Employees prohibited from working on the faces of slopes or benched	/ -
and the debate of tell employees.	np
. Utilities:	.,,
. Utility companies contacted and/or utilities located.	
. Exact location of utilities marked.	320
. Underground installations protected, supported, or removed when excavation is	izes
	ma
Means of Access and Egress:	'/'
Lateral travel to means of egress no greater than 25 feet in excavations four	
and the means of egress no greater than 25 feet in excavations four	14

Billinguage	
eet or more in depth. 3. Ladders used in excavations secured and extended three feet above the edge	na
et or more in depth.	-
Ladders used in excavations second and	NA
Structural ramps used by employees designed by a CP. Structural ramps used for equipment designed by a registered professional	
Structural ramps used by employees designed by a registered professional	hA
	^
ngineer (RPE).	np
Engineer (RPE). Ramps constructed of materials of uniform thickness, cleated together on the second with possilip surface.	nA
pottom, equipped with no-slip surface.	M
Employees protected from cave-ins when arising	20
Wet Conditions: A. Precautions take to protect employees from the accumulation of water. A. Precautions take to protect employees from the accumulation of water. A. Precautions take to protect employees from the accumulation of water.	MA
A. Precautions take to protect employees from the doss.	na.
B. Water removal equipment monitored by a CP. C. Surface water or runoff diverted or controlled to prevent accumulation in the	yes
C. Surface water or runoff diverted or controlled to prevent	- Ju
excavation. excavation as other hazard-increasing	yes
excavation. D. Inspections made after every rainstorm or other hazard-increasing	1
occurrence.	
Hazardous Atmosphere: A. Atmosphere within the excavation tested where there is a reasonable of the contaminant of the co	izes
nossibility of an oxygen deliciency, combodies	0
exposing employees to a hazard.	1
	1 AA
B. Adequate precautions taken to protect employees from the protect em	1
atmospheres.	1
the second omployed by nosting to all authosphore	MA
C. Ventilation provided to prevent employee exposure to an account of the containing flammable gas in excess of 10% of the lower explosive limit of the	In
	Ine
and the standard of the standard the standar	ye.
Conset cuch as prestrain apparatus, salety harross and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	np
11 1- 1	_
= = to see to ited to use personal protective and other rescue equipment.	17º
G. Safety harness and lifeline used and individually attended when entering both	MA
bottom or other deep confined excavations.	
6 Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	MF
analysis tranch donth and expected loads.	
B. Materials and equipment used for protective systems inspected and in good	nA
condition	1
C. Materials and equipment not in good condition have been removed from	Lot
service	ye
D. Damaged materials and equipment used for protective systems inspected by	У
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	1,5
E. Protective systems installed without exposing employees to the hazards of	MA
cave-ins, collapses, or threat of being struck by materials or equipment.	

. Members of support system securely fastened to prevent failure.	Ub
 Support systems provided in ensure stability of adjacent structures, buildings, oadways, sidewalks, walls, etc. 	ΛA
H. Excavations below the level of the base or footing supported, approved by an RPE.	nA
 Removal of support systems progresses from the bottom and members are eleased slowly as to note any indication of possible failure. 	m
. Backfilling progresses with removal of support system.	AM
C. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	nn
Shield system placed to prevent lateral movement.	MA
M. Employees are prohibited from remaining in shield system during vertical novement. Corrective Action and Comments	MA

Signature of CB/COR

Date

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location:	SLC	VA	6	mw 26				
Date: 4/13	Time:	8:00	CP:	BetyBolt				
Soil Type:	m			,				_
Soil Classificat	tion: /	lp.	Excav	ation Depth:	40'	Excavation Width:	10	- 8
Type Of Prote	ctive Sy	stem l	Used:	M				

1. General Inspection of Jobsite:	
Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	yes
B. CP has the authority to remove employees from the excavation immediately.	ges
C. Surface encumbrances removed or supported.	ye
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	is
E. Hard hats worn by all employees	ins
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	19º
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	M
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	WA
. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	we
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	01
K. Employees are required to stand away from any vehicle being loaded or unloaded.	'n
Employees are not permitted underneath loads handled by lifting or digging equipment.	W
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	an
2. Utilities:	
Utility companies contacted and/or utilities located.	W
Exact location of utilities marked.	we
 Underground installations protected, supported, or removed when excavation is open. 	we
3. Means of Access and Egress:	V
A. Lateral travel to means of egress no greater than 25 feet in excavations four	h)

	00
F. Members of support system securely fastened to prevent failure.	$(IV_{-}$
G. Support systems provided in ensure stability of adjacent structures, buildings,	M
roadways, sidewalks, walls, etc.	141
H. Excavations below the level of the base or footing supported, approved by an	np
RPE.	11/0
I. Removal of support systems progresses from the bottom and members are	NA
released slowly as to note any indication of possible failure.	
J. Backfilling progresses with removal of support system.	nn
K. Excavation of material to a level no greater than two feet below the bottom of	
the support system and only if the system is designed to support the loads	na
calculated for the full depth.	^
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical	MP
movement.	Mis
Corrective Action and Comments	
3	
1	

Signature of CP/COR,

Date

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA	MW-25	
Date: 4/29/20 Time:	CP: Kimberly M. Ya	uK
Soil Type: A NA	J	
Soil Classification: NA	Excavation Depth: 10 '	Excavation Width: K'
Type Of Protective System	n Used: NA	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	./
before the start of work.	Y
B. CP has the authority to remove employees from the excavation	
immediately.	V
C. Surface encumbrances removed or supported.	NΛ
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	4
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	Y
 Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	Y
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	Y/6
 K. Employees are required to stand away from any vehicle being loaded or unloaded. 	Y
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Y
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	Y
2. Utilities:	-
A. Utility companies contacted and/or utilities located.	TY
B. Exact location of utilities marked.	Ť
 Underground installations protected, supported, or removed when excavation is open. 	NN
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	Y/N
	1//

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge trench.	h¥
C. Structural ramps used by employees designed by a CP.	NA
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	Y
B. Water removal equipment monitored by a CP.	Y
 C. Surface water or runoff diverted or controlled to prevent accumulation in the excavation. 	Y
 D. Inspections made after every rainstorm or other hazard-increasing occurrence. 	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	4
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	Y
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	NA
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
E. Emergency equipment, such as breathing apparatus, safety harness and lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	И
 Employees trained to use personal protective and other rescue equipment. 	Y
G. Safety harness and lifeline used and individually attended when entering bell bottom or other deep confined excavations.	NA
S. Support Systems:	
 A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads. 	ИИ
Materials and equipment used for protective systems inspected and in good condition.	NF
C. Materials and equipment not in good condition have been removed from ervice.	14
 Damaged materials and equipment used for protective systems inspected by registered professional engineer (RPE) after repairs and before being placed ack into service. 	411
. Protective systems installed without exposing employees to the hazards of ave-ins, collapses, or threat of being struck by materials or equipment.	N

F. Members of support system securely fastened to prevent failure.	NK
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	NP
 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. Casing → Y 	Y/NA
J. Backfilling progresses with removal of support system.	Y
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	NA
Employees are prohibited from remaining in shield system during vertical movement.	NA

Signature of CRICOR Kimberly Yank 4/29/20 Date

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA - M		
Date: 4/30/20 Time: 0815	CP: Kimberly Yaux	
Soil Type: NA	J	
Soil Classification: NA	Excavation Depth: 100'	Excavation Width: 8"
Type Of Protective System I	Jsed: NA	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	Y
before the start of work.	1
B. CP has the authority to remove employees from the excavation	V
immediately.	1
C. Surface encumbrances removed or supported.	NA
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	AN
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	NA
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	У
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	NA
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Y
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Y
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	YI
2. Utilities:	
A. Utility companies contacted and/or utilities located.	TY
B. Exact location of utilities marked.	Y
 C. Underground installations protected, supported, or removed when excavation is open. 	NA
3. Means of Access and Egress:	_
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA
A CONTRACTOR OF THE CONTRACTOR	

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	AM
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	AN
F. Employees protected from cave-ins when entering or exiting the excavation.	AN
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	Y
B. Water removal equipment monitored by a CP.	NΑ
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	NA
D. Inspections made after every rainstorm or other hazard-increasing	1/
occurrence.	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Y .
exposing employees to a hazard.	
B. Adequate precautions taken to protect employees from exposure to an	9.0
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	N
gas.	٠,
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	NA
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	AN
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil	110
analysis, trench depth, and expected loads.	NA
B. Materials and equipment used for protective systems inspected and in good	M
condition.	1411
C. Materials and equipment not in good condition have been removed from	V
service.	Y
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	,
E. Protective systems installed without exposing employees to the hazards of	MA
cave-ins, collapses, or threat of being struck by materials or equipment.	NA

NV
NK
NA
Y
Y
44
NA
АИ

Corrective Action and Comments

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC	VA - MW-25		
Date: 5/1/20 Time:	CP: Kimberly Yank		
Soil Type: NA			
Soil Classification: NA	Excavation Depth: 150'	Excavation Width: δ" / 120	7" 10
Type Of Protective System	m Used: NA		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	V
before the start of work.	ľ
B. CP has the authority to remove employees from the excavation	1
immediately.	Y
C. Surface encumbrances removed or supported.	NA
D. Employees protected from loose rock or soil that could pose a hazard by falling	
or rolling into the excavation.	NA
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the	,
excavation.	NA/
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped	
with standard guardrails and toe boards (fall protection).	N/
Warning vests or other highly visible clothing provided and worn by all	V
employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating	NA
near the edge of the excavation.	INIT
K. Employees are required to stand away from any vehicle being loaded or	V
unloaded.	Y
L. Employees are not permitted underneath loads handled by lifting or digging	γ
equipment.	Υ
M. Employees prohibited from working on the faces of slopes or benched	NA
excavations above other employees.	MIL
2. Utilities:	
A. Utility companies contacted and/or utilities located.	TY
B. Exact location of utilities marked.	Ý
C. Underground installations protected, supported, or removed when excavation is	NA
open.	INN
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	MA
trench.	NA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	NA
Engineer (RPE).	W/3
E. Ramps constructed of materials of uniform thickness, cleated together on the	NA
bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	Y
Water removal equipment monitored by a CP.	NA
C. Surface water or runoff diverted or controlled to prevent accumulation in the	Y
excavation.	-
D. Inspections made after every rainstorm or other hazard-increasing	У
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	NA
possibility of an oxygen deficiency, combustible or other harmful contaminant	Idv
exposing employees to a hazard.	
 Adequate precautions taken to protect employees from exposure to an 	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
 D. Testing conducted often to ensure that the atmosphere remains safe. 	Υ
 E. Emergency equipment, such as breathing apparatus, safety harness and 	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
 F. Employees trained to use personal protective and other rescue equipment. 	Y
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	NA
analysis, trench depth, and expected loads.	101
B. Materials and equipment used for protective systems inspected and in good	414
condition.	AM
C. Materials and equipment not in good condition have been removed from	4
service.	1
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	INV
back into service.	
E. Protective systems installed without exposing employees to the hazards of	NA
cave-ins, collapses, or threat of being struck by materials or equipment.	NA

F. Members of support system securely fastened to prevent failure.	
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NΑ
 Excavations below the level of the base or footing supported, approved by an RPE. 	NA
. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	Y
J. Backfilling progresses with removal of support system.	Y
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	NA
Employees are prohibited from remaining in shield system during vertical movement.	NA
S/1/20	

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLc VA -	MW-25	
Date: 5/3/20 Time: 0955	CP: Kimberly York	
Soil Type: NA	Table of the same	
Soil Classification: NA	Excavation Depth: 2\0'	Excavation Width: 7"
Type Of Protective System U	sed: NA	Enduration Width.

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	Y
before the start of work.	٢
B. CP has the authority to remove employees from the excavation	Y
immediately.	1
C. Surface encumbrances removed or supported.	1/1
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	NA
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	NA
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	NA
K. Employees are required to stand away from any vehicle being loaded or unloaded.	4
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Y
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	-
A. Utility companies contacted and/or utilities located.	N
B. Exact location of utilities marked.	7
 C. Underground installations protected, supported, or removed when excavation is open. 	NA
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	4/1/

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA	- MW-25	
Date: 5/3/20 Time: 0955	CP: Kimberly Yank	
Soil Type: NA	0	
Soil Classification: NA	Excavation Depth: 2\0'	Excavation Width: 7"
Type Of Protective System	Used: NA	•

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	Y
before the start of work.	1
B. CP has the authority to remove employees from the excavation	Y
immediately.	
C. Surface encumbrances removed or supported.	1/1
 Employees protected from loose rock or soil that could pose a hazard by falling 	NA
or rolling into the excavation.	MA
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	NA
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped	- 10
with standard guardrails and toe boards (fall protection).	NA
. Warning vests or other highly visible clothing provided and worn by all	1
employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating	. 10
near the edge of the excavation.	NA
 K. Employees are required to stand away from any vehicle being loaded or unloaded. 	4
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	4
M. Employees prohibited from working on the faces of slopes or benched	<u> </u>
excavations above other employees.	NA
2. Utilities:	-
Utility companies contacted and/or utilities located.	N
Exact location of utilities marked.	1
C. Underground installations protected, supported, or removed when excavation is	110
open.	NA
3. Means of Access and Egress:	_
A. Lateral travel to means of egress no greater than 25 feet in excavations four	1/2
	-11

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	AL A
trench.	NA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	MA
E. Ramps constructed of materials of uniform thickness, cleated together on the	AN
bottom, equipped with no-slip surface.	lest
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	Y
B. Water removal equipment monitored by a CP.	Y
C. Surface water or runoff diverted or controlled to prevent accumulation in the	.1
excavation.	4
D. Inspections made after every rainstorm or other hazard-increasing	Y
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	_
possibility of an oxygen deficiency, combustible or other harmful contaminant	R
exposing employees to a hazard.	
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	AN
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	7
G. Safety harness and lifeline used and individually attended when entering bell	N
bottom or other deep confined excavations.	
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	. 10
analysis, trench depth, and expected loads.	NA
B. Materials and equipment used for protective systems inspected and in good	AVA
condition.	M
C. Materials and equipment not in good condition have been removed from	V
service.	Y
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	
E. Protective systems installed without exposing employees to the hazards of	, the
cave-ins, collapses, or threat of being struck by materials or equipment.	NA

Signature of CP/COR Date	
Corrective Action and Comments	
Employees are prohibited from remaining in shield system during vertical movement.	PA
calculated for the full depth. L. Shield system placed to prevent lateral movement.	NA
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads	NA
eleased slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system.	7
. Removal of support systems progresses from the bottom and members are	Y
	NA.
 Excavations below the level of the base or footing supported, approved by an RPE. 	NP
RPE.	

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA -	MW-25	
Date: 5/4/20 Time: 0900	CP: Kimberly Youk	
Soil Type: NA	0	
Soil Classification: NA	Excavation Depth: 260'	Excavation Width: 711
Type Of Protective System U		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	./
before the start of work.	Y
B. CP has the authority to remove employees from the excavation	. 1
immediately.	Y
C. Surface encumbrances removed or supported.	NA
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	NΑ
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	NA
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NΑ
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	ИМ
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Y
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Ý
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	An
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Y
Exact location of utilities marked.	Y
 C. Underground installations protected, supported, or removed when excavation is open. 	NA
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA
g ones. that 20 look in experience four	IAL)

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	144.
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	140
4. Wet Conditions:	-
A. Precautions take to protect employees from the accumulation of water.	V
B. Water removal equipment monitored by a CP.	\$1.
	Y/N
Surface water or runoff diverted or controlled to prevent accumulation in the excavation.	Y
D. Inspections made after every rainstorm or other hazard-increasing	,
occurrence.	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	V
exposing employees to a hazard.	Y
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
atmospheres.	.41
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	MV
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	Y
G. Safety harness and lifeline used and individually attended when entering bell	- 14
bottom or other deep confined excavations.	44
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	-10
analysis, trench depth, and expected loads.	NA
B. Materials and equipment used for protective systems inspected and in good	./
condition.	Y/
C. Materials and equipment not in good condition have been removed from	V
service.	1
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	» (A
back into service.	NA
E. Protective systems installed without exposing employees to the hazards of	
cave-ins, collapses, or threat of being struck by materials or equipment.	Air

F. Members of support system securely fastened to prevent failure.	
G. Support systems provided in ensure stability of adjacent structures, buildings roadways, sidewalks, walls, etc.	N
H. Excavations below the level of the base or footing supported, approved by a RPE.	n NA
 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. 	Y
J. Backfilling progresses with removal of support system.	V
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	f Y
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical movement.	NA

Signature of CR/COR

5/4/20 Date

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA MW-26	
Date: S/4/10 Time: 0830 CP: J.M. Te	
Soil Type: Grave (
Soil Classification: NA Excayation Depth: 100	Excavation Width: 10"
Type Of Protective System Used:	

1. General Inspection of Jobsite:	
Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	yes
B. CP has the authority to remove employees from the excavation immediately.	yes
C. Surface encumbrances removed or supported.	yes
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	ye
E. Hard hats worn by all employees	yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	yes
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	X95
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	VA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	yes
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	Kes
K. Employees are required to stand away from any vehicle being loaded or unloaded.	yes
L. Employees are not permitted underneath loads handled by lifting or digging equipment.	yes
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	VC
2. Utilities:	
Utility companies contacted and/or utilities located.	yes
B. Exact location of utilities marked.	Ves
 C. Underground installations protected, supported, or removed when excavation is open. 	Ϋ́
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	Vi

feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge trench. 	VA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	1/A
Engineer (RPE).	MI
E. Ramps constructed of materials of uniform thickness, cleated together on the	1/4
bottom, equipped with no-slip surface.	NO.
F. Employees protected from cave-ins when entering or exiting the excavation.	1//
4. Wet Conditions:	-
A. Precautions take to protect employees from the accumulation of water.	res
B. Water removal equipment monitored by a CP.	105
C. Surface water or runoff diverted or controlled to prevent accumulation in the	1
excavation.	4.05
D. Inspections made after every rainstorm or other hazard-increasing	-
occurrence.	yes
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Yes
exposing employees to a hazard.	10)
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Yes
atmospheres.	10
C Ventilation provided to proved and the control of	.11
containing flammable gas in excess of 10% of the lower explosive limit of the	NA-
gas.	, ,
	ve5
E. Emergency equipment, such as breathing apparatus, safety harness and	1
lifeline, and/or basket stretcher readily available where hazardous atmospheres	VA
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	Ve5
G. Safety harness and lifeline used and individually attended when entering hell	16
bottom or other deep confined excavations.	NA
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil	./ -
analysis, trench depth, and expected loads.	Yes
B. Materials and equipment used for protective systems inspected and in good	VE
condition.	XES
C. Materials and equipment not in good condition have been removed from	1
service.	495
 D. Damaged materials and equipment used for protective systems inspected by 	
	K/A
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	MA
	M

F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	yes
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
Removal of support systems progresses from the bottom and members are	. /4
released slowly as to note any indication of possible failure.	NA
J. Backfilling progresses with removal of support system.	ves
K. Excavation of material to a level no greater than two feet below the bottom of	7.
the support system and only if the system is designed to support the loads	NA
calculated for the full depth.	11/2
L. Shield system placed to prevent lateral movement.	NT,
M. Employees are prohibited from remaining in shield system during vertical	A CA
movement.	V/1
Corrective Action and Comments	1
2 11.	

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC - VA - N	1W-25	
Date: 5/5/20 Time: 0815	CP: Kimbedy Yank	
Soil Type: NA) 11000	
Soil Classification: NIA	Excavation Depth: 2801	Excavation Width: 6"
Type Of Protective System U	sed: NA	Excavation width.

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	1/
before the start of work.	ľ
B. CP has the authority to remove employees from the excavation	V
immediately.	1
C. Surface encumbrances removed or supported.	NA
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	NA
E. Hard hats worn by all employees	V
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	NA
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	AM
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Y
 J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. 	Y
 K. Employees are required to stand away from any vehicle being loaded or unloaded. 	Y
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Y
Employees prohibited from working on the faces of slopes or benched excavations above other employees. Utilities:	NA
A. Utility companies contacted and/or utilities located.	Y
B. Exact location of utilities marked.	Y
 C. Underground installations protected, supported, or removed when excavation is open. 	NΑ
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	AH
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	AA
F. Employees protected from cave-ins when entering or exiting the excavation.	AA
4. Wet Conditions:	1-1-1
A. Precautions take to protect employees from the accumulation of water.	NA
B. Water removal equipment monitored by a CP.	Y
C. Surface water or runoff diverted or controlled to prevent accumulation in the	γ
excavation.	Y
D. Inspections made after every rainstorm or other hazard-increasing	Y
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	AN
exposing employees to a hazard.	
 B. Adequate precautions taken to protect employees from exposure to an 	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	AV1
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	AN
containing flammable gas in excess of 10% of the lower explosive limit of the	
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	Au
lifeline, and/or basket stretcher readily available where hazardous atmospheres	ML
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	NF
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads.	AN
B. Materials and equipment used for protective quetoms inspected and its good	
 B. Materials and equipment used for protective systems inspected and in good condition. 	AN
C. Materials and equipment not in good condition have been removed from	
service.	19th
D. Damaged materials and equipment used for protective systems inspected by	-
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	
E. Protective systems installed without exposing employees to the hazards of	,
cave-ins, collapses, or threat of being struck by materials or equipment.	Y

F. Members of support system securely fastened to prevent failure.	Y
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	NP
. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	Y
J. Backfilling progresses with removal of support system	Y
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NА
Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	AU

Signature of COR
Kimberly

5/5/20

Date

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA Mu-23	
Date: 4/6 KA Time: 0800 CP: J.M.Ile	
Soil Type:	
Soil Classification: NA Excavation Depth: 150	Excavation Width: 9 11
Type Of Protective System Used: I/A-	Taxourdion mount

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	T
before the start of work.	X-es
B. CP has the authority to remove employees from the excavation	+
immediately.	Ves
C. Surface encumbrances removed or supported.	xes
D. Employees protected from loose rock or soil that could pose a hazard by falling	1
or rolling into the excavation.	yes
E. Hard hats worn by all employees	yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the	1
excavation.	Ves
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped.	1
with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all	
employees exposed to public vehicular traffic.	Yes
J. Warning system established and utilized when mobile equipment is operating	
near the edge of the excavation.	yes
K. Employees are required to stand away from any vehicle being loaded or	
unloaded.	X-65
L. Employees are not permitted underneath loads handled by lifting or digging	11.1
equipment.	Yes
M. Employees prohibited from working on the faces of slopes or benched	WA
excavations above other employees. 2. Utilities:	107
A. Utility companies contacted and/or utilities located.	yes
B. Exact location of utilities marked.	4-65
 Underground installations protected, supported, or removed when excavation is open. 	Val
3. Means of Access and Egress:	1.05
A Lateral travel to means of egrees as greater they of fact in	11
A. Lateral travel to means of egress no greater than 25 feet in excavations four	TA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	NA
trench.	
C. Structural ramps used by employees designed by a CP.	NA
D. Structural ramps used for equipment designed by a registered professional	NA
Engineer (RPE).	10/1
E. Ramps constructed of materials of uniform thickness, cleated together on the	1/1
bottom, equipped with no-slip surface.	10/
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	xee
B. Water removal equipment monitored by a CP.	ves
C. Surface water or runoff diverted or controlled to prevent accumulation in the	Yes
excavation.	Pes
 Inspections made after every rainstorm or other hazard-increasing 	8/00
occurrence.	Nes
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	,
possibility of an oxygen deficiency, combustible or other harmful contaminant	tes
exposing employees to a hazard.	1
 B. Adequate precautions taken to protect employees from exposure to an 	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Xes
atmospheres.	
 C. Ventilation provided to prevent employee exposure to an atmosphere 	101
containing flammable gas in excess of 10% of the lower explosive limit of the	WA
gas.	100
D. Testing conducted often to ensure that the atmosphere remains safe.	Xes.
E. Emergency equipment, such as breathing apparatus, safety harness and	1/
lifeline, and/or basket stretcher readily available where hazardous atmospheres	Na
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	yes
G. Safety harness and lifeline used and individually attended when entering bell	NA-
bottom or other deep confined excavations.	1077
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	Ver
analysis, trench depth, and expected loads.	12
B. Materials and equipment used for protective systems inspected and in good	Ves
condition.	123
C. Materials and equipment not in good condition have been removed from	ves
service.	LY/
D. Damaged materials and equipment used for protective systems inspected by	14
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	1
E. Protective systems installed without exposing employees to the hazards of	1/A
cave-ins, collapses, or threat of being struck by materials or equipment.	TV'L

F. Members of support system securely fastened to prevent failure.	INA
 G. Support systems provided in ensure stability of adjacent structures, buildings. 	10
roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
I. Removal of support systems progresses from the bottom and members are	1011
released slowly as to note any indication of possible failure.	145
J. Backfilling progresses with removal of support system.	Ves
K. Excavation of material to a level no greater than two feet below the bottom of	705
the support system and only if the system is designed to support the loads calculated for the full depth.	M
L. Shield system placed to prevent lateral movement.	WA
M. Employees are prohibited from remaining in shield system during vertical movement.	WA
Corrective Action and Comments	laid
Juffly 5/5/20	7
Signature of CP/COR Date/	

Daily Excavation Checklist (To be completed by the CP)

Site Location: Stc VA - 1	√w-25	
Date: 5/6/20 Time: 1845 Soil Type: №	CP: Kimberth Yauk	
Soil Type: NA	, , , , , , , , , , , , , , , , , , , ,	
Soil Classification: N/A	Excavation Depth: 310	Excavation Width: 6"
Type Of Protective System I		

B. CP has the authority to remove employees from the excavation immediately. C. Surface encumbrances removed or supported. D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. E. Hard hats worn by all employees F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:		
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work. B. CP has the authority to remove employees from the excavation immediately. C. Surface encumbrances removed or supported. D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. E. Hard hats worn by all employees F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	1. General Inspection of Jobsite:	
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immediately. C. Surface encumbrances removed or supported. D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. E. Hard hats worn by all employees F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	B. CP has the authority to remove employees from the excavation	.1
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. E. Hard hats worn by all employees F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	immediately.	Y
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. E. Hard hats worn by all employees F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	C. Surface encumbrances removed or supported.	NA
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	or rolling into the excavation.	ΝA
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	E. Hard hats worn by all employees	7
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). I. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	Ý
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employees exposed to public vehicular traffic. J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	employees exposed to public vehicular traffic.	Y
unloaded. L. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	near the edge of the excavation.	AN
equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	K. Employees are required to stand away from any vehicle being loaded or unloaded.	Y
excavations above other employees. 2. Utilities: A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Y
A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	excavations above other employees.	NA
B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:		
B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is open. 3. Means of Access and Egress:	A. Utility companies contacted and/or utilities located.	Y
3. Means of Access and Egress:	Exact location of utilities marked.	Y
3. Means of Access and Egress:	 C. Underground installations protected, supported, or removed when excavation is 	NA
A Lateral travel to work of		,-,
A. Lateral travel to means of egress no greater than 25 feet in excavations four	A Lateral travel to moons of corese as assets they of ()	
	A. Lateral travel to means of egress no greater than 25 feet in excavations four	Y/N

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NY
C. Structural ramps used by employees designed by a CP.	NA
Structural ramps used for equipment designed by a registered professional	NA
Engineer (RPE).	MV
E. Ramps constructed of materials of uniform thickness, cleated together on the	AZA
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	Y.
Water removal equipment monitored by a CP.	1/4
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	A
D. Inspections made after every rainstorm or other hazard-increasing	-1
occurrence.	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	AM
exposing employees to a hazard.	1 47 7
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	V
E. Emergency equipment, such as breathing apparatus, safety harness and	-,-
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
 F. Employees trained to use personal protective and other rescue equipment. 	Y
G. Safety harness and lifeline used and individually attended when entering bell	NA
bottom or other deep confined excavations.	IND
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	NA
B. Materials and equipment used for protective systems inspected and in good	
condition.	NA
C. Materials and equipment not in good condition have been removed from	J
service.	Υ
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	
E. Protective systems installed without exposing employees to the hazards of	NA
	- 1.0

F. Members of support system securely fastened to prevent failure.	Y/c
G. Support systems provided in ensure stability of adjacent structures, buildings,	
roadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	Y
J. Backfilling progresses with removal of support system.	Y
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
Shield system placed to prevent lateral movement.	NA
Employees are prohibited from remaining in shield system during vertical movement.	NA

Daily Excavation Checklist (To be completed by the CP)

Site Location: 5 LC V	A MW-26	
Date: 5/6/20 Time: 0800	CP: J.M.II.	
Soil Type: Gang (1001.11	
Soil Classification:	Excavation Depth: 200'	Excavation Width: 9"
Type Of Protective System	Used:	Excavation Width. 4

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	15
B. CP has the authority to remove employees from the excavation immediately.	ye
C. Surface encumbrances removed or supported.	ves
 D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	X45
E. Hard hats worn by all employees	VES
	195
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	WA
 Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. 	Xes
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	res
K. Employees are required to stand away from any vehicle being loaded or unloaded.	45
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	Yes
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	yes
B. Exact location of utilities marked.	yes
 C. Underground installations protected, supported, or removed when excavation is open. 	495
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	VA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	VA
trench.	NA
C. Structural ramps used by employees designed by a CP.	
 D. Structural ramps used for equipment designed by a registered professional 	NA-
Engineer (RPE).	14. 1
E. Ramps constructed of materials of uniform thickness, cleated together on the	NA
bottom, equipped with no-slip surface.	
 Employees protected from cave-ins when entering or exiting the excavation. 	WA
4. Wet Conditions:	110
Precautions take to protect employees from the accumulation of water.	145
B. Water removal equipment monitored by a CP.	1405
C. Surface water or runoff diverted or controlled to prevent accumulation in the	Kes
excavation.	100
 Inspections made after every rainstorm or other hazard-increasing 	yes
occurrence.	15
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Ves
exposing employees to a hazard.	1/
B. Adequate precautions taken to protect employees from exposure to an	WIL
atmosphere containing less than 19.5% oxygen and/or to other hazardous	New)
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	NA
containing flammable gas in excess of 10% of the lower explosive limit of the	1017
gas.	1600
D. Testing conducted often to ensure that the atmosphere remains safe.	yes
E. Emergency equipment, such as breathing apparatus, safety harness and	NA
lifeline, and/or basket stretcher readily available where hazardous atmospheres	(NC)
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	XXX
G. Safety harness and lifeline used and individually attended when entering bell bottom or other deep confined excavations.	1 //
hottom or other deep contined excavations.	(VV
6. Support Systems:	
Support Systems: A. Materials and/or equipment for support systems selected based on soil	Kar
Support Systems: A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads.	Kes
Support Systems: A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good	-
Support Systems: A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good condition.	-
Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good condition. C. Materials and equipment not in good condition have been removed from	Xes
6. Support Systems: A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good condition. C. Materials and equipment not in good condition have been removed from service.	-
A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good condition. C. Materials and equipment not in good condition have been removed from service. D. Damaged materials and equipment used for protective systems inspected by	Xes
6. Support Systems: A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good condition. C. Materials and equipment not in good condition have been removed from service. D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed	Xes
A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good condition. C. Materials and equipment not in good condition have been removed from service. D. Damaged materials and equipment used for protective systems inspected by	Xes

F. Members of support system securely fastened to prevent failure.	TVA
 G. Support systems provided in ensure stability of adjacent structures, buildings. 	14
Toadways, sidewalks, walls, etc.	1 N4
H. Excavations below the level of the base or footing supported, approved by an	111
NPC.	NA
Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	40
Backfilling progresses with removal of support system.	Xes
K. Excavation of material to a level no greater than two feet below the bottom of	1
the support system and only if the system is designed to support the loads	I NA
calculated for the full depth.	111
L. Shield system placed to prevent lateral movement.	NA
M. Employees are prohibited from remaining in shield system during vertical	: 11
movement. Corrective Action and Comments	N/A
Tomos notion and Comments	
•	
/ / Men =1/1-	
(pul/11) 5/6/20	5
Signature of CP/COR Date	

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA	mw-210	
Date: 5/7 /20 Time: 0400	CP: B Carrens	
Soil Type: Gravel		
Soil Classification: 6	Excavation Depth: 24 o	Excavation Width: 914
Type Of Protective System I		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	Yes
 B. CP has the authority to remove employees from the excavation immediately. 	YES
C. Surface encumbrances removed or supported.	Yes
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	Yes
E. Hard hats worn by all employees	Yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	165
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Yes
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	Yes
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Yes
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	725
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
Utility companies contacted and/or utilities located.	Yes
B. Exact location of utilities marked.	Yes
 C. Underground installations protected, supported, or removed when excavation is open. 	Yes
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge trench. 	NA
	-
C. Structural ramps used by employees designed by a CP.	NIV
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	4/4
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	Yes
B. Water removal equipment monitored by a CP.	Yes
Surface water or runoff diverted or controlled to prevent accumulation in the excavation.	Yes
Inspections made after every rainstorm or other hazard-increasing occurrence.	Yes
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Yes
exposing employees to a hazard.	16.2
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Yes
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	11
containing flammable gas in excess of 10% of the lower explosive limit of the	7/1
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Yes
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	NA
F. Employees trained to use personal protective and other rescue equipment.	Yes
G. Safety harness and lifeline used and individually attended when entering bell	1
bottom or other deep confined excavations.	NA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	Yes
B. Materials and equipment used for protective systems inspected and in good	Yes
condition.	
Materials and equipment not in good condition have been removed from service.	Yes
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	NA
Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	NA

F. Members of support system securely fastened to prevent failure.	NA
 G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. 	NA
H. Excavations below the level of the base or footing supported, approved by an RPE.	AJA
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	Yes
J. Backfilling progresses with removal of support system.	Yes
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	pla
L. Shield system placed to prevent lateral movement.	AA
Employees are prohibited from remaining in shield system during vertical movement.	NA
Corrective Action and Comments	

Daily Excavation Checklist (To be completed by the CP)

Site Location:	A MW 76	
Date: Time: 0500	CP: & Correcon	
Soil Type: 1812	- Fredrich	
	Excavation Depth: 245	Excavation Width: 0.19
Type Of Protective System U	and.	Lacavation width.
Type Of Protective System U	Excavation Depth: 240	Excavation Width: 9"

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	T-
before the start of work.	Y
B. CP has the authority to remove employees from the excavation	~
immediately.	Y
C. Surface encumbrances removed or supported.	Y
D. Employees protected from loose rock or soil that could pose a hazard by falling	
or folling into the excavation.	Y
E. Hard hats worn by all employees	4
F. Spoils, materials, and equipment set back at least two feet from the edge of the	
excavation.	1
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped.	10/15
with standard guardrails and toe boards (fall protection).	MA
Warning vests or other highly visible clothing provided and worn by all	
employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating	
near the edge of the excavation.	Y
K. Employees are required to stand away from any vehicle being loaded or	V
unioaded.	Y
L. Employees are not permitted underneath loads handled by lifting or digging	١.
equipment.	Y.
M. Employees prohibited from working on the faces of slopes or benched	NA
excavations above other employees. 2. Utilities:	1.1.4
A. Utility companies contacted and/or utilities located.	Y
B. Exact location of utilities marked.	Y
C. Underground installations protected, supported, or removed when excavation is	Y
open.	<u>'</u>
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MA

feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge 	NA
trench.	
C. Structural ramps used by employees designed by a CP.	N/a
 D. Structural ramps used for equipment designed by a registered professional 	1.
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	NA
bottom, equipped with no-slip surface.	11111
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
 A. Precautions take to protect employees from the accumulation of water. 	7
Water removal equipment monitored by a CP.	Y
 C. Surface water or runoff diverted or controlled to prevent accumulation in the 	Y
excavation.	1
 Inspections made after every rainstorm or other hazard-increasing 	Y
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Y
exposing employees to a hazard.	
 B. Adequate precautions taken to protect employees from exposure to an 	\ .
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Y
atmospheres.	
 C. Ventilation provided to prevent employee exposure to an atmosphere 	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
 E. Emergency equipment, such as breathing apparatus, safety harness and 	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
 F. Employees trained to use personal protective and other rescue equipment. 	Y
G. Safety harness and lifeline used and individually attended when entering bell	1.1.
bottom or other deep confined excavations.	NP
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil	1
analysis, trench depth, and expected loads.	1
 B. Materials and equipment used for protective systems inspected and in good 	V
condition.	Y
C. Materials and equipment not in good condition have been removed from	1
service.	Y
 D. Damaged materials and equipment used for protective systems inspected by 	
a registered professional engineer (RPE) after repairs and before being placed	NIA
back into service.	
E. Protective systems installed without exposing employees to the hazards of	110
cave-ins, collapses, or threat of being struck by materials or equipment.	NA

F. Members of support system securely fastened to prevent failure.	NIA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NIA
 H. Excavations below the level of the base or footing supported, approved by an RPE. 	NIa
 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. 	Y
J. Backfilling progresses with removal of support system.	Y
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	مام
L. Shield system placed to prevent lateral movement.	AIR
Employees are prohibited from remaining in shield system during vertical movement.	NA
Corrective Action and Comments	

Signature of CP/COR

Printed name of CP/COR

5/8/20 50ate

Daily Excavation Checklist (To be completed by the CP)

Site Location: 5LC VA		
Date: 5/8/20 Time: 0845	CP: J.Mille	
Soil Type: Gave		
	Excavation Depth: 270	Excavation Width:
Type Of Protective System U		,

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	yes
B. CP has the authority to remove employees from the excavation	
immediately.	Xe5
C. Surface encumbrances removed or supported.	ves
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	yes
E. Hard hats worn by all employees	yes-
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	4.51
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	IVA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	yes
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	Yes
K. Employees are required to stand away from any vehicle being loaded or unloaded.	yes
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	yes
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	IA
2. Utilities:	11.77
A. Utility companies contacted and/or utilities located.	res
Exact location of utilities marked.	,de
 C. Underground installations protected, supported, or removed when excavation i open. 	s yes
3. Means of Access and Egress:	1//
A. Lateral travel to means of egress no greater than 25 feet in excavations four	1/1
U U U U U U U U U U U U U U U U U U U	1//

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge trench.	VA.
C. Structural ramps used by employees designed by a CP.	WA
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	WA
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	WA
4. Wet Conditions:	IVII
Precautions take to protect employees from the accumulation of water.	Ves
B. Water removal conjument menitered by a CD.	1
B. Water removal equipment monitored by a CP.	Yes
 C. Surface water or runoff diverted or controlled to prevent accumulation in the excavation. 	Yes.
 D. Inspections made after every rainstorm or other hazard-increasing occurrence. 	ye5
5. Hazardous Atmosphere:	7
A. Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible or other harmful contaminant	Xes
exposing employees to a hazard.	٠,
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	Yes
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	VA
D. Testing conducted often to ensure that the atmosphere remains safe.	ves
E. Emergency equipment, such as breathing apparatus, safety harness and	X
lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	NA
F. Employees trained to use personal protective and other rescue equipment.	XES
G. Safety harness and lifeline used and individually attended when entering bell	ML
bottom or other deep confined excavations.	Tioth
6. Support Systems:	_
Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads.	Yes
 B. Materials and equipment used for protective systems inspected and in good condition. 	yes
C. Materials and equipment not in good condition have been removed from service.	Ves
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	MA
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	M

F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	114
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	ves
J. Backfilling progresses with removal of support system.	ves
K. Excavation of material to a level no greater than two feet below the bottom of	yes
the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	1/1
M. Employees are prohibited from remaining in shield system during vertical movement.	NA
Corrective Action and Comments	11.
Colles 5/8/20	·
Signature of CP/COR Date	

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC V	A	
Date:5/10/20 Time:0730	CP: J.M://	
Soil Type: 6 gue (
Soil Classification:	Excavation Depth: 50	Excavation Width: 9
Type Of Protective System U		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	yes
B. CP has the authority to remove employees from the excavation immediately.	yes
C. Surface encumbrances removed or supported.	145
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	405
E. Hard hats worn by all employees	VP5
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	405
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	M
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	yes
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	145
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Ves.
Employees are not permitted underneath loads handled by lifting or digging equipment.	yes
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	W4
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Ves
B. Exact location of utilities marked.	405
 Underground installations protected, supported, or removed when excavation is open. 	405
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	Ves
	1

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA-
C. Structural ramps used by employees designed by a CP.	VA
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	NA
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	VA
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	Ves
Water removal equipment monitored by a CP.	1/
C. Surface water or runoff diverted or controlled to prevent accumulation in the	yes
excavation.	Y25
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	Yes
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Yes
exposing employees to a hazard.	, ,
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Yes
atmospheres.	Yes
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	MA
gas.	
 D. Testing conducted often to ensure that the atmosphere remains safe. 	yes
E. Emergency equipment, such as breathing apparatus, safety harness and	1/2
lifeline, and/or basket stretcher readily available where hazardous atmospheres	VA-
could or do exist.	,
F. Employees trained to use personal protective and other rescue equipment.	405
G. Safety harness and lifeline used and individually attended when entering bell	/
bottom or other deep confined excavations.	WA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	Y5
B. Materials and equipment used for protective systems inspected and in good	-
condition.	yes
C. Materials and equipment not in good condition have been removed from	-
service.	48
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	1
E. Protective systems installed without exposing employees to the hazards of	. 14
cave-ins, collapses, or threat of being struck by materials or equipment.	WM

F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings,	a //
roadways, sidewalks, walls, etc.	NA.
H. Excavations below the level of the base or footing supported, approved by an	NA
RPE.	NIT
I. Removal of support systems progresses from the bottom and members are	yes
released slowly as to note any indication of possible failure.	
J. Backfilling progresses with removal of support system.	405
K. Excavation of material to a level no greater than two feet below the bottom of	/.
the support system and only if the system is designed to support the loads	WA
calculated for the full depth.	
L. Shield system placed to prevent lateral movement.	MIT
M. Employees are prohibited from remaining in shield system during vertical	11/1_
movement.	Ny
Corrective Action and Comments	

Signature of CP/COR

Printed name of CP/COR

5/10/20 Date

Daily Excavation Checklist (To be completed by the CP)

Site Location: 5 - C V	A MW-26	
Date: 51.0/23 Time: 0730	CP: 3 Carreer	
Soil Type: 6		
Soil Classification: 4	Excavation Depth: 290	Excavation Width: 9"-6"
Type Of Protective System I	Jsed: NIA	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	Y
 B. CP has the authority to remove employees from the excavation immediately. 	Y
C. Surface encumbrances removed or supported.	Y
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	Y
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	٢
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NI
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	2/1
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	7
K. Employees are required to stand away from any vehicle being loaded or unloaded.	Y
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	4
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Y
B. Exact location of utilities marked.	V
 Underground installations protected, supported, or removed when excavation is open. 	Y
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	Nh

fact as more in de-th	-
feet or more in depth.	1
B. Ladders used in excavations secured and extended three feet above the edge	NA
trench.	-
C. Structural ramps used by employees designed by a CP.	NO
 D. Structural ramps used for equipment designed by a registered professional 	NA
Engineer (RPE).	NIA
E. Ramps constructed of materials of uniform thickness, cleated together on the	NA
bottom, equipped with no-slip surface.	-
F. Employees protected from cave-ins when entering or exiting the excavation.	N/G
4. Wet Conditions:	HY
Precautions take to protect employees from the accumulation of water.	Y
B. Water removal equipment monitored by a CP.	¥
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	Y
D. Inspections made after every rainstorm or other hazard-increasing	1
occurrence.	Y
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	Y
exposing employees to a hazard.	Hart .
Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Y
atmospheres.	130
C. Ventilation provided to prevent employee exposure to an atmosphere	Min
containing flammable gas in excess of 10% of the lower explosive limit of the	MA
gas.	1114
D. Testing conducted often to ensure that the atmosphere remains safe.	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	15 66
lifeline, and/or basket stretcher readily available where hazardous atmospheres	11.
could or do exist.	NA
F. Employees trained to use personal protective and other rescue equipment.	Y
G. Safety harness and lifeline used and individually attended when entering bell	100
bottom or other deep confined excavations.	Na
6. Support Systems:	2 1/11
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	Y
B. Materials and equipment used for protective systems inspected and in good	Y
condition.	
C. Materials and equipment not in good condition have been removed from	Y
service.	1
 D. Damaged materials and equipment used for protective systems inspected by 	
a registered professional engineer (RPE) after repairs and before being placed	AA
back into service.	11-
E. Protective systems installed without exposing employees to the hazards of	1/2
cave-ins, collapses, or threat of being struck by materials or equipment.	SU II

F. Members of support system securely fastened to prevent failure.	
	NE
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NA
Excavations below the level of the base or footing supported, approved by an RPE.	NA
I. Removal of support systems progresses from the bottom and members are	Y
released slowly as to note any indication of possible failure.	
J. Backfilling progresses with removal of support system.	Y
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
	NIN
. Shield system placed to prevent lateral movement.	7114
Employees are prohibited from remaining in shield system during vertical movement.	NI

Daily Excavation Checklist (To be completed by the CP)

Site Location: 5	-c VA	mw-26	
Date:5/1/20 Tim	e:okx	CP: B Carrea	
Soil Type: from	1/51-		
Soil Classification:	61m	Excavation Depth: 320	Excavation Width: 9"-6"
Type Of Protective	System L	Jsed: NA	,

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	У
B. CP has the authority to remove employees from the excavation	
immediately.	1
C. Surface encumbrances removed or supported.	+
D. Employees protected from loose rock or soil that could pose a hazard by falling	+
or rolling into the excavation.	
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	1
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NIA
H. Walkways and bridges over excavations six feet or more in depth are equipped.	NIG
with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all	-
employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating	<u> </u>
near the edge of the excavation.	1
K. Employees are required to stand away from any vehicle being loaded or unloaded.	
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	1
M. Employees prohibited from working on the faces of slopes or benched	-
excavations above other employees.	NIA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	У
Exact location of utilities marked.	
C. Underground installations protected, supported, or removed when excavation is	
open.	1
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA
	-

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	PIN
C. Structural ramps used by employees designed by a CP.	1
Structural ramps used for equipment designed by a registered professional Engineer (RPE).	
E. Ramps constructed of materials of uniform thickness, cleated together on the	-
pottom, equipped with no-slip surface.	
Employees protected from cave-ins when entering or exiting the excavation.	
4. Wet Conditions:	_
A. Precautions take to protect employees from the accumulation of water.	У
B. Water removal equipment monitored by a CP.	
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	1
exposing employees to a hazard.	1
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Y
atmospheres.	1
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	MIA
gas.	
 D. Testing conducted often to ensure that the atmosphere remains safe. 	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NIO
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	A
 G. Safety harness and lifeline used and individually attended when entering bell 	1
bottom or other deep confined excavations.	NA
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	y
 B. Materials and equipment used for protective systems inspected and in good 	
condition.	4
C. Materials and equipment not in good condition have been removed from	-
service.	14
D. Damaged materials and equipment used for protective systems inspected by	,
a registered professional engineer (RPE) after repairs and before being placed	ala
back into service.	n/ı
E. Protective systems installed without exposing employees to the hazards of	1
cave-ins, collapses, or threat of being struck by materials or equipment.	1 1

F. Members of support system securely fastened to prevent failure. G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	NIA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	MIL
roadways, sidewalks, walls, etc.	
	1
H. Excavations below the level of the base or footing supported, approved by an	
RPE.	
Removal of support systems progresses from the bottom and members are	4
released slowly as to note any indication of possible failure.	7
J. Backfilling progresses with removal of support system.	-
K. Excavation of material to a level no greater than two feet below the bottom of	7
the support system and only if the system is designed to support the loads	NIO
calculated for the full depth.	
	-
L. Shield system placed to prevent lateral movement.	-
M. Employees are prohibited from remaining in shield system during vertical	1
movement. Corrective Action and Comments	4
Sofrective Action and Comments	
AAN - Jul	
Signature of DDCOD	-d
Signature of CP/COR Date	6:
	6

Daily Excavation Checklist (To be completed by the CP)

Site Location: 6-6 va	mw76	
Date: 5 12/20 Time:	CP:	
Soil Type: Grad Sile		
Soil Classification: 61-	Excavation Depth: 350	Excavation Width: 6"-9"
Type Of Protective System I		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	У
B. CP has the authority to remove employees from the excavation	/
immediately.	1
C. Surface encumbrances removed or supported.	
D. Employees protected from loose rock or soil that could pose a hazard by falling	
or rolling into the excavation.	Ш
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the	1,
excavation.	1
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped	
with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all	.,
employees exposed to public vehicular traffic.	y
J. Warning system established and utilized when mobile equipment is operating	Γ.
near the edge of the excavation.	
K. Employees are required to stand away from any vehicle being loaded or	
unloaded.	
L. Employees are not permitted underneath loads handled by lifting or digging	9
equipment.	-
M. Employees prohibited from working on the faces of slopes or benched	1.
excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	У
B. Exact location of utilities marked.	1
C. Underground installations protected, supported, or removed when excavation is	
open.	Ψ
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	
E. Ramps constructed of materials of uniform thickness, cleated together on the	1
bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation.	1
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	V
B. Water removal equipment monitored by a CP.	7
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	7
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	У
exposing employees to a hazard.	'
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	\ \ \
atmospheres.	γ
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NIA
gas.	14
D. Testing conducted often to ensure that the atmosphere remains safe.	У
E. Emergency equipment, such as breathing apparatus, safety harness and	/
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	.,,,,
F. Employees trained to use personal protective and other rescue equipment.	У
G. Safety harness and lifeline used and individually attended when entering bell	ai
bottom or other deep confined excavations.	10/14
6. Support Systems:	
Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	У
B. Materials and equipment used for protective systems inspected and in good	1.
condition.	
C. Materials and equipment not in good condition have been removed from	
service.	1
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	Na
back into service.	MA
E. Protective systems installed without exposing employees to the hazards of	1
cave-ins, collapses, or threat of being struck by materials or equipment.	17

	NIA
 F. Members of support system securely fastened to prevent failure. G. Support systems provided in ensure stability of adjacent structures, buildings, 	NIN
roadways, sidewalks, walls, etc.	1
H. Excavations below the level of the base or footing supported, approved by an	
RPE.	1
I. Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	У
J. Backfilling progresses with removal of support system.	V
K. Excavation of material to a level no greater than two feet below the bottom of	7
the support system and only if the system is designed to support the loads	NA
calculated for the full depth.	
L. Shield system placed to prevent lateral movement.	1
M. Employees are prohibited from remaining in shield system during vertical	
movement.	1
Corrective Action and Comments	1
and the second s	
Signature of CP/COR Date	0

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC Va MW-76	
Date: 5/15/20 Time: 0500 CP: 8 Correon	
Soil Type: (1/nr gime) alt	
Soil Classification: 60 Excavation Depth: 360	Excavation Width: 6-9"
Type Of Protective System Used: NIA	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	У
B. CP has the authority to remove employees from the excavation immediately.	i
C. Surface encumbrances removed or supported.	\sqcap
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	1
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NIA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NIO
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	У
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	1
 K. Employees are required to stand away from any vehicle being loaded or unloaded. 	
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	Alax
2. Utilities:	
A. Utility companies contacted and/or utilities located.	A
B. Exact location of utilities marked.	
 C. Underground installations protected, supported, or removed when excavation is open. 	I
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation.	7
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	У
B. Water removal equipment monitored by a CP.	-
C. Surface water or runoff diverted or controlled to prevent accumulation in the	\vdash
excavation.	
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	y
exposing employees to a hazard.	/
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	Y
atmospheres.	1
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	10
gas.	1411.
Testing conducted often to ensure that the atmosphere remains safe.	У
 E. Emergency equipment, such as breathing apparatus, safety harness and 	1.6
ifeline, and/or basket stretcher readily available where hazardous atmospheres	MA
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	Y
 Safety harness and lifeline used and individually attended when entering bell 	1/4
oottom or other deep confined excavations.	10/10
S. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	.,
analysis, trench depth, and expected loads.	Y
3. Materials and equipment used for protective systems inspected and in good	1
condition.	
C. Materials and equipment not in good condition have been removed from	
service.	1
D. Damaged materials and equipment used for protective systems inspected by	1
a registered professional engineer (RPE) after repairs and before being placed	مالم
pack into service.	1/2
E. Protective systems installed without exposing employees to the hazards of	,
cave-ins, collapses, or threat of being struck by materials or equipment.	MA

F. Members of support system securely fastened to prevent failure.	NIV
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	1
H. Excavations below the level of the base or footing supported, approved by an RPE.	1
I. Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	Y
Backfilling progresses with removal of support system.	\ <u></u>
K. Excavation of material to a level no greater than two feet below the bottom of	/
the support system and only if the system is designed to support the loads calculated for the full depth.	AlA
L. Shield system placed to prevent lateral movement.	
M. Employees are prohibited from remaining in shield system during vertical	1/
movement.	1
Corrective Action and Comments	
5/1470	
Signature of CP/COR Date	

Daily Excavation Checklist (To be completed by the CP)

Site Location: Sic va m	W-26	
Date: sharely Time: N200	CP: 0 /	
Soil Type: gracely 4.12		
Soil Classification: المالة	Excavation Depth: 350	Excavation Width: 6-9 "
Type Of Protective System U	Jsed: N/~	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	У
 B. CP has the authority to remove employees from the excavation immediately. 	1
C. Surface encumbrances removed or supported.	
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	1
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	Ma
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	У
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	1
K. Employees are required to stand away from any vehicle being loaded or unloaded.	
Employees are not permitted underneath loads handled by lifting or digging equipment.	1
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	ИJЦ
2. Utilities:	
Utility companies contacted and/or utilities located.	У
B. Exact location of utilities marked.	j
 C. Underground installations protected, supported, or removed when excavation is open. 	1
3. Means of Access and Egress:	
	MA
a manage of the state of the st	114

feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge trench. 	MA
C. Structural ramps used by employees designed by a CP.	
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation.	1
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	
B. Water removal equipment monitored by a CP.	7
C. Surface water or runoff diverted or controlled to prevent accumulation in the	_
excavation.	
D. Inspections made after every rainstorm or other hazard-increasing occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	y
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	y
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the gas.	NA
D. Testing conducted often to ensure that the atmosphere remains safe.	у
E. Emergency equipment, such as breathing apparatus, safety harness and	1
lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	NA
F. Employees trained to use personal protective and other rescue equipment.	٧
G. Safety harness and lifeline used and individually attended when entering bell	
pottom or other deep confined excavations.	NA
5. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	y
B. Materials and equipment used for protective systems inspected and in good	-
condition.	1
C. Materials and equipment not in good condition have been removed from service.	
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed back into service.	46
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	J

F. Members of support system securely fastened to prevent failure.	NA
 G. Support systems provided in ensure stability of adjacent structures, buildings, 	
roadways, sidewalks, walls, etc.	
H. Excavations below the level of the base or footing supported, approved by an	
RPE.	1
 Removal of support systems progresses from the bottom and members are 	
released slowly as to note any indication of possible failure.	y
Backfilling progresses with removal of support system.	у
K. Excavation of material to a level no greater than two feet below the bottom of	/
the support system and only if the system is designed to support the loads	M
calculated for the full depth.	West
L. Shield system placed to prevent lateral movement.	1
M. Employees are prohibited from remaining in shield system during vertical	
movement.	1
Corrective Action and Comments	
21-1	
5/1/20	
2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
Signature of CP/COR Date	

Daily Excavation Checklist (To be completed by the CP)

Site Location: Suc vv	+ Mw-26	
	CP: Bennes	
Soil Type: granethy 3,14		
Soil Classification: 6/mc	Excavation Depth: 340	Excavation Width: 6-9 "
Type Of Protective System U	Jsed: NIG	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	y
B. CP has the authority to remove employees from the excavation immediately.	,
C. Surface encumbrances removed or supported.	+
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	NIC
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	1
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	У
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	1
K. Employees are required to stand away from any vehicle being loaded or unloaded.	\top
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	No
2. Utilities:	-
Utility companies contacted and/or utilities located.	y
B. Exact location of utilities marked.	1
 C. Underground installations protected, supported, or removed when excavation is open. 	
3. Means of Access and Egress:	4
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA
greater trial to continuous form	Vel Ad

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NIC
C. Structural ramps used by employees designed by a CP.	
D. Structural ramps used for equipment designed by a registered professional	1
Engineer (RPE).	
E. Ramps constructed of materials of uniform thickness, cleated together on the	-
hottom, equipped with no allo surface	
bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation. 4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	7
B. Water removal equipment monitored by a CP.	-
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	+
Inspections made after every rainstorm or other hazard-increasing	1
occurrence.	
5. Hazardous Atmosphere:	
Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	y
exposing employees to a hazard.	
Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	У
atmospheres.	/
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NIA
gas.	1114
 D. Testing conducted often to ensure that the atmosphere remains safe. 	Y
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	N/A
could or do exist.	10/04
F. Employees trained to use personal protective and other rescue equipment.	Y
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	NA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	Y
B. Materials and equipment used for protective systems inspected and in good	
condition.	1
C. Materials and equipment not in good condition have been removed from	_
	J,
service	_
D. Damaged materials and equipment used for protective systems inspected by	-1
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed	NA
D. Damaged materials and equipment used for protective systems inspected by	NA

F Members of support system securely featened to account follows	do
F. Members of support system securely fastened to prevent failure.	N/IX
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	1
 H. Excavations below the level of the base or footing supported, approved by an RPE. 	
. Removal of support systems progresses from the bottom and members are	
eleased slowly as to note any indication of possible failure.	y
J. Backfilling progresses with removal of support system.	v
K. Excavation of material to a level no greater than two feet below the bottom of	/
the support system and only if the system is designed to support the loads	No
calculated for the full depth.	1.10
L. Shield system placed to prevent lateral movement.	
Employees are prohibited from remaining in shield system during vertical movement.	
Corrective Action and Comments	4
Signature of CP/COR	

Daily Excavation Checklist (To be completed by the CP)

Site Location: 500	1A MW-26	
Date: 5 16 to Time: 8800	CP: 6 Carren	
Soil Type: 6 ML 90	and Isilt	
Soil Classification: 6/m	Excavation Depth: 745	Excavation Width: 7 - 5 "
Type Of Protective System I	Jsed: NIn	

1. General Inspection of Jobsite:	
Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	y
B. CP has the authority to remove employees from the excavation immediately.	1
C. Surface encumbrances removed or supported.	
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	J
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Ma
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	У
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	1
K. Employees are required to stand away from any vehicle being loaded or unloaded.	
Employees are not permitted underneath loads handled by lifting or digging equipment.	1
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
Utility companies contacted and/or utilities located.	y
B. Exact location of utilities marked.	I
C. Underground installations protected, supported, or removed when excavation is open.	
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA
	-

feet or more in depth.	^
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	1
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	11
F. Employees protected from cave-ins when entering or exiting the excavation.	1
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	
B. Water removal equipment monitored by a CP.	Y
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	
 Inspections made after every rainstorm or other hazard-increasing occurrence. 	
5. Hazardous Atmosphere:	-
A. Atmosphere within the excavation tested where there is a reasonable	
nossibility of an oxygen deficiency, combustible or other harmful conteminant	
possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	γ
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	v
atmospheres.	,
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	MIT
D. Testing conducted often to ensure that the atmosphere remains safe.	γ
E. Emergency equipment, such as breathing apparatus, safety harness and	7
lifeline, and/or basket stretcher readily available where hazardous atmospheres	
could or do exist.	MA
F. Employees trained to use personal protective and other rescue equipment.	V
G. Safety harness and lifeline used and individually attended when entering bell	7
bottom or other deep confined excavations.	NIP
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	7
B. Materials and equipment used for protective systems inspected and in good	-
condition.	1
C. Materials and equipment not in good condition have been removed from	+
service.	1
D. Damaged materials and equipment used for protective systems inspected by	-
a registered professional engineer (RPE) after repairs and before being placed	1
back into service.	WIA
E. Protective systems installed without exposing employees to the hazards of	1
	1
cave-ins, collapses, or threat of being struck by materials or equipment.	

F. Members of support system securely fastened to prevent failure.	NIA
 G. Support systems provided in ensure stability of adjacent structures, buildings. 	
roadways, sidewalks, walls, etc.	
H. Excavations below the level of the base or footing supported, approved by an	
RPE.	1
I. Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	γ
J. Backfilling progresses with removal of support system.	V
K. Excavation of material to a level no greater than two feet below the bottom of	7
the support system and only if the system is designed to support the loads	NIn
calculated for the full depth.	/4/1,
L. Shield system placed to prevent lateral movement.	1
M. Employees are prohibited from remaining in shield system during vertical	d
movement.	
Corrective Action and Comments	
7	
/ May	

Signature of CP/COR

5/16/23 Date

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: \\\\\>&\	- SLC-VA	
Date: 5/15/20 Time: 9/20	CP: Bets Bott	
Soil Type: n/k-	1	
Soil Classification: AN	Excavation Depth: 230	Excavation Width: 4*
Type Of Protective System	Used:γA	•

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	.,
before the start of work.	V
B. CP has the authority to remove employees from the excavation	1
immediately.	y
C. Surface encumbrances removed or supported.	(
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	ý
E. Hard hats worn by all employees	1/
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	v
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	1
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	An
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	v
K. Employees are required to stand away from any vehicle being loaded or unloaded.	V
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	VI
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	an
2. Utilities:	
A. Utility companies contacted and/or utilities located.	У
Exact location of utilities marked.	i
C. Underground installations protected, supported, or removed when excavation is open.	y
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	11
and the second s	11

·	
feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	100
trench.	M
C. Structural ramps used by employees designed by a CP.	nA
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	nx
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	NA
F. Employees protected from cave-ins when entering or exiting the excavation.	MA
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	MA
B. Water removal equipment monitored by a CP.	AA
 C. Surface water or runoff diverted or controlled to prevent accumulation in the 	AN
excavation.	Vo.
Inspections made after every rainstorm or other hazard-increasing	١.
occurrence.	y
5. Hazardous Atmosphere:	,
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	V
exposing employees to a hazard.)
Adequate precautions taken to protect employees from exposure to an	_
atmosphere containing less than 19.5% oxygen and/or to other hazardous	MA
atmospheres.	
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	nA
gas.	
D. Testing conducted often to ensure that the atmosphere remains safe.	Ч
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	AN
F. Employees trained to use personal protective and other rescue equipment.	y
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	Ut
Support Systems: A. Materials and/or equipment for support systems selected based on soil	_
	4.6
analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good	AA
condition.	NA
C. Materials-and equipment not in good condition have been removed from	-
service.	11
D. Damaged materials and equipment used for protective systems inspected by	1
a registered professional engineer (RPE) after repairs and before being placed	
back into service.	n
E. Protective systems installed without exposing employees to the hazards of	11
cave-ins, collapses, or threat of being struck by materials or equipment.	1.00
outering, comapses, or unlear or being struck by materials or equipment.	IN

F. Members of support system securely fastened to prevent failure.	AA
G. Support systems provided in ensure stability of adjacent structures, buildings,	Γ,
roadways, sidewalks, walls, etc.	
H. Excavations below the level of the base or footing supported, approved by an RPE.	
I. Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	
J. Backfilling progresses with removal of support system.	
K. Excavation of material to a level no greater than two feet below the bottom of	
the support system and only if the system is designed to support the loads	
calculated for the full depth.	
L. Shield system placed to prevent lateral movement.	
M. Employees are prohibited from remaining in shield system during vertical movement.	1
Corrective Action and Comments	
Cilci	20
Signature of CP/CDR Date	-0
Signature of CP/CDR Date	

Daily Excavation Checklist (To be completed by the CP)

Site Location: (LC	VA MW-25	
Date: 5/4/20 Time: 0805 Soil Type: 6 and	CP: J. Mille	
Soil Type! Gare		
Soil Classification:	Excavation Depth: 370	Excavation Width: 4 //
Type Of Protective System I	Jsed: X/A	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	Yes
 B. CP has the authority to remove employees from the excavation immediately. 	Yes
C. Surface encumbrances removed or supported.	V25
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	X5
E. Hard hats worn by all employees	45
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	Yes
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	V/
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	VA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	Yes
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	45
K. Employees are required to stand away from any vehicle being loaded or unloaded.	yes
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	1/45
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Va
B. Exact location of utilities marked.	145
C. Underground installations protected, supported, or removed when excavation is open.	402
3. Means of Access and Egress:	14
A. Lateral travel to means of egress no greater than 25 feet in excavations four	
and the state of t	

C. Structural ramps used by employees designed by a CP. D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). E. Ramps constructed of materials of uniform thickness, cleated together on the	V4 NA
C. Structural ramps used by employees designed by a CP. D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). E. Ramps constructed of materials of uniform thickness, cleated together on the	N/A
D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). E. Ramps constructed of materials of uniform thickness, cleated together on the	
E. Ramps constructed of materials of uniform thickness, cleated together on the	
E. Ramps constructed of materials of uniform thickness, cleated together on the	M
bottorn, equipped with no-slip surface.	Ut
	VA
4. Wet Conditions:	.,
A. Precautions take to protect employees from the accumulation of water.	w
B. Water removal equipment monitored by a CP.	185
C. Surface water or runoff diverted or controlled to prevent accumulation in the	ha
excavation.	ytos
Inspections made after every rainstorm or other hazard-increasing	
	Y5
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	les
exposing employees to a hazard.	
Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	yes
C. Ventilation provided to prevent employee exposure to an atmosphere	. 04
containing flammable gas in excess of 10% of the lower explosive limit of the gas.	VA-
D. Testing conducted often to ensure that the atmosphere remains safe.	125
E. Emergency equipment, such as breathing apparatus, safety harness and	1
lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	VA-
	VRS
G. Safety harness and lifeline used and individually attended when entering hall	/
bottom or other deep confined excavations.	NA
6. Support Systems:	
A Materials and/or equipment for support systems selected based on soil	V.C
analysis, trench depth, and expected loads.	yes
P. Materials and equipment used for protective systems inspected and in seed	yes
C. Materials and equipment not in good condition have been removed from service.	X-25
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed back into service.	VA-
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	VA-

F. Members of support system securely fastened to prevent failure.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	VA
H. Excavations below the level of the base or footing supported, approved by an RPE.	NA
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	45
J. Backfilling progresses with removal of support system.	4.85
K. Excavation of material to a level no greater than two feet below the bottom of	11/1
the support system and only if the system is designed to support the loads calculated for the full depth.	VIT
L. Shield system placed to prevent lateral movement.	WIT
M. Employees are prohibited from remaining in shield system during vertical movement.	WA
Corrective Action and Comments	
1.1111	1

Signature of CP/COR
Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location:	SLC- VA	0	Mu	25			
Date: S/M/20	Time: 🐇 🔊	CP:	Bets	Bott			
Soil Type: A			,				
Soil Classification	on: hA	Excav	ation D	epth:	320	Excavation Width:	911
Type Of Protect			an				

1. General Inspection of Jobsite:	_
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	yas
 B. CP has the authority to remove employees from the excavation immediately. 	yes
C. Surface encumbrances removed or supported.	ises
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	nn
E. Hard hats worn by all employees	izes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	na.
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	1/4
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	M
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	yes.
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	ĥА
K. Employees are required to stand away from any vehicle being loaded or unloaded.	33
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	yo
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	nn
2. Utilities:	
A. Utility companies contacted and/or utilities located.	12
Exact location of utilities marked.	421
Underground installations protected, supported, or removed when excavation is open.	M
. Means of Access and Egress:	_
Lateral travel to means of egress no greater than 25 feet in excavations four	M

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	MA
trench.	
C. Structural ramps used by employees designed by a CP.	10
 Structural ramps used for equipment designed by a registered professional 	
Engineer (RPE).	M
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	M
F. Employees protected from cave-ins when entering or exiting the excavation.	NA
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	M
Water removal equipment monitored by a CP.	nA
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	BNQ.
Inspections made after every rainstorm or other hazard-increasing	1.0
occurrence.	45
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	yes
exposing employees to a hazard.	L
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	
atmospheres.	MA
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	00
gas.	NA
D. Testing conducted often to ensure that the atmosphere remains safe.	140
E. Emergency equipment, such as breathing apparatus, safety harness and	,
lifeline, and/or basket stretcher readily available where hazardous atmospheres	MA
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	yes
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	MA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	M
B. Materials and equipment used for protective systems inspected and in good	
condition.	NA
C. Materials and equipment not in good condition have been removed from	bee
C. Materials and equipment not in good condition have been removed from service.	yes
Materials and equipment not in good condition have been removed from service. D. Damaged materials and equipment used for protective systems inspected by	
C. Materials and equipment not in good condition have been removed from service. D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed	nA
C. Materials and equipment not in good condition have been removed from service. D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	

NA
nA
14
yes
MA
MA
MA

Daily Excavation Checklist (To be completed by the CP)

Site Location:	SLCVA	0	26 mm			
Date: 5/12/00 1	Time: 4:00	CP:	Bolar Both			
Soil Type:	40		-			
Soil Classificatio	n: NA	Excav	ation Depth:	40'	Excavation Width:	qn
Type Of Protecti	ve System U	sed:	NA	-		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	400
B. CP has the authority to remove employees from the excavation	
immediately.	yes
C. Surface encumbrances removed or supported.	W.
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	40
E. Hard hats worn by all employees	_
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	no
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	MA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	160
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	ye:
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	M
K. Employees are required to stand away from any vehicle being loaded or unloaded.	yes
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	W.
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	MA
2. Utilities:	
Utility companies contacted and/or utilities located.	141
Exact location of utilities marked.	Ju.
C. Underground installations protected, supported, or removed when excavation is	-0
open.	W
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	MA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	10
trench.	111
C. Structural ramps used by employees designed by a CP.	nA
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	MA
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	MA
F. Employees protected from cave-ins when entering or exiting the excavation.	A
4. Wet Conditions:	1110
A. Precautions take to protect employees from the accumulation of water.	An I
B. Water removal equipment menitored by a CD	An An
B. Water removal equipment monitored by a CP.	NIPP
 C. Surface water or runoff diverted or controlled to prevent accumulation in the excavation. 	nP
 Inspections made after every rainstorm or other hazard-increasing occurrence. 	ys
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	ys.
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	An
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	na
 D. Testing conducted often to ensure that the atmosphere remains safe. 	92
E. Emergency equipment, such as breathing apparatus, safety harness and lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	AM
F. Employees trained to use personal protective and other rescue equipment.	W-
G. Safety harness and lifeline used and individually attended when entering bell bottom or other deep confined excavations.	M
6. Support Systems:	111.
Materials and/or equipment for support systems selected based on soil	nA
analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good	AN
condition. C. Materials and equipment not in good condition have been removed from service.	w
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	nA
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	nA

F. Members of support system securely fastened to prevent failure.	NA
 Support systems provided in ensure stability of adjacent structures, buildings, 	
oadways, sidewalks, walls, etc.	AA
 H. Excavations below the level of the base or footing supported, approved by an RPE. 	nse
 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. 	VY
Backfilling progresses with removal of support system.	AN
K. Excavation of material to a level no greater than two feet below the bottom of	
the support system and only if the system is designed to support the loads calculated for the full depth.	nt
Shield system placed to prevent lateral movement.	NA
Employees are prohibited from remaining in shield system during vertical movement.	AN

Signature of CP/COR
Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC	VA	
Date: 5/13/2. Time:	CP: Befor Bott	
Soil Type: MA	527 021	
Soil Classification: hA	Excavation Depth: 125	Excavation Width: 4 th
Type Of Protective System		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	hes
 B. CP has the authority to remove employees from the excavation immediately. 	ye
C. Surface encumbrances removed or supported.	yos
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	MA
E. Hard hats worn by all employees	yes
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	gs
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	βA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	na
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	hus
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	45
K. Employees are required to stand away from any vehicle being loaded or unloaded.	50
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	y's
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	np
2. Utilities:	
A. Utility companies contacted and/or utilities located.	13es
B. Exact location of utilities marked.	49
 C. Underground installations protected, supported, or removed when excavation is open. 	nk
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	M

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	MA
C. Structural ramps used by employees designed by a CP.	an
D. Structural ramps used for equipment designed by a registered professional	TIP
Engineer (RPE).	MA
E. Ramps constructed of materials of uniform thickness, cleated together on the	/11/
bottom, equipped with no-slip surface.	MA
F. Employees protected from cave-ins when entering or exiting the excavation.	MA
4. Wet Conditions:	711
A. Precautions take to protect employees from the accumulation of water.	AN
B. Water removal equipment monitored by a CP.	
C. Surface water or runoff diverted or controlled to prevent accumulation in the	_AA_
excavation.	M
 D. Inspections made after every rainstorm or other hazard-increasing occurrence. 	yes
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	yes
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	MA
atmospheres.	111
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	200
gas.	Mo
D. Testing conducted often to ensure that the atmosphere remains safe.	iys
E. Emergency equipment, such as breathing apparatus, safety harness and	1
lifeline, and/or basket stretcher readily available where hazardous atmospheres	174
could or do exist.	14
F. Employees trained to use personal protective and other rescue equipment.	49
G. Safety harness and lifeline used and individually attended when entering bell	1
bottom or other deep confined excavations.	MM
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	nA
B. Materials and equipment used for protective systems inspected and in good	1.
condition.	100
C. Materials and equipment not in good condition have been removed from	
service.	403
D. Damaged materials and equipment used for protective systems inspected by	1
a registered professional engineer (RPE) after repairs and before being placed	M
back into service.	1
E. Protective systems installed without exposing employees to the hazards of	1
cave-ins, collapses, or threat of being struck by materials or equipment.	1710

H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of	nr na
H. Excavations below the level of the base or footing supported, approved by an RPE. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	
RPE. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	
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J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	ha
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement.	ne
Shield system placed to prevent lateral movement. Employees are prohibited from remaining in shield system during vertical movement.	na
Employees are prohibited from remaining in shield system during vertical movement.	nx
Corrective Action and Comments	10
Ryon 1801	

Signature of CP/COR

5/13/20 Date

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA	@ mwat	
مد: 8 Time: 8:30	CP: Below Both	
Soil Type: nA	, , ,	
Soil Classification: vyb	Excavation Depth:) %	Excavation Width: 91
Type Of Protective System		1

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	1.11
before the start of work.	ys
B. CP has the authority to remove employees from the excavation	
immediately.	yes
C. Surface encumbrances removed or supported.	yps
 Employees protected from loose rock or soil that could pose a hazard by falling 	
or rolling into the excavation.	MA
E. Hard hats worn by all employees	ylo
F. Spoils, materials, and equipment set back at least two feet from the edge of the	bes
excavation.	8-
 G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 	yes
H. Walkways and bridges over excavations six feet or more in depth are equipped	lys.
with standard guardrails and toe boards (fall protection).	***
Warning vests or other highly visible clothing provided and worn by all	ys
employees exposed to public vehicular traffic.	75
J. Warning system established and utilized when mobile equipment is operating	1.0.
near the edge of the excavation.	yes
K. Employees are required to stand away from any vehicle being loaded or	yes
unloaded.	1/2
L. Employees are not permitted underneath loads handled by lifting or digging	400
equipment.	1
M. Employees prohibited from working on the faces of slopes or benched	wo
excavations above other employees.	VVI
2. Utilities:	
A. Utility companies contacted and/or utilities located.	yes
B. Exact location of utilities marked.	ye
 Underground installations protected, supported, or removed when excavation is 	W
open.	Y
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	nA

feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge trench. 	ΛA
C. Structural ramps used by employees designed by a CP.	MA
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	nA
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	nA
F. Employees protected from cave-ins when entering or exiting the excavation.	
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	MA
Water removal equipment monitored by a CP.	WAS
 C. Surface water or runoff diverted or controlled to prevent accumulation in the excavation. 	09
 Inspections made after every rainstorm or other hazard-increasing occurrence. 	yes
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	ye,
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	NA
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	na
 D. Testing conducted often to ensure that the atmosphere remains safe. 	izes
E. Emergency equipment, such as breathing apparatus, safety harness and lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	hA
F. Employees trained to use personal protective and other rescue equipment.	1/2
G. Safety harness and lifeline used and individually attended when entering bell bottom or other deep confined excavations.	na
6. Support Systems:	-
Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads.	m
Materials and equipment used for protective systems inspected and in good condition.	nr
Materials and equipment not in good condition have been removed from service.	na
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	hn
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	nes

F. Members of support systems securely fastened to prevent failure. G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments Signature of CHICOR Signature of CHICOR Signature of CHICOR Signature of CHICOR Date		
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments SIM/So	F. Members of support system securely fastened to prevent failure.	1A
H. Excavations below the level of the base or footing supported, approved by an RPE. 1. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments SIM/So		
I. Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	roadways, sidewalks, walls, etc.	7/1
released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	H. Excavations below the level of the base or footing supported, approved by an RPE.	m
released slowly as to note any indication of possible failure. J. Backfilling progresses with removal of support system. K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	I. Removal of support systems progresses from the bottom and members are	000
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	released slowly as to note any indication of possible failure.	
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth. L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments		NA
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L. Shield system placed to prevent lateral movement. M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	the support system and only if the system is designed to support the loads	M
M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments Silais Silais Silais		
Movement. Corrective Action and Comments		nn
Button Button S 114/30	M. Employees are prohibited from remaining in shield system during vertical	MA
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Signature of CRI/COR Date		
Signature of CR/COR Date		
Signature of CP/COR Date		
Signature of CR/COR Date		
Signature of CRI/COR Date		
Signature of CRI/COR Date		
Signature of CP/COR Signature of CP/COR Date	0. 04	
Signature of CP/ICOR Date	5/14/5	0
Schry poll	Signature of CP/COR Date	
	Belsy Boll	

Daily Excavation Checklist (To be completed by the CP)

Site Location: 5-c va	mu-24	
Date: 5/20/20 Time:07.5	CP:	
Soil Type: growthy 4.4		
Soil Classification: (7 ML	Excavation Depth: 135	Excavation Width: دو موجد الاستان الا
Type Of Protective System U		2

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	1
B. CP has the authority to remove employees from the excavation	
immediately.	11
C. Surface encumbrances removed or supported.	\Box
D. Employees protected from loose rock or soil that could pose a hazard by falling	
or rolling into the excavation.	1
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the	\Box
excavation.	1
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped	1
with standard guardrails and toe boards (fall protection).	1
Warning vests or other highly visible clothing provided and worn by all	
employees exposed to public vehicular traffic.	Y
J. Warning system established and utilized when mobile equipment is operating	
near the edge of the excavation.	
K. Employees are required to stand away from any vehicle being loaded or	
unloaded.	
L. Employees are not permitted underneath loads handled by lifting or digging	
equipment.	1
M. Employees prohibited from working on the faces of slopes or benched	
excavations above other employees.	NIA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	4
Exact location of utilities marked.	1
C. Underground installations protected, supported, or removed when excavation is	
open.	1
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NIX
	_

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	-,1
trench.	4
C. Structural ramps used by employees designed by a CP.	
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation.	
4. Wet Conditions:	_
Precautions take to protect employees from the accumulation of water.	
B. Water removal equipment monitored by a CP.	7
 C. Surface water or runoff diverted or controlled to prevent accumulation in the excavation. 	
Inspections made after every rainstorm or other hazard-increasing occurrence.	
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	
exposing employees to a hazard.	Y
Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	y
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	
gas.	NI
 D. Testing conducted often to ensure that the atmosphere remains safe. 	Y
E. Emergency equipment, such as breathing apparatus, safety harness and lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	NIA
F. Employees trained to use personal protective and other rescue equipment.	
G. Safety harness and lifeline used and individually attended when entering bell	4
bottom or other deep confined excavations.	NIA
6. Support Systems:	1-1-
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	У
 B. Materials and equipment used for protective systems inspected and in good condition. 	1
C. Materials and equipment not in good condition have been removed from service.	1
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	14
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	1

F. Members of support system securely fastened to prevent failure.	NIA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	1
H. Excavations below the level of the base or footing supported, approved by an	+-
RPE.	1
Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	1
J. Backfilling progresses with removal of support system.	J
K. Excavation of material to a level no greater than two feet below the bottom of	
the support system and only if the system is designed to support the loads	N/A
calculated for the full depth.	10/4
L. Shield system placed to prevent lateral movement.	1
M. Employees are prohibited from remaining in shield system during vertical	
movement.	9
Corrective Action and Comments	
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Signature of ODIGOT	.)
Signature of CP/COR Date	
Date	

Daily Excavation Checklist (To be completed by the CP)

Site Location: 6L	C VA MW-26	
Date: 5 424 Time: 0730	CP:	
Soil Type: Home good	2,14	
Soil Classification: الماسد	Excavation Depth: 341	Excavation Width:
Type Of Protective System U	Jsed: ⋈(∞	ex 9/17

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	7
B. CP has the authority to remove employees from the excavation	
immediately.	
C. Surface encumbrances removed or supported.	
D. Employees protected from loose rock or soil that could pose a hazard by falling	
or rolling into the excavation.	
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the	
excavation.	1
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped	NA
with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all	V
employees exposed to public vehicular traffic.	7
J. Warning system established and utilized when mobile equipment is operating	,
near the edge of the excavation.	
 K. Employees are required to stand away from any vehicle being loaded or 	
unloaded.	
 Employees are not permitted underneath loads handled by lifting or digging 	
equipment.	1
M. Employees prohibited from working on the faces of slopes or benched	NA
excavations above other employees.	MIN
2. Utilities:	
A. Utility companies contacted and/or utilities located.	<i>y</i>
B. Exact location of utilities marked.	
C. Underground installations protected, supported, or removed when excavation is	
open.	4
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NIA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	N
D. Structural ramps used for equipment designed by a registered professional	7
Engineer (RPE).	
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation.	
4. Wet Conditions:	_
A. Precautions take to protect employees from the accumulation of water.	V
B. Water removal equipment monitored by a CP.	-1-
C. Surface water or runoff diverted or controlled to prevent accumulation in the	_
excavation.	
D. Inspections made after every rainstorm or other hazard-increasing	+
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	14
exposing employees to a hazard.	7
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	
atmospheres.	Y
C. Ventilation provided to prevent employee exposure to an atmosphere	-
containing flammable gas in excess of 10% of the lower explosive limit of the	
gas.	10/0
D. Testing conducted often to ensure that the atmosphere remains safe.	У
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NIA
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	У
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	NA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	y
B. Materials and equipment used for protective systems inspected and in good	1
condition.	
C. Materials and equipment not in good condition have been removed from	
service.	
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NA
back into service.	, lu
E. Protective systems installed without exposing employees to the hazards of	1/0
cave-ins, collapses, or threat of being struck by materials or equipment.	AA

. Members of support system securely fastened to prevent failure.	
. Members of support system securely fastened to prevent failure.	NIC
3. Support systems provided in ensure stability of adjacent structures, buildings,	
oadways, sidewalks, walls, etc.	1
H. Excavations below the level of the base or footing supported, approved by an	
RPE.	
. Removal of support systems progresses from the bottom and members are	
eleased slowly as to note any indication of possible failure.	Y
Backfilling progresses with removal of support system.	1
C. Excavation of material to a level no greater than two feet below the bottom of	
he support system and only if the system is designed to support the loads	
alculated for the full depth.	NA
Shield system placed to prevent lateral movement.	1
M. Employees are prohibited from remaining in shield system during vertical	
novement.	1
Corrective Action and Comments	
Signature of CP/COR Date	,

A.M.

Daily Excavation Checklist (To be completed by the CP)

Site Location:	VA mw-24	
Date: 5 420 Time:0800	CP:	
Soil Type: grandly sile		
Soil Classification:	Excavation Depth: 250 1	Excavation Width: \$-4*
Type Of Protective System U		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	Υ
B. CP has the authority to remove employees from the excavation	
immediately.	1
C. Surface encumbrances removed or supported.	
 D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	
E. Hard hats worn by all employees	
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	1
G: Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	NA
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	MA
 Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. 	У
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	1
K [®] Employees are required to stand away from any vehicle being loaded or unloaded.	
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	\ \
Exact location of utilities marked.	7
C. Underground installations protected, supported, or removed when excavation is open.	
3. Means of Access and Egress:	
A:Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth. B. Ladders used in excavations secured and extended three feet above the edge	
trench.	NA
C. Structural ramps used by employees designed by a CP.	1
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE). ACTION ACT	
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation.	+
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	v
B. Water removal equipment monitored by a CP.	
C. Surface water or runoff diverted or controlled to prevent accumulation in the	
excavation.	
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	1
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	y
exposing employees to a hazard.	/
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	V
atmospheres.	y
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	1
gås,	NA
D. Testing conducted often to ensure that the atmosphere remains safe.	У
E. Emergency equipment, such as breathing apparatus, safety harness and	<u>'</u> .
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	1,10
F. Employees trained to use personal protective and other rescue equipment.	v
G. Safety harness and lifeline used and individually attended when entering bell	1,
bottom or other deep confined excavations.	NA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	l y
B. Materials and equipment used for protective systems inspected and in good	
condition.	
C. Materials and equipment not in good condition have been removed from	+
service.	4
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	مام
back into service.	Ma
E. Protective systems installed without exposing employees to the hazards of	
cave-ins, collapses, or threat of being struck by materials or equipment.	NA

F. Members of support system securely fastened to prevent failure.	NF
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	1
H. Excavations below the level of the base or footing supported, approved by an RPE.	1
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure.	Y
J. Backfilling progresses with removal of support system.	1
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	
M. Employees are prohibited from remaining in shield system during vertical movement. Corrective Action and Comments	1

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC	VA (D MIN30		
Date: 6/5/26 Time: 8:38	CP: Dets Bott		
Soil Type: NA.			
Soil Classification: MA	Excavation Depth: 360	Excavation Width: 8	
Type Of Protective System U			

1. General Inspection of Jobsite:	
Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	y
B. CP has the authority to remove employees from the excavation immediately.	ÿ
C. Surface encumbrances removed or supported.	- 4
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	1
E. Hard hats worn by all employees	У
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	Ý
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	у
K. Employees are required to stand away from any vehicle being loaded or unloaded.	У
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	V
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	ΛA
2. Utilities:	_
A. Utility companies contacted and/or utilities located.	1/
Exact location of utilities marked.	1 4
C. Underground installations protected, supported, or removed when excavation is open.	s y
3. Means of Access and Egress:	1
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA
g. sais. m. 20 lost m excurations four	V

to death	
feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	111
trench.	MA
C. Structural ramps used by employees designed by a CP.	11A
 D. Structural ramps used for equipment designed by a registered professional Engineer (RPE). 	nA
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	nA
F. Employees protected from cave-ins when entering or exiting the excavation.	in A
4. Wet Conditions:	na
A. Precautions take to protect employees from the accumulation of water.	- 4.6
B. Water removal equipment monitored by a CP.	1A
C. Surface water or runoff diverted or controlled to prevent accumulation in the	NA
excavation.	MA
 Inspections made after every rainstorm or other hazard-increasing occurrence. 	4
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	Y
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	0/63
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	NA
D. Testing conducted often to ensure that the atmosphere remains safe.	У
E. Emergency equipment, such as breathing apparatus, safety harness and lifeline, and/or basket stretcher readily available where hazardous atmospheres could or do exist.	No
F. Employees trained to use personal protective and other rescue equipment.	V
G. Safety harness and lifeline used and individually attended when entering bell	1A
bottom or other deep confined excavations.	, 0 1
Support Systems: A. Materials and/or equipment for support systems selected based on soil	MA
analysis, trench depth, and expected loads. B. Materials and equipment used for protective systems inspected and in good	MA
condition. C. Materials and equipment not in good condition have been removed from	Who
service.	7.50
D. Damaged materials and equipment used for protective systems inspected by a registered professional engineer (RPE) after repairs and before being placed back into service.	ИA
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.	W

F Mombass of annual to	
F. Members of support system securely fastened to prevent failure.	na
roadways, sidewalks, walls, etc.	110
H. Excavations below the level of the base or footing supported, approved by an RPE.	
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. Republished progresses.	
o. Dackilling progresses with removal of current aveta-	
the support system and only if the system is designed to support the loads	
L. Shield system placed to prevent lateral mayament	
W. Employees are prohibited from remaining in chiefd eveters during	
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Corrective Action and Comments	
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CHI DESCRIPTION OF THE PROPERTY OF THE PROPERT	
Bets both	
Signature of CP/COR 12 11	0
Bets. Bath	
Printed name of CP/COR	

Daily Excavation Checklist (To be completed by the CP)

Site Location: SLC VA	(0) mw29	
Date: 6/1/20 Time: ರೈನಾ	CP: Best Balt	
Soil Type: MA		10
Soil Classification: MA	Excavation Depth: (6)	Excavation Width: ブ
Type Of Protective System I	Jsed: wh	•

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	11
before the start of work.	17
B. CP has the authority to remove employees from the excavation	'
mmediately.	1
C. Surface encumbrances removed or supported.	14
D. Employees protected from loose rock or soil that could pose a hazard by falling	'y
or rolling into the excavation.	10
E. Hard hats worn by all employees	17
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	4
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	U
H. Walkways and bridges over excavations six feet or more in depth are equipped	hA
with standard guardrails and toe boards (fall protection).	-
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	y
J. Warning system established and utilized when mobile equipment is operating	1
	1/
near the edge of the excavation. K. Employees are required to stand away from any vehicle being loaded or	1
	V
unloaded.	1
L. Employees are not permitted underneath loads handled by lifting or digging	ļļ
equipment.	1
M. Employees prohibited from working on the faces of slopes or benched	1
excavations above other employees.	
2. Utilities:	T
A. Utility companies contacted and/or utilities located.	V
B. Exact location of utilities marked.	1
C. Underground installations protected, supported, or removed when excavation is	14
open.	_/
3. Means of Access and Egress:	10
A. Lateral travel to means of egress no greater than 25 feet in excavations four	14

feet or more in depth.	T
B. Ladders used in excavations secured and extended three feet above the edge	
trench.	MA
C. Structural ramps used by employees designed by a CP.	na
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	m
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	MA
F. Employees protected from cave-ins when entering or exiting the excavation.	Y/A
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water.	np
Water removal equipment monitored by a CP.	01
 C. Surface water or runoff diverted or controlled to prevent accumulation in the 	
excavation.	MA
D. Inspections made after every rainstorm or other hazard-increasing	1
occurrence.	/
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	1/
possibility of an oxygen deficiency, combustible or other harmful contaminant	<i>Y</i>
exposing employees to a hazard.	_ ′
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	MA
atmospheres.	111.5
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	MA
gas.	,
 D. Testing conducted often to ensure that the atmosphere remains safe. 	1/
 E. Emergency equipment, such as breathing apparatus, safety harness and 	3.
lifeline, and/or basket stretcher readily available where hazardous atmospheres	l y
could or do exist.	
 Employees trained to use personal protective and other rescue equipment. 	11
G. Safety harness and lifeline used and individually attended when entering bell	7
bottom or other deep confined excavations.	AN
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	1/1
 Materials and equipment used for protective systems inspected and in good 	1
condition.	
C. Materials and equipment not in good condition have been removed from	
service.	
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	
pack into service.	
E. Protective systems installed without exposing employees to the hazards of	
cave-ins, collapses, or threat of being struck by materials or equipment.	

F. Members of support system securely fastened to prevent failure. G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. H. Excavations below the level of the base or footing supported, approved by an RPE. I. Removal of support systems progresses from the bottom and members are	1)#
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc. H. Excavations below the level of the base or footing supported, approved by an RPE.	1
 H. Excavations below the level of the base or footing supported, approved by an RPE. 	
RPE.	
Removal of support systems progresses from the bottom and members are	
. Nemoval of support systems progresses from the bottom and members are	
eleased slowly as to note any indication of possible failure.	
. Backfilling progresses with removal of support system.	
Excavation of material to a level no greater than two feet below the bottom of	Т
ne support system and only if the system is designed to support the loads	
alculated for the full depth.	
Shield system placed to prevent lateral movement.	
Employees are prohibited from remaining in shield system during vertical	
novement.	7
orrective Action and Comments	
Both, both Signature of SP/COR Date	

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: SIC	VA (2) M.	1		
Date: 6/9/2 Time: 4 3	D CP: 1844 GOV			
Soil Type: 11A.	- 1	-		- 11
Soil Classification: //	Excavation Depth:	96	Excavation Width:	811
Type Of Protective Syste	em Used: MA	·		

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	ŷ
B. CP has the authority to remove employees from the excavation	11
immediately.	17
C. Surface encumbrances removed or supported.	V
 D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	y
E. Hard hats worn by all employees	y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	9
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	1/
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	M.
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	y
K. Employees are required to stand away from any vehicle being loaded or unloaded.	1
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	y
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	11/4
2. Utilities:	
A. Utility companies contacted and/or utilities located.	y
Exact location of utilities marked.	4
 C. Underground installations protected, supported, or removed when excavation is open. 	1/
3. Means of Access and Egress:	1
A. Lateral travel to means of egress no greater than 25 feet in excavations four	40
A. Lateral travel to means of egress no greater trial 20 feet in executations feet	M_

feet or more in depth.	
 B. Ladders used in excavations secured and extended three feet above the edge trench. 	e nr
C. Structural ramps used by employees designed by a CP.	111
Engineer (RPE).	+
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	\parallel
r. Employees protected from cave ins when entering as a viting the	+/-
A. Precautions take to protect employees from the accumulation of water. B. Water removal equipment monitored by a CP.	In
	M
Surface water or runoff diverted or controlled to prevent accumulation in the excavation.	M
D. Inspections made after every rainstorm or other hazard-increasing	ma
occurrence.	
5. Hazardous Atmosphere:	M
A. Atmosphere within the avecuality	-
A. Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	.,
exposing employees to a hazard.	7
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous C. Ventilation provided to provent exposure.	hA
gas. containing flammable gas in excess of 10% of the lower explosive limit of the	ho
D. Testing conducted often to ensure that the atmosphere remains safe. E. Emergency equipment, such as breathing armosphere remains safe.	
E. Emergency equipment, such as breathing apparatus, safety harness and could or do exist.	y
Employees trained to use personal and its	M.
Safety harness and lifeline used and individually and other rescue equipment.	11
oottom or other deep confined excavations.	14
A. Materials and/or equipment for support system	
B. Materials and equipment used for protective events.	14
condition. C. Materials and equipment not in good condition have been removed from ervice.	m
). Damaged materials and equipment	4
D. Damaged materials and equipment used for protective systems inspected by registered professional engineer (RPE) after repairs and before being placed. Protective systems installed with a contract of the	W
ave-ins, collapses, or threat of being struck by ave-to-	nu.

F. Members of support system securely fastened to prevent failure.	YAI
G. Support systems provided in ensure stability of adjacent structures, buildings,	100
roadways, sidewalks, walls, etc.	1
H. Excavations below the level of the base or footing supported, approved by an	
RPE.	1
Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	
J. Backfilling progresses with removal of support system.	
K. Excavation of material to a level no greater than two feet below the bottom of	1
the support system and only if the system is designed to support the loads	A:
calculated for the full depth.	- 11
L. Shield system placed to prevent lateral movement.	W
M. Employees are prohibited from remaining in shield system during vertical	*
movement. Corrective Action and Comments	
Corrective Action and Comments	
1/2/2	
BUH 10 MM 6/4/20	1000
Signature of CP/COR Date	

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-30	SLCVA	
Date: 6/52/20 Time: 0800	CP: J. Miller	
Soil Type: Game		
Soil Classification:	Excavation Depth: M. 8	Excavation Width: 2'
Type Of Protective System L	Jsed: VA	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily before the start of work.	1/2
 B. CP has the authority to remove employees from the excavation immediately. 	405
C. Surface encumbrances removed or supported.	125
 D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	Jes
E. Hard hats worn by all employees	45
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	165
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	V4
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	yrs
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	15
K. Employees are required to stand away from any vehicle being loaded or unloaded.	yes
Employees are not permitted underneath loads handled by lifting or digging equipment.	45
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	Not
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Ves
B. Exact location of utilities marked.	ves
 C. Underground installations protected, supported, or removed when excavation is open. 	
3. Means of Access and Egress:	_
	IVA

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	V - 4
trench.	NA
C. Structural ramps used by employees designed by a CP.	MA
D. Structural ramps used for equipment designed by a registered professional	1/4
Engineer (RPE).	NT
E. Ramps constructed of materials of uniform thickness, cleated together on the	1//
bottom, equipped with no-slip surface.	NIT
F. Employees protected from cave-ins when entering or exiting the excavation.	WA
4. Wet Conditions:	7.1
Precautions take to protect employees from the accumulation of water.	V45
Water removal equipment monitored by a CP.	145
C. Surface water or runoff diverted or controlled to prevent accumulation in the	V
excavation.	Yes
 Inspections made after every rainstorm or other hazard-increasing 	1 -
occurrence.	Ves
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	yes
exposing employees to a hazard.	' /
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	yes
atmospheres.	_
C. Ventilation provided to prevent employee exposure to an atmosphere	1/4
containing flammable gas in excess of 10% of the lower explosive limit of the	WA
gas. D. Testing conducted often to ensure that the atmosphere remains safe.	ves
E. Emergency equipment, such as breathing apparatus, safety harness and	2
lifeline, and/or basket stretcher readily available where hazardous atmospheres	1/A
could or do exist.	NW
F. Employees trained to use personal protective and other rescue equipment.	Les
G. Safety harness and lifeline used and individually attended when entering bell	in
bottom or other deep confined excavations.	UH
6. Support Systems:	11- 17
A. Materials and/or equipment for support systems selected based on soil	14.0
analysis, trench depth, and expected loads.	yes
B. Materials and equipment used for protective systems inspected and in good	
condition.	yes
C. Materials and equipment not in good condition have been removed from	1000
service.	495
D. Damaged materials and equipment used for protective systems inspected by	.11
a registered professional engineer (RPE) after repairs and before being placed	11/1
back into service.	10.1
E. Protective systems installed without exposing employees to the hazards of	1//
cave-ins, collapses, or threat of being struck by materials or equipment.	WT

F. Members of support system securely fastened to prevent failure.	1/1
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	VA
H. Excavations below the level of the base or footing supported, approved by an RPE.	VI
 Removal of support systems progresses from the bottom and members are released slowly as to note any indication of possible failure. 	Nes
J. Backfilling progresses with removal of support system.	1 yes
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	NA
L. Shield system placed to prevent lateral movement.	NA
Employees are prohibited from remaining in shield system during vertical movement.	M

Signature of CP/COR

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-30		
Date: 6/2/20 Time: 0730	CP: F. MOKELS	
Soil Type: NA		
Soil Classification: NY	Excavation Depth: NA	Excavation Width: NA
Type Of Protective System I	Jsed: LEVEL D PPE	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	Y
B. CP has the authority to remove employees from the excavation	.,
immediately.	У
C. Surface encumbrances removed or supported.	У
D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	NA
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	y
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	у
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	y
K. Employees are required to stand away from any vehicle being loaded or unloaded.	NA
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	У
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	·V
B. Exact location of utilities marked.	X
 C. Underground installations protected, supported, or removed when excavation is open. 	Y
T P T - 11	
3. Means of Access and Egress:	

feet or more in depth.	
B. Ladders used in excavations secured and extended three feet above the edge	1.
trench.	NA
C. Structural ramps used by employees designed by a CP.	1
D. Structural ramps used for equipment designed by a registered professional	
Engineer (RPE).	
E. Ramps constructed of materials of uniform thickness, cleated together on the	
bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation.	V
4. Wet Conditions:	
Precautions take to protect employees from the accumulation of water.	V
Water removal equipment monitored by a CP.	Ý
C. Surface water or runoff diverted or controlled to prevent accumulation in the	·
excavation.	NA
D. Inspections made after every rainstorm or other hazard-increasing	
occurrence.	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant	y
exposing employees to a hazard.	1
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	1/1
atmospheres.	NA
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing flammable gas in excess of 10% of the lower explosive limit of the	NA
gas.	14/1
D. Testing conducted often to ensure that the atmosphere remains safe.	У
E. Emergency equipment, such as breathing apparatus, safety harness and	
lifeline, and/or basket stretcher readily available where hazardous atmospheres	NA
could or do exist.	
F. Employees trained to use personal protective and other rescue equipment.	y
G. Safety harness and lifeline used and individually attended when entering bell	
bottom or other deep confined excavations.	NA
6. Support Systems:	
A. Materials and/or equipment for support systems selected based on soil	
analysis, trench depth, and expected loads.	Y
B. Materials and equipment used for protective systems inspected and in good	
condition.	y
C. Materials and equipment not in good condition have been removed from	
service.	y
D. Damaged materials and equipment used for protective systems inspected by	
a registered professional engineer (RPE) after repairs and before being placed	NN
back into service.	NK
E. Protective systems installed without exposing employees to the hazards of	
cave-ins, collapses, or threat of being struck by materials or equipment.	NA

G. Support systems provided in ensure stability of adjacent structures, buildings,	NA
roadways, sidewalks, walls, etc.	
H. Excavations below the level of the base or footing supported, approved by an RPE.	
Removal of support systems progresses from the bottom and members are	
released slowly as to note any indication of possible failure.	
Backfilling progresses with removal of support system.	
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads	
calculated for the full depth.	
Shield system placed to prevent lateral movement.	
M. Employees are prohibited from remaining in shield system during vertical movement.	V
Corrective Action and Comments	

Signature of CP/COR

FRANK MORRES

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-30		
Date: 6/3/20 Time: 07/5	CP: F. Mocess	
Soil Type: NA	7.17.74	
Soil Classification: NA	Excavation Depth: NA	Excavation Width: NA
Type Of Protective System U	Jsed: /#VE) TO POE	Excavation viutii. NA
	LL-LL DIFE	

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	_
before the start of work.	y
B. CP has the authority to remove employees from the excavation	
immediately.	У
C. Surface encumbrances removed or supported.	y
D. Employees protected from loose rock or soil that could pose a hazard by falling	
or rolling into the excavation.	NA
E. Hard hats worn by all employees	У
F. Spoils, materials, and equipment set back at least two feet from the edge of the	1
excavation.	y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	У
H. Walkways and bridges over excavations six feet or more in depth are equipped.	T .
with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all	1
employees exposed to public vehicular traffic.	У
J. Warning system established and utilized when mobile equipment is operating	v
near the edge of the excavation.	Y
K. Employees are required to stand away from any vehicle being loaded or	1/2/
unioaded.	NA
L. Employees are not permitted underneath loads handled by lifting or digging	
equipment.	У
M. Employees prohibited from working on the faces of slopes or benched	NA
excavations above other employees. 2. Utilities:	IVA
A. Utility companies contacted and/or utilities located.	Y.
B. Exact location of utilities marked.	Ý
 Underground installations protected, supported, or removed when excavation is open. 	Y
open.	<u>'</u>
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth.	T
B. Ladders used in excavations secured and extended three feet above the edge trench.	N
C. Structural ramps used by employees designed by a CP.	///
Engineer (RPE).	\dagger
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	+
F. Employees protected from cave-ins when entering or exiting the executive	\forall
THE CONDITIONS.	
A. Precautions take to protect employees from the accumulation of water. B. Water removal equipment and its product of the accumulation of water.	5.2
5. Trater removal equipment monitored by a CD	- <u>y</u>
excavation.	NA
D. Inspections made after every rainstorm or other hazard-increasing	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	y
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	NA
	NA
D. Testing conducted often to ensure that the atmosphere remains safe.	
- Line yellow equipment such as prosthing apparetus and the	У
could or do exist.	NA
Employees trained to use personal protective and other rescue equipment.	17
pottom or other deep confined excavations	y NR
. Support Systems:	
Materials and/or equipment for support systems selected based on soil nalysis, trench depth, and expected loads.	Y
Materials and equipment used for protective systems inspected and in good ondition.	ý
c. Materials and equipment not in good condition have been removed from	y
Damaged materials and equipment used for protective systems inspected by registered professional engineer (RPE) after repairs and before being placed	IR
Protective systems installed without exposing employees to the hazards of ave-ins, collapses, or threat of being struck by materials or equipment.	A

F. Members of support system securely fastened to prevent failure.	
o apport systems provided in english etability of adjacent	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	
H. Excavations below the level of the base or footing supported, approved by an RPE.	+
I. Removal of support systems progresses from the bottom and members are	+
s. Duomining progresses with removal of oursest austana	
K. Excavation of material to a level no greater than two feet below the bottom of	
the support system and only if the system is designed to support the loads calculated for the full depth.	
Shield system placed to prevent lateral movement	
The Limployees are prohibited from remaining in shield everteen the	
	V
Corrective Action and Comments	-
Frank L. pu 6/3/20	

Daily Excavation Checklist (To be completed by the CP)

Site Location:	MW-30		
Date: 6/4/20 1	Time: 0700	CP: F. MOKKS	
Soil Type: N			
Soil Classification		Excavation Depth: NA	Excavation Width: NA
Type Of Protecti	ve System U	sed: LEVEL D PRE	, and the same of

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	У
B. CP has the authority to remove employees from the excavation	
immediately.	У
C. Surface encumbrances removed or supported.	У
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	ΝA
E. Hard hats worn by all employees	Y
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	У
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	У
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	У
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	y
K. Employees are required to stand away from any vehicle being loaded or unloaded.	NA
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	У
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	v
Exact location of utilities marked.	Y.
 Underground installations protected, supported, or removed when excavation is open. 	Y
3. Means of Access and Egress:	
	NA

feet or more in depth.	T
B. Ladders used in excavations secured and extended three feet above the edge trench.	e N
C. Structural ramps used by employees designed by a CP.	1,4,
Engineer (RPE).	+
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	+
F. Employees protected from cave-ins when entering or system the average	++
	V
A. Precautions take to protect employees from the accumulation of water. B. Water removal equipment manifest the second	1 40
2. Trater removal equipment monitored by a CD	y
 Surface water or runoff diverted or controlled to prevent accumulation in the excavation. 	NA NA
D. Inspections made after every rainstorm or other hazard-increasing occurrence.	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
exposing employees to a hazard	y
Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	NA
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the	1/0
mo:	NA
). Testing conducted often to ensure that the atmosphere remains safe.	У
Emergency equipment, such as breathing apparatus, safety harness and feline, and/or basket stretcher readily available where hazardous atmospheres ould or do exist.	NA
. Employees trained to use personal protective and attack	
The standard of the life like the standard of	y
Support Systems:	NR
. Materials and/or equipment for support systems as located by	
	Y
Materials and equipment used for protective systems inspected and in good materials and equipment and in good	y
Materials and equipment not in good condition have been removed from	y
Damaged materials and equipment used for protective systems inspected by registered professional engineer (RPE) after repairs and before being placed	VA
Protective systems installed without exposing employees to the hazards of eve-ins, collapses, or threat of being struck by materials or equipment.	VA

F. Members of support system securely fastened to prevent failure.		
a post of otoling bit with the profit of a discount of a d	NA	
roadways, sidewalks, walls, etc.		
H. Excavations below the level of the base or footing averaged.	\vdash	,
RPE. Approved by an		
Removal of support systems progresses from the bottom and members are released slowly as to note any indication of passible fails.	-	I
released slowly as to note any indication of possible failure.		ı
v. Dacklining progresses with removal of current and		
The Endavation of Material to a level no greater than the first transfer to	_	
calculated for the full denth		
L. Shield system placed to prevent lateral movement.	-	
movement.	$\sqrt{}$	
Corrective Action and Comments	,	
ignature of CP/COR Date		
ignature of CP/COR FRANK MORRE Tinted name of CP/COR		

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-30		
Date: 6/5/20 Time: 0745	CP: I MOKELS	
Soil Type: NA		
Soil Classification: NA	Excavation Depth: NA	Excavation Width: NA
Type Of Protective System U	sed: LEVEL D PRE	741

C. CP has the authority to remove employees from the excavation mediately. D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. Hard hats worn by all employees Spoils, materials, and equipment set back at least two feet from the edge of the excavation. B. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. Warning system established and utilized when mobile equipment is operating ear the edge of the excavation. Employees are required to stand away from any vehicle being loaded or inloaded. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. Utilities: Utilities: Utilities: Utilities marked. Underground installations protected, supported, or removed when excavation is pipen. Means of Access and Egress:		
perceive the start of work. 3. CP has the authority to remove employees from the excavation mediately. 5. Surface encumbrances removed or supported. 6. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 6. Hard hats worn by all employees 7. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. 7. B. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 7. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). 7. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. 8. Warning system established and utilized when mobile equipment is operating lear the edge of the excavation. 8. Employees are required to stand away from any vehicle being loaded or incloaded. 8. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 8. Utilities: 8. Utilities: 8. Utilities marked. 9. Underground installations protected, supported, or removed when excavation is pipen. 9. Means of Access and Egress:	1. General Inspection of Jobsite:	
perceive the start of work. 3. CP has the authority to remove employees from the excavation mediately. 5. Surface encumbrances removed or supported. 6. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 6. Hard hats worn by all employees 7. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. 7. B. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. 7. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). 7. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. 8. Warning system established and utilized when mobile equipment is operating lear the edge of the excavation. 8. Employees are required to stand away from any vehicle being loaded or incloaded. 8. Employees prohibited from working on the faces of slopes or benched excavations above other employees. 8. Utilities: 8. Utilities: 8. Utilities marked. 9. Underground installations protected, supported, or removed when excavation is pipen. 9. Means of Access and Egress:	A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
B. CP has the authority to remove employees from the excavation mmediately. C. Surface encumbrances removed or supported. D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. E. Hard hats worn by all employees E. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. B. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. Warning system established and utilized when mobile equipment is operating lear the edge of the excavation. Employees are required to stand away from any vehicle being loaded or inloaded. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. Utilities: Utilities: Utilities: Utilities marked. Underground installations protected, supported, or removed when excavation is yepen. Means of Access and Egress:	before the start of work.	14
D. Surface encumbrances removed or supported. D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. E. Hard hats worn by all employees E. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. B. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. Warning system established and utilized when mobile equipment is operating lear the edge of the excavation. Employees are required to stand away from any vehicle being loaded or incloaded. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. Utilities: W. Utilities: W. Utility companies contacted and/or utilities located. Exact location of utilities marked. Underground installations protected, supported, or removed when excavation is pen. Means of Access and Egress:	B. CP has the authority to remove employees from the excavation	1
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H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection). Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. Warning system established and utilized when mobile equipment is operating ear the edge of the excavation. Employees are required to stand away from any vehicle being loaded or inloaded. Employees are not permitted underneath loads handled by lifting or digging equipment. M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. Utilities: Utilities: Utilities: Underground installations protected, supported, or removed when excavation is open. Means of Access and Egress:	excavation.	y
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Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic. Warning system established and utilized when mobile equipment is operating ear the edge of the excavation. Employees are required to stand away from any vehicle being loaded or inloaded. Employees are not permitted underneath loads handled by lifting or digging equipment. Employees prohibited from working on the faces of slopes or benched excavations above other employees. Utilities: Utilities: Utilities: Underground installations protected, supported, or removed when excavation is open. Means of Access and Egress:	H. Walkways and bridges over excavations six feet or more in depth are equipped.	NA
Warning system established and utilized when mobile equipment is operating when the edge of the excavation. Employees are required to stand away from any vehicle being loaded or inloaded. Employees are not permitted underneath loads handled by lifting or digging equipment. Employees prohibited from working on the faces of slopes or benched excavations above other employees. Utilities: Utilities: Utility companies contacted and/or utilities located. Exact location of utilities marked. Underground installations protected, supported, or removed when excavation is pen. Means of Access and Egress:	Warning vests or other highly visible clothing provided and worn by all	У
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Inloaded. Incomplete are not permitted underneath loads handled by lifting or digging equipment. Incomplete are not permitted underneath loads handled by lifting or digging equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment. Incomplete are not permitted underneath loads handled by lifting or digging by the equipment loads handled underneath loads handled underne	near the edge of the excavation.	Y
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees. D. Utilities: D. Utility companies contacted and/or utilities located. D. Exact location of utilities marked. D. Underground installations protected, supported, or removed when excavation is pen. D. Means of Access and Egress:	K. Employees are required to stand away from any vehicle being loaded or unloaded.	NA
We excavations above other employees. Utilities: Utility companies contacted and/or utilities located. Exact location of utilities marked. Underground installations protected, supported, or removed when excavation is pen. Means of Access and Egress:	equipment.	У
A. Utility companies contacted and/or utilities located. B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is ppen. B. Means of Access and Egress:	excavations above other employees.	NA
B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is pen. E. Means of Access and Egress:	2. Utilities:	
B. Exact location of utilities marked. C. Underground installations protected, supported, or removed when excavation is pen. E. Means of Access and Egress:	A. Utility companies contacted and/or utilities located.	·V
D. Underground installations protected, supported, or removed when excavation is pen. D. Means of Access and Egress:	B. Exact location of utilities marked.	1
. Means of Access and Egress:	C. Underground installations protected, supported, or removed when excavation is	
. Means of Access and Egress:	open.	7
I storal travel to manne of agrees as a series in the seri	3. Means of Access and Egress:	
s. Lateral travel to means of egress no greater than 25 feet in excavations four N#	A Leteral terrel t	NA

feet or more in depth. B. Ladders used in exceptations assured in the second in the s	T
B. Ladders used in excavations secured and extended three feet above the edge trench.	e NA
C. Structural ramps used by employees designed by a CP.	// /
Engineer (RPE).	+
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	+
F. Employees protected from cave-ins when entering or aviting the	11
	V
A. Precautions take to protect employees from the accumulation of water. B. Water removal equipment manifest the second	1 60
- Trace removal compliment monitored by a CD	À
excavation.	NA
Inspections made after every rainstorm or other hazard-increasing occurrence.	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
exposing employees to a hazard	y
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	NA
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	NA
D. Testing conducted often to ensure that the atmost	
City dollow Edulphielli Siich de proathing apparetus / · ·	У
could or do exist.	NA
Employees trained to use personal protective and other rescue equipment.	17
pottom or other deep confined excavations	NA
. Support Systems:	
nalysis, trench depth, and expected loads.	У
Materials and equipment used for protective systems inspected and in good ondition.	y
. Materials and equipment not in good condition have been removed from	y
Damaged materials and equipment used for protective systems inspected by registered professional engineer (RPE) after repairs and before being placed ack into service.	NA
Protective systems installed without exposing employees to the hazards of ave-ins, collapses, or threat of being struck by materials or equipment.	NA

F. Members of support system securely fastened to prevent failure. G. Support systems provided in appears at all its factories.	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	,
H. Excavations below the level of the base or footing supported, approved by an	+
I. Removal of support systems progresses from the bottom and members are	
o. Dackining progresses with removal of support system	_
C. Excavation of material to a level no greater than the first transfer to	+
calculated for the full depth.	
Shield system placed to prevent lateral movement	+
novement.	V
Corrective Action and Comments	Ψ_
Frank L management 6/5/20	
gnature of CP/COR FRANK MORRIS GS/20 Date	

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-3	0	
Date: 6/7/20 Time: 07	5 CP: F. MOKELS	
Soil Type: NA		
Soil Classification: NA	Excavation Depth: NA	Excavation Width: NA
Type Of Protective Syste	m Used: LEVEL D PPE	741

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	
before the start of work.	y
B. CP has the authority to remove employees from the excavation	1
immediately.	У
C. Surface encumbrances removed or supported.	У
 Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	ΝA
E. Hard hats worn by all employees	У
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	У
H. Walkways and bridges over excavations six feet or more in depth are equipped	
with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	у
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	У
K. Employees are required to stand away from any vehicle being loaded or	/
unloaded.	NA
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	У
M. Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	V
B. Exact location of utilities marked.	y
C. Underground installations protected, supported, or removed when excavation is open.	γ
3. Means of Access and Egress:	
A 1 -411 11	NA

B. Ladders used in excavations secured and extended three feet above the edge trench.	
trench. trench.	N
C. Structural ramps used by employees designed by a CP.	101
Engineer (RPE).	+
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	+
F. Employees protected from cave-ins when entering or suiting the	+
4. Wet Conditions:	V
A. Precautions take to protect employees from the accumulation of water. B. Water removal equipment monitored by a CP.	T
B. Water removal equipment monitored by a CP.	ÿ
excavation.	NA
Inspections made after every rainstorm or other hazard-increasing	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
exposing employees to a hazard	y
B. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	NA
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	NA
Testing conducted often to ensure that the atmosphere remains safe.	
The state of the s	У
ould or do exist.	NA
. Employees trained to use personal protective and other rescue equipment.	17
S. Safety harness and lifeline used and individually attended when entering bell ottom or other deep confined excavations.	y
. Support Systems:	NR
. Materials and/or equipment for support systems colocted by	
nalysis, trench depth, and expected loads. Materials and equipment used for protective systems inspected and in good on dition.	Y
	y
. Materials and equipment not in good condition have been removed from	y
. Damaged materials and equipment used for protective systems inspected by registered professional engineer (RPE) after repairs and before being placed	VA
Protective systems installed without exposing employees to the hazards of ave-ins, collapses, or threat of being struck by materials or equipment.	VA

F Members of august and	
F. Members of support system securely fastened to prevent failure.	NA
roadways, sidewalks, walls, etc.	IVA
RPE. H. Excavations below the level of the base or footing supported, approved by an	
I. Removal of support systems progresses from the bottom and members are	
and the state of t	
o. Dackining progresses with removal of support system	
K. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth.	
L. Shield system placed to prevent lateral movement	
W. Employees are prohibited from remaining in shield system during a till	
Corrective Action and Comments	V
	789
Signature of CP/COR 6/7/20	The l
Signature of CP/COR Date	
FRANK MORRIS Date	

Printed name of CP/COR

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-	30	
Date: 6/8/26 Time: c	725 CP: F. MOKELS	
Soil Type: NA		
Soil Classification: /	イ Excavation Depth: パイ	Excavation Width: NA
Type Of Protective Sys	tem Used: LEVEL D PPE	7,1

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	T
before the start of work.	y
B. CP has the authority to remove employees from the excavation	1
immediately.	У
C. Surface encumbrances removed or supported.	У
D. Employees protected from loose rock or soil that could pose a hazard by falling	1.
or rolling into the excavation.	ΝA
E. Hard hats worn by all employees	У
F. Spoils, materials, and equipment set back at least two feet from the edge of the	
excavation.	y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	y
H. Walkways and bridges over excavations six feet or more in depth are equipped.	
with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all	
employees exposed to public vehicular traffic.	У
J. Warning system established and utilized when mobile equipment is operating	v
near the edge of the excavation.	Y
K. Employees are required to stand away from any vehicle being loaded or	1.10
unloaded.	NA
L. Employees are not permitted underneath loads handled by lifting or digging	
equipment.	У
M. Employees prohibited from working on the faces of slopes or benched	. /.
excavations above other employees.	NA
2. Utilities:	
A. Utility companies contacted and/or utilities located.	Y
B. Exact location of utilities marked.	Y.
C. Underground installations protected, supported, or removed when excavation is	y
open.	/
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	NA

feet or more in depth. B. Ladders used in excavations are all the second in the secon	
B. Ladders used in excavations secured and extended three feet above the edg trench.	je N
C. Structural ramps used by employees dealers to	///
or detectal fallips used for equipment decianed by	-
Engineer (RPE).	
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	
F. Employees protected from cave-ins when entering or exiting the excavation. 4. Wet Conditions:	$+$ \checkmark
4. Wet Conditions:	
A. Precautions take to protect employees from the accumulation of water. B. Water removal equipment manifered by 200.	1.5
	- y
C. Surface water or runoff diverted or controlled to prevent account to	 y
excavation. D. Inspections made after every rainstorm or other hazard-increasing	NA
occurrence.	3/4
5. Hazardous Atmosphere:	NA
A. Atmosphere within the execution tests to the	
A. Atmosphere within the excavation tested where there is a reasonable	
possibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	y
THE CONTROL OF THE PARTY OF THE	/
B. Adequate precautions taken to protect employees from exposure to an	
atmosphere containing less than 19.5% oxygen and/or to other hazardous	NA
anospheres.	NA
C. Ventilation provided to prevent employee exposure to an atmosphere	
containing illaminable gas in excess of 10% of the lower explosive limit of the	NA
ido,	/V/T
Testing conducted often to ensure that the atmosphere remains safe.	У
- Line gency equipment, such as breathing apparatus, asfat, however	<u> </u>
ould or do exist.	NA
Employees trained to use personal protective and other rescue equipment.	
The standard of the standard s	y
and the state of t	NA
. Support Systems:	1
. Materials and/or equipment for support systems as least at l	
The state of the s	y
. Materials and equipment used for protective systems increased the	7
	y
. Materials and equipment not in good condition have been removed from	/
	y
Damaged materials and equipment used for protective systems inspected by	7
registered professional engineer (RPE) after repairs and before being placed	
	NR
Protective systems installed without exposing employees to the hazards of	
Protective systems installed without experience and	-

F. Members of support system securely fastened to prevent failure.	
G. Support systems provided in ansura statility of its	NA
G. Support systems provided in ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.	-
H Excavations below the level of the house	1
H. Excavations below the level of the base or footing supported, approved by an RPE.	
I. Removal of support systems progresses from the bottom and members are	
released slowly as to Hote any indication of noccible failure	
J. Dackilling progresses with removal of support evetors	
N. Excavation of material to a level no greater than two fact below to	
and deployed discount and only if the system is designed to current the lead-	
carearated for the full depth.	
L. Shield system placed to prevent lateral movement.	_
W. Employees are prohibited from remaining in shield system during wortland	-
morement.	V
Corrective Action and Comments	
Signature of CP/COR FRANK MORRES Date	
Printed name of CP/COR	

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-30		
Date: 6/9/20 Time: 0720	CP: F. MOKELS	
Soil Type: NA		
Soil Classification: NY	Excavation Depth: NA	Excavation Width: NA
Type Of Protective System U	Sed: LEVEL D POE	- Indiana Priditi.

1. General Inspection of Jobsite:	
A. Excavations, adjacent areas, and protective systems inspected by a CP daily	Τ.
before the start of work.	Y
 B. CP has the authority to remove employees from the excavation immediately. 	У
C. Surface encumbrances removed or supported.	У
 D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. 	N/A
E. Hard hats worn by all employees	У
F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation.	y
G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	У
H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	y
J. Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	y
K. Employees are required to stand away from any vehicle being loaded or unloaded.	NA
 Employees are not permitted underneath loads handled by lifting or digging equipment. 	У
Employees prohibited from working on the faces of slopes or benched excavations above other employees.	NA
2. Utilities:	
Utility companies contacted and/or utilities located.	1/
Exact location of utilities marked.	Y
 Underground installations protected, supported, or removed when excavation is open. 	Y
3. Means of Access and Egress:	
A 1 . 1 . 1	NA

feet or more in depth. B. Ladders used in exceptations account to	
B. Ladders used in excavations secured and extended three feet above the edge trench.	N
C. Structural ramps used by employees designed by a CP.	1
Engineer (RPE).	\dagger
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	$\dagger \dagger$
F. Employees protected from cave-ins when entering or exiting the excavation. 4. Wet Conditions:	$+$ \forall
A. Precautions take to protect employees from the accumulation of water.	1 52
	À
c. Surface water or runoff diverted or controlled to prevent accumulation in the excavation.	NA
D. Inspections made after every rainstorm or other hazard-increasing occurrence.	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable	
exposing employees to a hazard	y
3. Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	NH
Ventilation provided to prevent employee exposure to an atmosphere ontaining flammable gas in excess of 10% of the lower explosive limit of the as.	NA
Testing conducted often to ensure that the atmosphere remains safe.	12
. Efficigency equipment, such as breathing apparatus, sofety have	У
ould or do exist.	NA
Employees trained to use personal protective and other rescue equipment.	y
ottom or other deep confined excavations.	NK
Support Systems:	
. Materials and/or equipment for support systems selected based on soil nalysis, trench depth, and expected loads.	Y
. Materials and equipment used for protective systems inspected and in good	y
. Materials and equipment not in good condition have been removed from	у
Damaged materials and equipment used for protective systems inspected by registered professional engineer (RPE) after repairs and before being placed ack into service.	NA
Protective systems installed without exposing employees to the hazards of ave-ins, collapses, or threat of being struck by materials or equipment.	NA

Printed name of CP/COR

F. Members of support system socurely fact.	
F. Members of support system securely fastened to prevent failure.	N
roadways, sidewalks, walls, etc.	,
H. Excavations below the level of the base or footing supported, approved by an	1
Removal of support systems progresses from the bottom and members are	
J. Backfilling progresses with removal of support system. C. Excavation of material to a level no greater than two feet below the bottom of the support system and only if the system is decimald.	
alculated for the full denth	
Shield system placed to prevent lateral movement.	-
Employees are prohibited from remaining in shield system during vertical novement.	1
Corrective Action and Comments	V
Thank K Maris G/9/20 Date Date	

Daily Excavation Checklist (To be completed by the CP)

Site Location: MW-30		
Date: 6/10/20 Time: 0705	CP: F. MOLLIS	
Soil Type: NA		
Soil Classification: N4	Excavation Depth: NA	Excavation Width: NA
Type Of Protective System U		744

E. Hard hats worn by all employees F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	У У У/А У
B. CP has the authority to remove employees from the excavation immediately. C. Surface encumbrances removed or supported. D. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation. E. Hard hats worn by all employees F. Spoils, materials, and equipment set back at least two feet from the edge of the excavation. G. Barriers provided at all remotely located excavations, wells, pits, shafts, etc. H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	y y NA
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H. Walkways and bridges over excavations six feet or more in depth are equipped with standard guardrails and toe boards (fall protection).	y
	NA
Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	y
Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	y
K. Employees are required to stand away from any vehicle being loaded or	VA
Employees are not permitted underneath loads handled by lifting or digging equipment.	У
	NA
2. Utilities:	
Utility companies contacted and/or utilities located.	·V
B. Exact location of utilities marked.	Y
 C. Underground installations protected, supported, or removed when excavation is open. 	y
3. Means of Access and Egress:	
A. Lateral travel to means of egress no greater than 25 feet in excavations four	7 1

feet or more in depth. B. Ladders used in excavations secured and extended three feet above the edge trench.	
trench.	e N
C. Structural ramps used by employees designed by a CP.	14.
Engineer (RPE).	+
E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, equipped with no-slip surface.	+
F. Employees protected from cave-ins when entering or suiting the	+1/
	V
A. Precautions take to protect employees from the accumulation of water. B. Water removal equipment manifered by A.P.	1 40
	ÿ
excavation.	NA
D. Inspections made after every rainstorm or other hazard-increasing occurrence.	NA
5. Hazardous Atmosphere:	
A. Atmosphere within the excavation tested where there is a reasonable cossibility of an oxygen deficiency, combustible or other harmful contaminant exposing employees to a hazard.	У
Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% oxygen and/or to other hazardous atmospheres.	NA
C. Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.	NA
Testing conducted often to ensure that the atmosphere remains safe.	
- Little delicy equipment stich as proofbing appositue/	У
ould or do exist.	NA
. Employees trained to use personal protective and other rescue equipment.	17
ottom or other deep confined excavations.	NR
. Support Systems:	
. Materials and/or equipment for support systems selected based on soil nalysis, trench depth, and expected loads.	У
. Materials and equipment used for protective systems inspected and in good	y
. Materials and equipment not in good condition have been removed from	Y
Damaged materials and equipment used for protective systems inspected by registered professional engineer (RPE) after repairs and before being placed ack into service.	NA
Protective systems installed without exposing employees to the hazards of ave-ins, collapses, or threat of being struck by materials or equipment.	NA

F. Members of support system securely fastened to prevent failure.	. /4
oadways, sidewalks, walls, etc.	NA
H. Excavations below the level of the base or footing supported, approved by an	+
. Removal of support systems progresses from the bottom and members are	
The state of the s	
. Dackilling progresses with removal of support system	+
the support system and only if the system is designed to support the loads alculated for the full depth	1
Shield system placed to prevent lateral movement.	+
novement.	
orrective Action and Comments	Г
Fruit R. m. G/10/20	
That R. Morres Instance of CP/COR Thank Morres Inted name of CP/COR	

Appendix G

Borehole Logs with Well Construction Diagrams



555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

PRO.	JECT NU	JMBER 2	388			8-005.1	DRILL	BORING/WELL NUMBER	MW-23				LOG
PRO	JECT NA			1600 E P				DATE DRILLED 4/7/20	020 - 4/15/202	0			
LOCA	ATION	Salt Lake	City	, UT					1-inch S	CH 80	PVC		
DRIL	LING MI	ETHOD S	onic						1-inch SCH 8	0 0.020)-slot		
SAM	PLING N	METHOD	Sor	nic Grab					#10/20 sand				
GRO	UND EL	EVATION (FT	MSI	L) 47					Bentonit	e Grou			
		ING (FT MSL)							GS)				
	GED BY												
REMA	ARKS	A perched	grou	ındwater	zone	was en	ncountered at approx. 150 f	t bgs and groundwater was er					
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHO	DLOGIC DESCRIPTION		CONTACT	w	ELL [DIAGRAM
							No Recovery; Vacuum	n excavated to 14 feet bgs.					
				- 			,	J				ALTERNATION OF THE PROPERTY OF	/ault with cement surface ceal
				-								s	seal
				-									
				- 5									
				-									
				-									
				-									
				-									
				-10-									
				-								X	
				-									
				<u> </u>									
9.8	0.099						Silty SAND: 55% fine	sand; 40% silt; 5% fine to coa	arse gravel	14.0			
3.5			B	-15-	SM		dense; reddish brown		5				
§ 27.1	0.106	MW23-		-	SIVI								
11.3		SB040720-		<u> </u>		· : : •••••	Gravelly SAND: 500/	fine to medium sand; 30% fine	e to coarso	17.0		F	Bentonite Grout 3.5 to 31 ft
11.3		16	B	<u> </u>			gravel; 20% silt; weak	ly cemented in places; dark re	eddish			1/1 /	
回 8.0	0.080			<u> </u>	SW		brown (2.5YR 3/4); m					k t	ogs).
¥ 4.5										20.0			
11.4	0.509			L	GW	000		; 70% fine to coarse gravel; 30 d; compact; dark reddish brov		21.0			
3PJ							\3/4); dry.	· · ·				X	
12.6	0.685			_	ML			30% fine to coarse sand; 15%					
M			R	_			gravei; slightly conesiv	ve; reddish brown (5YR 4/3); r	HOIST.	24.0		1	
8 19.2	0.033	MW23-		<u> </u>		 		EL; 100% Fine to coarse subr	ounded	24.0			
8.3		SB040720- 24		-25-			gravel; loose; brown (7.5YR 5/4); moist.					
9.6	0.170	24		-								N	
일 4.0	0.133			-	GP								
Mn 7.1	0.130		B	-		.6							
\$ 7.1	0.130			<u> </u>		. 6							
SLC .	0.475	NAMA (CC		—30 <i>—</i>			Oracella Oli T. 0001	14. 400/ £		30.0			
MHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM GPJ LAEWINNO1.GDT 12/17/20 11.3 12.6 12.6 13.9 14.5 15.6 16.2 17.1 17.	0.175	MW23- SB040720-		L -	ML	ЩЩ	Gravelly SILT; 60% si slightly cohesive; brow	It; 40% fine to coarse angular vn (7.5YR 4/3); moist	gravel;	31.0		Ø	
6.2		30		_	GW	600	Well graded GRAVEL	; 70% coarse rounded gravel;	30% fine	32.0			
39.9	0.198		B	L _	SP		sand; loose; pink (7.5)						
Z-Z-S				L	الحال		subrounded to subang	fine sand; 40% fine to coarse gular poorly sorted gravel; loos	e, reddish	34.0			
置 20.5	0.234					ШП	brown (5YR 5/4); mois						
Š .				-35-		<u>Г</u>	Co	ontinued Next Page		<u> </u>			

Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER MW-23

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 4/7/2020 - 4/15/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM Gravelly SILT; 50% silt; 40% fine to coarse gravel; 10% fine ML to medium sand; stiff; reddish brown (2.5 YR 4/3); moist. 19.0 0.147 37.0 Silty GRAVEL: 60% fine to coarse rounded to subrounded В gravel; 20% fine to medium sand; 20% silt; loose; reddish GM 0.030 9.6 brown (5YR 4/4); moist. 39.0 Gravelly SILT; 60% silt; 40% fine to coarse gravel; stiff; 68 ML 40.0 cohesive; reddish brown (2.5 YR 4/3); moist. 9.6 0.133 Silty GRAVEL; 60% fine to coarse rounded to subrounded gravel; 10% fine to medium sand; 30% silt; loose; reddish brown (5YR 4/4); moist. GM 0.195 45.0 Poorly Graded GRAVEL; 70% fine to coarse subrounded gravel; 30% fine sand; loose; yellowish brown (10YR 5/4); 0.210 169 GP 48.0 Gravelly SILT: 50% silt: 35% fine gravel: 15% sand: brown 32.3 0.168 MW23-SB040720-ML (7.5YR 5/4); moist. 49 50.0 Hydrated SILT; 70% silt; 20% fine sand; 10% fine gravel; slightly 16.8 0.386 bentonite pellets cohesive; stiff; brown (7.5YR 4/3); moist. (31 to 127 ft ML В bgs). 12.6 0.454 53.0 0.082 Silt GRAVEL; 50% fine to coarse Gravel; 30% Silt; 20% fine sand; loose; light brown (7.5YR 6/4); moist. 19.8 0.273 MW23-SB040720-55 54 0.106 8.4 GM B 13.4 0.133 5.3 0.034 60.0 60 14.5 0.106 Poorly graded GRAVEL; 50% fine to coarse subrounded to subangular gravel: 40% fine to coarse sand: 10% silt: loose: brown (7.5YR 4/4); moist. 20.6 0.170 MW23-SB040720-GP 63 В 0.147 2.2 65 66.0 Gravelly SILT; 60% silt; 35% fine to coarse gravel; 5% fine 2.2 0.112 sand; slightly cohesive; reddish brown (2.5YR 4/4); moist. ML 68.0 15.6 0.158 Gravelly SILT; 60% silt; 35% fine to coarse gravel; 5% fine sand; slightly cohesive; brown (10YR 4/4); moist ML 70.0 Sandy GRAVEL; 50% fine to coarse subrounded to 7.8 0.089 $\circ \bigcirc \circ$ subangular gravel; 40% fine sand; 10% silt; loose; reddish B 0 brown (5YR 4/4); moist. 2.5 0.152 GW 0 74.5 3.1 0.092

Continued Next Page



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-23 4/7/2020 4/45/2020

							Continued from Previous Page		
							Continued Hotti Flevious Fage		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
26.8		MW23- SB040720-			GM	175	Silty GRAVEL; 70% fine to coarse gravel; 30% silt; cohesive in places; reddish brown (2.5 YR 5/4); moist.	76.0	
6.0	0.084	75	B				Sandy GRAVEL; 50% fine to coarse subangular to subrounded well graded gravel; 40% fine to coarse sand; 10% silt; dark reddish brown (2.5YR 3/4); moist.		
10.6				 -80-					Hydrated bentonite pelle (31 to 127 ft
8.5	0.149			 	GW				bgs).
	0.139			 					
22.4	0.128	MW23- SB040720-	B	-85-		603		85.5	
12.3	0.018	85		- - 	GP		Poorly graded GRAVEL; 85% fine to coarse gravel; 15% silt; medium dense; light gray (5YR 7/1); moist.	87.0	
10.0			-	 	GM	K	Silty GRAVEL; 60% fine gravel; 35% silt; %5 fine to coarse sand; socketed matrix; dense; reddish brown (5YR 4/4); moist.		
12.2	0.871			90- 			Poorly graded GRAVEL; 60% fine to coarse gravel; 30% fine sand; 10% silt; reddish brown (5YR 4/3); moist.	90.0	
44.8	0.189	MW23- SB040720- 93	В		GP				
19.3	0.220			 95			CIL ODAVEL COV. C	95.0	
19.3							Silty GRAVEL; 60% fine to coarse gravel; 35% silt; %5 fine sand; weakly cemented; reddish brown (5YR 4/4); moist.		IIII
237	0.144	MW23- SB040720-		_	GM				
98.2	1.78	97	B	_		2.	SILT; 70% silt; 30% fine to coarse subangular to subrounded	99.0	
43.1	0.208			-100			gravel; weakly cemented; hard; brown (7.5YR 5/2); dry to moist.		
33.2									
19.3					ML				
8.7	0.243								
16.8			B	 105				106.0	
23.9	0.186					1.7.5	Sandy GRAVEL; 50% fine to coarse subangular gravel; 40%		
23.4		MW23- SB040720-			GP		fine sand; 10% silt; loose; reddish brown (5YR 4/3); moist.		
15.4	0.172	107			GF				
51.2	0.183	MW23-	H	 110	0		Silty GRAVEL; 60% fine to coarse poorly sorted gravel; 30%	110.0	
14.9		SB040820- 110			GM		silt; 10% fine sand; medium dense; reddish brown (5YR 4/4); moist.	112.0	
45.9	0.103		B				Poorly graded GRAVEL; 70% fine to coarse gravel; 15% fine sand; 15% silt; weakly cemented in places; red (2.5YR 4/6);		
16.8					GP		sand; 15% silt; weakly cemented in places; red (2.5 YR 4/6); moist.		
18.5	0.007			_				115.0	



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-23

DATE DRILLED 4/7/2020 - 4/15/2020

							Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WE	ELL DIAGRAM
11.2				 	GM	以	Silty GRAVEL; 60% fine to coarse angular to subangular gravel; 30% silt; 10% fine sand; loose; reddish brown (2.5YR 4/4); moist.	117.0		
20.3 5.1	0.089		B	 	GP		Poorly graded GRAVEL; 60% fine to coarse angular to subangular gravel; 25% fine sand; 15% silt; loose; reddish brown (2.5YR 4/4); moist.			
7.0				 120				120.0		
15.9	0.136			 			Silty GRAVEL; 60% fine to coarse poorly graded gravel; 25% silt; 15% fine sand; weakly cemented in places; dense; brown (7.5YR 5/3); moist.			
29.0	0.168		B	 	GM					
32.6	0.045	MW23- SB040820-		 125						
1.4	0.149	124								
2.5	0.175								M M M M	N
6.4	0.141			_			Poorly graded GRAVEL; 60% fine to coarse gravel; 10% silt;	128.0		
10.2	0.141						30% fine sand;			#10/20 sand filter pack (127
19.5	0.141			-130-			loose; brown (7.5YR 5/3); moist.			to 143 ft bgs).
19.5	0.141									
19.8	0.099	MW23- SB040820- 133	В	 	GP					
18.0	0.000	100		 135						1-inch 0.020 sl
20.7	0.359					:31	Doorly graded CRAVEL: 600/ fine to seems gravel: 60/ silt:	136.5		monitoring (130 to 140 ft bgs).
1.4	0.165			_	GP		Poorly graded GRAVEL; 60% fine to coarse gravel; 5% silt; 35% fine sand;			10 140 11 bgs).
3.9	0.070		B	_			loose; reddish brown (5YR 4/4); moist.	139.0		
8.5							Silty GRAVEL; 70% fine to coarse poorly graded gravel; 25%			[.]
16.0	0.166			—140 	GM		silt; 5% fine sand; medium dense; dark reddish brown (5YR 3/4); dry to moist.	142.0		
14.8	0.230						Poorly Graded GRAVEL; 50% fine to coarse subrounded to	142.0		<u> :</u>
18.1		MW23-	B		GP		subangular gravel; 40% fine to coarse sand; 10% silt, loose; reddish brown (5YR 5/4); moist.			
7.0	0.163	SB040820- 143				125	, , , , , , , , , , , , , , , , , , , ,	145.0		
14.9	0.026			 145 	GM		Silty GRAVEL; 60% fine to coarse poorly graded gravel; 35% silt; 5% fine sand; medium dense; dark reddish brown (2.5YR 5/3); dry to moist.	147.0		
	0.187		H	-		2.9	Poorly graded GRAVEL; 70% fine to coarse angular gravel;	'-'.0		
2.9	0.348				GP		20% fine sand; 10% silt; loose; reddish brown (2.5YR 4/4); wet.	149.0		
0.8	0.087			 150	MH GM	III	Clayey SILT; 80% medium to high plasticity clayey silt; 20% fine gravel; some lime cement; hard; reddish brown (5YR 3/4); wet.	150.0		
			B				Silty GRAVEL; 60% fine gravel; 40% silt; medium dense;			
5.4				_	0.5		reddish brown (5YR 3/4); wet. Sandy GRAVEL; 45% fine to coarse subangular to			
10.0 4.1	0.013				GP		subrounded well graded gravel; 40% fine sand; 15% silt; reddish brown (5YR 5/4); moist.	155.0		
			H	15 5	+	1	Continued Next Page	155.0		•



BORING/WELL CONSTRUCTION LOG

__MW-23

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED

4/7/2020 - 4/15/2020

PROJ	ECT NA	ME	151	600 E P	CE PI	ume	DATE DRILLED 4/7/2020 - 4/15/20	20	
			_				Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
26.9 16.7 23.4 9.4	0.215 0.149 0.030	MW23- SB040820- 155	B	 			Silty GRAVEL; 70% fine to coarse subrounded to angular gravel; 30% silt; dense; dark reddish brown (2.5YR 3/3); moist.		
15.5 12.0 8.5	0.279			160 	GM				
4.6	0.102		В	 165 				166.0	
10.7	0.082			 	GM		Silty GRAVEL; 60% fine to coarse subrounded to angular gravel; 40% silt; slightly cohesive; medium dense; dark reddish brown (2.5YR 3/3); moist.	168.0	
22.6 60.2	0.053	MW23- SB040920-		 170	GP		Poorly graded GRAVEL; 60% fine to coarse gravel; 30% fine sand; 10% silt; loose; light reddish brown (5YR 6/4); dry to moist.	170.0	
1.8	0.244	169					Gravelly SILT; 60% Silt; 40% fine to coarse gravel; cohesive; stiff; dark reddish brown (2.5YR 3/3); moist.		
9.0	0.446			 	ML			174.5	
9.2 95.1 50.4	0.198	MW23- SB040920-	В	_ 175 	МН		Clayey SILT; 75% medium to high plasticity clayey silt; 25% fine gravel; stiff; cohesive; dark reddish brown (2.5YR 3/4); moist.	176.0	► Hydrated bentonite pellet seal (143 to 207
50.4	0.198	175		 	ML		Gravelly SILT; 60% Silt; 40% fine gravel; slightly cohesive; stiff; strong brown (7.5YR 4/6); moist.		ft bgs).
4.8	0.050			 180			Gravelly SILT; 65% Silt; 35% fine rounded gravel; cohesive;	180.0	
5.3	0.000				NAI		stiff; dark reddish brown (2.5YR 2.5/4); moist.		
2.3	0.112	MW23-		 	ML			185.0	
50.4 1,8 4.8 8.3 19.3 2.7 6.0 3.9 7.8 1.9 0.5 1.0 1.0	0.034	SB040920- 184	B	 185 	ML		SILT; 85% Silt; 15% fine rounded gravel; cohesive; stiff; weakly cemented red (2.5YR 4/6); moist.	100.0	
3.9	0.000			 	ML		SILT; 90% Silt; 10% fine rounded gravel; cohesive; stiff; reddish brown (2.5YR 4/4); moist to wet	188.0	
1.9	0.152			190 			Sandy GRAVEL; 60% fine poorly graded gravel; 10% silt; 30% fine sand; loose reddish brown (5YR 4/4); wet	190.0	
0.5	0.110		В	 	GP				
1.0				 195			Continued Next Page		
									PAGE 5 OF 1



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-23

PAGE 6 OF 10

DATE DRILLED 4/7/2020 - 4/15/2020

							Continued from Previous Page		1	
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WE	LL DIAGRAM
1.1	0.120					76		100.5		
6.0							Silty GRAVEL; 60% fine to coarse subrounded to rounded	196.5		
0.9	0.089	MW23-	B	 	GM		gravel; 25% silt; 15% fine sand; dark reddish brown (2.5YR 3/3); wet.			
3.4	0.110	SB040920-		-200			Silty GRAVEL; 70% fine to coarse angular gravel; 20% silt;	200.0		
		199		 			10% fine to coarse sand; loose; reddish brown (5YR 4/4); wet.			
5.5	0.000									
4 -	0.000		B	 205	GM		005 to 040 footh as a small of 11 to 15			
1.7	0.000			 			 205 to 210 feet bgs sample slid out of core barrel and was retrieved during the 210 to 220 feet bgs sonic run. 			
12.9	0.759	MW23-						209.0		† *- #10/20 sand
6.3		SB040920- 208					Silty GRAVEL; 60% fine to coarse subrounded to rounded	209.0		filter pack (207
27.3	0.259	200		 210			gravel; 30% silt; 10% fine sand; medium dense; socketed matrix; reddish brown (5YR 4/4); moist to wet.			to 224 ft bgs).
					GM		matrix, reddish brown (311444), moist to wet.			}
34.2										
17.6	0.886						Sandy GRAVEL; 50% fine subangular to angular gravel; 40%	213.0		
21.3	0.097						fine sand; 10% silt; weakly cemented in places; loose to			
29.3	0.007		B	 215	GP		medium dense; reddish brown (2.5YR 4/3); dry to moist.			1-inch SCH 80
26.6	0.128									0.020-slot screen ZIST
20.0	0.120						Silty GRAVEL; 60% fine to coarse subrounded to rounded	217.0		nested well (21) to 220 ft bgs).
37.7	0.128	MW23- SB040920- 218			GM		gravel; 30% silt; 10% fine sand; medium dense; socketed matrix; reddish brown (5YR 4/4); moist.	220.0		: 10 220 11 bgs).
0.3	0.158	MW23-	Н	 220			Sandy SILT; 70% low plasticity silt; 30% fine sand; firm;			
		GW040920- 220			ML		cohesive; dark reddish brown (5YR 3/4); wet.	221.5]
0.5	0.160						Sandy SILT; 50% low plasticity silt; 40% fine sand; 10% fine gravel; stiff; cohesive; dark reddish brown (5YR 3/4); wet.			
3.4					ML		(**************************************]
0.8	0.073									•
3.7			B	 225				225.5		
7.8	0.049	MW23-					Gravelly SILT; 60% low plasticity silt; 30% fine to coarse gravel; 10% sand; cohesive; stiff; dark reddish brown (5YR			
6.0		SB041020-					3/4); moist.			
-		226								
3.9					ML					
5.5	0.095	MW23-	H	-230-						
1.4	0.000	SB041020-								
0.2	0.192	230						232.5		
2.9			B	- 			Sandy SILT; 60% low plasticity silt; 35% fine sand; 5% gravel; cohesive; soft to firm; yellowish red (5YR 4/6); wet.			
<i>,</i> u	0.245		1		ML	+1111111		1		



BORING/WELL CONSTRUCTION LOG

MW-23

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED 4/7/2020 - 4/15/2020

Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. **EXTENT** DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 0.3 Hydrated bentonite pellet 237.0 seal (224 to 247 Silty SAND: 55% fine to coarse sand: 20% silt: 15% fine ft bgs). 14 0.777 В gravel; cohesive; yellowish red (5YR 4/6); wet. 2.3 0.000 SM 2.4 240.0 Clayey SILT; 90% medium to high plasticity clayey silt; 10% 0.4 0.642 MW23-GW041020fine sand; stiff; cohesive; yellowish red (5YR 4/6); wet. 240 0.9 0.417 MH 0.419 MW23-2.6 SB041020-245 1.7 244 Silty GRAVEL; 65% fine to coarse gravel; 35% silt; socketed GM 0.8 0.425 matrix; brown (7.5YR 4/3); moist to wet. 247.0 Poorly Graded SAND; 80% fine sand; 10% fine to coarse 248.0 gravel; 10% silt; loose; brown (10YR 4/3); dry. 0.7 0.095 -#10/20 sand Gravelly SILT; 60% low plasticity silt; 40% fine gravel; cohesive; yellowish red (5YR 4/6); wet. ML filter pack (247 1.2 250.0 to 264 ft bgs). Silty SAND; 55% fine to coarse sand; 20% silt; 15% fine 21.9 0.178 SM 251.0 gravel; cohesive; yellowish red (5YR 4/6); moist. 30.5 0.144 Poorly graded SAND; 80% fine to coarse sand; 10% fine gravel; 10% silt; loose; yellowish brown (10YR 6/4); dry to 12.5 0.111 SF moist. 96.3 254.5 17.6 1.02 R 1-inch SCH 80 255 24.1 0.020-slot screen ZIST WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 0.108 120 nested well (250 MW23-470 to 260 ft bgs). SB041020-258.5 73.6 0.136 257 Poorly graded GRAVEL; 60% fine to coarse gravel; 30% fine 350 sand; 10% silt; weakly to moderately cemented; very dense; GΡ 260 weak red (10R 4/2); dry to moist. 9.9 0.595 MW23-261 0 GW041020-52.8 Gravelly SILT; 60% low plasticity silt; 30% fine to coarse 260 gravel; 10% fine sand; cohesive; stiff; brown (7.5YR 5/3) with MW23red mottling; wet. SB041220-3.4 1.20 261 27.2 0.160 -265 11.0 ML 16.4 0.334 37.3 0.390 17.2 270.0 -270Silty SAND; 60% fine to coarse sand; 35% silt; 5% fine 0.000 1.4 SM gravel; light yellowish brown (5YR 6/4); wet. 272.0 0.345 Clayey SILT; 95% medium to high plasticity clayey silt; 5% 5.5 fine sand; very stiff; cohesive; yellowish red (5YR 6/4); moist. MH 2.8 0.167 275.0 Continued Next Page



15000 0.278

MW23-

315

555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER **BORING/WELL NUMBER** 238824.6495-F3048-005.DRILL MW-23 PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 4/7/2020 - 4/15/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 2.3 Sandy SILT; 60% low to medium plasticity silt; 30% fine sand; 10% fine gravel; stiff; cohesive; yellowish red (5YR 4/6); 2.6 0.148 ML В 2.7 0.030 279.0 Silty SAND; 50% fine to medium sand; 40% silt; 10% fine gravel; weakly cemented; yellowish red (5YR 4/6); moist. 32 SM 280.0 -280 5.3 0.460 MW23-Clayey SILT; 85% high plasticity clayey silt; 10% fine sand; 5% fine gravel; cohesive; stiff; red (2.5YR 4/6); moist to wet. SB041220-4.8 280 0.2 0.445 MH 0.395 1.0 285 1.5 286.0 0.224 SILT; 80% low to medium plasticity silt; 20% fine to medium 3.3 sand; cohesive; red (2.5YR 4/6); moist to wet. 2.5 0.5 0.400 -290 ML 295 WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 299.0 SILT; 80% low to medium plasticity silt; 10% fine to medium 1.3 sand; 10% fine rounded gravel; cohesive; very stiff; red 300 4.2 0.255 (2.5YR 4/6); moist to wet. 2.4 0.308 ML Hydrated 0.327 8.4 bentonite pellet 305 seal (264 to 344 0.7 306.0 ft bgs). Gravelly SILT; 70% low plasticity silt; 30% fine gravel; very 19.5 0.478 М 307.0 stiff; brown (7.5YR 4/4); dry to moist. 19.7 MW23-GM Silty GRAVEL; 70% fine gravel; 30% silt; cemented; dense; 308.0 SB041220pinkish white (7.5YR 8/2); dry. 307 Sandy SILT; 70% low plasticity silt; 30% fine to medium sand; 0.404 11.3 cohesive; very stiff; light brown (7.5YR 6/4) dry. MW23-349 0.320 ML GW041220-624 0.683 310 15000 0.312 313.0 5006 Silty GRAVEL; 70% fine to coarse gravel; 30% silt; dense; GM

cemented; light brown (7.5YR 6/4); dry to moist.

Silty GRAVEL: 60% fine gravel: 30% silt: 10% fine to coarse

Continued Next Page

314.0



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume BORING/WELL NUMBER

MW-23 DATE DRILLED 4/7/2020 - 4/15/2020

	ج ا							1. 1		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WEL	L DIAGRAM
110		SB041320- 314				345	sand; dense; cohesive; brown (7.5YR 4/4); moist to wet.			
865	0.319	314								
713			B							
187	0.460				GM					
543				-3 20-						
39.7	0.161									
2.4	0.385							322.5		
12.8	0.000					1345	Silty GRAVEL; 60% fine to coarse gravel; 25% silt; 15% fine to coarse sand; medium dense; cohesive; brown (7.5YR 4/4);			
198	0.275	MW23-					moist to wet.			
19.8		SB041320- 324	B	-325-						
49.0	0.123	J24		-	GM					
38.8				⊢ –			-becomes wet			
6.7	0.116			-						
2.0								330.0		
65.3	0.673			-3 30			Gravelly SILT; 50% low plasticity silt; 40% fine to coarse			
83.5				_			gravel; 10% fine sand; cohesive; stiff; brown (7.5YR 5/3); moist to wet.			
					ML					
39.8	0.733									
85.1		MW23- SB041420-	B	335				335.0		
17.7		334			GM		Silty GRAVEL; 60% fine to coarse gravel; 40% silt; loose; strong brown (7.5YR 5/6); wet.			
				_			· · · · · · · · · · · · · · · · · · ·	337.0		
2.2	0.872						Gravelly SILT; 60% low plasticity silt; 40% fine gravel; cohesive; strong brown(7.5YR 5/6); wet.			
44.7	0.500	MW23-			ML					
60.1 29.0	0.502 0.435	GW041420-		340			Silty GRAVEL; 60% fine to coarse gravel; 40% silt; medium	340.0		
29.0	0.433	340 MW23-		<u> </u>	GM		dense; brown (7.5YR 5/3); wet.	341.0		
5.5	0.143	SB041420- 340	B	L –	GP		Sandy GRAVEL; 50% fine to coarse subrounded gravel; 40% fine sand; 10% silt; loose; brown (7.5YR 5/4); wet.			
				<u> </u>	Gr.		· · · · · · · · · · · · · · · · · · ·	044.0		
9.2				 			Clayey SILT; 80% medium to high plasticity clayey silt; 20%	344.0		
706	0.770	MW23-		-345-	МН		gravel; cohesive; stiff; brown (7.5YR 5/3); dry to moist.	346.0		
		SB041520- 346		- 	GP	144	Poorly Graded GRAVEL; 80% fine gravel; 20% silt; loose;	347.0		#10/20 sand filter pack (34
556		-		<u> </u>			brown (7.5YR 5/3); dry. Gravelly SILT; 60% medium to high plasticity clayey silt; 40%			to 360 ft bgs)
132	0.550			-			fine to coarse rounded gravel; very stiff; brown (7.5YR 5/3);			
433							dry to moist.		.:::::計	4 1- 1-0011
62	0.430			-3 50−	МН					
				_						screen ZIST nested well (3
532	0.270		B							to 358 ft bgs)
525								354.0		
2.8	0.582						Gravelly SILT; 60% low plasticity silt; 40% fine gravel; soft;		::::: <u> </u>	•



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 2388

PROJECT NAME

238824.6495-F3048-005.DRILL

700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED

MBER MW-23 4/7/2020 - 4/15/2020

\vdash	11001	ECTNA	.v.£ _ / OC	, 0	1600 E P		ullic	DATE DRILLED 4/1/2020 - 4/15/202		
-				_				Continued from Previous Page		
	PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LAEWNN01.GDT 12/17/20	2.8			B	 -360	ML		End of boring at 360 ft bgs.	360.0	PAGE 10 OF 10

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BORING/WELL CONSTRUCTION LOG

PROJ	ECT NU		388	■ 24.6495-	F304	8- <u>0</u> 05.E	RILL BORING/WELL NUMBER	MW-24			
	ECT NA			1600 E P				2020 - 5/15/20	20		
LOCA	TION	Salt Lake	City	, UT			CASING TYPE/DIAMETER	4-inch S	CH 40	PVC	
	ING ME		onic					4-inch SCH 4	0.010	O-slot	
SAMF	LING N			nic Grab				#10/20 sand			
GROL	JND ELI	EVATION (FT	MS	L) 470	9.77		GROUT TYPE/QUANTITY	Bentonit	te Grou		
							DEPTH TO WATER (FT BG				
	ED BY						GROUND WATER ELEVAT	,			
REMA				ındwater			countered at approx. 160 ft bgs and groundwater was er				
	1		g. oc		20110	T T	nountered at appress. 100 ft 2go and groundwater was or	iodantoroa at t			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION		CONTACT	WELL	DIAGRAM
							Hydrovac from 0 to 11 ft bgs.				
8.2 0.8 2.7 2.6 4.6 3.1 5.7 0.8	0.185 0.179 2.01 0.121	MW- 24- SB051120-	В		GM		Silty GRAVEL: fine to coarse; dense; reddish brown 4/4); moist. SAND and GRAVELI with Silt: 45% sand, poorly gra	aded; 45%	11.0		Vault with cement surface seal
4.8 2.5	0.118	14		- -	SP GP	X	fine to coarse gravel; 10% silt; light brown (7.5 YR 6 dry.		17.0		
4.7	0.484			L _	ML	$\coprod\coprod\coprod$	Gravelly SILT: brown (7.5 YR 4/2); stiff, cohesive; m		18.0		
1.6				_	GM	밨	Silty GRAVEL with Sand: 50% fine to coarse gravel, inch cobbles; 35% silt; 15% sand; reddish brown (5		20.0		
0.213 0.4 4.5	2.5 0.257			20 			Sandy SILT: fine sand; lamination; reddish brown (5 stiff; cohesive in places; trace iron oxide staining; mo		20.0		
0.3 9.8 3.1 5	0.466	MW- 24- SB051120- 22		 	ML		Large (4 to 8 inch) cobble at 22.2 ft bgs.				
0.1	0.616		B	-25-							
				<u> </u>		HUH	Cohesive layer at 25.7 ft bgs.	_	26.0		
2.72.14.3	0.199			 	GW		GRAVEL with Sand and Silt: 55% fine to coarse gra angular to subrounded; 35% sand; 10% silt; brown (4/3); loose, trace iron oxide staining; dry to moist.				
2	0.145			-30-		000					
				-30							#10/20 sand
6.7	0.218			-		1201			32.0		filter pack (30
5.3 8.2	0.133		В	- - -	GW		GRAVEL with Sand and Silt: same as above with an cohesive silt interval at 32 ft bgs; brown (7.5 YR 4/3 moist.		34.0		35 ft bgs) with 6-inch stainle stell mesh var probe at 32 ft
13.8		MW-		h —		Þŏq	GRAVEL with Sand and Silt: same as above with 6	inch			bgs.
			1	-35-		000	Continued Next Page			15:11	

GRAVEL with Sand and Silt: same as above with 6 inch Continued Next Page



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-24 DATE DRILLED 5/11/2020 - 5/15/2020

							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
13.3 9.9 7.5	0.074 0.122 0.168	24- SB051120- 34	В		GW ML GW SW		cohesive silt interval at 34.4 to 35 ft bgs; brown (7.5 YR 4/3); dry to moist. Gravelly SILT: 60% silt; 40% fine to coarse gravel; cohesive; moist. SAND and GRAVEL: fine to coarse gravel, angular to subrounde; loose; moist.	36.0 37.0	
6.43.83.9	0.031			-40-	SM		Silty SAND: 70% fine sand; 30% silt; reddish brown (5 YR 5/4); loose; moist.	40.0	
6.6 5.9	0.053	MW- 24- SB051220- 43	В	 -45	GC GW SW		Clayey GRAVEL: 60% fine to coarse gravel; 40% clay; reddish brown (5 YR 5/4); medium dense; moist. GRAVEL and SAND: 50% fine to coarse gravel, 4 to 6 inch cobbles; 50% sand; reddish brown (7.5 YR 4/4); loose; moist.	43.0	
3.65.15.16.12.3	0.037 0.345 0.104			 			CLAY with Gravel: 80% clay, low plasticity; 20% fine to coarse gravel; strong brown (7.5 YR 4/6); stiff; laminated in places; cohesive; dry to moist.	47.0	■ Hydrated bentonite pelle (35 to 58 ft bg.)
3.5 3.2 6.2 6.7 3.6	0.279 0.179 0.091 0.141 0.07			50 	CL		Sample is moist.		
7.2 11.3 1.4 1.1	0.065 0.186 0.17	MW- 24- SB051220- 56	В	55 			Sandy GRAVEL with Silt: 60% fine to coarse gravel; 30% sand; 10% silt; reddish brown (5 YR 5/3); medium dense; moist.	57.0	
2.2 2.5 2.5 12	0.75	MW- 24-		 60 	GW		Gravelly SILT: 60% silt, low plasticity; 40% fine to coarse	62.0	#10/20 sand filter pack (58 63 ft bgs) with 6-inch stainles
5.56.94.2	0.203	SB051220- 61	В	- - -65-	CL GW		gravel; reddish brown (5 YR 4/4); cohesive; moist to wet. GRAVEL with Sand and Silt: 60% fine to coarse gravel, subangular to subrounded; 30% sand; 10% silt; brown (7.5 YR 4/4); moist.	64.0	stell mesh var probe at 60 ft bgs.
3 7.1 4.8 2.7	0.188				ML	500	Gravelly SILT: fine gravel; brown (7.5 YR 4/4); cohesive; moist.	67.5	
2.8 9.6	0.102	MW- 24- SB051220-	В	70 (GW		GRAVEL: fine to coarse gravel; large cobbles, 6 to 8 inches; yellowish brown (10 YR 5/4); loose; moist to dry.	71.0	
4.6 2	0.334	71		 -75-			GRAVEL and SAND: fine to coarse gravel; brown (7.5 YR 4/4); loose; moist. Continued Next Page	73.0	



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-24

DATE DRILLED 5/11/2020 - 5/15/2020

							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
2.4 5.5	0.213						Color is reddish brown (5 YR 4/4).		
0.1	0.148				GW SW		, ,		
0.3	0.140		B						
3.1	0.204							00.0	
				 80		ان کی ا	GRAVEL with Sand and Silt: 50% fine to coarse grave; 40%	80.0	
2	0.265					000	sand; 10% silt; reddish brown (5 YR 5/4); medium dense; moist.		
7.5	0.146			_		200	Cohesive layer near 82 ft bgs.		Hydrated
5.6	0.175				GW	200			bentonite pelle (63 to 102 ft
24		MW- 24-	B			600			bgs).
4.3	0.24 0.05	SB051220- 84				00	GRAVEL with Sand and Silt: 50% fine to coarse gravel; 40% sand; 10% silt; loose.		
3.1		04					Silty GRAVEL: compact; dry to moist.	87.0	
4.6				_	GM		GRAVEL with Sand and Silt: fine to coarse gravel; loose; dry.	88.0	
7.2						003	GIVAVEE WITH GAING AIRG OHL. THE to coarse graves, 10050, dry.		
20.7	0.247			 90-	GW	500			
0.0				- -		000		91.5	
							Gravelly CLAY: 75% clay, medium plasticity; 25% fine to coarse gravel; yellowish red (5 YR 4/6); cohesive; stiff to very		
3.1					CL		stiff; moist to wet.		
2.6	0.339		B						
2.1								96.0	
					CL		Gravelly CLAY: same as above except less gravel; yellowish red (5 YR 4/6); moist to wet.	97.5	
41	0.31			- 			Silty GRAVEL: 65% fine to coarse gravel; 35% silt, non-plastic; yellowish red (5 YR 4/6); medium dense; moist.		
4.9	0.139					囚	non-plastic, yellowish red (5 FR 4/6), medium dense, moist.		
7				_100_	GM		Same as above except increase in sand, medium to coarse.		
2.3	0.175						,		
				-				103.0	
6.3	0.12			[C/V		SAND and GRAVEL: 50% well graded, fine to coarse gravel; 50% medium to coarse sand; reddish brown (5 YR 5/4);		
35		MW- 24-	R		GW SW		loose; moist.	105.0	#10/20 sand
10.8		SB051220- 104		105 -	GM		Silty GRAVEL: fine to coarse gravel; reddish brown (5 YR 5/4); cohesive in places; medium dense; moist.	106.0	to 107 ft bgs)
24.4	0.045	104		-		609	GRAVEL with Sand and Silt: 70% fine to coarse gravel, subangular to subrounded; 15% sand; 15% silt; strong brown		with 6-inch stainless stell
34.1 26.9	0.045				GW		(7.5 YR 4/6); loose; dry to moist.		mesh vapor probe at 104
12.5	0.22			<u> </u>		10/0]	Same as above except decrease in silt near 108 ft bgs.		bgs.
0	J			110-		00	No recovery from 110 to 112 ft bgs; clayey material, slid out of	110.0	
				-			sampler.	112.0	
			B	- -			Gravelly CLAY: reddish brown (5 YR 5/3); fine to coarse	112.0	
3.9	0.133			-	CL		gravel; stiff; moist.	114.0	
				 115		H	Silty GRAVEL: 70% fine to coarse gravel, angular to		
				110			Continued Next Page		PAGE 3 OF



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume BORING/WELL NUMBER

MW-24 DATE DRILLED 5/11/2020 - 5/15/2020

							Continued from Previous Page	_	
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
3.4 1.5	0.19						subrounded; 30% silt; light brown (7.5 YR 6/4); cemented; very dense; moist to dry.		
3.1							,		
23.1	0.223		B						Hydrated bentonite pelle
12.9	0.147	A A A A A							(107 to 128 ft
58.8		MW- 24-		-120-	GM				bgs).
4.2	0.142	SB051220- 119					Large boulder at 121 ft bgs.		
29.5	0.142						Large boulder at 121 it bgs.		
7.4	0.132								
								105.0	
11.4			B	 125			SAND with Gravel: 60% fine sand; 40% well graded, fine to	125.0	
3.1	0.103						coarse gravel; reddish brown (5 YR 4/4); loose, moist.		
2.7					SP				
1.7									
2.3	0.097		•					130.0	
6.5				 130		600	GRAVEL with Sand and Silt: 60% fine to coarse gravel,	100.0	#10/20 sand
	0.315					00	angular to subrounded; 30% fine sand; 10% silt; reddish brown (5 YR 5/3); cemented in places; dense; moist.		filter pack (12 to 133 ft bgs)
24.7		MW- 24-							with 6-inch stainless stell
3.1	0.29	SB051320-				60			mesh vapor
2.7	0.20	132	B	 135 	GW	000			probe at 130 bgs.
7					GVV		GRAVEL and SAND: fine to coarse gravel, well graded; fine sand; reddish brown (5 YR 5/3); gray mottling; loose; moist.		
							,, (
2.8	0.434						Large (6 inch) cobbles at 137.7 ft bgs.		
3.4	0.400					600			
1.9	0.128		Н	- 140		00	Large (6 inch) cobbles at 139.1 ft bgs.	140.0	
11.5	0.333				GM		Silty GRAVEL: cemented in places; reddish brown (5 YR 5/3); cohesive.		
19.2	0.555						GRAVEL with Sand: 60% gravel, 40% sand; reddish brown (5	142.0	
12.7	0.208				GP		YR 5/3); moist.		
					GF			4.45.0	
20	0.478		B	 145			Silty GRAVEL: 60% gravel; 40% silt; reddish brown (5 YR	145.0	
					GM		5/3); cohesive; moist.	147.0	
8.1	0.127			_			Gravelly SILT: 70% silt; 30% gravel; reddish brown (5 YR	147.0	
19	0.400				ML		5/3); cohesive.		
17.1 23.4	0.129	MW-		 -		 	GRAVEL with SAND: fine to coarse gravel; reddish brown (5	149.5	
4.6		24- SB051320-	П	150 -	GW		YR 5/3); loose; wet.	150.5	
→. .0	0.084	149					Silty GRAVEL: 70% fine to coarse gravel; 30% silt; sand layer; reddish brown (5 YR 5/4); cemented; cohesive in		
51.1		MW- 24-	B		GM		places; moist.		
10.4		SB051320-		_				154.0	
29.3	0.073	152			GP	•	GRAVEL with Sand: fine to coarse gravel; subangular to	155.0	



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-24

DATE DRILLED 5/11/2020 - 5/15/2020

FROC	JECT NA	- 100	3 1	1600 E P	CE FI	uiii c	DATE DRILLED 5/11/2020 - 5/13/20	720	
							Continued from Previous Page	1	T
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.5	0.383						subrounded; reddish brown (5 YR 5/4); cemented in places; medium dense.		
4.4			B				Gravelly CLAY: 60% clay, low plasticity; 40% fine gravel; cohesive; reddish brown (2.5 YR 5/4); moist to wet.		
7.4							0		
22.9	0.08			100	01		Gravelly CLAY: 50% clay; 40% fine gravel; 10% sand; reddish brown (2.5 YR 5/4); cohesive; moist.		
		MW24- GW051320-		 160	CL				
17.2	0.073	160							
10.5	0.074								
14.8 12.1	0.048 0.032			165				165.0	
8.6	0.032			 165			Silty GRAVEL with Sand: 50% fine to coarse gravel, subangular to subrounded; 30% silt; 20% sand; reddish		
36.1		MW- 24-				囚	brown (5 YR 4/4); moist.		⋖ -Hydrated
2.4	0.08	SB051320-			GM				bentonite pellets
21.8		166				囚	Less sand and cemented near 168 ft bgs.		(133 to 201 ft bgs).
16.1	0.063			170		345		170.0	3 ,
22.3 38.7	0.081	MW- 24- SB051320-			GW		GRAVEL with SAND: 60% fine to coarse gravel; 40% well graded sand; light brown (7.5 YR 6/4); cemented in places; dry.	172.0	
34		170				Ê	Silty GRAVEL: 60% fine to coarse gravel; 40% silt; dark	172.0	
05.4				-	GM		reddish brown (5 YR 3/4); cemented in places; moist.	174.0	
35.1 36.6	0.099		В	 175	GW		GRAVEL with Sand: 65% fine to coarse gravel; 35% well graded sand; dark reddish brown (5 YR 3/4); cemented in places; dry.		
2.9	0.046					P	GRAVEL with Silt: fine to coarse; large cobbles (6 to 8	176.0	
12/1					GM		inches); brown (7.5 YR 4/4); cemented in places; dense; moist.		
11.4 19.6 16.9				- -		. •		178.5	
19.6	0.127						SILT: 95% silt; 5% fine gravel; reddish brown (5 YR 4/3); very stiff; moist.		
₹ 3.5				 180 	ML				
집 10.8	0.186							182.0	
9.2				_			SILT with Gravel: 75% silt; 25% fine to coarse gravel; reddish	32.0	
8.6	0.204			_			brown (5 YR 4/3); cohesive; stiff; moist.		
26									
30.4	0.25			 185	ML				
실 38.1		MW-		_					
필 26.2	0.338	24- SB051320-		_			Increased gravel content.	188.0	
20.1		186			GW	000	GRAVEL with Sand: 50% well graded gravel; 35% sand;	189.0	
3.5 10.8 P.2	0.314			- — —190—			reddish brown (5 YR 4/3); loose. Gravelly SILT: 60% silt; 40% fine to coarse gravel, subangular to subrounded; reddish brown (5 YR 5/3); slightly cohesive;		
) CO				L -			moist. More cohesive and trace clay.		
23.5	0.159	MW-		L _	ML		more contents and hade day.		
og 16.1		24- SB051420-		<u> </u>					
21.3	0.063	192		<u> </u>			Less cohesive and trace sand.	105.0	
∃				 195			Continued Next Page	195.0	
							-		PAGE 5 OF 7



BORING/WELL CONSTRUCTION LOG

MW-24

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED <u>5/11/2020 - 5/15/2020</u>

Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. **EXTENT** DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 5.4 Silty SAND: 70% sand; 30% silt; loose; wet. Possibly sluff. SM 14 0.154 196.7 8 inch boulder. 14.8 0.054 В Silty GRAVEL: fine to coarse gravel, subangular to subrounded; cohesive; moist. 22.6 Some grayish green staining and weakly cemented. 0.13 ∇ -200 Moist to wet. 16.4 GM 12.8 0.085 Cohesive, moist. 33.4 MW-24-31.9 0.094 SB051420-204.0 202 GRAVEL: cemented; very dense; dry. 15.2 GW 205.0 205 #10/20 sand 16.5 Silty GRAVEL with Sand: 50% fine to coarse gravel; 40% silt; filter pack (201 10% sand; reddish brown (5 YR 5/3); cohesive; socketed 0.105 to 240 ft bgs). matrix; moist. 17 89 0.061 GM 157 -210 Loose, wet. 4.9 0.208 Silty GRAVEL: reddish brown (5YR 4/4); some 3 inch gravel, 0.156 5.3 round, elongated. 213.0 0.256 SILT: 90% silt; 10% gravel; reddish brown (5YR 4/4); soft; ML 214.0 compact; moist. 6.5 0.177 Boulder, dry. 215.0 В 6.3 215 0.033 MW-Silty GRAVEL: 60% fine to coarse gravel; 40% silt; reddish 12 24brown (5YR 4/4); loose; wet. WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 10.2 SB051420-215 0.043 1.8 GM 8.7 Silt GRAVEL with Sand: fine to coarse; reddish brown (5 YR 4/4); loose; moist. 0.095 11.2 220.0 220 9.3 MW-Gravelly SILT: fine gravel, subangular to subrounded; reddish brown (2.5 YR 4/4); cohesive: stiff: moist to wet. 24-0.389 GW051420-220 15.1 0.131 Less Moisture. 15.9 ML 4-inch SCH 40 0.204 44.2 225 0.010-slot screen (209.5 to 23.8 Fine to coarse gravel, dry to moist. 239.3 ft bgs). 41.7 47.9 0.177 MW-228.0 24-35 GRAVEL with Sand: loose, cemented, dry. Possibly boulder. SB051420-GP 229.0 227 0.182 Silty GRAVEL: fine to coarse gravel, subangular to 11.9 GW 230.0 subrounded; stiff; moist. -230 0.091 2.1 GRAVEL with Sand and Silt: 60% fine to coarse gravel, GW subangular to subrounded; 30% fine to coarse sand; 10% silt; GM 232.0 reddish brown (5 YR 4/4); loose; moist. 0.272 11.4 В SILT: 75% silt; 10% sand; 10% gravel; 5%, clay; brown (7.5 YR 4/4); cohesive; wet. 7.1 ML 10 235 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER
PROJECT NAME

238824.6495-F3048-005.DRILL

700 S 1600 E PCE Plume

BORING/WELL NUMBER MW-24

DATE DRILLED 5/11/2020 - 5/15/2020

<u></u>	الِد ا	o o				U	Continued from Previous Page	F	
PID (ppm)	Magnetic Susceptibility	SAMPLEID	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
15.8 18.7 19.1	0.222				GC		Clayey GRAVEL: 70% fine to coarse gravel, subrounded; 30% clay; brown (7.5 YR 4/4); cohesive; wet. Large cobble	235.5	
28.4			В	 	GM		(greater than 6 inch). Silty GRAVEL with Sand: 60% fine to coarse gravel; 20% silt; 20% sand; brown (7.5 YR 4/4); loose; wet.	237.5	
9.1 31.2	0.183	MW- 24- SB051520-		240	GW		GRAVEL with Sand and Silt: 60% fine to coarese gravel, subangular to subrounded; 25% sand; 15% silt; brown (7.5 YR 4/4); cemented in places; dry to moist.	240.0	
3.4 6.2	0.133	239	B-	GM ML	GM		Silty GRAVEL: 70% gravel; 30% silt; brown (7.5 YR 4/4); cohesive; wet to moist.	242.0	
14.4 8.4	0.056					Silt with CLAY: 85% silt; 15% clay; brown (7.5 YR 4/4); moist.			
13.9 9.8	0.314		B	245 			O'lle ODAVEL 700/ march 000% "It I was 77.5 VD 1/10	246.0	
1.7 20	0.278			 	GM		Silty GRAVEL: 70% gravel; 30% silt; brown (7.5 YR 4/4); cohesive; wet to moist.	248.0	
21 7.8 7.2	0.102	MW- 24- SB051520- 248		 250	ML		Sandy SILT: 60% silt; 40% sand; brown (7.5 YR 4/4); cohesive; moist. End of boring at 250 ft bgs.	250.0	



BORING/WELL CONSTRUCTION LOG

PRODE	GGED BY MARKS Autiplitity	AME 700 Salt Lake ETHOD S METHOD FEVATION (FT SING (FT MSL) Kimberly	City onic So MS	nic Grab L) 470 See Tablers undwater	03.04 le 5 zone	ume	DATE DRILLED 4/29/2020 CASING TYPE/DIAMETER 1-inch S SCREEN TYPE/SLOT 1-inch S GRAVEL PACK TYPE #10/20	ntonite Grou	0-slot ut 200 ft bgs	
	0	σ					- No recovery; vacuum excavated to 10 ft bgs.			Vault with cement surface seal
1.3 17. 5.3 33. 5.4 18. 19.	6 0.267 3 0.132 6 0.64 4 0.359 9 0.225 8 0.233		В	- 10	GW		Well graded GRAVEL; 70% fine to coarse angular to subrounded gravel; 20% fine to coarse sand; 10% silt; loose; reddish brown (5YR 4/4); moist. Silty GRAVEL; 50% fine to coarse angular to subrounded gravel; 25% fine to coarse sand; 25% silt; loose; red (2.5YR 4/6); moist.	10.0	7.KV/1.KV/1.KV/1.KV/1.KV/1.KV/1.KV/1.KV/1	Bentonite Grou (3.5 to 31 ft bgs).
DEC2020_WTJM.GPJ LAEWNN01.GDT	4 3.95 4 0.81 4 0.249 5 0.405 7 0.306		В		GM GM		Silty GRAVEL; 50% fine to coarse angular to subrounded gravel; 25% fine to coarse sand; 25% silt; loose; light reddish brown (5YR 6/4); moist. Silty GRAVEL; 40% fine to coarse angular to subrounded gravel; 25% fine to coarse sand; 35% silt; loose; light reddish brown (5YR 6/4); dry to moist.	22.0		
MHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LAEWNN01.GDT 12/17/20	7 0.25 1 0.194 4 0.599 3 0.864 3 0.221 1 3.1 7 0.204	MW25- SB042920- 29	В	 - 30 	ML ML		Gravelly SILT; 60% low plasticity silt; 35% fine to coarse angular to subrounded gravel; 5% fine to medium sand; firm dark reddish brown (5YR 3/4); dry to moist. Gravelly SILT; 70% low plasticity silt; 25% fine gravel; 5% fir to coarse sand; firm; light reddish brown (5YR 3/4); dry to moist. SILT; 80% low plasticity silt; 15% fine gravel; 5% fine to coarse sand; firm; light reddish brown (5YR 3/4); dry to moist.	32.0		6-inch stainless steel mesh vap probe (28 ft bgs).
4.5	5 0.026			35 <i></i> _	ML		Continued Next Page			

Continued Next Page



BORING/WELL CONSTRUCTION LOG

MW-25

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 4/29/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG ┙ CONTACT DEPTH PID (ppm) U.S.C.S. **EXTENT** SAMPLE DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 0.088 MW25-10.1 36.0 SB042920-9.3 0.011 Silty GRAVEL; 40% fine to coarse angular to subrounded gravel; 25% fine to coarse sand; 35% silt; loose; light reddish 3 0.036 В GM brown (5YR 6/4); dry to moist. 1.9 1.09 39.0 0.044 SILT; 85% low plasticity silt; 15% fine to coarse gravel; firm; 1.1 light reddish brown (5YR 3/4); dry to moist. 17.1 0.339 37.5 0.445 ML 19.1 0.435 В 44.0 Gravelly SILT; 70% low plasticity silt; 25% fine gravel; 5% fine 0.392 9.9 to coarse sand; firm; light reddish brown (5YR 3/4); dry to 45 0.244 9.4 moist. ML 60.1 0.479 MW25-SB042920-5.6 0.317 46 48.0 40 06 0.209 CLAY; 70% low plasticity clay; 20% fine gravel; 10% fine to В CL coarse sand; brown (7.5YR 4/4); dry to moist. 13.5 1.59 50.0 20.1 0.104 CLAY; 85% low plasticity clay; 10% fine gravel; 5% fine to B coarse sand; dark reddish brown (5YR 3/4); dry to moist. CL 3.8 0.246 52.0 Well graded SAND; 70% fine to coarse sand; 20% silt; 10% 4.8 0.399 fine subangular to subrounded gravel; brown (7.5YR 4/4); dry 0.361 12.5 to moist. SW 6.7 0.191 MW25-SB042920-55 0.634 5.4 B 54 56.0 CLAY: 70% low plasticity clay: 25% fine gravel: 5% fine to 3.1 0.567 coarse sand; brown (7.5YR 4/4); dry to moist. CL 1.8 0.101 58.0 8.2 0.099 0.11 13.8 60 2.1 9.66 Well graded SAND; 70% fine to coarse sand; 20% silt; 10% fine subangular to subrounded gravel; brown (7.5YR 4/4); dry 5 2.7 1.1 0.072 6.4 0.056 SW Hydrated 0.174 4.9 bentonite pellet В 65 seal (30 to 98 ft 3.7 0.424 8.5 0.085 67.0 7.8 0.514 CLAY; 80% low plasticity clay; 15% fine gravel; 5% fine to coarse sand; brown (7.5YR 4/4); dry to moist. 6.1 0.202 CL MW25-8.1 0.177 70.0 SB042920-Well graded SAND; 70% fine to coarse well graded sand; 0.148 1 70 20% fine to coarse gravel; 10% silt; brown (7.5YR 4/4); dry to 5.7 0.059 0.005 MW25-B 16.6 SB042920-12.8 0.318 73 SW 1.8 0.091 75

Continued Next Page



BORING/WELL CONSTRUCTION LOG

MW-25

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume **BORING/WELL NUMBER**

DATE DRILLED 4/29/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG CONTACT DEPTH SAMPLE ID PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 4.6 0.024 8 1 0.065 77.0 0.086 2.2 CLAY; 80% low plasticity clay; 15% fine gravel; 5% fine to В CL coarse sand; brown (7.5YR 4/4); dry to moist. 0.032 1.6 79.0 0.005 CLAY; 70% low plasticity clay; 15% fine gravel; 15% fine to 3.1 CL 80.0 coarse sand; brown (7.5YR 4/4); dry to moist. 3.1 0.718 Well graded GRAVEL; 70% fine subangular to subrounded 000 gravel; 25% fine to medium sand; 5% silt; compact; reddish 36 0.015 MW25-100 0 brown (5YR 4/3); dry to moist. SB042920-25.6 0.015 82 0.093 0.1 0 0.195 3.1 lGW 85 0.131 4.2 0 0.188 31 7.8 0.014 0 116 0.032 89.0 15.3 0.569 CLAY; 95% low plasticity clay; 5% fine to medium sand; brown (7.5YR 4/4): dry to moist. Hydrated an. CL 12.4 0.428 bentonite pellet 91.5 seal (30 to 98 ft 23.2 0.059 CLAY; 85% low plasticity clay; 15% fine to medium sand; 5% bgs). CL 92.5 28.7 0.056 fine to coarse gravel; brown (7.5YR 4/4); dry to moist. Clayey GRAVEL; 60% fine to coarse subangular to 0.187 GC 67.4 subrounded well graded gravel; 30% low plasticity clay; 10% fine sand; reddish brown (5YR 4/3); dry to moist. 94.0 24.4 0.554 MW25-GW 95.0 SB042920-R 95 Sandy GRAVEL; 50% fine to coarse subangular to 0.465 12.3 94 subrounded gravel; 35% fine to coarse sand; 15% silt; 43.1 compact; pinkish gray (5YR 7/2); dry to moist. 0.331 000 Well graded GRAVEL, 70% fine subangular to subrounded 0.28 47 GW gravel; 25% fine to medium sand; 5% silt; compact; reddish $\circ \circ \circ$ brown (5YR 4/3); moist. 14.6 0.151 0.228 30 100.0 100 283.2 0.393 Sandy GRAVEL; 50% fine to coarse subangular to 6-inch stainless 00 subrounded gravel: 35% fine to coarse sand: 15% silt: steel mesh vapor compact; pinkish gray (5YR 7/2); dry to moist. probe (100 ft GW 249.1 0.025 bgs). 0 103.5 321.4 0.362 Gravelly CLAY; 55% low plasticity clay; 10% medium to CL 104.5 102.5 0.071 coarse sand; 35% fine to coarse gravel; reddish brown (2.5YR 105 SW 4/4); dry to moist. 105.5 MW25-262.7 0.91 Well graded SAND; 55% fine to coarse sand; 10% silt; 35% SB043020-CL 57.1 0.453 fine subangular to subrounded gravel; red (2.5YR 4/6); dry to 106 107.0 moist. Gravelly CLAY; 55% low plasticity clay; 10% medium to coarse sand; 35% fine to coarse gravel; reddish brown (2.5YR 4/4); dry to moist. -no recovery 110.0 0.052 33.4 Gravelly CLAY; 50% low plasticity clay; 45% fine to coarse gravel; 5% medium to coarse sand; firm; yellowish red (5YR CL 63.4 MW25-4/6); moist. 112.0 SB043020-2.1 0.139 CLAY; 70% low plasticity clay; 20% fine to coarse gravel; 10% В 112 medium to coarse sand; firm; reddish brown (5YR 4/3); moist. CL 48 0.375 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

13.6

5.3

5.8

11.9

12.4

3.7

10.1

5.5

7.6

14.1

24

11.6

48.4 41.4

18.8

37

20.9

0.106

0.108

0.248

0.06

0.017

0.166

0.001

0.126

0.068

0.12

0.266

0.018 0.186

0.216

0.04

0.012

0.01

120

238824.6495-F3048-005.DRILL

CL

SW

125

R 135 **BORING/WELL NUMBER**

MW-25 PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 4/29/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG CONTACT DEPTH SAMPLE ID PID (ppm) U.S.C.S. **EXTENT** DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 22.6 0.313 Gravelly CLAY; 50% low plasticity clay; 45% fine to coarse CL 116.0 gravel; 5% medium to coarse sand; firm; yellowish red (5YR 22.6 0.322 4/6); moist. SW Gravelly SAND: 50% fine to coarse well graded sand: 40% 27.3 0.358 В fine gravel; 10% silt; compact; yellowish red (5YR 4/6); moist. 118.5 25.9 0.303 Well graded GRAVEL; 70% fine subangular to subrounded 0.479 GW ∘ ()° 27.2 gravel; 20% fine to medium sand; 10% silt; compact; 120.0 yellowish red (5YR 4/3); moist. 17.8 0.083 MW25-CLAY; 70% low plasticity clay; 20% fine to coarse gravel; 10% SB043020-

medium to coarse sand; firm; reddish brown (5YR 4/3); moist.

Gravelly SAND; 55% fine to coarse well graded sand; 25% fine gravel; 20% silt; compact; yellowish red (5YR 4/6); moist.

Sandy SILT; 60% non-plastic silt; 30% fine to coarse well

Continued Next Page

Hydrated bentonite pellet seal (103 to 197 ft bgs).

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126.0

137.0



BORING/WELL CONSTRUCTION LOG

MW-25

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

PROJECT NAME

700 S 1600 E PCE Plume

DATE DRILLED 4/29/2020

							Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	W	ELL DIAGRAM
19.2	0.335									
9	0.251									
3	0.265		B	_				158.0		
6.3	0.189						Silty GRAVEL; 50% fine angular to subrounded poorly graded gravel; 25% silt; 25% fine to coarse sand; brown (7.5YR 5/4);			
4.6	0.159			-160-		内	moist			
0.6	0.143									
4.2	0.174					内				
2.3	0.218				GM					
2.7	0.178					内				
11.4	0.26	MW25- GW050120-	B	 165						
3.3	0.221	164								
3.8	0.243	MW25- GW050120-						167.0		
1.5	0.114	164 MW25-				60%	Well graded GRAVEL; 60% fine to coarse subangular to subrounded gravel; 30% fine to medium sand; 10% silt;			
0.7	0.127	SB050120-			GW	69	compact; brown (7.5YR 4/3); moist.			
10.4	0.167	166		 170			0100/000/1 1 100/00/00	170.0		Hydrated
12.2	0.184				CL		CLAY; 80% low plasticity clay; 10% fine sand; 10% fine gravel; soft; reddish brown (5YR 5/3); moist			bentonite pellet seal (103 to 19
14.6	0.102			_			-increase sand	172.0		ft bgs).
7.1	0.278						Poorly graded SAND; 70% fine to coarse sand; 20% fine to coarse gravel; 10% silt; loose; reddish brown (2.5YR 4/4); dry			
5.5	0.236						to moist.			
7.2	0.172		B	 175	SP					
1.8	0.119	NAVA/OF								
32.4	0.119	MW25- SB050120-				V////	Sandy CLAY: 65% low plasticity clay; 35% fine sand;	177.0		
22.3 6.8	0.878	176			CL		yellowish red (5YR 4/6); dry to moist.	178.0		
6.8	0.373				CL		Gravelly CLAY; 70% low plasticity clay; 30% fine to coarse well graded gravel; yellowish red (5YR 4/6); dry to moist.			
2.3	0.210			- 180			Sandy CLAY; 60% low plasticity clay; 25% fine sand; 10%	180.0		
15.5	0.214				CL		fine gravel; reddish brown (5YR 4/4); moist.			
5.9	0.2							182.5		
34.2	0.2						Clayey SAND; 50% fine to coarse well graded sand; 25% low plasticity clay; 25% fine to coarse gravel; brown (7.5YR 5/4);			
24.2	0.168				sc		plasticity clay; 25% fine to coarse gravel; brown (7.5YR 5/4); moist.			
49.3	0.100		B	 185						
33.4	0.103	MW25-					Gravelly CLAY; 50% low plasticity clay; 30% fine to coarse	186.0		
55.7	0.72	SB050120-			CL		well graded gravel; 20% fine sand; reddish brown (5YR 4/4);			
13.6	0.172	187					moist. Clayey SAND; 50% fine to coarse well graded sand; 25% low	188.0		
30.5	0.126						plasticity clay; 25% fine to coarse gravel; brown (7.5YR 5/4);			
8.6	0.476		H	-190-	sc		moist.			
22.1	0.343									
2.6	0.216						Gravelly CLAY; 50% low plasticity clay; 30% fine to coarse	192.0		
79.2	0.369	MW25-	B		CL		subangular to subrounded well graded gravel, 20% fine sand,	193.5		
64.4	0.333	SB050120-			GC		brown (7.5YR 4/4); moist. Clayey GRAVEL; 60% fine to coarse angular to subrounded	194.5		
·	0.500	193		195 		(/////	Continued Next Page			



BORING/WELL CONSTRUCTION LOG

MW-25

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 4/29/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. **EXTENT** DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 0.347 gravel; 25% low plasticity clay; 15% fine sand; loose; light 18.4 brown (7.5YR 4/4); dry to moist 236 0.63 CL Gravelly CLAY; 50% low plasticity clay; 30% fine to coarse subangular to subrounded well graded gravel: 20% fine sand: 18.2 0.211 В brown (7.5YR 4/4); moist. 198.5 18.6 0.426 CLAY; 80% low plasticity clay; 15% coarse subangular to -#10/20 sand 0.276 29.8 subrounded well graded gravel; 5% fine sand; brown (7.5YR CL filter pack (197 -200 4/4); moist. 200.5 to 214 ft bgs). 1.3 0.275 Sandy CLAY; 60% low plasticity clay; 25% fine sand; 10% 8.8 0.072 fine to coarse subangular to subrounded gravel; brown (7.5YR 4/4); moist. 7.1 0.105 CL 0.222 7 4 13.9 0.035 MW25-SB050120-205 205.5 205 -No recovery; wet 1-inch SCH 80 0.020-slot screen ZIST 208.0 nested well (201 67 0.028 Sandy CLAY: 60% low plasticity clay: 40% fine to coarse well to 211 ft bgs). CL graded sand; trace gravel; brown (7.5YR 4/4); wet. 0.249 210.0 0.089 Gravelly CLAY; 70% non-plastic clay; 20% coarse gravel; 10.8 10% fine to coarse sand; reddish (5YR 4/4); moist. 11.7 0.276 3.5 0.111 MW25-CL GW050320-0.112 31.3 212 31.6 0.035 -increase gravel 215.0 BI 215 Clayey GRAVEL; 60% fine to coarse angular to subrounded 41.6 0.058 gravel; 15% low plasticity clay; 25% fine sand; loose; reddish 0.134 MW25-44.6 brown (5YR 5/4); moist to wet GC SB050320-0.019 8.4 216 218.5 15.9 0.065 CLAY; 95% low plasticity clay; 5% fine sand; cohesive; CL 7.5 0.203 reddish brown (5YR 4/4); moist. 220.0 Hydrated 0.9 0.331 Well graded GRAVEL; 65% fine to coarse angular to GW bentonite pellet 221.0 subrounded gravel; 15% low plasticity clay; 20% fine sand; seal (214 to 226 1.5 0.265 compact; reddish brown (5YR 5/4); wet ft bgs). Clayey GRAVEL; 40% fine to coarse angular to subrounded 1.7 0.142 gravel; 35% low plasticity clay; 25% fine sand; compact; MW25-GC 2.8 0.28 reddish brown (5YR 5/4); moist to wet. SB050320-0.052 1.9 223 225 225.5 0.6 0.094 CLAY; 80% low plastcity clay; 10% fine sand; 10% coarse 0.6 0.16 gravel; stiff; reddish brown (5YR 5/4); moist to wet. CL 0.6 0.57 228.0 0.6 0.6 Well graded GRAVEL; 65% fine to coarse angular to #10/20 sand $^{\circ}$ $^{\circ}$ subrounded gravel; 15% low plasticity clay; 20% fine sand; GW filter pack (226 0.509 0.6 0 compact; reddish brown (5YR 5/4); wet 230.0 to 244 ft bgs). -230Well graded GRAVEL; 60% fine to coarse angular to 2.4 0.171 GW 231.0 subrounded gravel; 20% low plasticity clay; 20% fine sand; 5.6 0.071 cohesive; compact; reddish brown (5YR 5/4); moist. SW 0.285 MW25-B Gravelly SAND; 50% fine to coarse well graded sand; 40% 4.9 233.0 GW050320fine to coarse gravel; 10% clay; compact, yellowish red (5YR 3.7 0.343 232 4/6); moist. $^{\circ}$ \bigcirc $^{\circ}$ Well graded GRAVEL; 80% fine to coarse angular to 2.3 0.067 60 GW 235

Continued Next Page



BORING/WELL CONSTRUCTION LOG

MW-25

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 4/29/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG ┙ CONTACT DEPTH PID (ppm) U.S.C.S. SAMPLE **EXTENT** DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 7.3 0.129 MW25subangular gravel; 10% low plasticity clay; 10% fine sand; 236.0 SB050320cohesive; compact; reddish brown (5YR 5/4); moist 1-inch SCH 80 4.3 0.309 236.5 235 Gravelly SAND; 50% fine to coarse well graded sand; 40% 0.020-slot screen ZIST fine to coarse gravel; 10% clay; cemented; compact; reddish 2.3 0.101 В brown (5YR 4/4); moist. nested well (231 CL 0.259 to 241 ft bgs). 1.8 CLAY; 75% low to medium plasticity clay; 20% fine gravel; 0.391 5% fine sand; firm to stiff; reddish brown (5YR 4/4); moist. 6.7 240.0 CLAY; 80% low to medium plasticity clay; 15% fine gravel; 0.2 0.277 5% fine sand; firm to stiff; reddish brown (5YR 4/4); moist. 2.3 0.436 CL 2.1 0.36 3 0.074 В 244.0 CLAY; 75% low to medium plasticity clay; 20% fine gravel; 0.149 1.8 5% fine sand; firm to stiff; reddish brown (5YR 4/4); moist. 245 CL 0.105 10.4 246.0 Well graded GRAVEL; 50% fine to coarse angular to 7.6 0.198 MW25-00 SB050320subangular gravel; 20% low plasticity clay; 30% fine sand; 4.7 0.121 246 0 cohesive; compact; reddish brown (5YR 5/4); moist. GW 47 0.112 - increase gravel В 1 0.118 0 250.0 -250 0.11 Well graded GRAVEL; 50% fine to coarse angular to 22 subangular gravel; 20% low plasticity clay; 30% fine sand; 11.5 0.208 MW25-600 cohesive; compact; reddish brown (5YR 5/4); moist. GW050320-4.3 0.207 GW 252 MW25-0.365 7.5 D SB050320-8.2 0.108 252 255.0 R 255 3.3 0.123 CLAY; 60% medium plasticity clay; 25% fine to coarse subangular to subround gravel; 15% fine to coarse sand; light WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 2.1 0.567 CL brown (7.5YR 6/3); moist. 3.9 0.503 258.0 1.6 0.2 CLAY; 80% low to medium plasticity clay; 20% fine gravel; CL 259.0 firm to stiff; reddish brown (5YR 4/4); moist. 0.133 4.7 CLAY; 80% low to medium plasticity clay; 15% fine gravel; 5% fine sand; firm to stiff; reddish brown (5YR 4/4); moist. Hydrated 260 11.8 0.125 CL bentonite pellet seal (103 to 197 20.2 0.074 262.0 ft bgs). 20.9 CLAY; 90% low plasticity clay; 10% fine subrounded gravel; 0.115 firm to stiff; reddish brown (5YR 4/4); moist. 25.5 0.163 25.5 0.289 MW25-SB050420--265 0.005 8.5 264 20.5 0.155 CL 18.7 0.097 2.6 0.27 0.42 5.8 -270 0.037 7.5 271.0 17.2 0.648 MW25-CLAY; 85% low plasticity clay; 10% fine subangular to subrounded gravel; 5% fine sand; firm to stiff; yellowish red GW050420-7.9 0.02 В 272 (5YR 4/6); moist. MW25-10.9 0.282 CL SB050520-16.9 0.253 272 275 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PAGE 8 OF 9

__MW-25

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

PROJ	ECT NA	ME 700	S	1600 E P	CE PI	ume	DATE DRILLED 4/29/2020			
							Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELI	_ DIAGRAM
1.6	0.419							276.0		
1.7	0						CLAY; 100% low plasticity clay; firm to stiff; yellowish red (5YR 4/6); moist.			
1.2	0		B	_			(311(4/0), most.			
2.3	0.419				CL					
2.5	0.413			280-						
7.2	0.317									
7.1	0.196	MW25- SB050520-		_			OLAV 050/ Local at the Local 450/ 50 control at the	282.0		
2.1	0.144	281					CLAY; 95% low plasticity clay; 15% fine subrounded to subangular gravel; firm to stiff; yellowish red (5YR 4/6); moist.			
3.2	0.458				CL					
2.6	0.374		B	285						
4.7	0.303						CLAY; 100% low plasticity clay; firm to stiff; yellowish red	286.0		
0.9	0.201						(5YR 4/6); moist.			
3.8	0.007									
3.6	0.099									
0	0.057			290-			-trace fine gravel			Hydrated bentonite pelle
0	0.253			-	CL		Ç			seal (244 to 30
0	0.419	MW25-		-						ft bgs).
1.5	0.347	GW050520- 292		-						
12.3	0.421									
6.2	0.392		B	-295-						
7.9	0.274			-				297.0		
9.5	0.082				GW	600	Well graded SAND and GRAVEL; 50% fine sand; 50% fine	298.0		
14.8	0.281			_	CI		gravel; cemented; dry CLAY; 100% low plasticity clay; firm to stiff; yellowish red			
16.1	0.125	MW25- SB050520-		300	CL		(5YR 4/6); moist.	300.0		
0.5 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	0.232	299 MW25-	В		GM	K	Silty GRAVEL; 60% fine to coarse angular to subangular gravel; 30% silt; 10% fine to coarse sand; reddish brown (5YR 4/4); moist	302.0		
J. MI.		SB050520- 301					- no recovery, driller notes it was wet sand and gravel			
020										
) ECZ				-305-						
- - -										+#10/20 sand
뒤				<u> </u>						filter pack (305 to 319.8 ft bgs
<u> </u>	0.124			-		///	Clayey SAND; 70% fine to coarse well graded sand; 25%	308.0		to o rato it bys
0	0.377		B	-	sc		clay; 5% fine gravel; reddish brown (2.5YR 4/4); wet.	040.0	::::: <u> </u>	-1-inch SCH 80 0.020-slot
	0.746			310	GM		Silty GRAVEL; 70% fine to coarse gravel; 20% silt; 10% fine	310.0 311.0		screen ZIST
65.2	0.271	MW25-		-			sand; reddish brown (5YR 5/3); dry Gravelly CLAY; 75% low to medium plasticity clay; 20% fine	311.0		nested well (307.5 to 317.5
29.4	0.656	SB050620- 312	R	-			to coarse subangular to subrounded gravel; 5% fine sand;			ft bgs).
8.6	0.486	- · -		-			cohesive; stff; reddish brown (5YR 4/4); dry to moist.			
65.2 29.4 8.6 3.9	0.618			-	CL					
<u> </u>				315-		Y////	Continued Next Page			PAGE 8 OF



WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LAEWNN01.GDT 12/17/20

555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

MW-25

PROJECT NUMBER 238824.6495-F3048-005.DRILL

5-F3048-005.DRILL BORING/WELL NUMBER

PROJECT NAME 700 S 1600 E PCE Plume

DATE DRILLED 4/29/2020

PROJ	ECINA	100 <u>700</u>	<u>3 I</u>	000 E P	CE PI	urne	DATE DRILLED 4/29/2020		
		I					Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
14.1 42.5 17.1	0.662 0.124 0.36		В	 			-increase gravel	318.0	
53 29.9	0.193 0.096			 -320	GM		Silty GRAVEL; 70% fine to coarse gravel; 20% silt; 10% fine sand; pink (5YR 7/3); dry to moist. End of boring at 320 ft bgs.	320.0	
		320					Life of boiling at 320 ft bgs.		
2									



WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 238824.6495-F3048-005.DRILL	BORING/WELL NUMBER MW-26
PROJECT NAME 700 S 1600 E PCE Plume	DATE DRILLED 4/22/2020-5/11/2020
LOCATION Salt Lake City, UT	CASING TYPE/DIAMETER 1-inch SCH 80 PVC
DRILLING METHOD Sonic	SCREEN TYPE/SLOT 1-inch SCH 80 0.020-slot
SAMPLING METHOD Sonic Grab	GRAVEL PACK TYPE #10/20 sand
GROUND ELEVATION (FT MSL) 4713.25	GROUT TYPE/QUANTITY Bentonite Grout
TOP OF CASING (FT MSL) See Table 5	DEPTH TO WATER (FT BGS)
LOGGED BY Betsy Bott, Joe Miller, Ben Carreon	GROUND WATER ELEVATION (FT MSL)
REMARKS Groundwater was encountered at approximately 190 feet has	, - ,

Groundwater was encountered at approximately 190 feet bg Magnetic Susceptibility SAMPLE ID. GRAPHIC LOG CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT BGL) DEPTH LITHOLOGIC DESCRIPTION WELL DIAGRAM Ή. Hydrovac 0-10' bgs; no recovery. Vault with cement surface seal 10.0 Poorly graded GRAVEL; 80% coarse gravel; 20% silt; strong brown (7.5YR 4/6); dry. 0.015 1.6 GP 9.1 0.0 6.7 14.0 4.5 0.0 Silty GRAVEL; 70% coarse angular gravel; 30% silt; strong brown (7.5YR 4/6); dry. В 15 GM 2.5 9.5 0.0 18.0 Gravelly SILT; 60% low plasticity silt; 40% fine to coarse 3.8 subangular gravel; pinkish gray (7.5YR 7/2); dry. ML Bentonite Grout MW26-12.6 (4 to 34 ft bgs). 20.0 SB042220-5.0 0.044 Gravelly SILT; 70% low plasticity silt; 30% fine to coarse 20 subangular to rounded gravel; brown (7.5YR 6/4); dry. ML 76.0 131.5 MW26-SB042220-24.5 69.6 0.0 24 Gravelly SILT; 60% low plasticity silt; 40% fine subangular gravel; light brown (7.5YR 6/4); dry. 22.3 27.7 0.0 ML 31.1 77.8 0.0 30.0 Poorly graded GRAVEL; 85% fine to coarse gravel; 15% silt; 3.0 0.0 compact; light brown (7.5YR 4/4); dry. 9.0 2.0 3.0 7 0.0 35 Continued Next Page PAGE 1 OF 10



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER
PROJECT NAME

238824.6495-F3048-005.DRILL

700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-26

DATE DRILLED 4/22/2020-5/11/2020

			П		1		Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	W	ELL DIAGRAM
11					GP					
13.0	0.0									
16.0	0.01		R							
64.1		MW26-						40.0		
61.7	.45	SB042220- 39					Poorly graded GRAVEL; 90% fine to coarse subangular	40.0		
					GP		gravel; 10% silt; dense; light brown (7.5YR 6/3); dry.			
90.3					GF					
139.8	.29	1.000					C'IL ODANEL 2007 S	44.0		
156	0.264	MW26- SB042320-	B	45	GM		Silty GRAVEL; 60% fine to coarse angular poorly graded gravel; 40% silt; brown (7.5YR 4/4); dry.	45.0		
115 25	0.264	44					Gravelly SILT; 70% silt; 30% fine gravel; light brown (7.5YR 6/3); dry.			
43.6	0.403				ML		0/0), diy.			
27.7	0.09						Silty GRAVEL; 60% fine to coarse angular poorly graded	48.0		
14.3	0.21						gravel; 40% silt; brown (7.5YR 4/4); dry.			
5.6	0.08			-50-	GM					 Hydrated bentonite pelle
11.1								52.0		seal (34 to 201
12.5	0.156						Silty CLAY; 80% low to medium plasticity silty clay; 20% fine	32.0		bgs).
18.5							gravel; stiff; brown (7.5YR 4/4); dry to moist.			
16.4	0.26				CL					
21.5				—55 <i>—</i>						
30.0		MW26- SB042320-						57.0		
15.2	0.07	56			ML		SILT; 90% low plasticity silt; 10% fine gravel; soft; Brown (7.5YR 4/4); dry to moist.	50.5		
16.3	0.18				CI		Silty CLAY; 80% low to medium plasticity silty clay; 20% fine	58.5		
13.0				 60	CL		gravel; stiff; brown (7.5YR 4/4); dry to moist.	60.0		
1.3							Silty GRAVEL; 60% coarse subangular poorly graded gravel; 40% silt; loose; brown (7.5YR 4/4); dry.			
6.5	0.080	MW26-			GM					
3.2	0.105	SB042320-								
0.2	0.100	62					Gravelly CLAY; 60% clay; 40% fine subangular gravel; stiff;	64.0		
0.6	0.130		B	 65			brown (7.5YR 4/4); dry to moist.			
0.130					CL					
3.2								68.0		
1.5	.260			_	1		Gravelly CLAY; 75% clay; 25% fine subangular gravel; stiff;			
1.2					CL		brown (7.5YR 4/4); dry to moist.	70.0		
9.5				—70 <i>—</i>	CN/		Silty GRAVEL; 60% coarse subangular poorly graded gravel; 40% silt; loose; brown (7.5YR 4/4); dry.			
6.0	0.000				GM			72.0		
			B				Silty GRAVEL; 70% coarse angular poorly graded gravel; 30% clayey silt; compact; brown (7.5YR 4/4); dry.			
9.8							only of the someon, storm (of (m), dry.			
11.2	0.000			—75 —						



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-26

Continued from Previous Page Continued Page Co							
11.9 0.140 14.8 5.3 0.222 77 GM 15.1 0.160 15.1 0.160 21.9 27.3 0.100 MW26-SB042320- 84 19.5 18.2 0.145 6.5 0.170 21.2 4.8 0.220 18.0 0.220 18.0 0.054 18.1 0.054 18.2 0.145 18.3 0.0054 19.5 - GP 10.0 0.137							
11.9	WEL	WE	WEI	ELL	. DIAG	GRAM	
5.3 0,222 7.0 15.1 0,160 15.1 0,160 15.1 0,160 15.1 0,160 15.1 0,160 15.2 0,145 15.2 0,145 15.3 0,220 15.3 0,100 15.4 0,145 15.5 0,170 15.1 0,180 15.1 0,180 15.1 0,180 15.2 0,185 15.2 0,185 15.3 0,220 15.3 0,180 15.3 0,1							
Silty GRAVEL: 70% line to coarse subangular to angular gravel; 30% silt; loose; light brown (7.5YR 4/4); dry. 90				ı			
Poorly Graded GRAVEL; 80% fine to coarse subangular to analyzed grave; 10% silt; loose; light brown (7.5YR 4/3); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to analyzed grave; 10% silt; loose; light brown (7.5YR 4/3); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to analyzed grave; 10% silt; loose; light brown (7.5YR 4/4); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to rounded gravel; 10% silt; loose; light brown (7.5YR 4/4); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to rounded gravel; 10% silt; loose; light brown (7.5YR 4/3); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to rounded gravel; 10% silt; loose; loose; light brown (7.5YR 4/3); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to rounded gravel; 10% silt; loose;				ı			
21.9 27.3 27.4 27.5 27.4 27.5 27.5 27.1 27.1 27.1 27.1 27.1 27.1 27.1 27.1				ı			
39.4							
19.5 SB042320- 84 18.2 0.145 6.5 0.170 21.2 4.8 0.220 90							
18.2							
6.5 0.170 21.2 4.8 0.220 - GC Clayey GRAVEL: 60% coarse gravel; 40% med plasticity clay; compact; brown (7.5YR 4/4); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to rounded gravel; 10% silt; 10% fine to medium sand; loose; brown (7.5YR 4/3); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to rounded gravel; 10% silt; 10% fine to medium sand; loose; brown (7.5YR 4/3); dry to moist. MW26-S8042320-97 100							
21.2 4.8 0.220 0.220			Ш				
4.8							
2.1 0.180 10.7 0.054 12.1 0.180 10.10 0.137 10.0 0.1					- Hydra	ated	
7.1 7.6 9.1 0.180 10.7 0.054 12.1 8.8 0.100 7.9 10.0 0.137 6.8 1.43 16.2 0.928 3.7 0.516 10.9 5.0 1.27 Poorly Graded GRAVEL; 80% fine to coarse subangular to rounded gravel; 10% silt; 10% fine to medium sand; loose; brown (7.5YR 4/4); dry to moist. Poorly Graded GRAVEL; 80% fine to coarse subangular to subrounded gravel; 10% clay; 10% fine to medium sand; loose; brown (7.5YR 4/4); dry to moist. GRAVEL and SAND; 40% fine to coarse subangular to subrounded well graded gravel; 40% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist. Clayey GRAVEL; 80% fine to coarse subangular to subrounded well graded gravel; 40% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist. Clayey GRAVEL; 50% fine to coarse subangular to subrounded well graded gravel; 25% clay; 25% fine to coarse sand; cohesive in places; reddish brown (5YR 4/4); moist.			Ш	k	bento seal (onite p (34 to	
10.180 10.7 0.054 10.7 0.054 10.7 0.054 10.7 0.054 10.7 0.054 10.7 0.054 10.7 0.054 10.0					0 ,		
10.7							
12.1							
8.8 0.100 SB042320- 97 10.0 0.137 10.0 0.137 6.8 1.43 16.2 0.928 3.7 0.516 10.9 SB050420- 10.9 GC GC GC Poorly Graded GRAVEL; 80% fine to coarse subangular to subrounded gravel; 10% clay; 10% fine to medium sand; loose; brown (7.5YR 4/4); dry to moist. GRAVEL and SAND; 40% fine to coarse subangular to subrounded well graded gravel; 40% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist. Clayey GRAVEL; 50% fine to coarse subangular to subrounded well graded gravel; 25% clay; 25% fine to coarse sand; cohesive in places; reddish brown (5YR 4/4); moist.				ı			
7.9 10.0 10.137 6.8 1.43 16.2 0.928 3.7 0.516 10.9 5.0 1.27 100 GP Poorly Graded GRAVEL; 80% fine to coarse subangular to subrounded gravel; 10% clay; 10% fine to medium sand; loose; brown (7.5YR 4/4); dry to moist. GRAVEL and SAND; 40% fine to coarse subangular to subrounded well graded gravel; 40% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist. Clayey GRAVEL; 50% fine to coarse subangular to subrounded well graded gravel; 25% clay; 25% fine to coarse sand; cohesive in places; reddish brown (5YR 4/4); moist.							
10.0 0.137 10.0 0.137 10.0 0.137 10.0 0.137 10.1 0.137 10.1 0.137 10.2 0.137 10.3 1.27 10.4 1.27 10.5 0.137 Poorly Graded GRAVEL; 80% fine to coarse subangular to subrounded gravel; 10% clay; 10% fine to medium sand; loose; brown (7.5YR 4/4); dry to moist. GRAVEL and SAND; 40% fine to coarse subangular to subrounded well graded gravel; 40% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist. 10.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1							
Foorly Graded GRAVEL; 80% fine to coarse subangular to subrounded gravel; 10% clay; 10% fine to medium sand; loose; brown (7.5YR 4/4); dry to moist. GRAVEL and SAND; 40% fine to coarse subangular to subrounded well graded gravel; 40% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist. MW26-SB050420-103 MW26-SB050420-105 GC GC GRAVEL; 80% fine to coarse subangular to subrounded well graded gravel; 40% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist. Clayey GRAVEL; 50% fine to coarse subangular to subrounded well graded gravel; 25% clay; 25% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist.							
subrounded well graded gravel; 40% fine to coarse sand; 20% clay; brown (7.5YR 5/4); moist. 10.9				ı			
16.2 0.928 MW26- SB050420- 10.9 0.516 10.9 0.516 0							
10.9 10.9							
sand; cohesive in places; reddish brown (5YR 4/4); moist.							
1.1 0.387							
CLAY; 85% low plasticity clay, 10% coarse gravel; 5% fine							
5.2 0.285 CL sand; brown (7.5YR 5/4); moist to wet.							
1.5 0.212 SW Well graded SAND; 75% fine to coarse sand; 15% fine gravel; 10% clay; cemented in places, brown (7.5YR 5/4); moist to							
6.5 0.230 GC dry.							
19.4 0.070 B - Iow plasticity clay; 5% fine sand; yellowish red (5YR 4/4); moist.							
Silty GRAVEL; 60% coarse subrounded to subangular poorly graded gravel; 40% silt; loose; light brown (7.5YR 6/4); dry. Well graded GRAVEL; 60% fine to coarse angular to Continued Next Page							



BORING/WELL CONSTRUCTION LOG

__MW-26

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED 4/22/2020-5/11/2020

	ECT NA	100 <u>700</u>	3 1	1600 E P	CLFI	une	DATE DRILLED 4/22/2020-5/11/20	20		
							Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WEL	L DIAGRAM
36.4 53.6 7.6 7.1 109.1	0.170 0.071 3.54	MW26- SB050420- 116 MW26-	В	 	GW		subrounded gravel; 25% fine to coarse sand; 15% silt; compact; moderately cemented in places; brown (7.5YR 5/4); moist.	120.0		
5.0 54.3 10.6 15.4 10.2 10.5	0.188 0.214 0.163 0.239 0.204 0.255	SB050420- 119	В	120 125	GW		Well graded GRAVEL; 60% fine to coarse angular to subrounded gravel; 25% fine to coarse sand; 15% silt; compact; weak to moderately cemented in places; reddish brown (5YR 5/4); moist.	126.0		
4.2 1.9 6.3	0.157 0.094 0.118		В	 	SW		Well graded SAND; %60 Fine to coarse sand; 40% fine to coarse gravel; loose; reddish brown (5YR 4/4); moist. Clayey GRAVEL; 60% fine to coarse gravel; 40% clay; very	128.5		
24.7 13.2	0.225 0.454	MW26- SB050420-		130	GC GM		dense; moderately cemented; reddish brown (5YR 4/4); moist. Silty GRAVEL; 70% Fine to coarse gravel; 20% silt; 10% fine	130.0	Ш	■ Hydrated
24.7 16.4 27.3	0.290	129 MW26-	В	 	GW		sand; loose; reddish brown (5YR 4/4); dry. Well graded GRAVEL; 70% fine to coarse gravel; 15% silt; 15% fine sand; slighty cohesive; brown (7.5YR 5/4); moist.	131.0		bentonite pellet seal (34 to 201 fi bgs).
6.1 9.2 10.9	0.137 0.071 0.264	SB050420- 133		- — —135— — –	GM		Silty GRAVEL; 60% fine to coarse subrounded to subangular gravel; 30% silt; 10% fine sand; weakly cemented in places; brown (7.5YR 5/3); moist.	136.5		
2.4 4.4 4.5 12.8	0.233 0.145		В	 140	GP		Poorly graded GRAVEL; 60% coarse subrounded to subangular poorly graded gravel; 30% fine sand; 10% silt; loose; reddish brown (2.5YR 4/4); moist.			
8.7 5.0 8.7	0.097			 				145.0		
17.0 Howen Day 17.0	0.120	MW26- SB050420- 145	B	145 	SP		Poorly graded SAND; 60% fine to coarse sand; 30% fine gravel; 10% silt; loose; reddish brown (5YR 4/4/); moist.			
10.9 2.4 4.4 4.5 12.8 12.8 12.8 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0	0.101 0.163 0.205 0.182		В	 150 	sw		Well graded SAND; 50% fine to coarse sandl; 40% fine to coarse subangular to subrounded gravel; 10% low plasticity clay; reddish brown (5YR 5/4); dry.	150.0		
14.7	0.143	MW26-		 155			Continued Next Page			PAGE 4 OF 10



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

_MW-26 4/22/2020 E/44/2020

	ECT NO			24.6495- 1600 E P			DATE DRILLED 4/22/2020-5/11/20	20		
							Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	W	/ELL DIAGRAM
9.0 8.1	0.357 0.353	SB050520- 154	В	 	GP		Poorly graded GRAVEL; 50% coarse subrounded to subangular poorly graded gravel; 30% fine sand; 20% low plasticity clay; loose; light reddish brown (5YR 6/3); dry.	156.0		
3.8 9.2	0.371 0.125			 -160	CL		CLAY; 50% low plasticity clay; 20% fine to coarse angular to subrounded gravel; 20% fine sand; reddish brown (5YR 4/4); dry to moist.	159.0 160.0		
1.2 5.6	0.216			 	SW		Well graded SAND; 70% fine to coarse sand; 25% fine to coarse subangular to subrounded gravel; 5% low plasticity clay; loose; reddish brown (5YR 4/4); moist.	162.5		
12.2 4.6 11.3	0.107 0.111 0.201		В	 165	GC		Clayey GRAVEL; 60% fine angular to subrounded gravel; 25% low plasticity clay; 15% fine to coarse sand; reddish brown (5YR 4/4); dry to moist. Well graded SAND; 50% fine to coarse sand; 40% fine to	165.0		
4.1 5.1 33.1 12.8	0.174 0.120 0.152 0.839	MW26- SB050520- 168		 	SW		coarse angular to subrounded gravel; 10% low plasticity clay; loose; reddish brown (5YR 4/4); dry to moist.	170.0		
13.1 74.0	0.162 0.318	MW26- SB050520-		170 	GP		Poorly graded GRAVEL; 50% fine to coarse gravel; 35% fine to medium sand; 15% silt; loose; reddish brown (5YR 4/4); dry to moist.	170.0		Hydrated bentonite pellet seal (34 to 201 f bgs).
72.7 36.1 22.9 6.6	0.013 0.344 0.153 0.104	172	В	 175 			Silty SAND; 60% fine to coarse poorly graded sand; 30% silt;	175.5		
6.6 5.4 2.0	0.083			- 	SM		10% fine to coarse gravel; reddish brown (5YR 4/4); moist. Silty SAND; 70% fine sand; 25% silt; 5% fine gravel; reddish	178.0		
	0.200			- — —180—	SM ML		brown (5YR 4/4); moist. Gravelly SILT; 70% silt; 30% fine to coarse gravel; cemented in places; cohesive; reddish brown (5YR 4/4); moist.	179.0		
5.3	0.137			 	CL		Gravelly CLAY; 60% low plasticty clay; 40% fine to coarse gravel; cohesive; stiff; reddish brown (5YR 4/4); moist.	181.0		
5.3 7.3 11.8 5.5 5.9 40.5 26.2 18.0 5.4 7.5 4.1	0.185		В	 185 	GM		Silty GRAVEL; 65% fine to coarse subrounded to subangular gravel; 35% silt; loose; brown (7.5YR 5/3); moist.	184.0		
5.9	0.020	MW26- SB050520-		 			Gravelly CLAY; 70% low plasticty clay; 30% fine to coarse gravel; cohesive; stiff; yellowish red (5YR 4/6); moist to wet.	187.5		
26.2	0.279	188		190 <u></u>	CL		-becomes wet			
5.4 7.5	0.167		В	 			Poorly graded GRAVEL; 50% fine to coarse gravel; 30% fine	193.5		
4.1	0.076			 195	GP		sand; 20% low plasticity clay; cohesive in places; reddish Continued Next Page			PAGE 5 OF 10



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

235

BORING/WELL NUMBER

MW-26

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 4/22/2020-5/11/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG ₫ CONTACT DEPTH PID (ppm) U.S.C.S. SAMPLE **EXTENT** DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 0.016 MW26brown (5YR 4/4); wet. 28.1 196.0 SB050520-13.0 0.042 Clayey GRAVEL; 65% fine to coarse angular to subrounded 195 gravel; 30% low to medium plasticity clay; cohesive; reddish 8.3 0.003 В brown (5YR 4/4); wet. 0.040 20.7 -200 5.4 0.199 -moist to wet GC 6.4 0.195 MW26-SB050620-0.9 0.254 201 +#10/20 sand 0.200 3.5 filter pack (201 to 218 ft bgs). 0.250 4.0 205.0 205 0.407 CLAY; 80% medium to high plasticity clay; 10% silt; 10% 1.3 coarse gravel; cohesive; reddish brown (5YR 4/4); dry to 1.8 0.444 2.3 0.540 0.8 0.373 1.0 0.380 CH 1-inch SCH 80 0.065 MW26-5.0 0.020-slot GW050620screen ZIST 13.7 0.072 210 nested well (205 13.7 0.020 to 215 ft bgs). 0.185 13,1 16.4 0.083 215.0 BI 215 22.4 0.009 MW26-Well Graded GRAVEL; 70% fine to coarse subangular to SB050620rounded gravel; 20% fine to coarse sand; 10% silt; weakly GW WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 cemented; dry. 215 0 217.0 Clayey SILT; 70% silt; 30% medium to high plasticity clay; 9.7 0.406 MΗ cohesive; stiff; reddish brown (5YR 5/4); dry to moist. 4.7 0.524 219.0 SAND and GRAVEL; 50% fine to coarse sand; 50% fine to 10.1 0.179 SW coarse gravel; well graded; medium dense; weakly cemented; 220 220.5 140 0.117 MW26reddish brown (5YR 4/4). SB050620-Silty GRAVEL; 70% Fine to coarse gravel; 20% silt; 10% fine 221 to medium sand; brown (7.5YR 5/3); dry. 6.7 0.107 0.049 10.0 GM Hydrated 225 bentonite pellet 4.8 0.190 seal (218 to 231 2.4 0.270 ft bgs). - 1.5-ft boulder 0.3 0.267 228.0 1.8 0.250 Silty SAND; 50% fine to coarse sand; 30% silt; 20% fine to SM coarse gravel; reddish brown (5YR 4/3); wet. 230.0 -230Silty CLAY; 50% Low plasticity clay; 30% silt; 20% fine to 3.1 0.240 coarse gravel; stiff; cohesive; reddish brown (2.5YR 4/4); 1.6 0.091 #10/20 sand CL 1.1 0.174 filter pack (231 to 250 ft bgs). 12.0 0.214 MW26-

Continued Next Page

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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER MW-26

70<u>0 S 1600 E PCE Plume</u> PROJECT NAME DATE DRILLED 4/22/2020-5/11/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG ┙ CONTACT DEPTH PID (ppm) U.S.C.S. SAMPLE **EXTENT** DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM SB050620-0.252 3.8 234 236.5 Silty SAND; 50% fine to medium well graded sand; 30% silt; 1.2 0.228 В 20% fine to coarse gravel; dense; reddish brown (2.5YR 4/4); 2.1 0.195 0.192 57 1-inch SCH 80 -240 0.2 0.409 MW26-0.020-slot SM GW050720screen ZIST 0.3 0.072 240 nested well (235 to 245 ft bgs). 3.8 0.163 0.052 0.9 245.0 245 0.468 Clayey SILT; 60% low plasticity silt; 30% clay; 10% fine to 5.6 coarse gravel; stiff; reddish brown (5YR 5/4); dry to moist. ML 247.5 27.6 0.150 MW26-SILT; 100% low plasticity silt; very dense; weakly cemented to SB050720-ML 0.8 0.082 cemented; light reddish brown (5YR 6/4); dry. 247 249.0 Silty CLAY; 50% low plasticity clay; 30% silt; 20% fine to 0.161 CL 250.0 coarse gravel; soft to stiff; reddish brown (5YR 5/4); moist. -250 0.308 MW26-44 Sandy GRAVEL; 50% fine to coarse gravel; 40% fine sand; GW050720-10% silt; loose; pink (5YR 7/4); dry. 13.9 0.204 250 GW ٥.] 0.c MW26-SB050720-253.0 0.197 Clayey SILT; 60% low plasticity silt; 20% clay; 20% coarse 6.0 251 gravel; firm to stiffl reddish brown (5YR 4/4); dry. 9.6 0.227 R 255 2.8 0.263 ML 0.9 0.688 - becomes moist 258.0 2.3 0.304 Gravelly SAND; 50% fine to coarse well graded sand; 40% fine gravel; 10% silt; loose; reddish brown (5YR 5/4); moist. 12.3 0.407 260 0.7 0.114 SW 0.6 0.158 263.0 Silty CLAY; 60% low plasticity clay; 30% silt; 10% fine gravel; 8.0 0.145 CL very stiff; reddish brown (5YR 5/4); dry to moist. 264.5 0.101 1.2 Gravelly SILT; 70% low plasticty silt; 30% fine to coarse 265 0.3 0.034 gravel; soft; reddish brown (5YR 4/4); moist. ML 0.1 0.192 267.0 Gravelly SILT; 50% low plasticty silt; 30% fine to coarse gravel; 20% clay; firm to stiff; reddish brown (5YR 4/4); moist. 0.158 49 ML 0.347 MW26-4.9 SB050720--2709.1 0.771 269 271.0 MW26-10.4 0.511 Silty CLAY; 70% medium plasticity clay; 20% silt; 10% GW050820coarse gravel; soft; reddish brown (5YR 5/4); dry. 0.635 8.6 270 В 11.0 0.429 CH 2.4 0.354 MW26-

Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-26

DATE DRILLED 4/22/2020-5/11/2020

Continued from Previous Page Continued from Previous Page Continued from Previous Page	WELL DIAGRAM
Magnetic sceptibility Magnetic Sceptibility Magnetic Sceptibility Magnetic Sceptibility Magnetic Sceptibility MPLE ID. U.S.C.S. U.S.C.S. ONTACT DEPTH DEPTH DEPTH DEPTH ONTACT DEPTH DEPTH ONTACT DEPTH	WELL DIAGRAM
4.5 0.369 SB050820- 274 276.0	
5.4 0.304 Clayey SILT; 70% low plasticity silt; 30% clay; firm; weakly cemented; reddish brown (5YR 5/4); dry.	
1.0 0.475 BL _	
3.2 0.513 ML brown (5YR 5/4); dry.	
2.7 0.397 280.0	
4.3 0.503 Clayey SILT; 70% low plasticity silt; 20% clay; 10% fine to coarse gravel; non-cohesive; soft; reddish brown (5YR 5/4);	- Hydrated
6.8 0.315 dry to moist.	bentonite pellet
	seal (250 to 312 ft bgs).
5.1 0.336	<i>o</i> ,
8.9 0.225	
5.7 0.306 MW26- D 283 ML	
285	
5.7 0.284	
1.7 0.320 290.0	
2.2 0.260 Clayey SIL1; 50% low plasticity silt; 40% clay; 10% fine to	
4.4 0.233 dry to moist.	
6.1 0.356 Silty CLAY; 50% low to medium plasticity clay; 40% silt; 10% fine to coarse gravel; non-cohesive; firm to stiff; reddish	
brown (5YR 4/4); dry.	
4.1 0.514	
3.0 0.463 CL	
82 5.3 0.453 4.5 0.365	
6.8 0.271 MW26-SB051020-300 CL Silty CLAY; 50% low to medium plasticity clay; 40% silt; 10% 299.5 300.0	
3.9 0.347 299 - CH brown (5YR 4/4); dry. Silty CLAY; 50% low to medium plasticity clay; 40% silt; 10%	
9.6 0.486 Silty CLAY; 50% low to medium plasticity clay; 40% silt; 10% fine to coarse gravel; non-cohesive; firm to stiff; reddish	
9.6 0.486	
coarse gravel; cohsive; stif; reddish brown (5YR 4/4); wet.	
3.3 0.353 Silty CLAY; 70% low to medium plasticity clay; 20% silt; 10% fine to coarse gravel; cohsive; stif; reddish brown (5YR 4/4);	
[
Gravelly CLAY; 40% low plasticity clay; 30% fine to coarse	
26.3 0.481 MW26- CL gravel; 20% coarse gravel; 10% silt; soft; non-cohesive; reddish brown (5YR 4/4) with pale brown mottling; dry to	
SB051020- -	
1 3 10 168	
coarse gravel; soft; cohesive; reddish brown (5YR 4/4); dry to moist; increase moisture with depth.	
7.0 0.131 R - CL	
	#10/20 sand
The state of the s	filter pack (312
ST Continued Next Page	to 328 ft bgs). PAGE 8 OF 10



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume BORING/WELL NUMBER

MW-26 DATE DRILLED 4/22/2020-5/11/2020

							Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WEL	LL DIAGRAM
2.8 2.9	0.201 0.133	SB051020- 314			GW		Sandy GRAVEL; 50% fine to coarse well graded gravel; 30% fine sand; 20% clay; loose; reddish brown (5YR 4/4); wet.	317.0		
6.8	0.044		B	 	GM	财	Silty GRAVEL; 50% fine to coarse gravel; 30% silt; 20% fine sand; compact; non-cohesive			
3.7	0.032			-3 20				320.0		1-inch SCH 80
3.2	0.245	MW26- GW051020- 320	-	 	GW		Sandy GRAVEL; 50% fine to coarse well graded gravel; 40% fine sand; 10% clay; loose; reddish brown (5YR 4/4); wet.			0.020-slot screen ZIST nested well (31
5.5	0.224						Gravelly CLAY; 50% low plasticity clay; 30% fine to coarse	323.0		to 325 ft bgs).
13.1 11.0	0.224		В. В	 325			gravel; 20% coarse sand; soft; cohesive; reddish brown (5YR 4/4); moist.			
18.5	0.089			 	CL					
11.0	0.106									
19.7	0.100	MW26-					-moist to wet			
14.9	0.249	SB051120-	Н	-330			Silty CLAY; 50% low plasticity clay; 30% silt; 20% coarse	330.0		
18.8	0.249	329					gravel; stiff; non-cohesive; reddish brown (5YR 4/4); dry.			
29.2	0.179			 	CL					
36.5	0.316	MW26-								
33.4	0.199	SB051120- 334	B	-335		K	Sandy GRAVEL; 50% fine to coarse well graded gravel; 30%	335.0		Hydrated
33.7	0.201	334		 	GW		coarse sand; 20% clay; non-cohesive; loose; reddish brown (5YR 5/4); dry.			bentonite pellet seal (328 to 34) ft bgs).
17,8	0.089				GVV	500				
32.0	0.084					000		0.40.0		
31.6	3.40		•	-3 40	GW		Sandy GRAVEL; 40% fine to coarse well graded gravel; 30% coarse sand; 30% clay; non-cohesive; loose; reddish brown (5YR 5/4); wet.	340.0		
				_		P09	(OTT 6/1-7), wot.	343.0		
82.2	0.301						Sandy GRAVEL; 40% fine to coarse well graded gravel; 30% coarse sand; 30% clay; non-cohesive; loose; reddish brown (5YR 5/4); moist.	343.0		
129	3.15		B	-345 - 	GW	000	(61116), moiot.			#10/20 sand filter pack (342 to 360 ft bgs).
149.4	0.565	MW26-		 	SW		Gravelly SAND; 70% coarse sand; 30% fine well graded gravel; loose; moist; very dark gray (5YR 3/1); moist.	347.5		
		SB051120- 348						350.0	::::: <u> </u>	4 5 1 00115
10.6 2.1	0.308 0.309			-3 50 	СН		Gravelly CLAY; 60% medium plasticity clay; 30% fine to coarse gravel; 10% coarse sand; soft; cohesive; reddish brown (5YR 5/4); moist.	352.0		- 1-inch SCH 80 0.020-slot screen ZIST
			B				Gravelly CLAY; 60% medium plasticity clay; 30% fine to	- 552.0	::::: 	nested well (34 to 358 ft bgs).
0.6 1.3	0.197			 			coarse gravel; 10% coarse sand; soft; cohesive; reddish brown (5YR 5/4); wet.			
1.3	0.188		ıl		1			1	E : .: ::::H:	



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-26

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LAEWNN01.GDT 12/17/20

PROJ	ECT NA	ME 700) S 1	S 1600 E PCE Plume DATE DRILLED 4/22/2020-5/11/2020						
							Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)		GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM	
20.5 15.3	0.193 0.127	MW26- SB051220- 355	В	 	СН			358.0		
10.0 9.6	0.248 0.257			 -360	CL		Gravelly CLAY; 60% low plasticity clay; 30% fine to coarse gravel; 10% coarse sand; soft; cohesive; reddish brown (5YR 5/4); dry to moist. End of boring 360 ft bgs.	360.0		



555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

PRO LOC DRIL SAM GRO TOP LOG	UND EL	Salt Lake Salt Lake ETHOD SMETHOD EVATION (FT ING (FT MSL) Kimberly	City Sonic So MS	1600 E P , UT c nic Grab L) 47' See Tableers undwater	12.61 le 5 zone	lume	BORING/WELL NUMBER DATE DRILLED 3/20/ CASING TYPE/DIAMETER SCREEN TYPE/SLOT GRAVEL PACK TYPE GROUT TYPE/QUANTITY DEPTH TO WATER (FT BOTTO) GROUND WATER ELEVA COUNTERED AT A PROVINCE OF THE	4-inch SCH 4 #10/20 sand Bentoni GS) TION (FT MSL			
2.4 2.1 2.5 6.3 4.2	0.259	MW27- SB032220- 13 MW27- SB032220-	В		SC		Clayey SAND; 50% well graded fine to coarse sand plasticity clay; 20% fine to coarse subrounded to sugravel; reddish brown (5YR 4/4); dry. Clayey SAND; 50% well graded fine to coarse sand plasticity clay; 30% fine to coarse subrounded to sugravel; reddish brown (5YR 4/4); moist.	l; 20% low	CONTACT CONTACT DEPTH		-Vault with cement surface seal -Bentonite Grou (3.5 to 31 ft bgs).
WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ. LAEWING1.6DT 17. 17. 17. 17. 17. 17. 17. 17. 17. 17.		MW27- SB032220- 30	B B		CH CH		CLAY; 70% low plasticity clay; 15% fine subrounde subangular gravel; 5% fine sand; reddish brown (5° moist. CLAY; 70% high plasticity clay; 20% fine to coarse subrounded to subangular gravel; 10% coarse sand brown (5YR 4/4); moist. SAND with Gravel; 85% poorly graded medium sanfine to coarse subrounded to subangular gravel; red brown (5YR 4/4); moist. Gravelly CLAY; 50% high plasticity clay; 40% fine to subrounded to subangular gravel; 10% fine to coarse brown (7.5 YR 4/3); dry.	d; reddish d; 15% ddish o coarse	_ 20.0 _ 21.5 _ 28.0 _ 30.0		- Hydrated bentonite seal (11 to 25 ft bgs - 6" soil vapor point at 28 ft bgs; #10/20 sand filter pack
¥ ≷				-35-			Continued Next Page		<u></u>		

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BORING/WELL CONSTRUCTION LOG

MW-27

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

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			П				Schmada nomi rovida i ago		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
1.7			В	 					< -Hydrated
2.3				_			Clayey GRAVEL; 50% coarse subrounded to subangular	38.5	bentonite seal (31 to 44 ft bgs
3.0	0.020						gravel; 30% fine to coarse sand; 20% low plasticity clay;		
3.9		MW27-					brown (7.5 YR 4/3); dry.		
9.0		SB032220- 40							
8.1					GC				
5.6			В	 45					
5.2									
11.1								40.0	6" soil vapor
22.1							Clayey GRAVEL; 40% coarse subrounded to subangular	48.0	point at 48 ft
44.0	0.073				00		gravel; 40% low plasticity clay; 20% fine to coarse sand;		bgs, #10/20 sand filter pack
1.3	0.070	MW27-	\mathbf{H}	-50-	GC		brown (7.5 YR 4/3); dry.		
		SB032220-		_			CLAY; 90% high plasticity clay; 10% fine gravel; brown (7.5	51.0	
5.2		50			СН		YR 5/3); moist.		
3.1			IR		CIT			53.5	
3.1							CLAY; 70% low plasticity clay; 25% fine to coarse subrounded		
11.4	0.061	MW27- SB032220-		55	CL		to subangular gravel; 5% coarse sand; brown (7.5YR 5/3); moist.		
6.5		54.5	Ш					56.0	
0.5							Well graded SAND; 80% fine to coarse sand; 15% fine to coarse subrounded to subangular gravel; 5% low plasticity		
2.5							clay; brown (7.5YR 5/3); moist.		
3.7			B						
0.3						*****	- 6" clay layer		
1.2	0.081								
					sw				
0.7						******			 Hydrated bentonite seal
1.4	0.00								(51 to 73 ft bgs
0.7	0.00								
			B	-65 -					
2.8	0.00								
						177777	CLAV: 759/ January placeticity along 200/ Fine to account of	67.0	
4.4	0.00			 	CL		CLAY; 75% low plasticity clay; 20% fine to coarse subrounded to subangular gravel; 5% fine to coarse sand; brown (7.5YR 5/3); moist.		
7.0	0.158		Ш	 70				70.0	
1.5	1.59	MW27- SB032220- 70		 	SW		SAND and GRAVEL; 50% well graded fine sand; 45% fine to coarse subrounded to subangular gravel; 5% low plasticity clay; brown (7.5YR 5/3); moist.	72.0	
3.0	0.658		B	_	CL		Gravelly CLAY; 50% low to medium plasticity clay; 40% fine		
9.4							to coarse subrounded to subangular gravel; 10% coarse sand; brown (7.5YR 5/3); moist.	73.5	
20.9	0.119	MW27-					Gravelly CLAY; 60% high plasticity clay; 30% fine to coarse		
	1		1 1	 75	1		Continued Next Page	1	1. 1. 1. 1



BORING/WELL CONSTRUCTION LOG

__MW-27

PROJECT NUMBER
PROJECT NAME

238824.6495-F3048-005.DRILL

700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED

3/20/2020 - 3/22/20

							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
15.9 4.9	0.112	SB032220- 75	Ь		СН		subrounded to subangular gravel; 10% coarse sand; reddish brown (5YR 4/4); moist.	77.5	6" soil vapor point at 75 ft bgs; #10/20
1.3	0.083		B	 	SW		SAND and GRAVEL; 40% fine sand; 40% fine to coarse subrounded to subangular gravel; 20% low plasticity clay; brown (7.5YR 5/3); moist.		sand filter pac
0.9	0.330				CL		CLAY; 80% medium plasticity clay; 15% fine to coarse	81.0 82.0	
1.0 3.1	0.130 1.04			 		•••••	subrounded to subangular gravel; 5% fine sand; brown (reddish brown (5YR 4/4); moist. SAND and GRAVEL; 40% well graded fine sand; 40% fine to	02.0	
7.7	0.325		В	 85			coarse subrounded to subangular gravel; 20% low plasticity clay; brown (7.5YR 5/3); moist.		
8.3				 	SW				
10.7 11.1	0.360 0.179	MW27- SB032220- 88	-					90.0	
3.5	0.620			—90 <i>—</i> 			CLAY; 85% high plasticity clay; 10% fine sand; 5% fine gravel; brown (7.5YR 5/3); moist.		
0.3	0.960						gravor, brown (7.3111 0/0), most.		
2.9	1.08								
					СН				- Hydrated
2.9	1.12		B	—95 <i>—</i>					bentonite seal
6.5	0.992								(79 to 109 ft bgs).
6.2	0.572	MW27- SB032220-							
1.5	0.224	96					Cravelly CLAV, E00/ high placticity days E00/ fine to correct	98.0	
1.5 55	0.224				СН		Gravelly CLAY; 50% high plasticity clay; 50% fine to coarse well graded gravel; brown (7.5YR 5/3); wet.		
25.3	0.218		H	-100-			Gravelly CLAY; 40% low plasticity clay; 40% fine to coarse	100.0	
32.7	0.122						subrounded to subangular well graded gravel; 20% fine to		
	0.179	MW27- SB032320- 102	-	 	CL		medium sand; reddish brown (5YR 4/4); moist		
16.7	0.169	. 32						105.0	
16.6	0.121		B	 105		·	SAND and GRAVEL; 50% well graded fine to coarse sand;	103.0	
10.2	0.186						40% fine to coarse subrounded to subangular gravel; 10% low plasticity clay; strong brown (7.5YR 4/6); moist.		
3.4	0.137				sw				
4.4	0.061							110.0	
41.3	5.96		\Box	 110			Gravelly CLAY; 40% low plasticity clay; 40% fine to coarse	1.0.0	
66.9	0.307				CL		subrounded to subangular gravel; 20% fine to medium sand; brown (7.5YR 4/4); moist.		
62.9	0.341		B					113.0	6" soil vapor
	0.204 0.201	MW27-		 115		*****	SAND and GRAVEL; 50% well graded fine to coarse sand; 40% fine to coarse subrounded to subangular gravel; 10% low plasticity clay; strong brown (7.5YR 4/6); moist. Continued Next Page		point at 113 ft bgs; #10/20 sand filter pacl



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 2388

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

__MW-27

DATE DRILLED 3/20/2020 - 3/22/20

	Continued from Previous Page													
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM					
23.3 61.7 46.4	0.071	SB032320- 114	В	 	sw			120.0						
36.0 98.4 54.0 57.6	0.290	MW27- SB032320- 122		120 			Gravelly CLAY; 40% low plasticity clay; 40% fine to coarse subrounded to subangular gravel; 20% fine to medium sand; reddish brown (5YR 4/4); moist.	120.0						
56.6 46.9 18.3	0.287		В	 125 										
36.6 17.9 8.8 12.4	4.53 0.641	MW27- SB032320- 130		 - 130- 										
11.0			В	 135 	CL				◄- Hydrated bentonite seal (116 to 151 ft bgs).					
0.2 LAEWNN01.GDT 12/ 8.8 8.8	0.061 0.480 0.178	MW27- SB032320-		 140			- No Recovery 139-140							
7.9 7.9 7.9 7.9 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0	2.70 1.75 1.10 1.19	140	В	 										
7.9 TO A PLUME DRAFT 0.9 3.9 3.0 15.7	1.40 0.215 0.230 0.215	MW27-		 -			Gravelly CLAY; 70% medium to high plasticity clay; 25% fine	149.0						
91.8 8.4 21.8 21.8 35.1		SB032320- 150	В	150 	СН		to coarse well graded gravel; 5% medium sand; reddish brown (5YR 4/4); moist.		6" soil vapor point at 155 ft bgs; #10/20					
33.5				 155			Continued Next Page		sand filter pack PAGE 4 OF 6					



BORING/WELL CONSTRUCTION LOG

MW-27

PAGE 5 OF 6

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 3/20/2020 - 3/22/20 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG CONTACT DEPTH SAMPLE ID PID (ppm) U.S.C.S. **EXTENT** DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 156.0 424 0.237 GRAVEL and SAND; 45% well graded fine to coarse sand; GW 157.0 45% fine to coarse subrounded to subangular gravel; 10% low В plasticity clay; reddish brown (5YR 4/4); moist. CL Gravelly CLAY; 40% low plasticity clay; 40% fine to coarse 64.5 0.194 MW27-159.0 subrounded to subangular well graded gravel; 20% fine to SB032320-0.131 17 1 GW medium sand; reddish brown (5YR 4/4); moist. 158 160.0 GRAVEL and SAND; 45% well graded fine to coarse sand; 1.1 0.776 45% fine to coarse subrounded to subangular gravel; 10% low plasticity clay; reddish brown (5YR 4/4); moist. CL Gravelly CLAY; 40% low plasticity clay; 40% fine to coarse subrounded to subangular well graded gravel; 20% fine to 163.5 18 1 0.529 medium sand; reddish brown (5YR 4/4); moist. B GRAVEL and SAND; 40% well graded fine to coarse sand; 40% fine to coarse subrounded to subangular gravel; 20% low 165 0 plasticity clay; reddish brown (5YR 4/4); wet. GW 35.0 3.39 MW27-Ò SB032320-60 11.4 0.244 166 168.0 30.7 0.670 MW27-Gravelly CLAY: 50% low to medium plasticity clay: 40% fine GW032320to coarse subrounded to subangular well graded gravel; 10% 11.2 0.705 medium sand; reddish brown (5YR 4/4); moist. 168 1.23 86 CL 7.3 1.66 9.2 1.06 174.0 В 30.4 0.242 GRAVEL and SAND; 45% well graded fine to coarse sand; 45% fine to coarse subrounded to subangular gravel; 10% low 175 29.1 0.204 MW27-Ó 0 plasticity clay; reddish brown (5YR 4/4); moist. SB032320-175 GW Hydrated 27.3 0.199 0 bentonite pellet seal (157 to 197 20.4 0.179 ft bgs). 0.115 12.6 180.0 180 16.5 0.081 Clayey GRAVEL; 50% fine to coarse subrounded to subangular well graded gravel: 30% low plasticity clay: 20% 51.4 4.05 medium to coarse sand; reddish brown (5YR 4/4); moist. GC 60.6 0.061 22.1 0.150 В 184.0 43.8 0.196 Gravelly CLAY; 60% high plasticity clay; 35% fine to coarse well graded gravel; 5% medium sand; reddish brown (5YR 185 MW27-80.8 0.154 4/4); moist. SB032420-53.8 0.424 185 CH 18.5 1.37 28.6 0.231 189.5 ∇ Clayey GRAVEL; 40% fine to coarse subrounded to 190-19.7 subangular well graded gravel; 30% low plasticity clay; 30% GC medium to coarse sand, reddish brown (5YR 4/4); moist. 192.0 32.5 0.654 MW27-Gravelly CLAY; 60% high plasticity clay; 35% fine to coarse SB032420well graded gravel; 5% medium sand; reddish brown (5YR 192.5 4/4); wet. 17.6 195 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NAME

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER 700 S 1600 E PCE Plume DATE DRILLED

MW-27

3/20/2020 - 3/22/20

	>						Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
17.9 0 12.0	0.128 0.170 1.99		В	 	СН		-Low recovery, sample slid out of core barrel; wet.	200.0	##10/20 san filter pack (to 220 ft bg
							-Low recovery, sample slid out of core parter, wet.	240.0	
	4.29 0.436	MW27- GW032420- 210		2 10	GW		Well graded GRAVEL; 80% fine to coarse subrounded to subangular gravel; 10% fine sand; 10% low plasticity clay; reddish brown (5YR 4/4); wet.	210.0	4-inch SCF 0.010-slot screen well to 220 ft bg
0.8 0	0.868			 215 			Gravelly CLAY; 40% low plasticity clay; 30% medium to coarse sand; 30% fine to coarse subrounded to subangular well graded gravel; reddish brown (5YR 4/4); wet.	215.0	
1.2 0	0.178	MW27- SB032420- 218 MW27- GW032420-		 - -2 20	CL			220.0	
		220					End of boring at 220 ft bgs.		

CDM Smith

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

PAGE 1 OF 6

PROJECT NUMBER 238824.6495-F3048-005.DRILL	BORING/WELL NUMBER MW-28
PROJECT NAME 700 S 1600 E PCE Plume	DATE DRILLED 3/11/2020 - 3/18/2020
LOCATION Salt Lake City	CASING TYPE/DIAMETER 4-inch SCH 40 PVC
DRILLING METHOD Sonic	SCREEN TYPE/SLOT 4-inch SCH 40 0.010-Slot
SAMPLING METHOD Sonic Grab	GRAVEL PACK TYPE #10/20 sand
GROUND ELEVATION (FT MSL) 4712.80	GROUT TYPE/QUANTITY Bentonite Grout
TOP OF CASING (FT MSL) See Table 5	DEPTH TO WATER (FT BGS)
LOGGED BY Joe Miller	GROUND WATER ELEVATION (FT MSL)
REMARKS A perched groundwater zone was encountered at approx 150	ft bas and groundwater was encountered at approx 185 ft bas

Magnetic Susceptibility SAMPLE ID. GRAPHIC LOG CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM No recovery. Hydrovac clearing from 0-10' bgs. Vault with cement surface Bentonite Grout (3.5 to 31 ft bgs). 10.0 Silty GRAVEL, 60% well graded fine to coarse gravel; 30% Silt; 5% fine sand; non-cohesive, light brownish gray (10YR 34 GM 11.5 4.2 В ML Gravelly SILT; 55% silt; 35% fine to coarse gravel; 10% fine 3.1 13.0 sand; non-cohesive; reddish brown (5YR 5/3); dry. 6.8 Silty GRAVEL; 50% well graded fine to coarse gravel; 25% Silt; 25% fine sand; non-cohesive, reddish brown (5YR 5/3), 14.1 MW28-SB031220-15 GM 20.1 14 lB -Hvdrated 6.6 MW28bentonite pellet 17.0 SB031220seal (11 to 21 ft 10.6 Well Graded GRAVEL; 50% fine to coarse gravel; 40% fine 16 bgs). sand; 10% silt; rounded 6" cobble, light brown (7.5YR 6/3), 12.8 0 В GW 20 5.7 21.0 48.2 MW28-Silty GRAVEL; 50% well graded fine to coarse gravel; 30% SB031220-Silt; 20% fine sand; weakly cemented; subrounded clasts; 22 reddish brown (5YR 5/3), dry. GM В 41.6 6" soil vapor 24.5 point at 24 ft Well graded SAND; 55% fine to medium sand; 40% fine to 25 bgs; #10/20 33.1 coarse gravel; 5% silt; loose, light brown (7.5YR 6/3), moist. sand filter pack SW 2.0 2.2 28.0 lB 4.6 Clayey GRAVEL; 70% fine to coarse gravel; 30% silty clay; low plasticity; light brown (7.5YR 6/3); moist 5.0 30 13.2 GC 8.5 13.7 MW28-35 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

75

BORING/WELL NUMBER

MW-28

PROJECT NAME 3/11/2020 - 3/18/2020 700 S 1600 E PCE Plume DATE DRILLED Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM SB031220-36.0 35 Hydrated 8.0 В Silty GRAVEL; 60% fine to coarse well graded gravel; 30% bentonite pellet silt; 10% fine sand; medium dense; reddish brown (5YR 5/4); GM seal (27 to 45 ft moist 38.0 bgs). Well graded SAND; 60% fine to coarse sand; 35% fine to 1.2 В SW coarse gravel; 5% silt; loose, light gray (7.5YR 7/1); moist. 14.2 40.0 Silty GRAVEL; 70% well graded fine to coarse gravel; 30% 11.8 GM 41.0 Silt; 2non-cohesive, reddish brown (5YR 5/3); moist. Gravelly SILT; 70% silt; 30% fine to coarse gravel; slightly ML cohesive; stiff; reddish brown (5YR 5/3); moist. 16.8 43.0 Well graded GRAVEL, 65% fine to coarse gravel; 30% fine to <u>o ()</u>° medium sand; 5% silt; reddish brown (5YR 5/4); moist. 0 45 GW 148 0 -10-12" cobble 6" soil vapor 27.9 MW28-D point at 48 ft 49.0 SB031320bgs; #10/20 Well graded GRAVEL 75% fine to coarse gravel; 20% 49 sand filter pack medium to coarse sand; 5% silt; loose; light brownish gray 50 Ò 3.5 (10YR 6/2); dry. 5.8 7.4 GW 0 3.8 В 3.5 55 56.0 WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 Silty GRAVEL: 60% fine to coarse subangular gravel: 35% 4.1 silt; 5% fine sand; socketed matrix; slightly cohesive; light GM 1.8 brownish gray (10YR 6/2); moist. 58.5 MW28-3.3 Silty GRAVEL; 45% fine to coarse subangular gravel; 35% SB031320silt, 20% fine sand; slightly cohesive; reddish brown (5YR 59 60 5/4); FeO staining; moist. GM 2.1 В 62.0 Sandy GRAVEL; 45% fine to coarse well graded gravel; 30% fine sand; 15% silt; loose; light brown (7.5YR 6/3); moist. 0 GW ÓC 2.3 00 65 65.5 5.6 Poorly graded SAND; 60% fine sand; 40% fine to coarse gravel; loose to weakly cemented in places; light brown 7.4 (7.5YR 6/3); moist. SP 9.6 MW28-В SB031320-67 69.0 7.4 Clayey SILT; 60% clayey silt; 40% fine to coarse gravel; trace green staining; cohesive; brown (7.5YR 4/3); moist. MI 3.1 71.0 Well Graded GRAVEL; 50% fine to coarse gravel; 45% fine 2.1 sand; 5% silt; subrounded clasts; loose; light brownish gray В 00, D (10YR 6/2); moist. 8.0 $\circ \bigcirc \circ$ GW 0.9 00

Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 23882

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-28

PROJECT NAME 700 S 1600 E PCE Plume

PROJ	ECT NA	ME	S 1	600 E P	CE PI	ume	DATE DRILLED 3/11/2020 - 3/18/2	2020	
							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	VELL DIAGRAM
1.2						000			
1.2			В	_	ML	200 	Clayey SILT; 90% clayey silt; 10% fine to coarse gravel; soft;	77.0 78.0	
2.3					ML		cohesive; brown (7.5YR 4/3); moist. SILT; 50% Silt; 40% fine to coarse sand; 10% fine to coarse		
1.1				80			gravel; cohesive; stiff; brown (7.5YR 4/3); moist. Silty GRAVEL; 60% fine to coarse, subrounded to subangular gravel; 20% silt; 20% fine sand; medium dense; light brown	80.0	
2.0			B	 	GM		(7.5YR 6/3); dry.		♣ Hydrated bentonite pellet seal (51 to 114.6
5.1		MW28-		-85- <u></u>			Silty GRAVEL; 60% fine to coarse, subrounded to subangular	85.5	ft bgs).
1.6 3.1		SB031320- 86			GM		gravel; 30% silt; 10% fine sand; slightly cohesive; light gray (7.5YR 7/1), some red straining; moist.		
11.3			R	- - -			Well Graded GRAVEL; 60% fine to coarse gravel; 40% fine to	88.5	
2.8				-90-	GW		coarse sand; 10% silt; loose; light brownish gray (10YR 6/2); moist.		
6.1								92.0	
8.1			В	 -95-			Silty GRAVEL; 50% fine to coarse, subrounded to angular gravel; 30% silt; 20% fine sand; slightly cohesive; stiff; brown (7.5YR 4/3); moist.		
10.0		MW28- SB031320- 97		 	GM				
1.6	0.019		В	 100		以			
10.4	0.015						Gravelly SAND with Silt; 55% fine to coarse sand; 30%	101.0	
5.8	0.000						coarse gravel; 15% silt; light brown (7.5YR 6/3); moist.		
10.1	0.047		B		SW SM				
9.2	0.017 0.058			 105			Sandy GRAVEL; 60% well graded fines to coarse gravel; 40%	105.0	
39.0	0.073			 - <u>-</u>	GW		fine to coarse sand; moderately cemented; very dense; light gray (7.5YR 7/1); dry.	107.0	
1.9 2.9 1.8	0.041 0.025 0.054	MW28- SB031520- 107	В	 	SM		Gravelly SAND with Silt; 55% fine sand; 30% fine to coarse gravel; 15% silt; loose; light brownish gray (10YR 6/2); moist.		
3.2	0.035		$\mid \mid$	 110				111.0	
3	0.027		В	 	ML		SILT; 60% silt; 40% fine to coarse gravel; stiff; cohesive; brown (7.5YR 4/3); moist.		
<u> </u>	0.031							115.0	
E				 115			Continued Next Page	115.0	



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER
PROJECT NAME

238824.6495-F3048-005.DRILL

700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-28

	Continued from Previous Page													
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM					
	0.024 0.028 0.054	MW28- SB031520- 117	В	 	GW		7/1); moist.		6" soil vapor point at 118 ft bgs; #10/20					
175	0.195		В			00		400.0	sand filter pack					
55.1	0.043	MW28-		 120			SILT; 45% silt; 35% gine to coarse gravel; 20% fine sand;	120.0						
33.8	0.078	SB031620- 121		 			slighty cohesive; weakly cemented in places; reddish brown (5YR 5/4); moist.							
31.8	0.278		B	 12 5 -	ML									
12.2	0.185													
10.1	0.167			 			Silty GRAVEL; 50% fine to coarse gravel; 40% silt; 10% fine sand; dense; weakly cemented; grayish brown (10YR 5/2);	128.0						
				 130			moist.							
	0.116				GM									
7.8	4.00													
3.2	1.80		B				CILT. 700/ cit. 200/ gravel, 100/ fine cond. ctiff, cobesive.	133.0						
3.2	0.111						SILT; 70% silt; 20% gravel; 10% fine sand; stiff; cohesive; reddish brown (5YR 4/4); moist.							
5.30	0.250			13 5 - 	ML				← Hydrated bentonite pellet seal (120 to 186.5 ft bgs).					
	0.750													
17.8	0.496	MW28-												
5.60 17.8 2.36	7.76	SB031620- 139		 140			Silty SAND; 45% fine sand; 35% silt; 20% fine gravel; reddish	140.0						
7		100			SM		brown (5YR 4/4); moist.	142.0						
SIC (AM DITUM EDBATT DEC2020 WTJM GPJ 92.6 6.91 23.1 15.1 35.2 26.6 16.9 16.9 16.9 16.9 16.9 16.9 16.9 1	0.610						SILT; 60% silt; 30% fine to coarse subrounded to subangular gravel; 10% fine sand; slightly cohesive; weakly cemented in places; reddish brown (5YR 5/4); moist.	142.0						
9.26	1.90													
6.91			B	 145 	N 41									
23.1	1.22				ML									
UME														
র 15.1	6.33													
၌ 35.2		MW28- SB031720-	Ш	150		ЩЦ		150.0						
10.8 10.8 OBING FOR THE	2.54	149					SILT; 50% silt; 35% fine sand; 15% fine gravel; cohesive; stiff; reddish brown (5YR 5/4); moist.							
BOR	0.404		B		ML									
9 7.4 20.6	0.101													
[20.6	0.089			 155			Continued Next Dage							
> L	1		ш			1	Continued Next Page		PAGE 4 OF					



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-28

Search Selection Search Sele									Continued from Previous Page	_	
Sandy GRAVEL; 55% fine to coarse subrounded to subangular well graded grave; 55% fine so and; 10% silt; 15% fine so and; 25% fine so and; 10% silt; 15% fine so and; 25% fine	PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC	507	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
150.0 145 146 146 147 148 148 148 148 148 148 148 148 148 148	23.2	0.100	SB031720-	R	- -	GW	1) [V	subangular well graded gravel; 35% fine sand; 10% silt;	156.0	Ш
1.45	6.37	0.075	130				00	Ž,	readish brown (5110 5/4) with gray motuling, most.	159.0	
ML					 160	GM			Silty GRAVEL; 55% fine to coarse gravel; 40% silt; 5% fine	7	
3.01 0.145 3.01	1.45	0.453				ML			Gravelly SILT; 75% silt; 25% fine to coarse gravel; soft;	161.0	
2.51 3.10 3.10 3.10 3.10 3.10 3.10 3.10 3.1	3.01	0 145							Silty GRAVEL; 70% fine to coars rounded gravel; 30% silt;		
17.5 1.0 1.07 1.0 1.0 1.07 1.0 1.07 1.0 1.07 1.0 1.07 1.0		0.110		R		GM					
Sandy Silt T; 55% silt; 25% fine sand; 20% fine gravel; weakly 166.0 166	3.10	0.107									
Sandy SILT; 55% silt; 25% fine sand; 20% fine gravel; weakly cemented in places; reddish brown (5YR 5/4); moist. 171.0 180.5 ft bgs).	7.95				165 			3		166.0	bentonite pellet
2.90 0.000 3.4 0.000 11.0 0.731 7.2 0.026 17.1 10.8 0.058 9.3 3.6 0.003 7.5 0.010 1.1 0.071 2.8 0.190 1.8 3.2 1.4		0.082							Sandy SILT; 55% silt; 25% fine sand; 20% fine gravel; weakly cemented in places; reddish brown (5YR 5/4); moist.		
3.4 0.000 11.0 0.731 7.2 0.026 171 10.8 0.058 9.3 3.6 0.003 7.5 0.010 1.1 0.071 2.8 0.190 1.8 3.2 14 MW28. 8.97 MW28. 8.98 MW28. 8.98 MW28. 8.99 MW28. 8.90 MW28. 8.97 MW28. 8.97		0.000									
171.0 171.0	2.90	0.000		K		ML					
11.0 0.731 MW28_SB031720- 175	3.4	0.000			 170					171.0	
1.1 0.071 2.8 0.190 1.1 0.071 2.8 0.190 1.8 0.000 1.8 0.000 1.8 0.190	11.0	0.731			_		Ħ		Gravelly SILT; 55% silt; 35% fine gravel; 10% fine sand; stiff;	171.0	
175.0 176.0 177.0 1	7.2	0.026				MI			readish prown (5YR 5/4); moist.		
9.3 3.6 0.003 175	40.0	0.050				IVIL					
3.6		0.058		B	17 5				Silty SAND: 60% fine to coarse sand: 30% silt: 10% fine	175.0	
7.5 0.010 178.0		0.003				SM					
7.5 0.010										178 0	
1.1 0.071 2.8 0.190 1.8 3.2 1.4 8.97 1.85 SB031720-185	7.5	0.010			_				Silty GRAVEL; 55% fine to coarse gravel; 35% silt; 10% fine	170.0	
1.1 0.071 2.8 0.190 1.8 3.2 1.4 SB031720- 185 SW Well Graded SAND; 60% fine to coarse sand; 30% fine gravel; 10% silt; loose; reddish brown (5YR 5/4); moist to wet. Sandy SILT; 60% silt; 30% fine sand; 10% fine gravel; cohesive; medium plasticity; stiff; reddish brown (5YR 5/3); moist. Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist. 190 Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.					 180				sand, loose, reddish brown (51R 5/4), moist.		
1.8 3.2 14 8.97 MW28- SB031720- 185 ML SW Well Graded SAND; 60% fine to coarse sand; 30% fine gravel; 10% silt; loose; reddish brown (5YR 5/4); moist to wet. Sandy SILT; 60% silt; 30% fine sand; 10% fine gravel; cohesive; medium plasticity; stiff; reddish brown (5YR 5/3); moist. Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.	1.1	0.071				GM					
1.8 3.2 14 8.97 MW28- SB031720- 185 ML SW Well Graded SAND; 60% fine to coarse sand; 30% fine gravel; 10% silt; loose; reddish brown (5YR 5/4); moist to wet. Sandy SILT; 60% silt; 30% fine sand; 10% fine gravel; cohesive; medium plasticity; stiff; reddish brown (5YR 5/3); moist. Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.	28	0 190									
3.2 14 8.97 MW28- SB031720- 185 SW Well Graded SAND; 60% fine to coarse sand; 30% fine gravel; 10% silt; loose; reddish brown (5YR 5/4); moist to wet. Sandy SILT; 60% silt; 30% fine sand; 10% fine gravel; cohesive; medium plasticity; stiff; reddish brown (5YR 5/3); moist. Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist. Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.	1.8	0.100								104.0	
8.97 SB031720- 185 Sandy SILT; 60% silt; 30% fine sand; 10% fine gravel; cohesive; medium plasticity; stiff; reddish brown (5YR 5/3); moist. Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist. Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.	3.2				L					104.0	∇
8.97	14				 185	SW			gravel; 10% silt; loose; reddish brown (5YR 5/4); moist to wet.		
cohesive; medium plasticity; stiff; reddish brown (5YR 5/3); moist. 190 Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist. 190.0 ML Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.	8.97				_ 					186.5	
0.9 0.010 0.7 0.018 0.9 0.010 ML Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.	0.4	0.000			 	NAI			cohesive; medium plasticity; stiff; reddish brown (5YR 5/3);		周周
0.9 0.010 O.7 0.018 Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel; cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.	8.4	0.000				IVIL					
0.7 0.018 Cohesive; medium plasticity; soft; reddish brown (5YR 5/3); moist.	3.6 7.5 1.1 2.8 1.8 3.2 14 8.97 8.4 0.9 0.7 1.3	0.010		H	190		H		Sandy SILT; 50% silt; 40% fine sand; 10% fine gravel;	190.0	
0.7 0.018 B					-				cohesive; medium plasticity; soft; reddish brown (5YR 5/3);		
	0.7	0.018		B	_	ML					
	1.3				—19 5 —		Ш	Щ	Continued Next Page	195.0	



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER MW-28

PROJECT NAME

700 S 1600 E PCE Plume

	PROJ	ECT NA	ME <u>700</u>	S 1	1600 E P	CE PI	ume	DATE DRILLED 3/11/2020 - 3/18/2	020		
								Continued from Previous Page	_		
	PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WEL	L DIAGRAM
	1.0	0.024		В	 	SM		Silty SAND; 55% fine sand; 40% silt; 5% clay; medium dense; cohesive; reddish brown (5YR 5/4); wet.	198.0		##10/20 sand filter pack (186.5 to 210 ft bgs).
	2.90.8	0.030	MW28- SB031720- 199		- — —200—	CW		Sandy GRAVEL; 50% well graded fine to coarse gravel; 35% fine sand; 15% silt; loose; reddish brown (5YR 5/4); wet.			−4-inch SCH 40
	1.1				 	GW			203.0		0.010-slot screen well (190 to 210 ft bgs).
	3.8 2.9			В	 -205-	SM		Silty SAND; 50% fine sand; 45% silt; 5% fine gravel; cohesive; reddish brown (5YR 5/4); wet.	205.5		
	8.1 4.6		MW28- SB031720- 206		 	sw		Gravelly SAND; 55% medium to coarse sand; 35% fine to coarse gravel; 10% silt; loose; reddish brown (5YR 5/4); wet.			
	10.2		MW28-	B	 2 10			End of boring at 210.5 ft bgs.	210.5		
			GW031820- 211					Zila di Bolling at 210.0 it bigo.			
50											
1.GDT 12/17/2											
J LAEWNNO											
020_WTJM.GF											
DRAFT DEC20											
SLC VA PLUME DRAFT DEC2020_WTJM.GPJ_LAEWNN01.GDT_12/17/20											
SING LOG SLI											
WHITNEY'S BORING LOG											
≥∟				1							PAGE 6 OF 6



WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

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BORING/WELL CONSTRUCTION LOG

PAGE 1 OF 13

PROJECT NUMBER 238824.6495-F3048-005.DRILL	BORING/WELL NUMBER MW-29
PROJECT NAME 700 S 1600 E PCE Plume	DATE DRILLED 5/27/2020 - 6/4/2020
LOCATION Salt Lake City, UT	CASING TYPE/DIAMETER 1-inch SCH 80 PVC
DRILLING METHOD Sonic	SCREEN TYPE/SLOT 1-inch SCH 80 0.020-slot
SAMPLING METHOD Sonic Grab	GRAVEL PACK TYPE #10/20 sand
GROUND ELEVATION (FT MSL) 4679.35	GROUT TYPE/QUANTITY Bentonite Grout
TOP OF CASING (FT MSL) See Table 5	DEPTH TO WATER (FT BGS)
LOGGED BY Kimberly Myers	GROUND WATER ELEVATION (FT MSL)
REMARKS Groundwater was encountered at approximately 115 feet bgs.	,,

Magnetic Susceptibility SAMPLE ID. GRAPHIC LOG CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM Hydrovac from 0 to 8.5 ft bgs. Vault with cement surface seal Bentonite Grout (3 to 11 ft bgs). 8.5 No recovery. 10.0 9.5 0.211 Gravelly SAND with Silt: brown (7.5 YR 5/4); 60% sand, well graded, fine to coarse, subangular to subrounded; 25% gravel, poorly graded, fine to medium, subangular to 0.185 SW subrounded, 15% silt, non-plastic, moist. 15.3 0.217 12.5 Sandy SILT with Gravel: reddish brown (5 YR 5/4); 50% silt, non-plastic; 35% sand, poorly graded, fine; 15% gravel, well 10.5 0.249 graded, fine to coarse; moist. 21.6 0.294 ML В 15 13.8 0.346 16.0 CLAY with Gravel: reddish brown (2.5 YR 4/4); 80% clay, low 24.1 0.298 plasticity; 15% gravel, well graded, fine to coarse, angular to CL subrounded, up to 6 inches; 5% sand, poorly graded, very fine 0.233 14 18.0 16.5 0.102 Sandy SILT with Gravel: reddish rown (2.5 YR 4/4); 65% silt, ML well graded; 20% sand; 15% gravel, fine to medium, angular. 19.0 Gravelly SILT and CLAY: reddish brown (2.5 YR 4/4); gravel 0.097 ML up to 4 inches, angular to subrounded. 20.0 Hydrated 20 Sandy Silt: 60% silt, non-plastic; 40% sand, well graded, fine 11.4 1.09 bentonite pellets ML to coarse. (11 to 117 ft 21.2 Color is duskly red (2.5 YR 3/2); black discoloration; no odor 45.6 0.61 bgs). 21.5 (4-inch lens). MLClayey GRAVEL: 3 inches of clayey gravel. 0.787 22.5 B Sandy SILT with Gravel: gravel, is well graded, subangular to subrounded, up to 3 inches in diameter. 63.9 0.286 GM Silty GRAVEL with SAND: 45% gravel, angular to 24 0 subrounded, up to 5 inches; 40% sand, well graded; 15% silt, 75.3 1.1 MW29non-plastic. SB052720-25 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER
PROJECT NAME

238824.6495-F3048-005.DRILL

700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED

MBER <u>MW-29</u> 5/27/2020 - 6/4/2020

FROS	PROJECT NAME												
							Continued from Previous Page						
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WE	ELL DIAGRAM			
39.6	0.337	24			SM		Silty SAND: 60% sand, 40% silt. 4-inch layer of coarse gravel, angular to subrounded.	26.0					
30.4	0.296						Gravelly CLAY: 60% clay, 40% gravel.	20.0					
68.8	0.288		B	 -	CL GP		5 inch layer of coarse gravel, angular to subrounded.	27.5					
62.3	0.321			_			Gravelly SILT with Sand: brown (7.5 YR 4/4); 55% silt,	28.0					
30.5	0.171						non-plastic; 25% gravel, well graded, subangular to subrounded, up to 4 inches; 20% sand, well graded, fine to						
33.4	0.248			—30 <i>—</i>	ML		coarse. White and powdery.						
62.9	0.418												
80.4	1.04						Gravelly CLAY: reddish brown (2.5 YR 4/4); 75% clay; 20%	32.0					
					CL		gravel, well graded, fine to medium, up to 2 inches; 5% sand, well graded.						
68.2	1.18			_			•	34.0					
41	0.199		B	—35 <i>—</i>			Sandy SILT with Gravel: reddish brown (5 YR 5/4); 50% silt; 30% sand, well graded; 20% gravel, well graded, subangular						
75.9	0.169						to subrounded, up to 6 inches.						
66.3	0.504												
61.9	0.472												
23.7	0.699				ML								
34.3	0.159						Color changes to reddish brown (2.5 YR 4/4).						
16.7	0.32			—40 <i>—</i>			Same as above except silt increases to 65%.			 Hydrated bentonite pellets 			
54.2	0.311									(11 to 117 ft bgs).			
ਹੋ § 92.5	0.668			_				42.5					
9.3	0.579		D				CLAY with Sand: 95%clay, low plasticity; 5%sand; trace gravel; moist.						
14.5	0.783				CL								
14.8	0.813			—45 <i>—</i>									
11.5	0.855						Silty CLAY: reddish brown (2.5 YR 4/4); 80% clay; 15% silt;	46.0					
11.5							5% sand; moist.						
12.6	0.691		B		CL								
1.9	0.82							49.0					
MHILMEAS BORING FOR STC AND FIRME DRAFT DECCOSO MATIN GBJ 175/1/200 175/1/20	0.654			— FO:	ML		Gravelly SILT with Sand: reddish brown (5 YR 4/4); 50% silt, non-plastic; 20% sand, well graded, fine to coarse; 30%	50.0					
9.6	0.106			 50			gravel, well graded, angular to subrounded. CLAY with Sand: brown (7.5 YR 4/4); 80% clay, low plasticity;						
7.6	0.556		В		CL		10% sand, poorly graded, very fine to fine; 5% gravel, fine to coarse, subangular to subrounded, up to 2 inches; 5% silt.						
11.7	0.439							52.0					
10.3	0.552			-			Sandy CLAY: higher sand/gravel content, well graded, 50% of	_53.0					
S			ш				Continued Next Page			PAGE 2 OF 13			



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume BORING/WELL NUMBER

MW-29 DATE DRILLED 5/27/2020 - 6/4/2020

	ECT NA			600 E I			Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH		GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WE	LL DIAGRAM
14.5	0.283				CL		total. CLAY with Sand: brown (7.5 YR 4/4); 80% clay, low plasticity;	54.0		
17.3	0.463			—55 <i>—</i>			10% sand, poorly graded, very fine to fine; 5% gravel, fine to coarse, subangular to subrounded, up to 2 inches; 5% silt.	55.5		
24.8	0.239	MW29- SB052820-	B		SM		Silty SAND with Gravel: brown (7.5 YR 4/4); 50% sand, well graded, fine to coarse; 35% silt, non-plastic; 15% gravel, poorly graded, fine, subangular to subrounded; moist.		Ш	
11	0.278	56			CL		Gravel becomes well graded, up to 3 inches in diameter. Silty CLAY: 6 inches of silty clay.	57.5 58.0		
9.8	0.383			_			CLAY: 70% clay, low to no plasticity; 25% silt; 5% sand very fine.	36.0	Ш	
10.6	0.464				CL			60.0		
11.6	0.328			 60	CL		CLAY with Gravel: brown (7.5 YR 5/4); 75% clay, low plasticity; 15% gravel, subangular to subrounded; 5% sand;	61.0	Ш	
13.6	0.611						5% silt; moist. CLAY: brown (7.5 5/4); 90% clay, low plasticity; 5% sand; 5% silt: moist.		Ш	
22.7	0.333				CL		Sil, Host.		Ш	
12.1	0.925								Ш	Hydrated
16.9	1.02		B	—65 <i>—</i>				65.0		bentonite pellet (11 to 117 ft
13.5	0.772				sc		Clayey SAND with Gravel: yellowish red (5 YR 4/6); 40% sand, well graded; 30% clay; 30% gravel, fine to medium, angular to subrounded.	66.0		bgs).
26.9	0.369				sc		\6-inch layer of CLAY.	67.0		
27.9	0.178	MW29- SB052820- 67			GP		Clayey SAND with Gravel: yellowish red (5 YR 4/6); 40% sand, well graded; 30% clay; 30% gravel, fine to medium, angular to subrounded.	67.5	Ш	
16.5	0.164	0,			ML		GRAVEL: 70% coarse gravel lens. Gravelly SILT with Sand: yellowish red (5 YR 4/6); 40% silt,			
17.7	0.152			—70—	ML		non-plastic; 35% gravel, well graded, subangular to subrounded; 25% sand, well graded.	69.5 69.8		
7.8	0.123			- 70	ML		SILT: pinkish gray (5 YR 7/2); 3 inches of pinkish gray silt; calcite powder.			
	0.279	NAVA (00					Gravelly SILT with Sand: brown (7.5 YR 4/4); 40% silt, non-plastic; 35% gravel, well graded, subangular to	71.5		
21.7	0.189	MW29- SB052820- 72			ML		\subrounded; 25% sand, well graded. SILT with Gravel: strong brown (7.5 YR 4/6); 75% silt,	73.0		
13.3	0.308	12					non-plastic; 10% sand; moist. CLAY: reddish brown (2.5 YR 4/4); 90% clay, low plasticity;			
12.8	0.488		В	—75 <i>—</i>			5% sand, poorly graded, fine; 5% silt; moist.		Ш	
17.4	0.457				CL					
16.4	0.406									
10	0.523						SILT with Gravel: strong brown (7.5 YR 4/6); 75% silt,	77.5		
5.3	0.243				ML		non-plastic; 15% gravel, poorly graded, fine, subangular to subrounded; 10% sand; moist.	79.0		
3.9	0.349			—80 <i>—</i>	ML		SILT: 80% silt, non-plastic; 10% gravel, poorly graded, fine; 5% sand, fine, poorly graded; 5% clay, low plasticity.	80.0		
3.4	0.378						CLAY: reddish brown (2.5 YR 4/4); 95% clay, medium to high plasticity; 5% sand, fine to coarse; trace gravel; moist.			
13.9	0.601				СН		Continued Newt Pers			
		l					Continued Next Page		1	PAGE 3 OF



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

L BORING/WELL NUMBER

MW-29

PROJECT NAME

700 S 1600 E PCE Plume

								Continued from Previous Page		
	PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
	20.1	0.52	MW29- SB052820-							
	16.8	0.651	82		-	SC		Clayey SAND with Gravel: moist.	83.5 84.0	
	19.2	0.713			_			Sandy CLAY: 85% clay, medium to high plasticity; 15% sand,	04.0	
	13	0.83			—85 <i>—</i>	011		very fine; moist.		
	5.1	0.863		B		СН				
									87.0	
	5.5	0.705			_	CL		Sandy CLAY: 70% clay; 30% sand, well graded; moist. Sandy CLAY: 85% clay, medium to high plasticity; 15% sand,	87.5	
	4.1	0.718				СН		very fine; trace gravel, up to 1.5 inches, subangular to subrounded; moist.	00.0	
	5.4	0.479			_	ML		Gravelly SILT with Sand: 60 to 65% silt, low to non-plastic; 15	89.0	
	6.8	0.22		\vdash	90	IVIL		to 20% sand; 20% gravel, up to 2 inches; moist. CLAY with Sand: reddish brown (2.5 YR 4/4); 85 to 90% clay;	90.0	Hydrated hentenite nellete
								10 to 15% sand, mostly very fine to fine, trace coarse; trace gravel; moist.		bentonite pellets (11 to 117 ft
	24.6	0.46						gratos, motos		bgs).
	17.7	0.581				CL				
	13.8	0.686								
	10.7	0.712						Color changes to reddish brown (2.5 YR 5/3).		
	10	0.64		B	—95 <i>—</i>			6 inch boulder.	95.0 95.5	
					- 			Silty SAND with Gravel: reddish brown (5 YR 5/4); 40% sand,		
	18.6	0.493						well graded; 30% silt, non-plastic; 30% gravel, well graded, fine to coarse, up to 3 inches; dry to moist.		
12/17/20	29.4	0.225				SW				
	16	0.142								
EWNN01.GDT	23.7	0.108			_	N 41		White to pinkish gray (5 YR 7/2) layer of powdery calcite silt.	99.0	
=WNN	6.5	0.103			_100	ML	ШШ	No recovery from 100 to101 ft bgs.	100.0	
Z					_			•	101.0	
JM.GF	25.4	2.1						SAND with Silt and Gravel.		
0_WT,	20.2	0.763				SP				
SLC VA PLUME DRAFT DEC2020_WTJM.GPJ	8.3	0.19				SM				
YFT DE	24.6	0.717	MW29-		_			Silty Clayey SAND and GRAVEL: reddish brown (2.5 YR 4/4);	104.0	
E DR/	13.2	0.117	SB052820- 104	B	 105			70% sand and gravel; 30% silt with some clay. Gravel is up to 5 inches in diameter.		
PLUM										
C VA	18.1	0.116				0.4				
	14.2	0.154				SM				
WHITNEY'S BORING LOG	5.2	0.105			<u> </u>					
BORII	15.3	0.112								
VEY'S					 110			No recovery from 110 to 115 ft bgs due to broken casing.	110.0	
WHIT	23.7	0.105						No recovery from 110 to 115 ft bgs due to broken casing. Continued Next Page		
-									· '	PAGE 4 OF 1:



BORING/WELL CONSTRUCTION LOG

MW-29

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER _

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 5/27/2020 - 6/4/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM В 115.0 11.4 MW29-Silty GRAVEL with Sand: reddish brown (2.5 YR 4/4); 40% SB052920gravel, well graded, subangular to subrounded, up to 4 inches; 115 30% sand, well graded; 25% silt, non-plastic; 5% clay, some 11.6 0.308 Clayey SAND with Gravel: 70% sand, well graded; 20% clay, 2.8 0.259 B low plasticity; 10% gravel, poorly graded, fine; wet. 4.2 0.147 -#10/20 sand filter pack (117 to 132 ft bgs). 2.7 0.134 SC 120 0.5 0.17 MW29-Same as above except gravel content increases to 30% and GW052920becomes well graded and moist. Sand content decreases to 120 6.9 0.198 122.0 0.219 MW29-Silty GRAVEL with Sand: brown (7.5 YR 5/3); 40% gravel, 43.4 SB052920well graded, angular to subrounded; 30% sand, well graded, GM subangular to subrounded; 30% silt; moist. 122 7.1 0.217 124.0 21.7 0.234 CLAY: 90% clay; 10% sand, poorly graded, coarse; moist to 1-inch SCH 80 125 4.6 0.392 0.020-slot screen ZIST WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LAEWNN01.GDT 12/17/20 5.2 0.513 nested well (120 to 130 ft bgs). CL 0.684 2.8 0.61 Same as above except sand is very fine to fine. 0.415 130.0 CLAY with Gravel: reddish brown (2.5 YR 4/4); moist. 4.2 0.333 CL 10.9 0.343 132.0 0.385 Silty SAND with Gravel: reddish brown (5 YR 5/4): moist. 9.6 12.6 0.457 SM 37.7 0.239 В 135.0 135 22.2 0.298 Clayey GRAVEL with Sand: reddish brown (2.5 YR 4/4); 40% gravel, well graded, fine to coarse, angular to subrounded, up to 3 inches; 35% sand, well graded; 25% clay, low plasticity; 5.4 0.465 98.1 0.489 GC 47.5 0.236 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER MW-29

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 5/27/2020 - 6/4/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 28.1 0.32 В 140.0 21.2 0.212 CLAY with Gravel. CL 141.0 Silty SAND with Gravel. 1.2 0.277 SM 10.3 0.324 143.0 17.1 0.121 CLAY with Sand: reddish brown (2.5 YR 4/4); 70% clay; 25% sand, poorly graded, very fine, subangular to subrounded; 5% gravel, fine, subrounded, up to 0.5 inch; moist. 25.6 0.152 MW29-SB052920--145 144 0.227 16.3 3.5 0.257 0.42 4.4 Color changes to brown (7.5 YR 5/4). 2.6 0.554 CL 0.558 1.4 150 0.226 3.1 Color changes to brown (5 YR 5/4); slough. 0.8 0.379 0.361 1.1 6 0.428 154.0 Silty SAND with Gravel: 60% sand, well graded, subangular to 5.4 0.402 subrouned; 20% silt, non-plastic; 20% gravel, subangular to SM 155 subrounded, up to 4 inches; moist. MW29-0.21 12 SB052920-156.0 155 8.9 0.276 CLAY with Sand: reddish brown (5 YR 5/4); 70% clay; 25% sand, poorly graded, very fine, subangular to subrounded; 5% gravel, fine, subrounded, up to 0.5 inch; moist. 11.2 0.237 CL 9.1 0.345 159.0 0.329 Gravelly CLAY with Sand: light reddish brown (5 YR 6/4); 4.8 Hydrated 70% clay; 20% gravel, poorly graded, fine to medium, angular bentonite pellet 160 to subrounded; 10% sand, poorly graded, very fine, 0.239 4.9 seal (132 to 187 subangular to subrounded; moist. ft bgs). 0.462 19 21.2 0.359 CL 7.9 0.262 В 38 0.209 Gravel size increases to coarse, up to 4 inches. 165 30.1 0.14 33 0.266 167.0 42.2 0.278 MW29-Transition from clay to silt. 167.5 SB052920-

Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-29

							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
25.5	1.02	167	О		GC		Clayey GRAVEL with Silt: 40% gravel; 30% clay; 15% silt; 15% sand.	169.0	
38.3	0.269		B		GM		Silty GRAVEL: pinkish gray (5 YR 7/2); 50% gravel, angular to subrounded; 25% silt; 25% sand, poorly graded, very fine to	170.0	
2.5 11.9 31.8	0.226				GC		medium; dry. Clayey GRAVEL: reddish brown (2.5 YR 4/4); 40% gravel, well graded, up to 4 inches; 40% clay, low plasticity; 20% sand, well graded.		
46	0.243							173.0	
6.2	0.231						Gravelly Lean CLAY: 60% clay, low plasticity; 30% gravel; 10% sand.	170.0	
14.6	0.911		B	—175—	CL				 Hvdrated
22.4	0.646							176.0	bentonite pellet seal (132 to 187
26.4	0.64			_		////	4 inch long by 6 or 7 inch wide boulder.	176.3	ft bgs).
34.5	0.674						Gravelly CLAY with Sand: 55% clay; 25% gravel, well graded, subangular to subrounded, up to 3 inches; 20% sand, well graded.		
51.2	1.04	MW29- SB052920-			CL				
37.6	0.36	178		_				180.0	
33.9	0.173			180		(/////	Low Recovery.	100.0	
			B						
5.7	0.153				CL		Gravelly CLAY: 70% clay; 20% gravel, fine to medium, subangular to subrounded; 10% sand.	182.0 182.6	
13	0.317			- -		V////	8 inch boulder.	183.3	
2.2	0.192				CL		Gravelly CLAY: 70% clay; 20% gravel, fine to medium, subangular to subrounded; 10% sand.	184.5	
33.9	0.238			185 <u></u>	sc		Clayey SAND with Gravel: gravel is well graded, subangular to subrounded, 15 to 25%.	185.5	
45.6	0.108		В		CL		Gravelly CLAY: 70% clay; 20% gravel, fine to medium, subangular to subrounded, up to 3 inches; 10% sand.	186.7	
45.8	0.284	MW29-		_	ML		Silty GRAVEL with Sand: 45% silt; 30% gravel; 25% sand; dry to moist.	187.0	
3.7	0.515	SB052920- 187			CL		CLAY: 90% clay; 10% sand; moist. Water Encountered.		#10/20 sand
4.1	0.582						Clay is low plasticity with silt mixed in. Trace coarse gravel, up to 5 inches in diameter.		#10/20 sand filter pack (187 to 202 ft bgs).
_ ₹ 2.3	0.58			190			CLAY: 90% clay; 10% sand, poorly graded, very fine; trace	190.0	
4.2 2.2 33.9 45.6 45.8 3.7 4.1 2.3 4.1 2.3 4.1 5.3 4.1 5.3 4.2 5.3 4.1 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3	0.201	MW29-					gravel, fine, subangular, trace coarse cobbles/boulders up to 5 inches; moist.		
0.1	0.455	GW053120- 191							1-inch SCH 80 0.020-slot
1 201	0.411		В		CL				screen ZIST nested well (190
1.1	0.343			-					to 200 ft bgs).
4	0.375			 195					
5	0.306			_			CLAY with Gravel and Sand: reddish brown (2.5 YR 4/4);	196.0	
<u> </u>							Continued Next Page	1	1



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-29 DATE DOILLED E/27/2020 6/4/2020

PROJ	OJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 5/27/2020 - 6/4/2020								
							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (# RGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
7.2	0.367				CL		75% clay; 15% sand, poorly graded, very fine; 10% gravel, well graded, subangular to subrounded, up to 4 inches.		
11.2	0.305	MW29- SB053120-	В		CL		Increase in well graded gravel. Gravelly CLAY with Sand: 40% clay; 35% gravel, well graded, angular to subrounded; 25% sand, well graded, fine to coarse;	198.0	
62.8	0.176	198			1		moist, dries quickly.	199.6	
34.9	0.283			2 00	CL		Sandy CLAY: 70% clay; 30% sand, well graded. Sand is poorly graded, very fine to fine; moist to wet.	201.0	
0	0.479			-	SW	17/7/	3 inches of sandstone.	201.3	
0	0.542				CL		Gravelly CLAY with Sand. Sandy CLAY: trace fine gravel.	202.0	
0	0.436						CLAY with Sand: reddish brown (2.5 YR 4/4); 80% clay, low plasticity; 20% sand, poorly graded, very fine; trace coarse		
0	0.347				CL		gravel. From 204 to 204.5 ft bgs, 40% coarse gravel, subrounded, up		
0	0.508		В	 205			to 6 inches.		
0.2	0.542								
0.7	0.102	MW29- SB053120-				7 57	Clayey GRAVEL with Sand: 40% gravel, well graded, subangular to subrounded, up to 3 inches; 25% clay; 35%	207.0	
0.3	0.133	007			GC		sand, well graded; moist.		
0.4	0.116							210.0	
1.2	0.175			2 10	CL		CLAY: brown (7.5 YR 5/4); 90% clay, low plasticity; 5% sand, fine; 5% silt; moist to dry .	211.0	
0	0.671						Gravelly CLAY: gray (5 YR 6/1); 60% clay, medium plasticity; 30% gravel, subangular to subrounded, up to 3 inches; 10%		
0 0	0.577						sand, poorly graded, fine; moist to dry.		
0	0.24			-					
0	0.172		7						- Hydrated bentonite pellet
0	0.39		В	-215-	CL				seal (202 to 227 ft bgs).
0	0.624								
0	0.37	MW29- SB053120-							
0	0.311	217					Color changes to brown (7.5 YR 5/3).		
0	0.022							220.0	
0	0.178			-220 -			Gravelly CLAY: light brown (7.5 YR 6/3); 60% clay, medium plasticity; 30% gravel, mostly well graded, subrounded, up to		
0	0.162			_			5 inches in diameter; very large boulders; 10% sand, fine.		
0	0.234		В						
0	0.21								
	0.182								
<u> </u>				-225-		1,	Continued Next Page		PAGE 8 OF 13



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER MW-29

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 5/27/2020 - 6/4/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM CL 0 0.149 Color changes to light brown (7.5 YR 6/4); gravel increases to 40% and is medium to large grained. 0 0.254 0 0.241 MW29-В SB053120-227 0.389 0 +#10/20 sand filter pack (227 0 0.266 to 242 ft bgs). 230.0 CLAY with Gravel: brown (7.5 YR 5/4); 75% clay; 15% gravel, 0 0.186 well graded, up to 3 inches in diameter; 10% sand, fine; moist. 0 0.45 MW29-GW060120-230 0 0.442 CL 0 0.465 0 0.446 235.0 -235 1-inch SCH 80 0 0.165 Silty SAND with Gravel: 50% sand, well graded, subangular to 0.020-slot subrounded; 30% gravel, up to 3 inches in diameter; 20% silt; screen ZIST wet. 0.307 0 nested well (230 to 240 ft bgs). 0.206 0 SM 0 0.101 0.879 0 240.0 WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 MW29-CLAY: reddish brown (5 YR 4/4); 95% clay, medium to high 0 0.206 SB060120plasticity; 5% sand, very fine; trace gravel, well graded. 0.02 0.391 240 0.337 13.4 5.7 0.448 0.663 9.8 0.502 0.2 0.217 245 CH 6.5 0.317 6.3 0.457 0.188 11.3 16.2 0.207 1.8 0.21 250.0 250 Hydrated 0.541 MW29-CLAY with Gravel: reddish brown (2.5 YR 4/4); 85% clay; 17.9 bentonite pellet CL 1.5 SB060120-15% gravel, subangulr to subrounded, up to 2 inches. 251.0 backfill (242 to 250 0.168 CLAY with Gravel: light brown (7.5 YR 6/4); gravel is fine to 340 ft bgs). medium, subangular to subrounded, up to 2 inches. В 0.216 10.4 CL 0.202 38.9

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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-29

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 5/27/2020 - 6/4/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG PID (ppm) SAMPLE ID. CONTACT DEPTH U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 51 0.203 255.0 255 0.347 CLAY with Sand and Gravel: light brown (7.5 YR 6/4); 55% clay; 25% sand; 20% gravel; wet - saturated. 123.4 0.215 MW29-SB060120-В CL 256 0.271 18.1 0.193 259.0 9.6 Low Recovery. 260.0 260 Hydrated CLAY with Sand and Gravel: brown (7.5 YR 5/3); 55% clay, 0.215 MW29-6.8 bentonite pellet GW060220low to medium plasticity; 25% sand, well graded; 20% gravel, backfill (242 to 260 well graded, fine to medium, trace coarse; moist to wet. 340 ft bgs). 20 CL 8.2 308 263.0 0.257 CL CLAY: 95% clay, very stiff; 5% fine sand and gravel; moist. 184 263.5 CLAY with Sand and Gravel: brown (7.5 YR 5/3); 55% clay, low to medium plasticity; 25% sand, well graded; 20% gravel, 6.9 0.187 CL well graded, fine to medium, trace coarse; moist. 1.6 Bl -265 4.7 0.165 265.5 CLAY with Gravel: 70% clay, very stiff; 10% sand, well CL graded, fine to coarse, 20% gravel, well graded, up to 2 0.262 33.1 266.5 inches; moist. GM Silty GRAVEL: pink (7.5 YR 7/3); 50% gravel, angular to 0.204 MW29-32.4 267.5 subrounded; 35% silt, non-plastic; 15% sand, poorly graded, SB060220very fine to fine, dry. 267 2.5 0.48 CL Sandy CLAY: 65% clay, low plasticity; 30% sand, poorly WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 graded, very fine to fine, subangular to subrounded; 5% 4.1 0.359 269.5 gravel, fine, subangular. CL 270.0 Gravelly CLAY with Sand: 60% clay; 15% sand; 25% gravel. 8.1 0.302 В GRAVEL: cemented gravel; hard. GW 0 271.0 No Recovery. 273.0 0.186 MW29-Silty SAND with Gravel: pale brown (10 YR 6/3). SB060320-273 0.122 SM 0.112 275.5 В No Recovery. Casing became stuck in formation and sample was lost while vibing it out. It is possible that sample came from 273 to 275.5 ft bgs. 280.0 -2800.321 CLAY with Sand and Gravel: reddish brown (2.5 YR 4/3); 1.6 85% clay, low plasticity, stiff; 15% sand, poorly graded, very В fine to fine, subangular to subrounded; trace gravel, fine. 3.2 0.461

Continued Next Page



BORING/WELL CONSTRUCTION LOG

MW-29

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

	PROJECT NAME								
							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
3.2 1.1 1.5	0.509	MW29- SB060320- 282		 					
1.8 2.4 3	0.556 0.462 0.479 0.365		B	 			Clay is firm.		
2.5 1.9 2.5	0.324 0.267 0.343	MW29- SB060320-		290- 	CL		Clay is very stiff.		 Hydrated bentonite pellet backfill (242 to 340 ft bgs).
3.2 2.6 1.6 2	0.321 0.295 0.285 0.197	292	В	 295- 			Clay is stiff.		
1.4 2.2 2.6 2.6 1.1	0.254 0.278 0.867			 			CLAY: 90% clay, medium plasticity; 10% sand, very fine; stiff;	300.0	
1.1 4.1 3.7 4.1 3.7 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5	0.574 0.361 0.584 0.312	MW29- SB060320- 302		- - 	CL GW CL		moist. 3-inch GRAVEL layer. CLAY: 90% clay, medium plasticity; 10% sand, very fine; stiff; moist. CLAY: 90% clay, medium plasticity; 10% sand, very fine; stiff; moist. CLAY: 90% clay, medium plasticity; 10% sand, very fine; trace gravel, fine, 0.25 inch diameter.	301.0 -301.3 302.0	
1.5 1.3 2.7 2.8 2.7 2.8	0.301 0.31 0.353 0.296		B	- 305 	CL		CLAY: 85% clay; 10% sand, very fine; 5% gravel, subrounded, up to 0.5 inch. CLAY: 90% clay, medium plasticity; 5% sand, very fine; 5% silt.	307.5	
7.8 7.8 10.2	0.191		В	 -310	OL.		CLAY with Sand and Gravel: reddish brown (2.5 YR 4/4); Continued Next Page	310.0	PAGE 11 OF 13



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER MW-29

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 5/27/2020 - 6/4/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 80% clay; 10% sand, poorly graded, very fine; 10% gravel, 0.192 5.1 well graded, fine, subangular to subrounded, up to 0.75 inch. CL 10.6 0.183 В 16.2 0.501 313.5 GRAVEL and SAND: cemented gravel and sand. 314.0 MW29-22.8 0.604 Gravelly SILT: 65% silt, non-plastic; 30% gravel, well graded, SB060320subangular to subrounded, up to 1 inch; 5% sand, poorly 315 ML 314 graded, very fine. 10.4 0.453 Clay is present. 316.0 ML 0.134 4-inch layer of powdery silt. 316.3 Clayey SILT: 40% silt (40%); 35% clay; 20% gravel; 5% sand. ML 14.2 0.483 B 318.0 CLAY with Gravel. 28.8 0.243 CL 319.0 5.7 0.24 Gravelly SILT: 65% silt, non-plastic; 30% gravel, well graded, ML subangular to subrounded, up to 1 inch; 5% sand, poorly 320.0 Hydrated -320graded, very fine. 25.5 0.221 bentonite pellet Clayey SAND with Gravel: 40% sand, well graded; 40% clay; backfill (242 to 20% gravel, well graded, up to 2 inches; dense; moist to wet. 2.2 0.219 340 ft bgs). 0.313 1.2 0.353 6.6 5.7 0.2 SC 325 5.6 0.174 0.192 16 0.149 8.6 0.141 MW29-Same as above except sand increases to 40%; clay decreases 23.7 SB060320to 30%, low plasticity, and gravel increases to 30%, dry to 329.0 328 0.386 14.3 Gravelly Clay: brown (7.5 YR 5/3). CL -330 7.7 0.231 330.5 Clayey GRAVEL GC 331.0 0.243 Gravelly CLAY: 70% clay; 20% gravel, well graded, fine to 14.7 coarse, up to 1 inch; 10% sand, well graded. CL 0.126 6.7 332.5 Clayey GRAVEL with Sand: 40% gravel, well graded; 30% sand, well graded; 30% clay; moist. 16.3 0.801 12.2 0.21 В GC Coarse gravel up to 3 inches in diameter from 334.5 to 335 ft 0.925 bgs. 14.5 17.5 0.66 337.0 Gravelly CLAY: brown (7.5 YR 5/3); 70% clay; 20% gravel, up 11.9 0.571 MW29-SB060420to 3 inches; 10% sand, well graded. 337 13 0.359 CL Continued Next Page



WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LAEWNN01.GDT 12/17/20

555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL PROJECT NUMBER

BORING/WELL NUMBER MW-29 DDO IECT NAME DATE DOIL LED 700 C 1600 E DCE Dlumo E/27/2020 6/4/2020

PROJECT NAM	1E	S 1600	DE PC	E Plume	DATE DRILLED 5/27/2020 - 6/4/20	20		
					Continued from Previous Page			
PID (ppm) Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S. GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WEI	LL DIAGRAM
Magnet Susceptities			DEPTH (ft. BGL)	U.S.C.S GRAPH GRAPH LOG	Becomes hard; cemented; may have some silt and clay. End of boring at 330 ft bgs.	OONTAL		LL DIAGRAM



WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 238824.6495-F3048-005.DRILL	BORING/WELL NUMBER MW-30
PROJECT NAME 700 S 1600 E PCE Plume	DATE DRILLED 5/22/2020 - 6/8/2020
LOCATION Salt Lake City, UT	CASING TYPE/DIAMETER 1-inch SCH 80 PVC
DRILLING METHOD Sonic	SCREEN TYPE/SLOT 1-inch SCH 80 0.020-slot
SAMPLING METHOD Sonic Grab	GRAVEL PACK TYPE #10/20 sand
GROUND ELEVATION (FT MSL) 4723.07	GROUT TYPE/QUANTITY Bentonite Grout
TOP OF CASING (FT MSL) See Table 5	DEPTH TO WATER (FT BGS)
LOGGED BY Joe Miller, Frank Morris	GROUND WATER ELEVATION (FT MSL)
REMARKS Groundwater was encountered at approximately 240 feet bos	

L R Magnetic Susceptibility SAMPLE ID. GRAPHIC LOG CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM No recovery. Hydrovac clearing from 0-10' bgs. Vault with cement surface 10.0 0.185 GRAVEL with Silt and Sand: dark brown (7.5 YR 3/4); 70% 82 fine gravel with a few cobbles/coarse gravel; 15% sand; 15% GP 8.2 0.185 silt; moist. GM 12.0 Bentonite Grout GRAVEL: 90% well graded gravel and cobbles, subangular; (3.5 to 20 ft 10% sand; loose; dry. GW bgs). ///>////>////>//// 11.9 0.331 14.0 Silty GRAVEL with Sand: brown (7.5 YR 5/4); 65% gravel, В well graded, rounded; 15% silt; 15% sand; 5% clay; loose; 15 12.4 0.078 MW30moist; some FeO staining. 3 to 4 inch cobbles around 18 ft SB052220bgs. Cohesive, angular, large cobbles around 20 ft bgs. 15 GM 4.8 0.14 0.157 7.1 20.0 20 GRAVEL with Sand: 60% fine to coarse gravel, 6 to 8 inch cobbles: 40% sand: loose: drv. GW 6.78 22.0 Silty GRAVEL 70% gravel, subangular to subrounded, 6 to 8 18.4 inch cobbles; 30% silt; cohesive in places; moist. 0.445 Hydrated 41.3 bentonite pellets (20 to 27 ft bgs). 10.1 0.206 26 27.5 27 GRAVEL with Sand and Silt: brown (7.5 YR 4/4); 70% fine to coarse gravel; 30% sand; 10% silt; loose; weakly cemented in GW 20.6 places; moist. MW30-GM 100.5 30.0 SB052220-6" soil vapor CLAY with Gravel: reddish brown (5 YR 4/3); 80% clay; 20% 29 point at 30 ft 1.5 CL fine gravel; cohesive; stiff; moist. bgs; #10/20 0.385 32.0 sand filter pack (27 to 33 ft bgs). 2 SAND with Gravel: 70% fine to coarse sand; 30% fine gravel; В 2.1 SW 0.152 34.5 0.7 35 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-30

PROJECT NAME

700 S 1600 E PCE Plume

1100	ECT NA		701	1600 E P	OLII	une	Continued from Previous Page	20	
	>-						Communa Torritorious Fage	<u> </u>	
PID (ppm)	Magnetic Susceptibility	SAMPLEID	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
0.4	0.174						SILT: light gray (10 YR 7/2); 50% silt; 40% clay; 10% sand; firm to stiff; cohesive; moist to wet.		
0.6	0.161		В	- 	ML				
1.9	0.085						Silty SAND with Gravel: brown (7.5 YR 5/4); 50% sand; 25%	39.0	
5.1	0.159		Ω	—40— – –	SM		silt; 25% gravel; loose; moist. Becomes cohesive near 40.8 ft bgs.		
6.2	0.105			_				42.0	
4	0.115			- 	sw		SAND with Gravel: reddish brown (5 YR 4/4); 80% fine to coarse sand, 20% fine to coarse gravel; loose; moist.	43.0	
1.6				 45			Silty GRAVEL: reddish brown (5 YR 4/4); 70% gravel, angular	45.0	
6.1	0.172						to subrounded, 30% silt; dense; moist. Becomes cohesive and has less gravel around 48 ft bgs.		
11.3	0.135	MW30-		 	GM		rias iess graver around 40 it bgs.		
15.9	0.137	SB052220- 48		 50			Silty GRAVEL: light brown (7.5 YR 6/3); 85% gravel; 15% silt; cemented; dense; dry to moist.	50.0	Hydrated
12.8	0.151					603	GRAVEL with Sand and Silt: 60% fine to coarse gravel; 30% fine sand; 10% silt; loose; dry to moist. Becomes moist and		bentonite pellets (33 to 237 ft
33.2	0.131			-			increase in silt around 57.5 ft bgs. Becomes weakly cemented		bgs).
68.5		MW30-		-		6.05	around 59 ft bgs.		
		SB052220- 53							
18.5	0.157	00	B	—55— – –	GW GM				
17.8				_		6.05			
17.8 12.5 27 27 37 37 37 37 37 37 37 37 37 37 37 37 37	0.251			-					
27	0.12			_		9:05		00.0	
≨ 37				 60			SAND with Gravel and Silt: reddish brown (5 YR 4/4); 50%	60.0	
17.5	0.202			 			sand, subangular to subrounded; 40% gravel; 10% silt; loose; moist. Few large cobbles near 65 ft bgs. 8 inch cobbles near 66 ft bgs.		
€ 6.7				<u> </u>	SW SM				
0Z 42.2	0.084		_	-	SIVI				
22.9			B	65 			City CDAVITLy raddish brown /F VD 4/4); COV/ fine to correct	66.0	
H 14.2	0.125			 			Silty GRAVEL: reddish brown (5 YR 4/4); 60% fine to coarse gravel, angular; 40% silt; cohesive in places; moist. Cohesive near 70 ft bgs.		
17.5 17	0.169								
9.6 24.1 20.2 55 55 55 56 56 56 56 56 56 56 56 56 56	0.242			—70— – –	GM				
ORIN V			R	-					
24.1	0.14			-					
台 20.2 55		MW30-						75.0	
₹				 75			Continued Next Page		PAGE 2 OF 9



BORING/WELL CONSTRUCTION LOG

MW-30

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

							Continued from Previous Page	_		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	W	ELL DIAGRAM
32.3	0.161	SB052220- 74					GRAVEL with Sand and Silt: dark reddish brown (5 YR 3/4); 60% fine to coarse gravel; 30% fine to medium sand; 10%			
20							silt; loose; moist. Silty lense at 86 ft bgs. Large cobbles (4 to 6 inches) at 89.5 ft bgs.			
14.7	0.042		R			60				
15.4										
45.4	0.454			-80-		0.00			Ш	
15.1	0.154								Ш	
17.8					GW					
45	0.138				GM	0.(),9				
17.7			B	—85 <i>—</i>						
16.1										
17.1	0.19									
13.5						600				
20.2	0.126									
				—90 <i>—</i>			GRAVEL with Sand: brown (7.5 YR 5/4); 65% fine to coarse	90.0		 Hydrated bentonite pellets
77.6	0.186					0.0	gravel; 35% sand, angular to subrounded; loose; moist; weakly cemented in places. 4 inch cobble at 92.7 ft bgs.			(33 to 237 ft bgs).
52.4					GW	0.0	•			bgs).
67.8	0.317					0.0				
	0.0		В	95		0,70		95.0		
48.2		MW30- SB052220-			GM		Silty GRAVEL: brown (7.5 YR 5/4); 60% fine to coarse gravel; 40% silt; cohesive; moist.	96.0		
83.4 28.4 113.2	0.509	95			GW	603	GRAVEL: fine to coarse, very dense, cemented. Less cemented near 98 ft bgs.			
00.4	0.503			_		600	GRAVEL with Sand: pale brown (10 YR 6/3); 70% fine to	98.0		
28.4	0.828					0.0	coarse gravel, sunangular to subrounded, 6 to 8 inch cobbles; 30% sand; dense; dry. Cemented in places near 100 ft bgs.			
				 100		0.0	Cemented near 104 ft bgs.			
	0.35				GW	6.0				
154.4		MW30-				0.0				
		SB052220- 102				000				
131.9			B	 105				105.0		
32	0.403						Silty GRAVEL: 70% fine to coarse gravel, angular to subangular; 30% silt; moist. Cohesive near 106.5 ft bgs.			
16.3	0.165						Weakly cemented near 108.5 ft bgs.			
10.3	0.103				GM					
154.4 131.9 32 16.3 31.1	0.216							440.0		
			H	 110			GRAVEL with Sand and Silt: reddish brown (5 YR 5/3 to 4/3);	110.0		
161 90.3 58.3	0.288	MW30-				6:17	medium to coarse gravel; dry to moist.			
90.3		SB060220- 111	В		GW					
58.3	0.703				GM					
55.5	3.7 03			 115		0.1.4		115.0		
			Ш	110			Continued Next Page			PAGE 3 OF



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-30

PROJECT NAME

700 S 1600 E PCE Plume

							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	0.299 0.367		D	 	GW GM		GRAVEL with Sand and Silt: reddish brown (5 YR 5/3 to 4/3); medium to coarse gravel; dry to moist.		
116.758.963.1	0.23			 120	CM	is ital	Silty GRAVEL with Sand: brown (5 YR 5/3); subangular clasts, up to 4 inch cobbles; trace clay; dry.	118.0	Ш
8.6 85.2	0.295			 	GM			122.5	Ш
64.7 66.3	0.121 0.369			 	CL GM		Clay Matrix. Silty GRAVEL with Sand: brown (5 YR 5/3); subangular clasts, up to 4' inch cobbles; trace clay; dry.	123.5 125.0	Ш
18.1 168.2 144.4	0.162		D.	125 	SW		SAND and GRAVEL: pinkish gray (5 YR 7/2); subangular to subrounded cobbles; some silt; dry. Brown (5 YR 4/3) from 125.5 to 126.5 ft bgs. Clay increases at 127.5 ft bgs.		Ш
74.6 43.2	0.312			 130			Silty GRAVEL with Sand: reddish brown (2.5 YR 4/4); slightly	130.0	< -Hydrated
51.2 51	0.608		R	 			more oxidized, red/brown clay approximatley 30% in upper zone; clay decreases with depth, . Hard zone at 135 to 135.5 ft bgs. Large, 3 to 4 inch, cobbles from 135 to 136 ft bgs.		bentonite pell (33 to 237 ft bgs).
62.432.580.3	0.143	MW30-		 135	GM				Ш
32	0.454	SB060220- 135	R	 			Silty GRAVEL: pinkish gray (5 YR 7/2); dry. Clay presented from 136 to 138 ft bgs.		Ш
38.2 18.4	0.151			 140	GC		Clayey GRAVEL with Silt: light red (2.5 YR 6/6); minor iron	140.0 141.0	Ш
42.5	0.339						 staining. Silty GRAVEL: reddish brown (5 YR 4/4); grading to more silty gravel, very loose, dry. Clay rich clayey gravel zone from 143 to 143.5 ft bgs. More abundant iron staining, light red (2.5 YR 	141.0	Ш
41 26.2	0.19		B	 145		以	6/6] from 148 to 149 ft bgs.		Ш
28.2 25.4 15	0.135			 		K			Ш
14.6 15.6	0.104			 	GM				IIII
12.7	1.21	MW30- SB060220-		—150— 			Silty GRAVEL with Sand: reddish brown (5 YR 5/3); dry; sand-rich zone from 153-154 ft bgs.		IIII
3.7 2.5	0.601	151	B	 					
10.3				 155	L		Continued Next Page		



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-30

	, ,						Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	W	/ELL DIAGRAM
				_		345		156.0		
7.2 3.2	0.13 0.178			_	SW	. o	SAND with Gravel: fine to medium, very loose.	157.0		
2.4			B			0, 0, 0	SAND and GRAVEL with Silt: light reddish brown (5 YR 6/4); very loose; dry.			
1.6	0.166			_			vory rocce, dry.			
1.9				-160-						
13.3				100			Oxidized zone from 160 to 161 ft bgs.			
28.8				_						
.0.0				_	CVA		Slight color change at 162 ft bgs to pinkish gray (7.5 YR 6/2).			
10	0.157				SW SM					
9.9	0.177			165						
3.7			B	 165						
3.9							Color change at 166.5 ft bgs to gray (7.5 YR 6/1); 3 inch			
7.1	0.215						layer.			
4.6	0.452							169.0		
8.4	4.22	MW30-					Gravelly CLAY with Silt: dark reddish brown (2.5 YR 3/4);			
		SB060220- 169		 170	CL		non-plastic, trace of limonite, possible magnetite, black grains; dry to moist.			 Hydrated bentonite pell
2 2	0.246						Silty GRAVEL with Sand: pinkish gray (5 YR 6/2); large,	171.5		(33 to 237 ft bgs).
3.2	0.216						subangular, 5 inch clasts, similar gray (7.5 YR 6/1) zone			ugs).
8.4	0.004						intermittent, increase in clay content 178.5 to 179 ft bgs.			
2.4 6.5	0.084		B							
				 175 						
7.3	0.369									
2.7	0.40	MW30-								
9.2	0.49	SB060220- 178	H							
9		-		 180	GM					
10										
8.2	0.440									
9.6	0.148									
8.4	0.004		B							
0.2	0.234			 185 						
5.2										
25.8	0.3									
								189.0		
20.7							GRAVEL with Sand and Silt: light gray (7.5 YR 7/1); fine to	109.0		
3.8	0.187		\forall	 190		13:13	coarse sand; very loose.			
0.4					GW GM		Light gray (7.5 YR 7/1) from 191 to 191.6 ft bgs; dry; 8 inch			
12.7			B		GiVI	6.434	layer. Color change to brown (7.5 YR 4/4) at 191.6 ft bgs. Slightly	400.0		
3.7	0.359			_		<u> </u>	more fines.	193.0		
6.3	0.166				GW	0.0	GRAVEL with Sand: medium to coarse sand; 3 inch cobbles; trace silt; very loose; dry.	405.0		
-	[7]		\square	 195		12.57	Continued Next Page	195.0		



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NU	JMBER	MW-30
DATE DRILLED	5/22/202	20 - 6/8/2020

	>					1 1				
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	W	/ELL DIAGRAM
8.2 8.4	0.252		Q	 	GW		Color change to light gray. GRAVEL with Sand: reddish brown (5 YR 5/4); medium to coarse sand; 3 inch cobbles; trace silt; very loose; dry. Clay increases from 195.5 to 196.5 ft bgs; dry to moist.	197.0		
5.7	0.138				GM		Silty GRAVEL; medium to coarse sand; loose; dry.	400.0	Ш	
4.5						0000	Pulverized rock, white to light gray.	199.0	Ш	
				- 200			SAND with Gravel and Silt: trace clay; moist to dry.	200.0	Ш	
20.8	0.364								Ш	
83.6							Increase in gravel, well graded, at 201.5 ft bgs.		Ш	
49.8	1.51		R		SW		100		Ш	
129.9	0.849	MW30-				200	Increase in clay/silt matrix from 202 to 203.5 t bgs.		Ш	
11.2		SB060320- 204		 205				206.0	Ш	
12.8	0.898						Gravelly CLAY: reddish brown (5 YR 5/4); low plastisity; 1		Ш	
7.9	0.090				CL		inch clasts; medium stiff; dry to moist.	208.0	Ш	
5.8	0.236		R	_	0144	, p, f, ,	SAND and GRAVEL with Silt : reddish gray (5 YR 5/2);		Ш	
3.7					SW SM		medium to coarse sand; greater than or equal to 1 inch gravel; very loose; dry. Rock Pulverized at 210 ft bgs.	210.0	Ш	
10.5				 210		0,000	SAND and GRAVEL with Silt: reddish brown (5 YR 5/4); medium to coarse sand, angular to subangular; dry.		Ш	Hydrated bentonite per
2.7					CVA		medium to coarse sand, angular to subangular, dry.		Ш	(33 to 237 f bgs).
5.2					SW SM				Ш	3-7
9.2 15.7			B	_				214.0	Ш	
13.1	0.882			 215		70	Clayey GRAVEL with Sand: reddish brown (5 YR 5/4); greather than 15% clay; loose.		Ш	
20 40.7					GC		g. cam.c. than 1070 ctay, 10000.		Ш	
52.7	1.04							217.0	Ш	
130.2	0.155					000	GRAVEL and Crushed Rock at 217 ft bgs.	218.0	Ш	
							Clayey GRAVEL with Silt: silt percentage increases with depth; dry to moist.		Ш	
4.9				-220-					Ш	
14.7					GC				Ш	
3.9		NAVA/20							Ш	
21.8		MW30- SB060320-					Large 4 inch cobble at 223 ft bgs.		Ш	
4.6		222	B				GRAVEL with Sand and Silt: very loose; dry.	224.0	Ш	
12.3				 225		609	GRAVEL With Sand and Silt. Very 1005e, dry.		Ш	
13.3										
12					GW GM	600			Ш	
3.9					Oivi				Ш	
10.7						609		229.5	Ш	
			H		CL		CLAY: olive gray (5 Y 5/2; greenish gray; slightly plastic; mottled; dry.	230.0		
					GC		Gravelly CLAY with Sand: reddish brown (5 YR 5/3 to 5/4);			
4.2	0.336				GC		low plasticity; dry to moist.			
17.3							GRAVEL with Sand and Silt: gray (5 YR 6/1); 2 to 3 inch	233.0		
25.2	0.357				GW	15 P. R	cobbles; very loose; dry.			
98.4				-235	GM	0,0	Continued Next Page	235.0		



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-30

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	1						Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	W	VELL DIAGRAM
3.9		MW30- GW060420-					GRAVEL with Sand and Clay.			
0.3	0.669	237 MW30- SB060320-			GW GC		Clay-rich zone at 237 ft bgs; wet. Saturated below 237 ft bgs.			#10/20 sand
1.2	0.51	237	B	 240						filter pack (237 to 253 ft bgs).
0.5	0.159						On the OLAY have and all this described by the described	241.0		
0.9					CL		Gravelly CLAY: large rock clast in clay matrix; dry to moist.			
1.3	0.225			_			Clayey GRAVEL with Sand: moist.	243.0		
4.2 3.1	0.141				GC		Glayey GRAVEL With Sand. Moist.	0.45.0		
				 245	GW		GRAVEL with Sand and Silt: saturated.	245.0 246.0		1-inch SCH 80 0.020-slot
1.8				_	GM CL	0.00	Gravelly CLAY: medium stiff; moist.	247.0		screen ZIST
0.9 3.8	0.27			 	CL		Sandy CLAY with Gravel: brown (7.5 YR 5/4); slightly plastic; medium stiff; moist to wet.	247.0		nested well (24 to 250 ft bgs).
5.1	0.255				-			249.5	:[[]:[]:	
6.8	0.200			 250	SM	.c : : :	Silty SAND with Gravel: medium to coarse sand; well rounded gravel; saturated at 250 ft bgs.	251.0		
2.1	0.2			_	GW		Grading to gravel with sand.	252.0		
2.2			B				Gravelly CLAY with Silt: reddish brown to weak red (2.5 YR 5/4 to 5/2); slightly stiff to stiff; dry to moist.			
1.9 2.5	0.195						5/4 to 5/2), slightly still to still, dry to moist.			
2.4	0.308			255						
1.7					CL					
2.3	0.151									
3.1	0.138									
1.2					CD		Coarse gravel zone with heavy clay matrix; dry to moist.	259.0		
1.2				-260	GP		Gravelly CLAY with Silt: reddish brown to weak red (2.5 YR	260.0		
2.6					CL		5/4 to 5/2); slightly stiff to stiff; dry to moist.	262.0		
2.6	0.037			L _			Gravelly CLAY with Silt: reddish brown to red (2.5 YR 5/4 to			
3.6	0.057						5/6); slightly plastic; dry to moist.			
3.5										
9	0.638		B	-265 -			Coarser gravel with heavy clay matrix at 265 ft bgs; dry to			
18.6		MW30-		_			moist.			← Hydrated
18.7	0.043	SB060420- 266		_	<u></u>					bentonite pellet seal (253 to 28
0.7					CL					ft bgs).
2.6 2.6 3.6 3.5 9 18.6 18.7 0.7	0.047									
12.5	0.195			L -						
15.5			В	<u> </u>						
19.6	0.226							274.0		
19.0	0.226						Clayey GRAVEL: fairly loose; dry to moist. Grades to coarse			
				275-			Continued Next Page			PAGE 7 OF



BORING/WELL CONSTRUCTION LOG

MW-30

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

					1		Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
49.2	0.286				GC	*	sand and gravel below.	276.0	
46.5 58.6	0.200				SW		SAND and GRAVEL: pink (5 YR 7/3); coarse sand and	277.0	
49	0.426				CL		gravel; dry to moist. CLAY with Gravel: dry.	278.0	
5.1	0.420				GC	7	Clayey GRAVEL; dry to moist.	279.0	
30.4	0.211	MW30-		 280	GW GM		GRAVEL with Sand and Silt: reddish brown (2.5 YR 4/4); dry to slightly moist; more silt from 280 to 281 ft bgs.	281.0	
27.3		GW060520- 280			Oivi		Gravelly CLAY with Silt: reddish brown (2.5 YR 4/3);	201.0	#10/20 sand filter pack (280
24.2	0.036	200			CL		non-plastic; stiff; dry to moist.		to 294 ft bgs).
28.8			1 1					283.5	
23.1 27.4	0.061		В	 285	GW		GRAVEL with Sand, Clay and Silt: reddish brown (2.5 YR 5/3); 3 to 4 inch clasts; moist to wet.		
16.6 28.1	0.038	MW30-			GC			287.0	
20.8	0.315	SB060520- 286		 	sw		SAND and GRAVEL: pale red (2.5 YR 7/2); mostly gravel; medium to coarse sand; some silt; dry.	288.5	1-inch SCH 80 0.020-slot ccreen ZIST
20.3					SP	76	SAND with GRAVEL: coarse sand; some silt; very loose;		nested well (28 to 292 ft bgs).
16.4	0.009			- 290	ļ		saturated. Top 1.5 ft bgs of core missing.	290.0	.
28.6							Top 1.5 It bgs of core missing.	291.5	
20.0				- - -	CL		Gravelly CLAY with Silt: reddish brown (2.5 YR 4/3); stiff; dry to moist.	293.0	
21.8	0.114					0.1.0	GRAVEL with Sand and Silt: pale red (2.5 YR 7/2); dry to moist. Hard drilling. Large boulder of sandstone or quartzite		
33.3	0.118			295			cored 294 to 295.2 ft bgs.		
78.7			B	-295-					
62.4					GW				
51.6	0.131				GM		Becomes moist to wet from 297 to 298 ft bgs.		
5 29.1	0.032	MW30- GW060520- 298					Angular clasts of broken shale; rounded to subrounded clasts of metamorphic rock and quartz; dry; reddish brown (2.5 YR 4/3).	200.0	
		200		300		0.1.154	Missing to 1'- hard drilling.	300.0	
21.6				 	GC		Clayey GRAVEL: reddish brown (5 YR 5/3); mottling; moist to wet. Iron staining at 301.5 ft bgs.	301.0	
26.1	0.003			_			Sandy SILT; matrix predominant. Slightly moist from 304 to	303.0	
23			1 +		ML		308 ft bgs.		■ Hydrated
15.4	0.035		B	-305-	IVIL				bentonite pelle seal (294 to 3
30.6	0.089	MW30-			CL		CLAY Lens.	306.0	ft bgs).
31.5	0.000	SB060520-			GC		Clayey GRAVEL.	3.5	
	0.003	306			GC			308.5	
51.1	0.003				GW		GRAVEL with Sand and Silt: pinkish gray (5 YR 6/2); coarse;		
53			H	-3 10	GM	5°4.K	very loose. Missing Core; washed out.	310.0	
2012	0.045			- -			Gravelly CLAY with Silt: 2 inch clasts; moderately stiff to stiff; moist.	313.0	NO. 10. 10.00 No.
294.2	0.012			-315-	CL				K: 4 (-) 4 (-)



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

__MW-30 5/22/2020 - 6/8/2020

							Continued from Previous Page				
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH	(II. BGL) U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WEI	LL DIAGRAM	
219.3 420.1 448.5 3.8 17.2	0.024	MW30- SB060720- 316.5	B.	 	- - - GM		Silty GRAVEL: 15% clay; very loose; saturated.	316.5		#10/20 sand filter pack (3 to 330 ft bgs	
89.4 221.7 715.2		MW30- GW060720- 320		-3 20- 	- CL		Missing; too wet for description. Gravelly CLAY and Sand with Gravel: alternating 1 foot beds.	320.0 321.0		- 1-inch SCH 8 0.020-slot screen ZIST	
617 479 90.6 14.1			B	 -32 5 - 	SP SM	0.0.	SAND with Gravel and Silt: fine to medium sand. Color change to alternating reddish brown and pinkish gray (5 YR 4/3 and 7/2) from 325.5 to 326.5 ft bgs. Moist to wet at 326.5 ft bgs.	325.0		nested well (i to 327 ft bgs)	
55.5 112.3				 -3 30	- GM		Silty GRAVEL: broken shale clasts. Light red (2.5 YR 6/8); oxidized iron staining from 329 to 330 ft bgs. Gravelly CLAY with Silt: reddish brown (2.5 YR 5/3); low	330.0			
11.8 4.6 12.3 13.7				 	- - - CL		plasticity; stiff; moist to dry.				
5.75.52.2		MW30- SB060720- 336	-	B-	-335 - 	- - GM		Silty GRAVEL with Clay: moist to wet.	335.5		
5		330			CL		Gravelly CLAY with Silt: iron stained clasts; stiff to very stiff; dry.	339.0			
6.3		MW30-		340	GM		Silty GRAVEL with Clay. Gravelly CLAY: reddish brown (2.5 YR 5/3); moist.	340.0		Hydrated bentonite pel	
2.8		GW060720- 340		 	CL GM		Silty GRAVEL: some sand; dry to moist.	341.5 342.5		backfill (330 350 ft bgs).	
36.3 18.1		Ferrous Iron soil			_ CL		Gravelly CLAY with Silt: moist.				
23.2		sample	B	-345-	SP	.0	SAND and GRAVEL with Silt: moist.	345.0 346.0			
4.4					SM -		Gravelly CLAY with Silt: moist to wet.				
1.1 2.3			-		- CL						
8.9					GC		Clayey GRAVEL: some silt; moist.	349.0 350.0			
				3 50			End of boring at 350 ft bgs.				



WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 238824.6495-F3048-005.DRILL	BORING/WELL NUMBER MW-31
PROJECT NAME 700 S 1600 E PCE Plume	DATE DRILLED 6/9/2020 - 6/12/2020
LOCATION Salt Lake City, UT	CASING TYPE/DIAMETER 1-inch SCH 80 PVC
DRILLING METHOD Sonic	SCREEN TYPE/SLOT 1-inch SCH 80 0.020-slot
SAMPLING METHOD Sonic Grab	GRAVEL PACK TYPE #10/20 sand
GROUND ELEVATION (FT MSL) 4655.22	GROUT TYPE/QUANTITY Bentonite Grout
TOP OF CASING (FT MSL) See Table 5	DEPTH TO WATER (FT BGS)
LOGGED BY Joe Miller	GROUND WATER ELEVATION (FT MSL)
REMARKS Groundwater was encountered at approximately 130 feet has	

L Magnetic Susceptibility SAMPLE ID. GRAPHIC LOG CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT BGL) DEPTH LITHOLOGIC DESCRIPTION WELL DIAGRAM ₩. Hydrovac to 10 ft bgs. Vault with cement surface seal ► Bentonite Grout (3 to 14 ft bgs). 10.0 Silty GRAVEL with Sand: reddish brown (5 YR 5/4); 50% gravel; 25% sand; 25% silt; elongated; dry. GM 8.6 0 12.0 Gravelly SILT: brown (7.5 YR 4/4); moist. 3.9 19.2 0 7 В ML 82.1 MW31-SB060920-15 12 18.0 14.9 Silty CLAY with Gravel: brown (7.5 YR 4/4); moist. CL 20.0 7.6 Silty CLAY with Gravel: brown (7.5 YR 4/4); loose; coarse 21.6 CL gravel: moist. 22.0 14.4 Gravelly SILT with Sand: 50% silt; 30% gravel; 20% sand; ML 61.5 MW31-24.0 SB060920-30.4 Gravelly SILT with Sand: same as above, becomes dry. 23 25 ML Hydrated bentonite pellets 26.0 (14 to 135 ft Gravelly SILT with Sand: 50% silt; 30% gravel, up to 4 inches 13.3 ML 27.0 bgs). in diameter; 20% sand; moist. 13.3 Silty GRAVEL with Sand: brown (7.5 YR 4/4); 40% gravel, some large up to 4 inches, poorly graded; 10% sand; 40% silt; 8.9 moist to dry. GM 4.2 30 Color changes to white (7.5 YR 8/1); hard rock layer; 31.0 powdery; dry. Silty CLAY: reddish brown (5 YR 4/4); stiff; moist. CL 32.5 12.9 Silty GRAVEL: reddish brown (5 YR 4/4); 50% Gravel (50%)-20.3 PG, Sand (10%)- F-C, Silt (40%). Loose; Moist . GM 27.9 Continued Next Page PAGE 1 OF 8



BORING/WELL CONSTRUCTION LOG

__MW-31

PROJECT NUMBER

PROJECT NAME

238824.6495-F3048-005.DRILL

700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED

6/9/2020 - 6/12/2020

- 1100	ECT NA	100	0 1	600 E P	CE FI	urne	DATE DRILLED6/9/2020 - 6/12/20	20						
							Continued from Previous Page							
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM					
9.4 147 18.9 20			В.	 	CL	34 5	Silty CLAY: reddish brown (5 YR 5/4); soft, loose; moist.	36.0						
42 5.6				 40	CL		CLAY with Sand: brown (7.5 YR 5/4); 95% clay, 5% sand; soft, moist.	40.0 41.5	Ш					
6.8 5.7				- - - -	GC		Clayey GRAVEL: 75% gravel, poorly graded; 25% clay; moist. GRAVEL with Silt and Sand: dark gray (7.5 YR 4/1); 60%	42.5	IIII					
9		MW31-	B	 45	GM		gravel, poorly graded, elongated; 20% sand; 20% silt; moist to dry. CLAY with Sand: brown (7.5 YR 4/4); 95% clay, 5% sand;	45.0	IIII					
4 6.2		MW31- SB060920- 45		 	CL GP		soft. GRAVEL with Silt and Sand: brown (7.5 YR 5/3); 70% gravel; 20% sand, poorly graded; 10% silt; moist to dry.	46.5	Ш					
2 25.2				 50 	GP		GRAVEL with Silt and Sand: brown (7.5 YR 4/4); 90% gravel; 5% sand, poorly graded, 5% silt; loose; moist to dry .	50.0	Hydrated bentonite pellets (14 to 135 ft bgs).					
11.7 2.7										CL		Silty CLAY with Gravel: brown (7.5 YR 4/4); loose, crumbles easily. GRAVEL with Silt and Sand: white (5 YR 8/1) and reddish	53.5	3-7
2.7 2.2 5.5			B	 55 	GP ML		brown (5 YR 5/3); 90% gravel, 5% sand, 5% silt; loose, poorly graded; moist to dry. Gravelly SILT: 60% silt, 40% gravel, poorly graded; 3 inches as silt, moist.	55.0						
6 4.5					CL		Silty CLAY with Sand: reddish brown (5 YR 4/4); doesn't roll, but sticks together, some gravel less than 0.25 inch in diameter; moist.	58.2	IIII					
2.2 5.5 6 4.5 14.3 19.5 21.5 15.4 13.6 2.9 2.1 1.5 11.6			B	60 	CL		Silty CLAY with Sand: reddish brown (5 YR 4/4); 98% clay, low plasticity; 2% sand, fine; soft to moderate; moist.							
5				 	GM		Silty GRAVEL with Sand: reddish brown (5 YR 4/4); 50% gravel,poorly graded, elongated, up to 3 inches in diameter; 40% silt, 10% sand; loose; dry to moist.	68.0 70.0	IIII					
2.9 2.1				70 	ML		Clayey SILT with Sand: brown (7.5 YR 5/3); 95% silt and clay, 5% sand, trace gravel, compact, soft to moderately hard; moist.		IIII					
1.5			B	 	SM		Silty SAND with Gravel: brown (7.5 YR 5/4); 60% sand, 40% gravel; loose; moist.	72.5 74.0	IIII					
11.6				 75			GRAVEL with Silt and Sand: white/pinkish; 60% gravel, poorly Continued Next Page							



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

_MW-31

DATE DRILLED	6/9/2020 - 6/12/2020

							Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	V	VELL DIAGRAM
4.1					GP GM	76	graded, trace 4 inch round pieces; 20% sand; 20% silt; loose.	76.0		
2.5 4.2 3			В	 	GP GM		GRAVEL with Silt and Sand: reddish brown (5 YR 4/4); 70% gravel, poorly graded, some 2 to 3 inches in diameter; 15% sand; 15% silt; dry to moist.			
4.4				—80— <u> </u>	CL		Silty CLAY: 6 inches of silty clay with gravel.	80.0 80.5		
5.3		MW31-		 	GP		GRAVEL with Silt and Sand: reddish brown (5 YR 4/4); 90% gravel, coarse, poorly graded, 5% sand, 5% silt; loose; dry to moist.	82.5		
26.3		SB060920- 82			CL		Silty CLAY with Gravel and Sand: reddish brown (2.5 YR 4/4); 80% silty clay, 20% sand and gravel; compact; moist.	84.0		
13.3 19.2 16.6 12.1		52	В	 85 	GP		GRAVEL with Silt and Sand: reddish brown (5 YR 4/4); 90% gravel, coarse, poorly graded, some 2 inch gravel, elongated; 5% sand, 5% silt, loose; dry to moist.	04.0		Hydrated bentonite pellets (14 to 135 ft bgs).
								90.0		
14.3				—90 <i>—</i>	GP		GRAVEL with Silt and Sand: reddish brown (5 YR 4/4); 90%	91.0		
19.4					GP		gravel, poorly graded, 5% sand, 5% silt and clay; loose. GRAVEL: light gray (5 YR 7/1); powdery gravel; loose; dry.	92.2		
46.1							GRAVEL with Sand: reddish brown (5 YR 5/4); 90% gravel,	92.2		
12.4					0.0		10% sand, poorly graded, loose; dry to moist.			
66.2		MW31- SB060920- 94	В	—95—	GP			96.0		
37.2					CL		Silty CLAY with Gravel: reddish brown (5 YR 5/4); 90% silty clay; 10% sand and gravel; stiff.	97.0		
37.2 15.2 5.4 17.4							GRAVEL with Sand and Silt: white (2.5 YR 8/1); 90% gravel,			
5.4					GP		poorly graded, up to 2 inches in diameter; 5% sand; 5% silt; loose; dry.			
NN NN				 100				100.0		
[17.4							Silty GRAVEL with Sand: white (5 YR 8/1); 70% silt; 30% gravel, poorly graded, up to 4 inches in diameter; trace sand;			
30.9					ML		loose, powdery, dry.	102.5		
43.1					SM		GRAVEL with Sand and Silt: white (5 YR 8/1); 60% gravel, poorly graded; 20% silt; 10% sand; loose; dry.			
SIC VA PLUME DRAFT DEC2020_WTJM.GPJ L 30.9 43.1 5.8 5.8 17.3 13.8 13.8 13.8			В	 105			Clayey SILT with Sand: 5 YR 5/5; Clayey Silt (99%), Sand (<1%); Moist .	104.0		
5.8 5.8					ML					
当 17.3								107.5		
MO 4.4					GP	75	GRAVEL with Sand and Silt: 80% gravel, poorly graded; 10% sand; 10% silt; loose; moist to dry.	465.5		
13.8					GP	171	GRAVEL with Silt: 80% gravel; 20% silt; loose.	109.0		
47.6 47.6 58.3 39 39 39 44.4 44.4				110 	CL		Silty CLAY with Sand: dark reddish brown (2.5 YR 3/4); 99% clayey silt; 1% sand; moist.	110.0		
44.4		MW31-	R					112.8		
58.3		SB060920- 112		⁻	GM		Silty GRAVEL: dark reddish brown (2.5 YR 3/4); poorly graded; loose to compact; moist.			
当 39					GIVI			115.0		
≶				 115			Continued Next Page			PAGE 3 OF 8



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

__MW-31 BORING/WELL NUMBER

	ECT NA			24.6495- 1600 E P			DATE DRILLED 6/9/2020 - 6/12/202	20		
-1103		100 <u>700</u>	7 0 1	1000 L 1	CLII	unic				
					1		Continued from Previous Page		<u> </u>	
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	V	VELL DIAGRAM
2.5					CH		Soft CLAY: brown (7.5 YR 5/4); High Plasticity, Cohesive; Moist.	116.0		
10.3			B	_ 	SIVI		Silty SAND: reddish brown (5 YR 4/4); 50% Sand, 50% Silt - 6" layer.	_116.5	Ш	
3.3				- 	CL		Silty CLAY: reddish brown (5 YR 4/4); 95% Silty Clay, low plasticity; 5% Gravel; trace sand; can't roll or form; non-cohesive; soft and loose; moist.	120.0	Ш	
7.7 12.3				120 	GP		GRAVEL with Sand and Silt: pinkish gray (7.5 YR 6/2); 80% Gravel, coarse, poorly graded; 10% Sand; 10% Silt; Dry.		Ш	Hydrated bentonite pellets (14 to 135 ft
18.9				- -	CL	1111	Silty CLAY with Gravel: reddish brown (5 YR 5/4); 6 inch of very stiff.	122.0 122.5		bgs).
15.1			7		GP	X	GRAVEL: white (7.5 YR 8/1); 50% Gravel; powdery gravel, loose; dry.	125.0	Ш	
5.2 11.9			B	125 -	GP	D	GRAVEL with Silt and Sand: brown (7.5 YR 5/3); 80% Gravel, coarse, poorly graded; 10% Sand; 10% Silt; Dry.	126.5	Ш	
11.8					GP GM		Silty GRAVEL: brown (7.5 YR 5/3); 60% Gravel, coarse, poorly graded; 30% Silt; 10% Sand; Medium Dense; Dry.	127.5		
4.4					GP		GRAVEL: white (7.5 YR 8/1); powdery gravel, poorly graded, coarse; very hard drilling.	129.5	Ш	
16.6				 130	CL		Silty CLAY with Gravel: poorly graded, coarse, very hard drilling; moist.	130.0	¥	
17.4					GM		Silty GRAVEL: light brown (7.5 YR 6/3); 70% Gravel; 30% Silt; loose, may have been wet but dried due to heat; moist to wet.	132.0	Ш	
14.2 31.8		MW31- SB061020-			GP		GRAVEL with Silty Clay: 80% Gravel, 20% Silty Clay, same sand, poorly graded, may have been wet.	134.0	Ш	
9.4		133	В	—13 5 —		X	GRAVEL with some Silt: pinkish white (7.5 YR 8/2); coarse, poorly graded; very loose; dry.			1 M
16					GP	X				#10/20 sand
0.4		MW31-		_	GM		Silty GRAVEL: reddish brown (2.5 YR 5/4); 6 inches of hard silty gravel, coarse, loose.	137.5 138.0		filter pack (135 to 151 ft bgs).
6 15.5		GW061020- 138		 140	CL		Silty CLAY: yellowish red (5 YR 4/6); 98% silt clay, 2% gravel; stiff, low plasticity; moist to dry.	140.5		
8.9							Silty CLAY with Gravel: yellowish red (5 YR 4/6); 60% silty clay; 40% gravel; loose, easy to break up; moist to dry.	140.3		
20.3					CL					1-inch SCH 80
22.4) (0.020-slot screen ZIST
14.2			B	 145 			GRAVEL with Silt: brown (7.5 YR 4/4); 60% gravel; 40% silt;	145.5		nested well (138 to 148 ft bgs).
2.7					GM		loose, about 1 inch wet, then back to very stiff; wet. Silty CLAY: strong brown (7.5 YR 4/6); Very Stiff, Low	147.0		
15.5 8.9 20.3 22.4 14.2 6.9 2.5 2.5 2.3 1.8 19 13				 	CL		Plasticity, less than 1% gravel.			
2.3				 150	CL		CLAY with Silt and Sand: yellowish red (5 YR 4/6); 95% clay,	150.0 151.0		
19					CL		5% sand/silt (<5%); soft, medium plasticity; moist. Silty CLAY with Gravel: 90% silty clay; 10% gravel; compact.	152.0		
13			В		GM		Silty Clayey GRAVEL: reddish brown (5 YR 5/4).	154.0		
5.1				 155	GP		GRAVEL with Sand and Silt: yellowish red (5 YR 4/6);90%	154.0 155.0		
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BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER __MW-31

	ECT NA			1600 E P			DATE DRILLED 6/9/2020 - 6/12/20)20	
							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
6 6.8 15.5			В	 	CL		gravel; 5% sand; 5% silt; loose; coarse; wet. Silty Clay with GRAVEL: soft, loose to medium compact; dry.	159.0	
31.4		MW31-		-	CL		Silty CLAY with Gravel: yellowish red (5 YR 4/6); hard; dry.	160.0	
1.5 1.6 2.3		SB061020- 159		- 160 	GM		Silty Sandy GRAVEL: brown (7.5 YR 4/4); loose, some 1 inch gravel, trace 4 inch gravel; wet then moist then dry.		
1.4 1.3 1 0.8 0.4			В	165 	CL		Clay with GRAVEL: 99% stiff clay; 1% gravel; can be rolled; moist.	165.0	≪ Hydrated
8.7 2.2 16.3 8.6 7.1				170 	GM CL		GRAVEL with Silt and Sand: yellowish red (5 YR 5/6); 60% gravel; 20% sand; 20% silt; loose, wet. CLAY: yellowish red (5 YR 4/6); stiff clay; can be rolled; medium plasticity; moist.	170.0 172.0	béntonite pellet seal (151 to 187 ft bgs).
			B	175 <u></u>				176.0	
32.1		MW31- SB061020- 176		 	CL		CLAY: yellowish red (5 YR 5/6); stiff clay, low plasticity. Silty CLAY with Gravel; brown (7.5 YR 5/4); 50% silty clay; 50% gravel; moist.	177.0	
49.9				180 	CL		Silty CLAY with Gravel: brown (7.5 YR 5/3); 70% silty clay; 30% gravel; trace sand; soft, loose; moist.	180.0	
29.8 29.8			B	 - 185-	SM		Silty Clayey SAND with Gravel: strong brown (7.5 YR 4/6); coarse, low plasticity, loose; hard rock - 2 inch thick layer; moist.	182.5	
A PLUME DRAFT L				 	GP		GRAVEL with Sand and Silt: storng brown (7.5 YR 4/6); coarse, poorly graded, loose, wet.	186.0	###10/20 sand
32.1 32.1 32.1 32.1 32.1 32.1 32.1 32.1		MW31- GW061120- 190 MW31- SB061120- 190	В	 190 			Gravelly CLAY with Sand: light brown (7.5 YR 6/3); 60% clay; 40% gravel; trace sand; soft, broken up easily, wet.	190.0	filter pack (187 to 202 ft bgs).
17.1				 -195-	CL		Continued Next Page		



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 238824.

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER MW-31

DATE DRILLED 6/9/2020 - 6/12/2020

	Continued from Previous Page													
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WEL	L DIAGRAM				
8.4										- 1-inch SCH 80				
13.1								197.0		0.020-slot				
3.1			B		CL		Gravelly CLAY with Sand: light brown (7.5 YR 6/4); same as above except larger gravel - 2 to 4 inches in diameter; wet.			screen ZIST nested well (19				
19.2				_	01		Silty CLAY: yellowish red (5 YR 4/6); very stiff, low plasticity,	199.0		to 200 ft bgs).				
8.1				- 200	CL		can't roll/form.	200.0						
10.9							Silty CLAY: brown (7.5 YR 4/4); stiff, medium plasticity; moist.							
15.2					CL									
15.1								204.0						
5.4							Silty CLAY with Gravel and Sand: 60% Gravel and Sand; 40%							
10.1			B	 205	GC		Silty Clay; Loose; Wet.	206.0						
							Silty CLAY: brown (7.5 YR 4/4); Stiff; Moist.							
1.6					CL									
8.0														
1 1				- 210			Silty CLAY: brown (7.5 YR 4/4); Medium Plasticity; Moist.	210.0						
1.1 1.6							Sitty CLAY, brown (7.5 YR 4/4), Medium Plasticity, Moist.							
1.5					CI									
1.2					CL					Hydrated				
								245.0		bentonite pellet				
1.4		MW31-	B	 215			Silty CLAY: strong brown (7.5 YR 5/6); Trace Sand,	215.0		seal (202 to 22 ft bgs).				
1.6		SB061120- 215					Cohesive, Medium to Stiff, High Plasticity; Moist to Dry.							
31														
10.6					СН									
				 220										
12														
56								222.0						
7.6														
67.6														
07.0			B	-225-										
										- #10/20 sand				
							Gravelly SILT: brown (7.5 YR 5/3); same as above, becomes			filter pack (225 to 240 ft bgs).				
3.1					ML		wet.			10 240 11 bgs).				
								230.0						
1.3		MW31- GW061120-	П	2 30			Silty GRAVEL: brown (7.5 YR 5/3); gravel up to 2 inches in diameter; some sand; loose; wet.			1 inch 001100				
		230			GM	汉	ulameter, some sand, nouse, wet.			1-inch SCH 800.020-slot				
1.4			B	_				233.0		screen ZIST nested well (22				
2				_	CL		Silty CLAY: brown (7.5 YR 5/3); silty clay, medium plasticity.	234.0		to 238 ft bgs).				
1.8				235			Silty Clayey GRAVEL: light brown (7.5 YR 6/3); 60% gravel,							
	1		Ш				Continued Next Page			PAGE 6 OF				



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER MW-31

DATE DRILLED 6/9/2020 - 6/12/2020

	>						Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
1.4					GM		40% silty clayey; moist to wet.	236.0	
4.4		MW31- SB061220- 236	В	 	CL		Silty CLAY with Gravel: brown (7.5 YR 5/3); moderately stiff, medium plasticity; moist.		
								240.0	
1.5				240			Silty CLAY with Sand: strong brown (7.5 YR 5/6); stiff to medium stiff, low plasticity; moist to dry.		
2.5							mediani stiri, iow plasticity, most to dry.		
3.5									
3.2									
5.1					CL				
2.2				 245					
2.2									
2.7								248.0	
2.2				_			Silty CLAY with Sand: strong brown (7.5 YR 5/6); same as		
					CL		above, except dry.	250.0	
7.3				 250			Silty CLAY with Gravel: brown (7.5 YR 4/4); compact, low		
90.4							plasticity, 2 inch thick rock; moist to dry.		
19.2		MW31-			CL				
15.2		SB061220- 252						254.0	
		202		_	CL		Silty CLAY with Gravel: brown (7.5 YR 4/4); same as above	255.0	
9.6			B	 255	+		except more loose and dry. Core is very hot, hard drilling; dry.	255.0	
3							Silty CLAY: brown (7.5 YR 5/3); appears wet on outside; sample fell down the casing, inside of core dry, low plasticity;		
0.2				_			dry.		
0.3					CL				
									► Hydrated
0.1				-260-					bentonite pe backfill (240
10.6					-		CLAY with Gravel: 70% clay; 30% gravel; medium stiff; moist	261.0	278 ft bgs).
16.4					CL		to dry.		
18.6				<u> </u>	CI		Silty CLAY with Gravel: light brown (7.5 YR 6/3); 50% silty	263.0	
25.2					CL		clay; 50% gravel; moist.	264.0	
1.7			B	-265-			Silty CLAY with Gravel: brown (7.5 YR 4/4); 70% silty clay, low plasticity; 30% gravel; medium stiff; moist.		
12.3							ion placifold, 50% gravel, modern clin, mode.		
12.5					CL				
4.4									
4.1					_		Clause CDAVEL - harris (7.5.VD 4/4) 200/	269.0	
19.7		NAVA404	Щ	 270	GC		Clayey GRAVEL: brown (7.5 YR 4/4); 60% gravel; 40% clay; moist to dry.	270.0	
		MW31- SB061220-			GC		Clayey GRAVEL: brown (7.5 YR 4/4); 60% gravel, coarse;		
9.6		270		_	-		40% clayl loose; moist to wet.	272.0	
			B		CL		Silty CLAY with Gravel: 95% silty clay, medium plasticity; 5% gravel; moist.		
9.1				_				274.0	
4.7				275			Silty CLAY with Gravel: 98% silt clay, medium plasticity; 2%		



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

DATE DRILLED 6/9/2

MW-31

PROJECT NAME

700 S 1600 E PCE Plume

DRILLED 6/9/2020 - 6/12/2020

			\Box		I		Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
					CL		gravel; medium stiff.	276.0	
5.7							Silty CLAY with Gravel: yellowish red (5 YR 4/6); same as		
6.3			B				above except lower plasticity; moist to dry.		
					CL				
4.4				-280-					
4.4				_			Clause CDAVEL brown /7.5 VD 4/A) and the maintain was	282.0	
15.6					GC		Clayey GRAVEL: brown (7.5 YR 4/4); soft; moist to wet. Silty CLAY with Sand: brown (7.5 YR 4/4); Less than 1%	283.0	
9							sand, stiff to moderately stiff, low plasticity; moist.		Native soil.
10.2			R	- 285	CL				
7.3								286.5	
12.4					0147	600	GRAVEL: pinkish gray (7.5 YR 7/2); very hard, cemented; dry.		
9.3					GW	000	,	289.0	
22.8		MW31-			CL		Gravel is loose.	290.0	
		SB061220- 289		 290		7////	Silty CLAY with Sand: brown (7.5 YR 5/3); 90% silty clay, low plasticity; 10% sand; dry.		
			1						1



WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

555 17th Street, Suite 500 Denver, CO 80202 (303) 383-2300

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 238824.6495-F3048-005.DRILL	BORING/WELL NUMBER MW-32
PROJECT NAME 700 S 1600 E PCE Plume	DATE DRILLED 6/22/2020 - 6/28/2020
LOCATION Salt Lake City, UT	CASING TYPE/DIAMETER 1-inch SCH 80 PVC
DRILLING METHOD Sonic	SCREEN TYPE/SLOT 1-inch SCH 80 0.020-slot
SAMPLING METHOD Sonic Grab	GRAVEL PACK TYPE #10/20 sand
GROUND ELEVATION (FT MSL) 4566.22	GROUT TYPE/QUANTITY Bentonite Grout
TOP OF CASING (FT MSL) See Table 5	DEPTH TO WATER (FT BGS)
LOGGED BY Whitney Treadway, Kimberly Myers	GROUND WATER ELEVATION (FT MSL)
REMARKS Groundwater was encountered at approximately 95 feet bgs.	. ,

Magnetic Susceptibility SAMPLE ID. GRAPHIC LOG CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM Hydrovac to 10 ft bgs. Silty GRAVEL. Vault SLC Approved GM Concrete 0 to 10 ft bgs. 10.0 GRAVEL with Sand and Clay: reddish brown (5 YR 4/4); 50% gravel and cobbles, poorly graded, mostly coarse, angular to subrounded; 40% sand, poorly graded, mostly fine to medium, 0.3 0.082 subangular to subrounded; 10% clay, medium plasticity; moist. Gravel and cobbles within clay.
Same as above except 30% sand, 20% clay. GP Bentonite Grout (10 to 17 ft bgs) 7.1 0.67 MW32-SB062220-15.0 В 14 SAND with Gravel and Clay: reddish brown (5 YR 4/4); 60% sand, poorly graded, mostly fine to medium subangular to 3.1 0.37 subrounded; 30% gravel, well graded, fine to coarse, cobbles; 10% clay matrix. Less lithified than above. SP Hydrated Same as above except less lithified. bentonite pellets (17 to 18 ft bgs). 0.094 20.0 #10/20 sand 20 SAND with Gravel and Clay: reddish brown (5 YR 4/4); 50% filter pack (18 to sand, poorly graded, mostly fine to medium, subangular to 22 ft bgs) with 6-inch stainless SP subrounded, 40% gravel and cobbles, poorly graded, coarse, 0.223 subangular to subrounded, up to 6 inches in diameter; 10% 22.0 steel mesh vapor clay; moist. probe at 20 ft B Clayey SAND and Gravel: reddish brown (5 YR 4/4); 60% bgs. sand, poorly graded, fine to medium, subangular to 15.3 0.12 subrounded, 20% gravel and cobbles, well graded, fine to SC coarse, subangular to subrounded, up to 3 inches in diameter; 20% clay - matrix, medium plasticity; slightly lithified; moist. Same as above but sand is well graded, fine to coarse, moist. 7.8 0.134 25.0 Continued Next Page PAGE 1 OF 10



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-32

DATE DRILLED 6/22/2020 - 6/28/2020

							Continued from Previous Page		T
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
6.7 37.3	0.098 0.133	MW32- SB062220-	В		sc		Clayey SAND and GRAVEL: reddish brown (5 YR 4/4); 50% sand, poorly graded, fine to coarse, mostly fine to medium, subangular to subrounded; 30% gravel and cobbles, well graded, fine to coarse, angular to subrounded, up to 5 inches; 20% clay, medium plasticity; slightly lithified, gravel content is light gray material; moist. Same as above except 40% sand, 40% gravel, and 20% clay.	28.0	
11.2	0.014	27	-		GC		Large Cobbles, 7 inches in diameter. Less lithified than 25 to 27 ft bgs.	30.0	• I hydratad
56.1	0.432		-	30 			Clayey SAND with Gravel: reddish brown (5 YR 4/4); 60% sand, poorly graded, fine to medium, subangular to subrounded; 20% gravel, well graded, fine to coarse, angular to subrounded, lithified fragments of gravel; 20% clay, medium plasticity; moist. Gravel includes light gray fragments.		Hydrated bentonite pe (22 to 111 ft bgs).
32.1	0.47		-		SC				Ш
93.5	0.492		B	-35- -			CLAY with Gravel: reddish brown (5 YR 4/4); 70% clay,	35.5	Ш
12	0.323			- <u>-</u>	CL		medium to high plasticity; 30% gravel, well graded, fine to coarse, subangular to subrounded, up to 5 inches; lithified. Clayey SAND with gravel: reddish brown (5 YR 4/4); 50%	37.0	Ш
4.9	0.119		-		sc		sand, poorly graded, mostly fine to medium; 30% gravel and cobbles, well graded, fine to coarse, subangular to subrounded, up to 4 inches; 20% clay, medium plasticity; moist.		Ш
0.5	0.107			40- -			Same as above except 40% sand, 40% gravel, 20% clay. CLAY: reddish brown (5 YR 4/4); 80% clay, high plasticity; 20% gravel, poorly graded, fine to coarse, mostly coarse,	40.0	
16	0.199				СН		subrounded, up to 4 inches; gravel in clay matrix; moist.	42.0	
7.6	0.1		-		SP		SAND with Gravel and Clay: reddish brown (5 YR 4/4); 60% sand, poorly graded, fine to medium, subangular to subrounded; 30% gravel, well graded, fine to coarse, up to 4 inches; 10% clay; moist.		Ш
4.6	0.36		B	- 45	СН		CLAY with Sand: reddish brown (5 YR 4/4).	44.5	Ш
6.3	0.344		-	 	СН		CLAY with Sand: reddish brown (5 YR 4/4); 70% clay, 20% sand, 10% gravel. Near 48 ft bgs, gravel is fine to coarse, mostly coarse, subangular to subrounded, up to 4 inches, in clay matrix. Clay is slightly mottled with strings of light tan material like above.	48.0	Ш
2.8	0.326			 50	СН		Sandy CLAY: reddish brown (5 YR 4/4); 60% clay, high plasticity, matrix; 30% sand, poorly graded, fine, subangular to subrounded; 10% gravel, well graded, fine to coarse; slightly lithified. Cool, moist, trace pockets of wetness near 48 ft bgs.	50.0	Ш
8.4	0.174		В.		SC CH		Clayey SAND with Gravel: reddish brown (5 YR 4/4); 60% sand, poorly graded, fine to medium, subangular to subrounded; 20% gravel, well graded, fine coarse, subangular to subrounded, up to 4 inches; 20% clay, medium plasticity, clay matrix; slightly lithified.	51.0	
7.2	0.327						CLAY with Sand and Gravel: pink (7.5 YR 7/3); 60% clay, high plasticity; 20% gravel and cobbles, well graded, fine to	53.0	



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-32

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 6/22/2020 - 6/28/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG CONTACT DEPTH SAMPLE ID PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM CL coarse, up to 7 inches; 20% sand, well graded, fine to coarse, 54.0 subangular to subrounded; moist. Clay is mottled with red and less gravel at 52.5 ft bgs 55-CL Sandy CLAY: reddish brown (5 YR 4/4): 55% clay, medium 17.5 MW32-0.142 plasticity; 45% sand, poorly graded, fine to medium, SB062220-56.0 subangular to subrounded, trace gravel. 55 Sandy CLAY with Gravel: reddish brown (5 YR 4/4); 40% В СН clay, medium plasticity, matrix; 20% sand, poorly graded, fine 0.191 68 to medium, subangular to subrounded; 20% gravel, well 58.0 graded, fine to coarse, subangular to subrounded; slightly lithified; moist. CLAY with Sand and Gravel: reddish brown (5 YR 4/4); 70% SP clay, high plasticity; 20% sand, poorly graded, fine to medium, 5.5 1.12 subangular to subrounded; 10% gravel, well graded, fine to 60.0 Hydrated coarse, subangular to subrounded; moist. bentonite pellets SAND with Gravel and Clay: reddish brown (5 YR 4/4); 60% (22 to 111 ft sand, poorly graded, fine to coarse, mostly fine to medium, 0.704 СН 0.3 bgs). subangular to subrounded; 30% gravel, well graded, fine to coarse, subrounded, up to 3 inches; 10% clay; trace silt; 62.5 Sandy CLAY: brown (7.5 YR 4/3); 70% clay, medium to high 0.444 СН 119 plasticity; 30% sand, poorly graded, fine, subangular to 64.0 subrounded; trace coarse sand and fine gravel; moist. Sandy CLAY: reddish brown (5 YR 5/4) and pink (5 YR 7/4); clay is hard, less sand (15%); mottled. В 65 8.8 0.173 CH CLAY with Sand and Gravel: reddish brown (5 YR 5/4): 60% clay, high plasticity; 25% sand, poorly graded, mostly fine to medium, subangular to subrounded; 15% gravel, poorly 66.5 Hydrated graded, mostly coarse, subangular to subrounded, up to 2 bentonite pellets inches, hard. More lithified at 64 and 66.5 ft bgs. 1.4 0.107 CH (22 to 111 ft CLAY with Sand and Gravel: 60% clay, medium to high 68.0 bgs). plasticity; 25% sand, poorly graded, fine to coarse, mostly fine to medium, subangular to subrounded, 15% gravel, poorly SC WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 69.0 graded, fine to coarse, mostly fine, subangular to subrounded. 0.35 up to 2 inches. Lithified clay matrix around sand and gravel. 0.6 CL Clayey SAND with Gravel: reddish brown (5 YR 4/4); 60% 70.0 sand, poorly graded, fine to medium, subangular to subrounded, 20% clay, 20% gravel, well graded, fine to coarse, subangular to subrounded, up to 4 inches; moist. 6.9 0.36 Sandy CLAY: reddish brown (5 YR 4/4); 60% clay; 35% sand: 5% gravel (5%); soft. СН Sandy CLAY: reddish brown (5 YR 5/4); 70% clay, medium to high plasticity, 30% sand, poorly graded, mostly fine, trace 4.9 0.41 medium and coarse; trace fine gravel; soft; moist. 74.0 Sandy CLAY: reddish brown (5 YR 5/4); 60% clay, medium to high plasticity; 30% sand, poorly graded, fine, trace medium 75 and coarse, subangular to subrounded: 10% gravel, poorly 0.361 CH graded, fine to coarse, mostly fine, subangular to subrounded, up to 5 inches; trace large cobbles; soft to stiff; moist with wet pockets. Lenses of green and grayish blue crushed rock 77.0 9.6 0.632 Sandy CLAY: ; 70% clay; 30% sand, fine, trace medium and coarse; sticky and soft; moist. 1.1 0.761 80.0 CLAY with Sand: reddish brown (5 YR 4/4); 80% clay, high plasticity; 20% sand, poorly graded, fine, subangular to В CH subrounded; trace gravel, coarse; soft; moist. 0.761 1.8 82.0 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-32

DATE DRILLED 6/22/2020 - 6/28/2020

					_	1	Continued from Previous Page			
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	W	ELL DIAGRAM
4.9	0.466				СН		CLAY with Sand: 70% clay; 30% sand. Sandy wet lens with 5 inch cobble.	83.5		
17	0.406	MW32- SB0622320- 84		- ₋			Large Cobble, diameter of core barrel and approximately 7 inches long. GRAVEL with Sand: reddish brown (5 YR 4/4); 50% gravel	84.1		
4.1	0.122	64	В	 	GW		and cobbles, well graded, fine to coarse, subangular to subrounded, up to 4 inches; 30% sand, poorly graded, mostly fine to medium, subangular to subrounded; 20% clay matrix; moist. Same as above except 40% gravel, up to 6 inches; 20% sand; 20% clay.			
2.2	0.191						Same as above - wet lens 88 to 88.5 ft bgs (gravel, cobbles, sand with clay matrix).	89.0		
8.8	0.04			 90	CL		Sandy CLAY with Gravel: reddish brown (5 YR 4/4); 60% clay, medium plasticity; 30% sand, poorly graded, mostly fine to coarse, some coarse, subangular to subrounded; 10%	90.0		⋖ -Hydrated
1.6	0.015			 	GW		gravel, poorly graded, fine to coarse, mostly fine, angular to subrounded; hard; moist. Sandy GRAVEL with Silt: reddish brown (5 YR 4/4); 50% gravel, fine to coarse, subangular to subrounded; 35% sand,	91.7		bentonite pe (22 to 111 ft bgs).
1.4	0.264				ML		\fine to coarse; 35% silt; loose; medium dense; wet. Clayey SILT: trace gravel, cohesive, stiff, wet.			
3.9	0.18		В	_ —95 <i>—</i>	GM		Silty GRAVEL: reddish brown (5 YR 4/4); fine to coarse gravel, 6 inch cobble, cohesive, dense, wet.	94.6	<u> </u>	
1.1	0.111			 	GP		Sandy GRAVEL with Silt: reddish brown (5 YR 4/4); 60% gravel, 4 to 6 inch cobbles, subangular to subrounded; 30% sand; 10% silt; wet. Core was cool.			
2.6	0.184	MW32- SB062320-		 100				100.0		
9.7	0.13	99 MW32- GW062320- 100			GC CH		Clayey SAND and GRAVEL: reddish brown (5 YR 4/4). CLAY with Sand and Gravel: brown (7.5 YR 4/4); 70% clay, medium to high plasticity; 25% sand, poorly graded, fine, subangular to subrounded; 5% gravel, poorly graded, coarse,	100.5		
10	0.161				СН		subangular to subrounded; stiff; wet. CLAY: brown (7.5 YR 4/4); 90% clay, high plasticity; 10% sand, poorly graded, very fine to fine, subangular to subrounded; soft; moist.			
11.2	1.27	MW32-	В	 105	СН		CLAY: brown (7.5 YR 4/4); 100% clay, high plasticity; trace fine sand; stiff; moist.	104.0		
12.1	1.18	SB062420- 105			СН		CLAY: brown (7.5 YR 4/4); 80% clay, high plasticity; trace fine sand; 20% silt; stiff; moist.	106.0		
10	1.32				СН		CLAY: brown (7.5 YR 4/4); 70% clay, high plasticity; 20% silt; 10% sand, fine; stiff; wet.	108.0		
•			B	 110			Clayey SAND and GRAVEL: wet.	110.0 110.5		



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL **BORING/WELL NUMBER** MW-32 PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 6/22/2020 - 6/28/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM Sandy CLAY: brown (7.5 YR 4/4); 70% clay, high plasticity; 30% sand, poorly graded, fine to coarse, mostly fine, subangular to subrounded; stiff; moist with wet lenses. Large Cobble at 112.5 ft bgs with black staining (looks like charcoal) 8.8 0.886 +#10/20 sand and reddish iron oxide staining. CH filter pack (111 Same as above, including lenses of wet sand and gravel with in clay matrix, 80% clay, 10% sand, and 10% gravel. 115.0 11 Clayey GRAVEL with Sand: brown (7.5 YR 4/4); 50% gravel, well graded, fine to coarse, subangular to subrounded, up to 5 inches; 30% sand, well graded, fine to coarse, subangular to 6.4 0.313 subrounded; 20% clay; wet. GC 0.162 8.5 119.0 2-inch SCH 80 Sandy CLAY: brown (7.5 YR 4/4); 60% clay, high plasticity; 0.020-slot CH 1.58

to 125.5 ft bgs). 30% sand, poorly graded, very fine to fine, subangular to 120.0 screen nested 120 subrounded; 10% silt; stiff; moist. MW32well (114 to 124 Sandy GRAVEL with Clay: brown (7.5 YR 4/4); 50% gravel, GW062420ft bgs). well graded, subangular to subrounded, up to 3 inches; 40% 120 0 3.8 0.134 90 sand, well graded, fine to coarse, subangular to subrounded; 10% clay, low plasticity; wet. GW 100 D 0.387 46 0 124.5 CLAY: 95% clay, medium plasticity; 5% sand, very fine; trace R 125 #10/20 sand gravel; stiff; moist. 1.2 1.22 filter pack (111 CL WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LAEWNN01.GDT 12/17/20 to 125.5 ft bgs). 126.5 SILT: 95% silt; 5% sand, very fine; very stiff; dry to moist. ML 0.333 MW32-127.5 SB062420-Sandy CLAY: 80% clay, medium to high plasticity; 20% sand, 127 poorly graded, very fine to fine, subangular to subrounded. СН 0.473 Hydrated 130Same as above except 70% clay, 20% sand, 10% gravel, bentonite pellet coarse, up to 3' inches, subangular to subrounded 131.0 seal (125.5 to Clavey SAND with Gravel: 70% sand, well graded, fine to 3.7 0.361 167 ft bgs). coarse, subangular to subrounded; 15% clay; 15% gravel, well graded, up to 3 inches; moist to wet. 2.9 0.234 SW Same as above except 50% sand, 35% clay, low plasticity, and 15% gravel, up to 3 inches; medium dense; moist to wet. В 135 0.276 135.5 Sandy CLAY: yellowish red (5 YR 4/6); 60% clay; 40% sand, trace gravel; soft; moist. CL 0.228 138.4 Sandy CLAY with Gravel: yellowish red 5 YR 4/6); 50% clay; 35% sand; 15% gravel, coarse, angular to subrounded, up to Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER MW-32

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 6/22/2020 - 6/28/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG PID (ppm) SAMPLE ID. CONTACT DEPTH U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM CL 3.4 0.285 4 inches; medium dense to stiff; moist. В 140.0 2 Gravelly SAND with Clay: reddish brown (5 YR 4/3); 55% sand, well graded, fine to coarse, subangular to subrounded; 25% clay, low plasticity; 20% gravel, well graded, fine to 0.24 SW coarse, up to 2 inches; loose; wet. MW32-SB062420-143.0 142 7.5 0.369 Sandy CLAY: brown (7.5 YR 4/4); 55% clay, low plasticity; 45% sand, poorly graded, very fine to fine, trace fine gravel, subangular to subrounded; soft becomes medium dense CL around 144.6 ft bgs; moist to wet. 145 145.3 0.408 29 Gravelly SAND with Clay: 75% sand, well graded, fine to SW coarse; 15% gravel, fine to medium, subangular to 146.4 Hydrated subrounded; 10% clay, low plasticity; wet. bentonite pellet Sandy CLAY with Gravel: brown (7.5 YR 4/4); 65% clay, seal (125.5 to 5.6 0.396 medium plasticity; 25% sand, poorly graded, trace coarse, very 167 ft bgs). CL fine to fine, 10% gravel, fine to medium, subangular to subrounded, up to 0.5 inch; medium dense; moist. Become stiff, 85% clay, 15% sand, trace gravel. 149.0 SILT with Sand: 80% silt; 15% sand, poorly graded, very fine 0.623 5.5 ML to fine; 5% gravel; moist to wet. Softer near 150 ft bgs, with 150.0 more sand (up to 40%). CLAY with Sand: yellowish red (5 YR 4/6);90% clay; 5% gravel, fine, 5% sand, very fine; soft to medium soft. 0.165 3.8 3.6 0.145 153.5 СН Silty CLAY: stiff. 154.0 Sandy CLAY with Gravel: 50% clay, low to medium plasticity: 30% sand, well graded, fine to coarse, subangular to CL В -155 subrounded; 20% gravel, well graded, up to 2 inches, 7.1 0.356 155.5 subangular to subrounded Gravelly CLAY: 50% clay; 35% gravel, subangular to subrounded, up to 4 inches; 15% sand, well graded; medium dense: wet. 0.139 CL Becomes moist and stiff. 159.0 Gravelly SILT: dry to moist. 6.1 0.21 ML 160.0 160 Silty SAND with Gravel: 50% sand, 25% silt, 25% gravel; wet. SM 6.8 2.02 162.0 Gravelly CLAY 60% clay, 25% gravel, 15% sand, well graded; CL clay increases for 1 ft. 163.0 Gravelly Lean CLAY: ; 60% clay, 30% gravel, 10% sand, well 5.8 0.111 В 165-9.2 0.309 MW32-SB062520-CL 165 7.8 0.004 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

PROJECT NAME

238824.6495-F3048-005.DRILL

700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-32

DATE DRILLED 6/22/2020 - 6/28/2020

							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
9.1	0.064		B.	 - 170	ML CL		Gravelly SILT: 60 to 65% silt, 30% gravel, 5 to 10% sand. Sandy CLAY: 80% clay, 20% sand, very fine. Silty SAND with Gravel: 50% sand, 25% silt, 25% gravel.	169.0 169.5 170.0	to 183 ft bgs).
1.5	0.113				SM				
3.8	0.144		D					175.0	4 inch SQUERO
	0.598	MW32- GW062520- 175	B:	 175 		K	GRAVEL with Sand and Silt: 40% gravel, well graded, fine to coarse, subangular to subrounded, up to 3 inches; 30% sand, well graded, 30% silt; wet.		1-inch SCH 80 0.020-slot screen ZIST nested well (170 to 180 ft bgs).
2.8	0.195				GM				
6.7	0.054			—180— 			Same as above with gravel up to 4 inches.		
3.5	0.341				CL		Sandy CLAY: 70% clay, low plasticity; 25% sand, poorly graded, very fine to fine; 5% gravel, fine to medium; wet.	_182.0	0 4 . 5 0 0 5 0 0 0 5 0 0 0 0 0 0
35.5	0.85		В	 185 <u>-</u>	CL		3 inch solid rock. Gravelly CLAY: ; 65% clay, medium plasticity; 30% gravel; 5%	185.0 185.3 186.0	
MTJM.GPJ LAI		MW32- SB062520- 186			ML		sand, very fine to fine. Gravelly SILT: 70% silt; 25% gravel, angular to subrounded, up to 3 inches; 5% sand, very fine to fine; dry to moist. 1 inch thick hard layers of siltstone.	188.0	
AFT DEC2020_				 190 		/////	No Recovery. Lean CLAY with Gravel: 85% clay; 10% gravel, mostly fine,	190.0	- Hydrated
SLC VA PLUME DRAFT DEC2020_WTJM.GPJ 9 6 6	0.042						trace cobbles up to 5 inches; 5% sand, very fine to fine; very stiff.		bentonite pellet seal (183 to 257 ft bgs).
WHITNEY'S BORING LOG 8	0.04		B	 195	CL				
9.7 9.7	0.036						Continued Next Page		PAGE 7 OF 1



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

__MW-32

DATE DRILLED 6/22/2020 - 6/28/2020

	Continued from Previous Page													
	PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM				
								Gravelly SILT: 55% silt; 30% gravel, angular to subrounded,	197.5					
	8.8	0.05		В		ML		up to 2 inches; 15% sand, well graded, fine to coarse, subangular to subrounded; brittle; stiff to hard.						
					200	CL		Sandy CLAY: 6 inches of sand clay.	200.0 200.5					
						OL		SAND with Clay and Gravel: 50% sand, well graded, fine to	200.5					
	3.4	0.182			_	SW		coarse, subangular to subrounded; 30% gravel, well graded, up to 4 inches; 20% clay, low plasticity; wet.	000.0					
					 	CL		CLAY: 60% clay; 35% silt; 5% sand, very fine; trace gravel, fine; moist.	202.0					
	9.1	0.34	MW32- SB062520- 203		_ 	CL		Gravelly CLAY: 40% clay; 30% gravel, poorly graded, coarse, 0.75 to 2 inches; 20% silt; 10% sand, fine; moist.	_203.5					
	4.3	1.4		B	205			Sandy CLAY with Gravel: 50% clay; 30% gravel, well graded,	205.0					
	7.0	1.4				CL		angular to subrounded; 20% sand, well graded; moist.	206.5					
	6.5	1.2						CLAY: 60% clay; 30% silt; 10% gravel, fine, subangular to subrounded, up to 0.5 inch.						
	0.0	1.2				CL		, .						
									209.0					
	4.5	0.795			_	ML		Gravelly SILT: 55% silt, 30% gravel, 15% sand; brittle and	209.5					
			MW32-		210	SC		soft. Clayey SAND with Gravel: 50% sand, 30% gravel, 20% clay.	210.0					
	7.3	0.851	GW062620- 210			CL		Lean CLAY: 90% clay, low plasticity; 5% gravel, fine; 5% sand, poorly graded, medium to coarse; stiff.	211.5					
17/20	7.5	0.001				SC		Clayey SAND and GRAVEL: 4 inch clayey sand and gravel	211.8					
EWNN01.GDT 12/17/20								\langle Lean CLAY: ; 90% clay, low plasticity; 5% gravel, fine; 5%						
101.6	12.4	0.301						sand, poorly graded, medium to coarse; stiff. Trace coarse gravel.						
EWN.						CL		Clay becomes stiffer, seems to have some silt, plasticity						
	8.1	0.231		B	 215			content becomes lower. Becomes non-plastic gradually.						
M.GF														
ĭ M									217.0					
32020	8.8	0.151						Sandy SILT: 70% silt, 30% sand, poorly graded, very fine.						
TDEC						ML								
WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020_WTJM.GPJ LA	7.0	0.44						Condu Ol AV with Convol	219.0					
UME	7.9	0.14			200	CL		Sandy CLAY with Gravel.	220.0	المناسية المناسية				
'A PLI					2 20			CLAY with Sand: 65% clay; 30% sand, poorly graded, very fine to fine; 5% gravel, fine, subangular to subrounded, up to		 Hydrated bentonite pellet 				
SLC V	1.2	0.26			_			0.5 inches, trace coarse up to 2 inches.		seal (183 to 257 ft bgs).				
8														
ING				B		CI								
BOR	1.1	0.116	MW32- SB062620-			CL								
ZEY'S			223		-									
FH.					225			Continued Next Page						
								Samuada Honer ago		PAGE 8 OF 10				



0.265

1.7

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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 238824.6495-F3048-005.DRILL **BORING/WELL NUMBER** MW-32 PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 6/22/2020 - 6/28/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG PID (ppm) SAMPLE ID. CONTACT DEPTH U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 0.5 0.175 Same as above except gravel increases to 15%, fine to coarse, mostly fine, up to 2 inches. 226.0 Gravelly SILT: 55% silt; 35% gravel, well graded, fine to coarse, up to 3 inches; 10% sand. 0.7 0.106 В ML 0.073 2.9 230.0 Sandy CLAY: 70% clay, low plasticity; 25% sand, poorly graded, very fine to fine, subangular to subrounded; 5% gravel, fine, trace coarse, up to 1 inch, subangular to 0.375 3 1 subrounded; stiff; moist. Low to no plasticity at 233 ft bgs. Cobbles at 233.5 ft bgs. CL 4.8 0.553 235.0 -235 Hydrated 7.8 0.329 Gravelly SILT: 55% silt; 30% gravel, well graded, up to 4 inch bentonite pellet cobbles, 15% sand, well graded, fine to coarse; very stiff to seal (183 to 257 ML hard; brittle; dry to moist. ft bgs). 237.0 0.356 Sandy SILT: yellowish red (5 YR 4/6); 70% silt, non-plastic; 30% sand, poorly graded, very fine to fine; stiff; moist. ML 0.5 0.31 239 5 Gravelly SILT: 55% silt; 30% gravel, well graded, up to 4 inch ML 240.0 WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 cobbles; 15% sand, well graded, fine to coarse; very stiff to hard, brittle, dry to moist. Sandy CLAY: 70% clay, low plasticity; 30% sand, very fine to 0.401 1.3 fine; soft; moist. Becomes medium dense/medium stiff. 10% CL gravel at 241 to 241.5 ft bgs. 0.5 0.18 244.0 SILT: 95% silt, low to non-plastic; 5% sand, fine, trace coarse. ML 245.0 R 245 0.316 SILT: 90% silt, low to non-plastic; 5% gravel, fine, subangular to subrounded; 5% sand, fine trace coarse; stiff; moist. ML 247.0 0.5 Gravelly CLAY: 60% clay, low plasticity; 35% gravel, well 0.344 CL graded, up to 2 inches; 5% sand, very fine to fine, trace coarse; medium stiff; moist. 248.5 Sandy SILT: 80% silt; 20% sand, very fine to fine; trace gravel, fine, subangular to subrounded, up to 0.25 inch; stiff; 0.9 0.241 ML 250.0 -250 MW32-CLAY with Sand: 90% clay; 10% sand, very fine to fine; SB062620medium stiff; moist. 250 1.4 0.448 CL

Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 238824.6495-F3048

238824.6495-F3048-005.DRILL **BORING/WELL NUMBER**

LL NUMBER MW-32

PROJI	ECT NA	ME	S 1	1600 E I	PCE PI	ume	DATE DRILLED 6/22/2020 - 6/28/2	020		
			T		_		Continued from Previous Page		T	
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (# RGI)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WEL	L DIAGRAM
2.5	0.318			 -255	CL		CLAY with Gravel and Sand: 50% clay; 35% gravel, well graded, subangular to subrounded; 15% sand, well graded. Dry to moist at 256 ft bgs; moist.	254.0		
2.2	0.315		В	 			Gravelly CLAY: 60% clay, low plasticity; 25% gravel, well	258.0		
2.7	0.248			 -2 60-	CL		graded, subangular to subrounded, up to 2 inches, trace 4 inch cobbles;15% sand, well graded; dry to moist. Gravelly CLAY: 60% clay, low plasticity; 30% gravel, medium	260.0		#10/20 sand filter pack (25 to 272 ft bgs)
11.7	0.155			 			to coarse, subangular to subrounded, with cobbles up to 4 inches; 10% sand, well graded, fine to coarse; stiff; moist.			
29.4	0.103			 	CL					
9.5	0.269		В	265 - 						- 1-inch SCH of 0.020-slot screen ZIST nested well (
17	0.147				ML		Gravelly SILT with Sand: dry to moist.	267.0 267.5		to 270 ft bgs
		ANAGO		 	CL		Gravelly CLAY: 60% clay, low plasticity; 25% grave, well graded, fine to coarse, cobbles up to 3 inches; 15% sand, well graded. Silt from 268.5 to 264 ft bgs. Medium stiff; moist to wet.	269.0		
25.3	0.425	MW32- GW062820- 270		2 70	ML		Gravelly SILT and CLAY: Gravelly Clay is 45% soft clay, 40% gravel, up to 4 inches, 15% sand. Gravelly Silt is 60% silt, non-plastic, 25% gravel, and 15% s, well graded. Brittle, hard, wet.			
							End of boring at 272 ft bgs.	272.0		
										PAGE 10 OF



WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

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BORING/WELL CONSTRUCTION LOG

	
PROJECT NUMBER 238824.6495-F3048-005.DRILL	BORING/WELL NUMBER MW-34
PROJECT NAME 700 S 1600 E PCE Plume	DATE DRILLED 7/9/2020 - 7/12/2020
LOCATION Salt Lake City, UT	CASING TYPE/DIAMETER 1-inch SCH 80 PVC
DRILLING METHOD Sonic	SCREEN TYPE/SLOT 1-inch SCH 80 0.020-slot
SAMPLING METHOD Sonic Grab	GRAVEL PACK TYPE #10/20 sand
GROUND ELEVATION (FT MSL) 4623.61	GROUT TYPE/QUANTITY Bentonite Grout
TOP OF CASING (FT MSL) See Table 5	DEPTH TO WATER (FT BGS)
LOGGED BY Joe Miller	GROUND WATER ELEVATION (FT MSL)
REMARKS Groundwater was encountered at approximately 130 feet bgs.	. ,

Magnetic Susceptibility GRAPHIC LOG CONTACT DEPTH SAMPLE ID. PID (ppm) U.S.C.S. EXTENT BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM ₩. Hydrovac to 8' Vault with cement surface seal 8.0 Bentonite Grout Rock/Boulder (2 to 14 ft bgs). 9.0 29.8 0.086 **Gravelly SILT** ML 10.0 Gravelly SILT; 60% silt; 30% fine to coarse elongated 3-4" gravel; 10% sand; yellowish red (5 YR 4/6); Loose.; Dry . 6.9 0.034 32 27.1 0.035 ML В 23 0.034 Hvdrated 16 bentonite pellets (14 to 18 ft bgs). 17.5 0.033 GRAVEL; 100% fine to coarse gravel; loose; pink (5YR 7/3); 11 GP 7.1 0.226 20.0 #10/20 sand 4.7 Gravelly SILT: 50% silt; 50% fine gravel; Loose; reddish filter pack (18 to brown (5YR 5/4); dry to moist. 22 ft bgs) with 18.3 0.075 6-inch stainless steel mesh vapor 6.9 ML probe at 20 ft 22.7 0.045 16.6 25.0 В GRAVEL; 100% fine to coarse gravel; loose; pinkish gray 11.4 0.043 GP 26.0 (5YR 7/2); dry. 0.07 13.1 Silty GRAVEL; 80% fine to coarse gravel; 20% silt; reddish brown (5YR 5/4) dry to moist. GM 14.4 0.1 30.0 Silty GRAVEL; 60% fine to coarse gravel; 30% silt; 10% fine 8.4 GM 31.0 0.101 39.8 sand; looselight reddish brown (5YR 6/4); dry. Gravelly SILT; 60% silt40% fine to coarse gravel; loose; 2.7 ML reddish brown (5 YR 4/4); Dry. 0.118 10.5 33.0 0.7 Silty GRAVEL; 80% fine to coarse gravel; 20% silt; loose; reddish yellow (5 YR 6/5); dry 0.11 35 Continued Next Page PAGE 1 OF 9



BORING/WELL CONSTRUCTION LOG

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume BORING/WELL NUMBER

MW-34

DATE DRILLED 7/9/2020 - 7/12/2020

PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
2.5						345			
2.8	0.407				GM				
7.9	0.107		B						
0.4	0.85								
3.2				 40			Silty GRAVEL; 80% fine to coarse gravel; 20% silt; loose; light	40.0	
32.3	0.891				GM		reddish brown (5YR 6/3); dry.	42.0	
33.1 18.4				_	GP		GRAVEL with Silt; 85% poorly graded gravel; 15% silt; loose. light reddish brown (5YR 6/3); dry.		
	0.109			_	GC		Clayey GRAVEL; cohesive; dry to moist.	43.6 44.0	
16.1 12.5	0.004		B	—45 <i>—</i>	CL		Silty CLAY; low plasticity; reddish brown (5 YR 4/4);soft; dry	45.0	
16.6	0.034				GM		to moist. Silty GRAVEL, 60% fine to coarse gravel, 40% silt, loose;		
9.6	0.177				Jivi		reddish brown (5YR 5/4); dry to moist.	47.5	
15.4							Silty CLAY; low plasticity clay; soft; light reddish brown (5YR 4/6); dry to moist.		
2.7	0.36				CL		no, aly a motor	50.0	
1.8				 50			CLAY; 90% low plastcicity clay; 10% fine gravel; soft, easily		
7.6	0.255				CL		breaks up; light reddish brown (5YR 4/6); moist.		
13.5 15.4							Silty CLAY; low plasticity; soft; light reddish brown (5YR 4/6);	52.5	
	0.07				CL		moist.		
7.7	19.9 0.145		B	-55-					
16.2	0.143				GP		Silty GRAVEL; 50% fine to coarse poorly graded gravel; 30%	56.0	
9.6	0.4						low plasticity silt; 20% fine to coarse sand; loose; light reddish brown (5YR 4/6); moist.	57.0	
5.3					ML		Clayey SILT; 95% low plasticity clayey silt; 5% fine gravel:		
4.1	0.18						light reddish brown (5YR 4/6), soft; moist.	60.0	
9.1 25.6				60 			Silty GRAVEL; 50% poorly graded gravel; 40% silt; 10% fine to coarse sand; loose; light reddish brown (5YR 4/6); dry.		
	0.05				GM				
16	0.12								
2	0.12				\vdash		Silty CLAY; low plasticity; stiff; reddish brown (5 YR 4/4); dry.	64.0	
	0.22		B	65	CL			66.0	
3 20.4						Y////	GRAVEL; cemented; white (5YR 8/1); very hard drilling; dry.		
17.2 16.6	0.134							68.3	
4.8					GM	:KS	Silty GRAVEL; 60% fine to coarse rounded poorly graded		
6.4	0.205			 70	GIVI		gravel; 40% low plasticity silt; loose; yellowish red (5 YR 4/6); dry.	70.0	
11.1	0.028						Silty GRAVEL; 50% fine to coarse rounded poorly graded gravel; 50% low plasticity silt; loose; yellowish red (5 YR 4/6);		
10.3 21.1	0.020		B		GM		dry.		
	0.034								
9.4 6.2			1		1			74.5	



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

__MW-34

DATE DRILLED 7/9/2020 - 7/12/2020

							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
6.5 8.1	0.116				GP	? (Silty GRAVEL; 50% fine to coarse rounded poorly graded gravel; 30% low plasticity silt; 10% fine gravel; loose; yellowish red (5 YR 4/6); dry.	76.0	
4.2 14	0.14		B	 	ML		Silty GRAVEL; 50% fine to coarse rounded poorly graded gravel; 50% low plasticity silt; loose; yellowish red (5YR 4/6); dry.		
13.6	0.199			80			- 2 feet no recovery	80.0	Hydrated bentonite pelle
5.4	0.099			 		<u> </u>	Gravelly SILT; 60% low plasticity silt, 40% gravel; firm;	82.0	(22 to 138 ft bgs).
9.7					ML		yellowish red (5YR 4/6); dry.	84.0	
13.3 3.7	0.114		В			R	Silty GRAVEL; 50% fine to coarse poorly graded gravel; 50% silt; loose; yellowish red (5YR 4/6); dry.		
	0.13			- 	GM				
3.5 4.9									
3.9	0.049			 90	_		Silty CLAY; medium plasticity; soft; yellowish red (5YR 4/6);	90.0	Hydrated
11.2	0.192				CL		moist.		bentonite pell (22 to 138 ft bgs).
17.5 11.6	0.242							94.0	
15 10.5	0.141		В	- — —95—	GP		Sandy GRAVEL; 60% fine to coarse poorly graded gravel; 40% sand; loose; reddish brown (5 YR 4/4); dry.	94.0	
9.3	0.043			 			Gravelly SILT; 60% low plasticity SILT; 40% fine to coarse	97.0	
19.1 10.4				 - <u>-</u>	ML		gravel; dry to moist. Silty CLAY; yellowish red (5YR 4/6); moist.	98.7 99.0	
6.2	0.026			 100	ML		Gravelly SILT; 60% low plasticity SILT; 40% fine to coarse gravel; dry to moist.	100.0	
7.6 5.6	0.042		-	 	ML		Gravelly SILT; 70% low plasticity SILT; 30% fine to coarse gravel; soft; dry to moist.	102.0	
14.1	0.62						Silty CLAY; medium to high plasticity, trace fine gravel; soft; yellowish red (5YR 4/6); moist.		
5.8 9.7			В	10 5					
10.8	0.172			- 					
16 3.6	0.166				СН				
5.5	0.172			 110					
20.219.7	0.179								
5.1	0.293		B	- -					
3.3 12	0.12								
14				 115	1		Continued Next Page	115.0	



BORING/WELL CONSTRUCTION LOG

MW-34

PROJECT NUMBER

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED 7/9/2020 - 7/12/2020

Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM Silty CLAY; 95% medium to high plasticity silty clay, 5% fine gravel; soft; yellowish red (5YR 4/6); moist. 1.7 0.076 СН 116.0 6.3 GM Silty GRAVEL; 50% fine to coarse gravel, 50% low plasticity silt; loose; reddish brown (5YR 5/3); dry. 0.14 В CL 118.0 Silty CLAY; low plasticity, trace fine gravel; soft; yellowish red 9.9 (5YR 4/6); moist. GM 7.9 0.11 Silty GRAVEL; 50% fine to coarse gravel, 50% low plasticity 120.0 silt; loose; reddish brown (5YR 5/3); dry. Hydrated 3.4 bentonite pellets Silty CLAY; low plasticity; stiff; reddish brown (5YR 4/4); dry (22 to 138 ft 35.7 0.124 to moist. CL bgs). 12.2 123.0 24.8 0.139 Silty GRAVEL; 70% fine gravel, 30% low plasticity silt; loose; GM reddish brown (5YR 5/3), dry. 124.5 26.7 Silty GRAVEL; 50% fine to coarse poorly graded gravel; 45% silt; 5% sand; loose; yellowish red (5YR 4/6); moist; soil core 125 3.9 0.04 hot from drilling. 4.9 2.2 0.1 GM 2.5 1.4 0.191 130.0 6.3 Clayey SILT; 95% low plasticity clayey sitl; 5% fine gravel; soft.; moist. 0.24 20.4 ML 26.5 0.21 57.3 135.0 R 135 43.8 0.199 Clayey SILT; 80% low plasticity clayey silt; 20% gravel; firm to stiff; moist. ML 72.1 137.0 Silty GRAVEL; 70% fine to coarse gravel; 30% silt; loose; 78 0.04 reddish brown (5YR 4/4); dry to moist. 43.7 0.11 GM #10/20 sand 2.5 0.12 filter pack (138 140.0 to 152 ft bas). 2.8 0.05 Silty GRAVEL; 50% fine to coarse gravel; 30% silt; 20% fine to coarse sand; loose; yellowish red (5YR 4/6); wet. 25 MW34-SB070820-12.4 141 0.04 11.5 GM 3.5 145 1-inch SCH 80 8.6 0.081 0.020-slot screen ZIST 5.4 147.0 nested well (140 Clayey SILT; 95% low plasticity clayey silts; 5% fine gravel; 8.5 0.26 to 150 ft bgs). stiff; yellowish red (5YR 4/6); moist. 1.1 ML 3.1 0.78 150.0 MW34-Silty GRAVEL; 50% fine to coarse gravel; 30% silt; 20% fine 3.1 0.111 GM 151.0 GW070820to coarse sand; loose; yellowish red (5YR 4/6); wet. 2.9 150 Clayey SILT; low plasticity clayey silts; stiff; yellowish red ML 4.9 0.13 B (5YR 4/6); moist. 153.0 Silty GRAVEL; 60% fine to coarse gravel; 40% silt; loose; 2.5 0.112 vellowish red (5YR 4/6); wet. GM 2.7 155.0 155 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

MW-34

DATE DRILLED 7/9/2020 - 7/12/2020

								Continued from Previous Page																	
	PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	W	ELL DIAGRAM														
	2.73.12.5	0.33		В.	 	CL		Silty CLAY; low plasticity; soft; reddish brown (5YR 4/4); moist to wet.																	
	5.1 6.1				 160	ML		SILT; low plasticity silt; firm to stiff; yellowish red (5YR 4/6);	160.0																
	6.7	0.272				IVIL		saturated; wet. Silty GRAVEL; 70% fine to coarse gravel; 30% silt; loose;	161.5																
	3.2					GM		yellowish red (5YR 5/6); saturated wet.	163.0		- Hydrated														
	7.8 13.9	0.13	MW34-	В	 165	CL		Silty CLAY; 85% silty clay; 15% fine gravel; firm to stiff; reddish brown (5YR 4/3); moist.	100.0	Ш	bentonite pellet seal (152 to 173 ft bgs).														
	0.9	0.113	SB070820- 165	-												-	-	-	 	ML		Gravelly SILT; 70% silt; 30% fine gravel; soft; reddish brown (5YR 4/4); wet.	166.0		
								- 6" boulder; hard.	168.0 168.5																
	1.2	0.08			 170	ML ML		Gravelly SILT; 70% silt; 30% fine gravel; cemented in places; firm to stiff; reddish brown (5YR 4/4); Dry. Very Hot Sample- Hard Drilling.	170.0																
	0	0.135				ML		Gravelly SILT; 60% silt; 30% fine gravel; 10% fine to coarse sand; soft; yellowish red (5YR 4/6); wet.	171.3 172.0																
						ML		SILT; low plasticity clay; firm to stiff; yellowish red (5YR 4/6);	173.0																
	0.4	0.96				ML		\text{\moist.} Gravelly SILT; 60% silt; 30% fine gravel; 10% fine sand; soft; \text{\gamma} yellowish red (5YR 4/6); wet.			#10/20 sand filter pack (173														
	0	0.27		B	 175			SILT; 95% low plasticity cohesive silt; 5% fine gravel; very stiff; yellowish red (5YR 4/6); moist.	176.0		to 187 ft bgs).														
GDT 12/17/20	2.4	0.18			 	ML		Gravelly SILT; 60% silt; 30% fine gravel; 10% fine sand; firm; yellowish red (5YR 4/6); wet.	170.0																
1N01	0	0.074							179.5	H.															
AEWNN01.GDT	0.3		MW34-		 180	CL		CLAY; low plasticity clay; hard, reddish brown (5YR 5/4); dry to moist.	180.0		1-inch SCH 80 0.020-slot														
-1	0.1		GW070820- 180					SILT; 95% low plasticity silt; 5% fine gravel; soft to stiff;			screen ZIST														
JM.G	0.2							reddish brown (5YR 4/3); moist to wet.		:	nested well (175 to 185 ft bgs).														
TW_0	0.5					ML				:															
C202	0.9				405					: <u> </u> :	[[:]														
SLC VA PLUME DRAFT DEC2020_WTJM.GPJ	8.0			B	185 				186.0																
DRAF	0.4				_	ML		Gravelly SILT; 50% low plasticity silt; 30% fine to coarse gravel; 20% fine sand; firm; wet.	187.0																
.UME	8.0	0.215						SILT; 95% low to medium plasticity silt; 5% fine gravel;																	
VA PL	8.0	0.06				ML		cohesive; reddish brown (5YR 4/4); wet.																	
SLC	1.7		MW34- SB070820-	Щ	 190			ON OR 1/2 100 / 2	190.0																
	, -	0.155	189			GM	175	Silty GRAVEL; 60% fine to coarse gravel; 40% Silt; loose; (5YR 4/5); wet.	191.0																
BORING L	1.5	0.126		B		ML		SILT; 85% low plasticity silt; 15% fine gravel; soft; yellowish red (5YR 4/6); moist to wet.	193.0																
WHITNEY'S BORING LOG	1.6	0.088						CLAY; 90% low to medium plasticity clay; 10% fine gravel; stiff; yellowish red (5YR 4/6); dry.																	
ĕ				Ш	195		,,,,,,	Continued Next Page			PAGE 5 OF 9														



BORING/WELL CONSTRUCTION LOG

PROJECT NAME

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER 700 S 1600 E PCE Plume

MW-34

DATE DRILLED 7/9/2020 - 7/12/2020

							Continued from Previous Page		
PID (ppm)	Magnetic Susceptibility	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.9	0.1				CL				
0.2	0.038		В	 				199.0	
0.5	0.263				CL		CLAY; 95% low to medium plasticity clay; 5% fine gravel; stiff;	200.0	
0.2				 200			yellowish red (5YR 4/6); dry. CLAY; 90% low plasticity clay; 10% fine gravel; stiff; yellowish		
0.7	0.32				CL		red (5YR 4/6); moist.		
0.3								203.0	
0.1	0.24			_			Silty GRAVEL; 70% fine to coarse gravel; 40% silt; loose;		
0.7	0.042						yellowish red (5YR 4/6); wet.		
1		MW34-	B	 205		R			
0.6	0.065	SB070820- 205			GM				
0.7									
0.1	0.05							210.0	
		MW34-	\forall	- 210			Silty CLAY; low to medium plasticity silty clay; trace fine	210.0	
0.5	0.462	GW070920- 210					gravel; firm to stiff; yellowish red (5YR 4/6); dry to moist.		
0.5		210							
1.2	0.325				CL				
1.8									
1.5	0.142		B	 215				040.0	
0.7							Silty CLAY; low to medium plasticity silty clay; trace fine	216.0	
0.9	0.309				CL		gravel; firm to stiff; yellowish red (5YR 4/6); moist.	0.10	← Hydrated
0.8							Silty CLAY; low to medium plasticity silty clay; trace fine	218.0	bentonite pel seal (187 to
0.9	0.142				CL		gravel; firm to stiff; yellowish red (5YR 4/6); dry to moist.		ft bgs).
0.2	J.1.72		H	-220		<i>\////</i>	No Recovery- Wet, lots of water in the hole.	220.0	
٠.٢				_		11111	Silty CLAY; 80% low plasticity silty clay; 20% fine to medium	221.0	
1.1					<u></u>		sand; stiff; yellowish red (5YR 4/6); moist.		
0.7					CL				
0.1							Silty CLAY; 80% low plasticity silty clay; 20% fine to medium	224.0	
			B	 225	CL		sand; stiff; yellowish red (5YR 4/6); moist to wet.		
0.2		MW34-		_			Silty CLAY; 80% low plasticity silty clay; 20% fine to medium	226.0	
0.2		SB070920-					sand; firm to stiff; yellowish red (5YR 4/6); moist.		
1 1		226			CL				
1.1									
0.5		NAVA (0.4	Щ	- 230			City OLANA 000/ Investor City of the City	230.0	
8.0		MW34- GW070920-					Silty CLAY; 80% low plasticity silty clay; 20% fine to medium sand; stiff; yellowish red (5YR 4/6); dry.		
		230			CL		, , , , , , , , , , , , , , , , , , , ,		
0.4	0.26		B						
1.6	0.278			_				234.0	
1.7							Silty CLAY; 80% low plasticity silty clay; 20% fine to medium		
				-235-	1	1	Continued Next Page		



BORING/WELL CONSTRUCTION LOG

PAGE 7 OF 9

PROJECT NUMBER 238824.

WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER MW-34

PROJECT NAME 700 S 1600 E PCE Plume DATE DRILLED 7/9/2020 - 7/12/2020 Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG PID (ppm) SAMPLE ID. CONTACT DEPTH U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 2.3 0.1 sand; stiff; reddish brown (5YR 5/3); dry. 0.6 CL 0.06 0.5 0.3 0.36 0.5 240.0 Silty CLAY; 80% low plasticity silty clay; 20% fine to medium 0.2 0.21 sand; stiff; reddish brown (5YR 5/3); dry to moist 0.2 0.2 0.34 0.1 CL 0.3 245 0.26 0.1 0.2 0.25 247.0 0.3 MW34-Silty CLAY; 80% low plasticity silty clay; 20% fine to medium SB070920sand; hard; yellowish red (5YR 4/6); dry. CL -#10/20 sand 247 filter pack (247 0.2 250.0 to 262 ft bgs). 0.1 Silty CLAY; low plasticity silty clay; firm to stiff; yellowish red (5YR 4/6); wet. 0 0.269 CL 0.2 253.0 0.244 Silty GRAVEL; 60% fine gravel; 30% low plasticity silt; 10% 0.3 fine sand; loose; yellowish red (5YR 4/6) wet. 254.5 0.1 Silty CLAY; low to medium plasticity silty clay; trace fine R 1-inch SCH 80 255 0.2 0.15 CL gravel; firm to stiff; yellowish red (5YR 4/6); moist. 0.020-slot 256.3 screen ZIST 1.3 Silty GRAVEL; 60% fine gravel; 30% low plasticity silt; 10% GM 257.0 nested well (260 fine sand; loose; yellowish red (5YR 4/6) wet. 0.8 0.275 to 260 ft bgs). CL Silty CLAY; low to medium plasticity silty clay; trace fine 258.3 gravel; firm to stiff; yellowish red (5YR 4/6); moist. GM 259.0 Silty GRAVEL; 60% fine gravel; 30% low plasticity silt; 10% 0.132 0.1 CL 260.0 fine sand; loose; yellowish red (5YR 4/6) wet. 260 MW34-Silty CLAY; low to medium plasticity silty clay; trace fine GW070920gravel; firm to stiff; yellowish red (5YR 4/6); moist. 0.6 0.329 260 Silty CLAY; low to medium plasticity silty clay; stiff; yellowish 0.355 0.9 red (5YR 4/6); dry to moist. 1.5 6.2 MW34-SB071020-265 CL 0.9 0.313 264 0.3 0.4 0.43 0.3 0.4 270.0 Silty CLAY; 90% medium plasticity silty clay; 10% fine gravel; 3.5 very stiff to hard; yellowish red (5YR 4/6); dry to moist. 6.8 0.183 3.5 15.4 0.35 CL 1.1 275 Continued Next Page



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

4.5

238824.6495-F3048-005.DRILL

BORING/WELL NUMBER

MW-34 PROJECT NAME 7/9/2020 - 7/12/2020 700 S 1600 E PCE Plume DATE DRILLED Continued from Previous Page Magnetic Susceptibility GRAPHIC LOG SAMPLE ID. CONTACT DEPTH PID (ppm) U.S.C.S. EXTENT DEPTH (ft. BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM 3.6 0.107 5.4 277.0 0.05 Clayey Gravel; 70% fine to coarse gravel; 20% silty clay; 10% 12.3 В fine sand; cemented in places; dry to moist; hard drilling. GC 0.046 1 -280 281.0 3.6 0.225 Silty CLAY; 95% medium plasticity silty clay; 5% fine gravel; very stiff to hard; yellowish red (5YR 4/6); dry. 1.6 0.236 6.5 120 CL 285 MW34-5 SB071020-22.5 0.04 285 Hydrated 0.2 11 bentonite pellet seal (262 to 312 42 289.0 ft bgs). 1.9 0.5 Silty CLAY; 80% low to medium plasticity silty clay; 20% fine CL 290.0 gravel; very stiff to hard; yellowish red (5YR 4/6); dry. -290 0.9 Gravelly SILT; 60% low plasticity silt; 40% fine to coarse ML 291.5 gravel; firm; wet. 0.2 0.101 Silty CLAY; 70% low plasticity clay; 20% fine gravel; stiff to 0.21 hard; reddish brown (5YR 4/4); moist. CL 0.1 294.0 Bottom 5 to 6 feet no recovery. R 295 WHITNEY'S BORING LOG SLC VA PLUME DRAFT DEC2020 WTJM.GPJ LAEWNN01.GDT 12/17/20 300.0 300 15.5 0.16 MW34-Silty GRAVEL; 60% Poorly Graded fine to coarse gravel; 40% SB071020silt; loose; reddish brown (5YR 4/4); moist to wet. 14.4 300 MW34-6.3 0.32 GW071020-GM 8.3 300 9.9 305 10.6 0.225 306.0 Clayey SILT; 90% low plasticity clayey silt; 10% fine gravel; 5 ML cohesive; firm; reddish brown (5YR 5/3); moist. 7.6 0.08 307.8 Clayey SILT; 90% low plasticity clayey silt; 10% fine gravel; 2.4 ML cohesive; firm; reddish brown (5YR 5/3); moist. 309.0 8 0.021 Lost 1 foot out of bottom. 310.0 310 2 Clayey SILT; 90% low plasticity clayey silt; 10% fine gravel; cohesive; firm; brown (7.5YR 5/3); moist. 4.2 0.36 MI 17.7 В 51.3 0.29 314.0

GRAVEL; fine to coarse well graded gravel; cemented; white

Continued Next Page

315.0



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER

238824.6495-F3048-005.DRILL

PROJECT NAME 700 S 1600 E PCE Plume

BORING/WELL NUMBER

DATE DRILLED

MBER MW-34 7/9/2020 - 7/12/2020

0.5 0.6 0.8 0.7	0.132 0.09 0.341 0.164	MW34- GW071220- 320 MW34-	. □ EXTENT	DEPTH (# BGI)	GM	GRAPHIC	LITHOLOGIC DESCRIPTION (5YR 8/1); dense; dry. Hard Drilling.	CONTACT	WEL	L DIAGRAM
0.6 0.8 0.7	0.132 0.09 0.301	GW071220- 320	Β.	 	GM				[::::::::::]]	
0.7	0.09 0.301	GW071220- 320		- -			Silty GRAVEL; 70% Poorly Graded fine to coarse gravel; 30% silt; loose; reddish brown (5YR 4/4); moist.	317.5		#10/20 sand filter pack (312 to 330 ft bgs).
7.8		GW071220- 320	H		GM		Silty GRAVEL; 60% Poorly Graded fine to coarse gravel; 40% silt; loose; reddish brown (5YR 4/4); wet.			10 330 H bg3).
	0.164	MW34-		-320 - 			Silty CLAY; low plasticity silty clay; very stiff; cohesive; reddish brown (5YR 4/4); moist.	320.0		- 1-inch SCH 80 0.020-slot screen ZIST nested well (3
4 0		GW071220- 321	-	 	CL					to 325 ft bgs).
2.9	0.13		B	-325 -	CL		Silty CLAY; low plasticity silty clay; very stiff; cohesive;	325.0 326.0		
3.8	0.285				CL		reddish brown (5YR 4/4); moist to wet. Silty CLAY; 90% low plasticity silty clay; 10% fine sand; stiff; cohesive; reddish brown (5YR 4/4); moist.	328.0		
1.9	0.087		-		ML		Gravelly SILT; 70% low plasticity silt; 30% fine gravel; stiff; cohesive; reddish brown (5YR 4/4); dry to moist.	330.0		
23.2	0.095			-3 30 	CL		Gravelly CLAY; 60% low plasticity clay; 40% fine to coarse gravel; cohesive; stiff; light brownish gray (10YR 6/2); dry to moist.			
14.4	0.153		-	 			Clayey SILT; 60% low plasticity silt; 40% clay; cohesive; reddish brown (5YR 4/4); dry to moist.	332.5		
15.3	0.047		В	 -335 - 	ML					
6.7	0.033		-	 				338.0		
1.2	0.051			 -3 40	GM		Silty GRAVEL; 70% fine gravel; 30% low plasticity silt; cemented in places; dense; light brownish gray (10YR 6/2); dry to moist.	340.0		- Hydrated
7.8	0.219		-	 	ML		Clayey SILT; 60% low plasticity silt; 40% clay; cohesive; very stiff; reddish brown (5YR 4/4); dry to moist.			bentonite pelle backfill (330 to 350 ft bgs).
0.3	0.264		-	 			Olympia Oli T. 2007 I am all a fight a file	344.0		
4.2	0.333		B	-3 45- 	ML		Clayey SILT; 60% low plasticity silt; 40% clay; trace fine gravel; cohesive; hard; reddish brown (5YR 4/4); dry to moist.			
2.6	0.122						Clayey SILT; 55% low plasticity silt; 45% clay; cohesive; hard;	348.0		
12.2	0.161	MW34- SB071220- 349	-	 -350-	ML		reddish brown (5YR 4/4); dry. Boring ended at 350'	350.0		

Appendix H

Soil Core Photo Log





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/6/20

Location:

MW-23

Description:

0-10'

No recovery

No photolog available for 10-14.5 feet

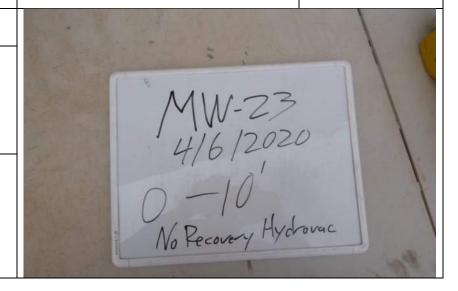


Photo No.

Date:

2 4/7/20

Location:

MW-23

Description:

14.5-16'



Photo No.

Date:

3

4/7/20

Location:

MW-23

Description:

16-17'



CDM Smith PHOTOGRAPHIC LOG

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

4

Date: 4/7/20

Location:

MW-23

Description:

17-18'



Photo No.

Date:

5 4/7/20

Location:

MW-23

Description:

18-19'



Photo No.

Date:

6

4/7/20

Location:

MW-23

Description:

19-20'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

O. Date: 4/7/20

Location:

MW-23

Description:

20-21'

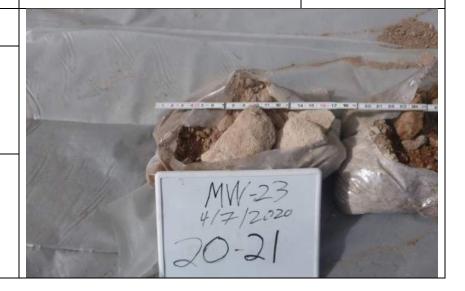


Photo No.

Date: 4/7/20

Location:

MW-23

Description:

21-23



Photo No.

٥

Date: 4/7/20

Location:

MW-28

Description:

23-26'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/7/20

Location:

MW-23

Description:

26-27



Photo No.

Date: 4/7/20

Location:

MW-23

Description:

27-28.5'



Photo No.

Location:

Date: 4/7/20

12

MW-23

Description:

28.5-30'





Date:

4/7/20

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Location:

MW-23

Description:

30-31'



Photo No. Date: 4/7/20

Location:

MW-23

Description:

31-32

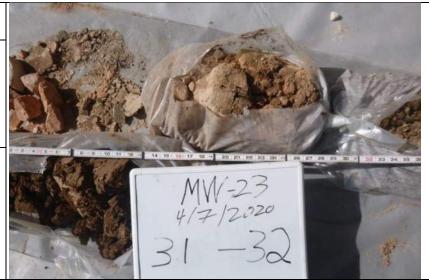


Photo No. Date: 4/7/20

Location:

MW-23

Description:

32-35





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/7/20

Location:

MW-23

Description:

35-37



Photo No.

Date: 4/7/20

Location:

MW-23

Description:

37-40



Photo No.

Date:

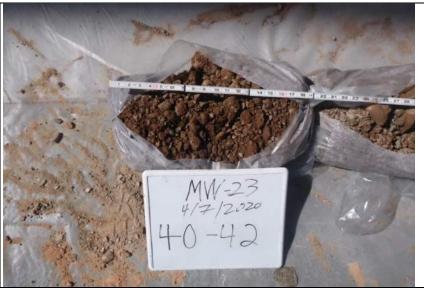
4/7/20

Location:

MW-23

Description:

40-42





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/7/20

Location:

MW-23

Description:

42-45'



Photo No. 20

Date: 4/7/20

Location:

MW-23

Description:

45-48'



Photo No.

Date: 4/7/20

21 Location:

MW-23

Description:

48-50





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 22

Date: 4/7/20

Location:

MW-23

Description:

50-52'



Photo No.

Date:

23 4/7/20

Location:

MW-23

Description:

52-54'



Photo No.

Date:

24 4/7/20

Location:

MW-23

Description:

54-55.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **25**

Date: 4/7/20

Location:

MW-23

Description:

55.5-58.5



Photo No. 26

Date: 4/7/20

Location:

MW-23

Description:

58.5-60'



Photo No.

Date:

27 4/7/20

Location:

MW-23

Description:

60-61.5'



CDM Smith PHOTOGRAPHIC LOG

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date:

28 4/7/20

Location:

MW-23

Description:

61.5-64'



Photo No. Date: 4/7/20

Location:

MW-23

Description:

64-66'



Photo No. Date: 4/7/20

Location:

MW-23

Description:

66-68'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/7/20

Location:

MW-23

Description:

68-70'



Photo No. 32

Date: 4/7/20

Location:

MW-23

Description:

70-73



Photo No.

Date: 4/7/20

33

Location:

MW-23

Description:

73-75



CDM	
Smith	PHOTOGRAPHIC LOG

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 34

Date: 4/7/20

Location:

MW-23

Description:

75-77



Photo No. 35

Date: 4/7/20

Location:

MW-23

Description:

77-80



Photo No.

36

Date: 4/7/20

Location:

MW-23

Description:

80-82



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/7/20

Location:

MW-23

Description:

82-85.5'



Photo No. Date: 4/7/20

Location:

MW-23

Description:

85.5-88'



Photo No. Date: 4/7/20

Location:

MW-23

Description:

88-90'





Date:

4/7/20

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 40

Location:

MW-23

Description:

90-92'



Photo No. Date: 4/7/20

Location:

MW-23

Description:

92-95'



Photo No. Date: 4/7/20

Location:

MW-23

Description:

95-97



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/7/20

Location:

MW-23

Description:

97-98.5'



Photo No.

Date: 4/7/20

Location:

MW-23

Description:

98.5-100'



Photo No.

Date:

45

4/7/20

Location:

MW-23

Description:

100-102.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 46

Date: 4/7/20

Location:

MW-23

Description:

102.5-105'



Photo No. 47

Date: 4/7/20

Location:

MW-23

Description:

105-107



Photo No. 48

Date:

4/7/20

Location:

MW-23

Description:

107-110'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 49

Date: 4/8/20

Location:

MW-23

Description:

110-112.5'



Photo No. **50**

Date: 4/8/20

Location:

MW-23

Description:

112.5-115'



Photo No.

Date: 4/8/20 51

Location:

MW-23

Description:

115-117'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/8/20

Location:

MW-23

Description:

117-119'



Photo No. Date: 4/8/20

Location:

MW-23

Description:

119-120'



Photo No. Date: 4/8/20

Location:

MW-23

Description:

120-122'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **52**

Date: 4/8/20

Location:

MW-23

Description:

122-125'



Photo No. 53

Date: 4/8/20

Location:

MW-23

Description:

125-126.5'



Photo No.

54

Date: 4/8/20

Location:

MW-23

Description:

126.5-128'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/8/20

Location:

MW-23

Description:

128-130'



Photo No. Date: 4/8/20

Location:

MW-23

Description:

130-131.5'



Photo No. Date: 4/8/20

Location:

MW-23

Description:

131.5-134



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/8/20

Location:

MW-23

Description:

134-136'



Photo No. Date: 4/8/20

Location:

MW-23

Description:

136-136.5'



Photo No. Date: 4/8/20

Location:

MW-23

Description:

136.5-138'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/8/20

Location:

MW-23

Description:

138-140'



Photo No. Date: 4/8/20

Location:

MW-23

Description:

140-142'



Photo No. Date: 4/8/20

Location:

MW-23

Description:

142-144'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **64**

Date: 4/8/20

Location:

MW-23

Description:

144-145.5'



Photo No. 65

Date: 4/8/20

Location:

MW-23

Description:

145.5-146.5'



Photo No.

Date:

4/8/20

Location:

MW-23

Description:

146.5-149.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **67**

Date: 4/8/20

Location:

MW-23

Description:

149.5-152'



Photo No. 68

Date: 4/8/20

Location:

MW-23

Description:

152-155'



Photo No.

Date: 4/8/20

Location:

MW-23

Description:

155-156.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 4/8/20

Location:

MW-23

Description:

156.5-158.5'



Photo No. 71

Date: 4/8/20

Location:

MW-23

Description:

158.5-160'



Photo No.

Location:

Date:

72 4/9/20

MW-23

Description:

160-163'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **73**

Date: 4/9/20

Location:

MW-23

Description:

163-165'



Photo No.

Date: 4/9/20

74

4/ 5/

Location:

MW-23

Description:

165-168'



Photo No.

Date:

75

4/9/20

Location:

MW-23

Description:

168-170'





Date:

4/9/20

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 76

Location:

MW-23

Description:

170-172.5'

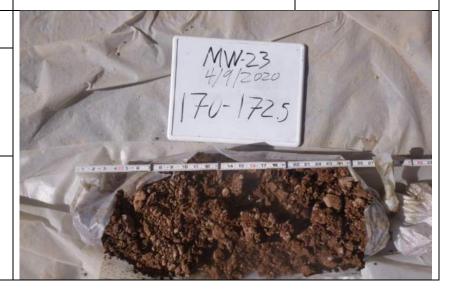


Photo No. Date: 4/9/20

Location:

MW-23

Description:

172.5-175



Photo No. Date: 4/9/20

Location:

MW-23

Description:

175-177



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 4/9/20

Location:

MW-23

Description:

177-180'



Photo No. 80

Date: 4/9/20

Location:

MW-23

Description:

180-182.5'

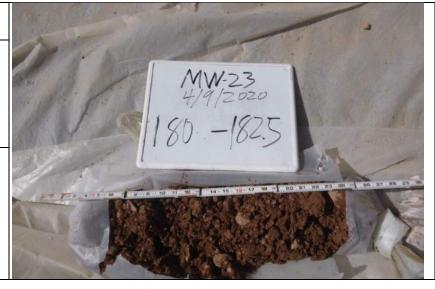


Photo No.

Date: 4/9/20

81

Location:

MW-23

Description:

182.5-185'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 82

Date: 4/9/20

Location:

MW-23

Description:

185-187.5'



Photo No. 83

Date: 4/9/20

Location:

MW-23

Description:

187.5-190'



Photo No.

Date: 4/9/20

84

Location:

MW-23

Description:

190-192'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/9/20

Location:

MW-23

Description:

192-195'



Photo No. Date: 4/9/20

Location:

MW-23

Description:

195-197.5'



Photo No. Date: 4/9/20

Location:

MW-23

Description:

197.5-200'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/9/20

Location:

MW-23

Description:

200-202.5'



Photo No. Date: 4/9/20

Location:

MW-23

Description:

202.5-205'



Photo No. Date: 4/9/20

Location:

MW-23

Description:

205-207'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **91**

Date: 4/9/20

Location:

MW-23

Description:

207-210'



Photo No. 92

Date: 4/9/20

Location:

MW-23

Description:

210-212.5'



Photo No.

Date:

93 4/9/20

Location:

MW-23

Description:

212.5-215'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **94**

Date: 4/9/20

Location:

MW-23

Description:

215-217.5'



Photo No. 95

Date: 4/9/20

Location:

MW-23

Description:

217.5-220'



Photo No.

96

Date: 4/10/20

Location:

MW-23

Description:

220-221.5



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **97**

Date: 4/10/20

Location:

MW-23

Description:

221.5-225'



Photo No. 98

Date: 4/10/20

Location:

MW-23

Description:

225-227.5'



Photo No.

Date:

99 4/10/20

Location:

MW-23

Description:

227.5-230'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 100

Date: 4/10/20

Location:

MW-23

Description:

230-232.5'



Photo No. 101 **Date:** 4/10/20

Location:

MW-23

Description:

232.5-235'



Photo No. 102

Date: 4/10/20

Location:

MW-23

Description:

235-237.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 103

Date: 4/10/20

Location:

MW-23

Description:

237.5-240'



Photo No.

Date: 4/10/20

104 Location:

MW-23

Description:

240-242.5'



Photo No. 105

Date:

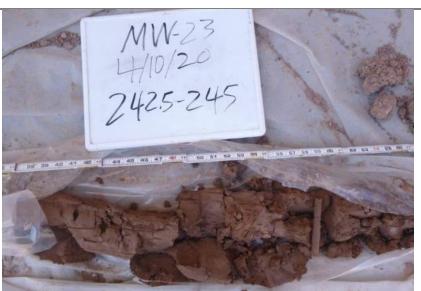
4/10/20

Location:

MW-23

Description:

242.5-245





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 106

Date: 4/10/20

Location:

MW-23

Description:

245-247.5'



Photo No. 107

Date: 4/10/20

Location:

MW-23

Description:

247.5-250



Photo No.

Location:

No. Date:

108 4/10/20

MW-23

Description:

250-252'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 109

Date: 4/10/20

Location:

MW-23

Description:

252-255'



Photo No.

Date:

110 4/10/20

Location:

MW-23

Description:

255-257.5'



Photo No.

110

Date: 4/10/20

Location:

MW-23

Description:

257.5-260'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 111

Date: 4/12/20

Location:

MW-23

Description:

260-262.5'



Photo No. 112 Date:

4/12/20

Location:

MW-23

Description:

262.5-265'



Photo No. 113

Date:

4/12/20

Location:

MW-23

Description:

265-267'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 114

Date: 4/12/20

Location:

MW-23

Description:

267-270'



Photo No.

Date:

115 4/12/20

Location:

MW-23

Description:

270-272'

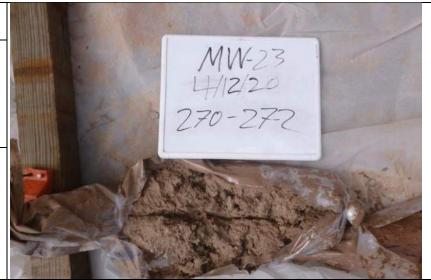


Photo No.

116

Date: 4/12/20

Location:

MW-23

Description:

272-275'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 117

Date: 4/12/20

Location:

MW-23

Description:

275-277.5'



Photo No. 118 **Date:** 4/12/20

Location:

MW-23

Description:

277.5-280'



Photo No.

Date: 4/12/20

119 Location:

MW-23

Description:

280-282.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 120

Date: 4/12/20

Location:

MW-23

Description:

282.5-285'



Photo No.

Date:

4/12/20 121

Location:

MW-23

Description:

285-287.5



Photo No.

Date: 122

4/12/20

Location:

MW-23

Description:

287.5-290'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

123

Date: 4/12/20

Location:

MW-23

Description:

290-292.5'



Photo No. 124 **Date:** 4/12/20

Location:

MW-23

Description:

292.5-295'



Photo No.

Date: 4/12/20

125 Location:

MW-23

Description:

295-297.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 126 4/12/20

Location:

MW-23

Description:

297.5-300'



Photo No. 127

Date: 4/12/20

Location:

MW-23

Description:

300-302



Photo No.

Date: 4/12/20

128 Location:

MW-23

Description:

302-305'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 126

Date: 4/12/20

Location:

MW-23

Description:

305-307.5'



Photo No. 127

Date: 4/12/20

Location:

MW-23

Description:

307.5-310'



Photo No. 128

Date:

4/13/20

Location:

MW-23

Description:

310-312.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 129

Date: 4/13/20

Location:

MW-23

Description:

312.5-315'



Photo No. 130 **Date:** 4/13/20

Location:

MW-23

Description:

315-317.5'



Photo No.

131

Date: 4/13/20

Location:

MW-23

Description:

317.5-320'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 132

Date: 4/13/20

Location:

MW-23

Description:

320-321'



Photo No.

Date: 4/13/20

133 Location:

MW-23

Description:

321-324.5'



Photo No. 134

Date: 4/13/20

Location:

MW-23

Description:

324.5-327'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 135

Date: 4/13/20

Location:

MW-23

Description:

327-330'



Photo No.

Date: 4/14/20

136 Location:

MW-23

Description:

330-333'



Photo No.

Date: 4/14/20

137 Location:

MW-23

Description:

333-335'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/14/20

Location:

MW-23

Description:

335-337'



Photo No. Date: 4/14/20

Location:

MW-23

Description:

337-340'



Photo No. Date: 4/14/20

Location:

MW-23

Description:

340-345'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 141

Date: 4/15/20

Location:

MW-23

Description:

344-347'



Photo No. 142

Date:

4/15/20

Location:

MW-23

Description:

347-350'



Photo No. 143

Date:

4/15/20

Location:

MW-23

Description:

350-354'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 144

Date: 4/17/20

Location:

MW-23

Description:

354-360'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

1

Date: 5/11/20

Location:

MW-24

Description:

11-12'



Photo No.

Date:

5/11/20

Location:

MW-24

Description:

12-13'



Photo No.

Date:

3

5/11/20

Location:

MW-24

Description:

13-15'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

4

Date: 5/11/20

Location:

MW-24

Description:

15-17'



Photo No.

Date:

5/11/20

Location:

MW-24

Description:

17-18'



Photo No.

Date:

6

5/11/20

Location:

MW-24

Description:

18-20'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **7**

Date: 5/11/20

Location:

MW-24

Description:

20-21'



Photo No.

Date:

5/11/20

Location:

MW-24

Description:

21-23



Photo No.

۵

Date: 5/11/20

Location:

MW-24

Description:

23-24'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 10

Date: 5/11/20

Location:

MW-24

Description:

24-26'



Photo No.

Date:

5/11/20

Location:

MW-24

Description:

26-27.5'



Photo No.

Date:

12

5/11/20

Location:

MW-24

Description:

27.5-29'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 13 5/11/20

Location:

MW-24

Description:

29-30'



Photo No.

Date:

5/11/20 14

Location:

MW-24

Description:

30-31'



Photo No.

Location:

Date: 5/11/20

15

MW-24

Description:

31-32'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/11/20

Location:

MW-24

Description:

32-33.5'



Photo No.

Date: 5/11/20

Location:

MW-24

Description:

33.5-35'



Photo No.

18

Date: 5/11/20

Location:

MW-24

Description:

35-36'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 19

Date: 5/11/20

Location:

MW-24

Description:

36-37'



Photo No. **20**

Date: 5/11/20

Location:

MW-24

Description:

37-38.5'



Photo No.

Date:

21

5/11/20

Location:

MW-24

Description:

38.5-40'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **22**

Date: 5/12/20

Location:

MW-24

Description:

40-41'



Photo No.

Date:

23 5/12/20

Location:

MW-24

Description:



Photo No.

Location:

Date: 5/12/20

24

MW-24

Description:

42.5-43





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **25**

Date: 5/12/20

Location:

MW-24

Description:

43.5-45'



Photo No. 26

Date:

5/12/20

Location:

MW-24

Description:

45-47



Photo No.

Location:

Date: 5/12/20

27

MW-24

Description:

47-48.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

28 5/12/20

Date:

Location:

MW-24

Description:

48.5-50'



Photo No. Date: 5/12/2

29 5/12/20

Location:

MW-24

Description:

50-51'



Photo No. Date: 5/12/20

Location:

MW-24

Description:

51-53





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 31 5/12/20

Location:

MW-24

Description:

53-54.5'



Photo No.

Date:

32 5/12/20

Location:

MW-24

Description:

54.5-56'



Photo No.

Date: 5/12/20

33 Location:

MW-24

Description:

56-57



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 31

Date: 5/12/20

Location:

MW-24

Description:

57-58.5'

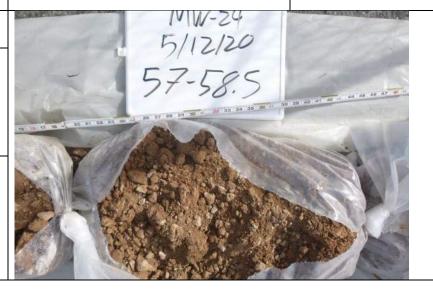


Photo No.

Date: 5/12/20

32 Location:

MW-24

Description:

58.5-60'



Photo No.

Date:

33

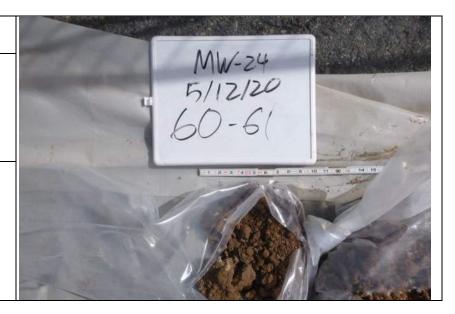
5/12/20

Location:

MW-24

Description:

60-61'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 34 5/12/20

Location:

MW-24

Description:

61-63'

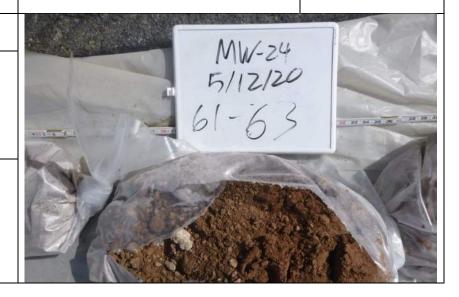


Photo No.

Date: 5/12/20

35 Location:

MW-24

Description:

63-65.5



Photo No.

Location:

Date: 5/12/20

36

MW-24

Description:

65.5-68'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 37

Date: 5/12/20

Location:

MW-24

Description:

68-70'



Photo No.

Date:

38 5/12/20

Location:

MW-24

Description:

70-72



Photo No.

Date:

39

5/12/20

Location:

MW-24

Description:

72-74



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/12/20

Location:

MW-24

Description:

74-76'



Photo No.

Date:

41 5/12/20

Location:

MW-24

Description:

76-80'



Photo No.

Date: 5/12/20

42 5/

Location:

MW-24

Description:

80-81'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 43 5/12/20

Location:

MW-24

Description:

81-83'



Photo No. 44

Date: 5/12/20

Location:

MW-24

Description:

83-85'



Photo No.

Date:

5/12/20 45

Location:

MW-24

Description:

85-86'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 46

Date: 5/12/20

Location:

MW-24

Description:

86-88'



Photo No. 47

Date: 5/12/20

Location:

MW-24

Description:

88-90'



Photo No.

Date: 5/12/20

48
Location:

MW-24

Description:

90-91.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 49

Date: 5/12/20

Location:

MW-24

Description:

91.5-93'



Photo No.

Date:

50 5/12/20

Location:

MW-24

Description:

93-95'



Photo No.

Date: 5/12/20

51 Location:

MW-24

Description:

95-97.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **52**

No. Date: 5/12/20

Location:

MW-24

Description:

97.5-100'



Photo No. Date: 5/12/20

Location:

MW-24

Description:

100-102.5



Photo No. Date: 5/12/20

Location:

MW-24

Description:

102.5-105'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **55**

Date: 5/12/20

Location:

MW-24

Description:

105-107.5'



Photo No. **56**

Date: 5/12/20

Location:

MW-24

Description:

107.5-110'



Photo No.

Location:

Date:

57 5/12/20

MW-24

Description:

112-114'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **58**

Date: 5/12/20

Location:

MW-24

Description:

114-116'



Photo No. 59

Date: 5/12/20

Location:

MW-24

Description:

116-118'

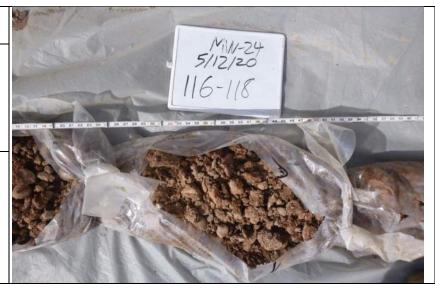


Photo No.

Date: 5/12/20

60

Location:

Description:

118-120'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 61 5/12/20

Location:

MW-24

Description:

120-122.5'



Photo No. 62

Date: 5/12/20

Location:

MW-24

Description:

122.5-125'



Photo No.

Date:

63

5/13/20

Location:

MW-24

Description:

125-127.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 64 5/13/20

Location:

MW-24

Description:

127.5-130'



Photo No.

Location:

Date: 5/13/20

65

MW-24

Description:

130-132.5'



Photo No.

Date:

66

5/13/20

Location:

MW-24

Description:

132.5-135'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **67**

Date: 5/13/20

Location:

MW-24

Description:

135-137.5



Photo No.

Date:

68 5/13/20

Location:

MW-24

Description:

137.5-140'



Photo No.

Date: 5/13/20

69 Location:

MW-24

Description:

140-141'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 5/13/20

Location:

MW-24

Description:

141-143'

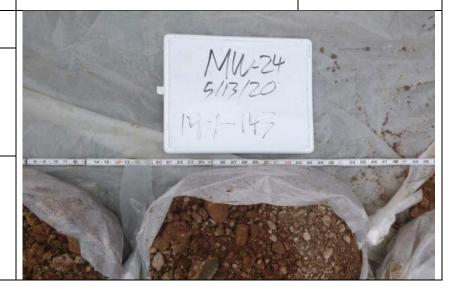


Photo No. 71

Date:

5/13/20

Location:

MW-24

Description:

143-146'



Photo No.

Date:

72 5/13/20

Location:

MW-24

Description:

146-148'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 73

Date: 5/13/20

Location:

MW-24

Description:

148-150'



Photo No.

Date:

74 5/13/20

Location:

MW-24

Description:

150-152.5'



Photo No.

Date:

75

5/13/20

Location:

MW-24

Description:

152.5-155'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **76**

Date: 5/13/20

Location:

MW-24

Description:

155-157.5'



Photo No. 77

Date:

5/13/20

Location:

MW-24

Description:

157.5-160'



Photo No. 78

Date:

5/13/20

Location:

MW-24

Description:

160-162'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 5/13/20

Location:

MW-24

Description:

162-164'



Photo No.

Date:

80 5/13/20

Location:

MW-24

Description:

164-165'



Photo No.

Location:

Date: 5/13/20

81

MW-24

Description:

165-167'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 82

Date: 5/13/20

Location:

MW-24

Description:

167-168.5'



Photo No.

Date: 5/13/20

83 Location:

MW-24

Description:

168.5-170'



Photo No.

Location:

Date: 5/13/20

84

MW-24

Description:

170-172.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 85

Date: 5/13/20

Location:

MW-24

Description:

172.5-175'



Photo No.

Date: 5/13/20

86
Location:

MW-24

Description:

175-177.5'



Photo No.

Date:

87

5/13/20

Location:

MW-24

Description:

177.5-180'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 88

Date: 5/13/20

Location:

MW-24

Description:

180-182.5'

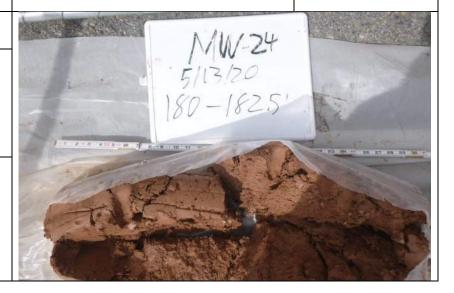


Photo No. 89

Date: 5/13/20

Location:

MW-24

Description:

182.5-185'



Photo No.

Date:

90

5/13/20

Location:

MW-24

Description:

185-187'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 91 5/13/20

Location:

MW-28

Description:

187-189'



Photo No. 92

Date: 5/13/20

Location:

MW-24

Description:

189-190'



Photo No.

Date: 5/14/20

93

Location:

MW-24

Description:

190-193'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **94**

Date: 5/14/20

Location:

MW-28

Description:

193-195'

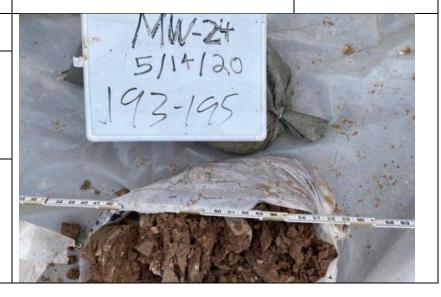


Photo No.

Date: 5/14/20

95
Location:

MW-24

Description:

195-196.5'



Photo No.

Date: 5/14/20

96 Location:

MW-24

Description:

196.5-198'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **97**

Date: 5/14/20

Location:

MW-28

Description:

198-200'



Photo No. 98

Date: 5/14/20

Location:

MW-24

Description:

200-202.5

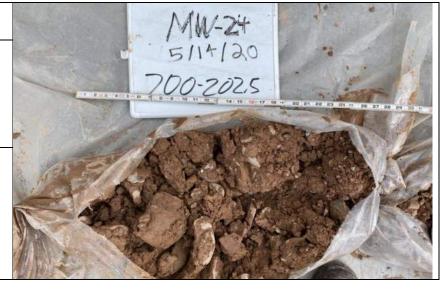


Photo No.

Date:

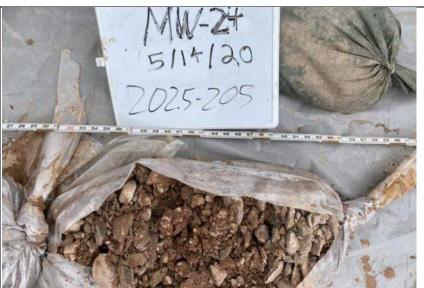
99 5/14/20

Location:

MW-24

Description:

202.5-205'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 100

Date: 5/14/20

Location:

MW-28

Description:

205-207.5'



Photo No. 101 **Date:** 5/14/20

Location:

MW-24

Description:

207.5-210'



Photo No. 102

Date: 5/14/20

Location:

MW-24

Description:

210-211'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 103

Date: 5/14/20

Location:

MW-28

Description:

211-213'



Photo No.

Date: 5/14/20

104 Location:

MW-24

Description:

213-215'



Photo No.

105

Date: 5/14/20

Location:

MW-24

Description:

215-216.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 5/14/20

Location:

MW-28

Description:

216.5-218'



Photo No. Date: 5/14/20

Location:

MW-24

Description:

218-220'



Photo No. Date: 5/14/20

Location:

MW-24

Description:

220-223'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 109

Date: 5/14/20

Location:

MW-28

Description:

223-225'



Photo No. 110 Date:

5/14/20

Location:

MW-24

Description:

225-227'



Photo No.

Date:

111 5/14/20

Location:

MW-24

Description:

227-228'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 112

Date: 5/15/20

Location:

MW-28

Description:

230-232'



Photo No. 113 **Date:** 5/15/20

Location:

MW-24

Description:

232-234'

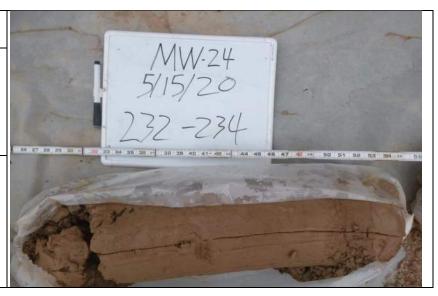


Photo No.

Date:

114

5/15/20

Location:

MW-24

Description:

234-236'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 115

Date: 5/15/20

Location:

MW-28

Description:

236-238'



Photo No. 116 **Date:** 5/15/20

Location:

MW-24

Description:

238-240'



Photo No.

Date: 5/15/20

117 Location:

MW-24

Description:

240-241'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 118

Date: 5/15/20

Location:

MW-28

Description:

241-243'



Photo No. 119 **Date:** 5/15/20

Location:

MW-24

Description:

243-245'



Photo No. 120

Date:

5/15/20

Location:

MW-24

Description:

245-246.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 121

Date: 5/15/20

Location:

MW-28

Description:

246.5-248.5'



Photo No. 122

Date:

5/15/20

Location:

MW-24

Description:

248.5-250'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

0. Di

Date: 4/29/20

Location:

MW-25

Description:

10-12'



Photo No.

Date:

4/29/20

Location:

MW-25

Description:

12-14'



Photo No.

Date:

3

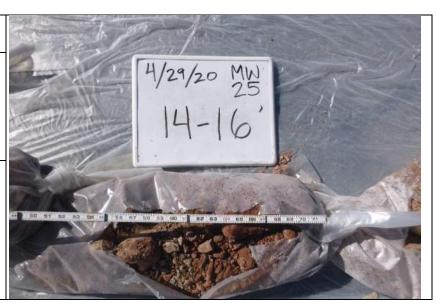
4/29/20

Location:

MW-25

Description:

14-16'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

4

Date: 4/29/20

Location:

MW-25

Description:

16-19'

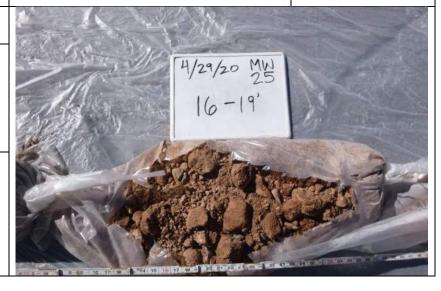


Photo No.

Date:

4/29/20

Location:

MW-25

Description:

19-20'

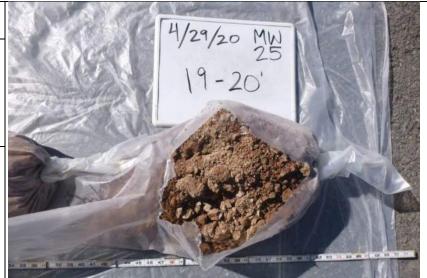


Photo No.

lo. Date:

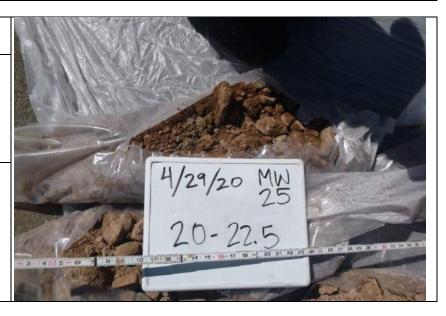
4/29/20

Location:

MW-25

Description:

20-22.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/29/20

Location:

MW-25

Description:

22.5-25'

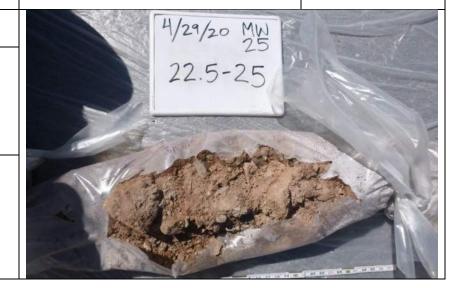


Photo No.

Date:

4/29/20

Location:

MW-25

Description:

25-27.5'

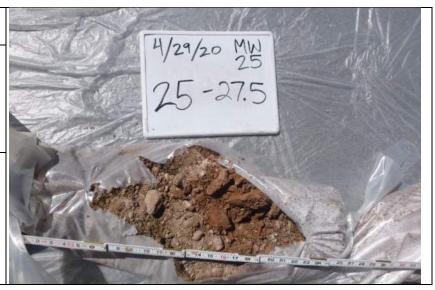


Photo No.

.

Date: 4/29/20

Location:

MW-25

Description:

27.5-30'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/29/20

Location:

MW-25

Description:

30-32'



Photo No.

Date:

4/29/20

Location:

MW-25

Description:

32-34'



Photo No.

Date:

12

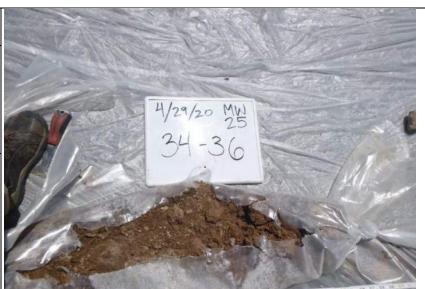
4/29/20

Location:

MW-25

Description:

34-36'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/29/20

Location:

MW-25

Description:

36-37'

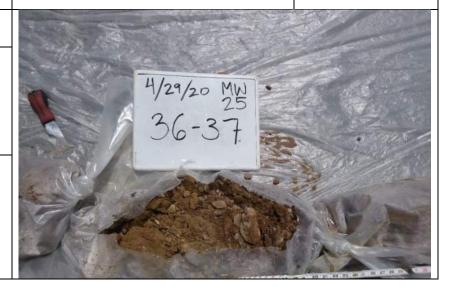


Photo No.

Date:

14 4/29/20

Location:

MW-25

Description:

37-40



Photo No.

Date:

15

4/29/20

Location:

MW-25

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/29/20

Location:

MW-25

Description:

43-44'

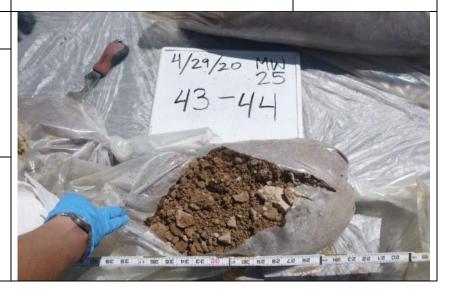


Photo No. Date: 4/29/20

Location:

MW-25

Description:

44-47



Photo No. Date: 4/29/20

Location:

MW-25

Description:

47- 48.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 19

Date: 4/29/20

Location:

MW-25

Description:

48.5-50'



Photo No.

Date:

20 4/29/20

Location:

MW-25

Description:

50-53'



Photo No.

Date:

21

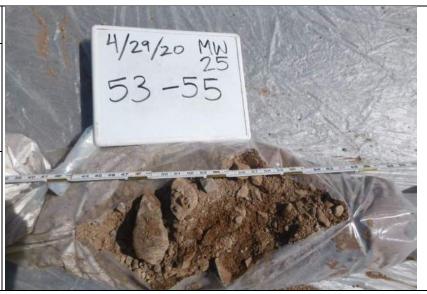
4/29/20

Location:

MW-25

Description:

53-55'



CDM	
Smith	PHOTOGRAPHIC LOG

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 22

Date: 4/29/20

Location:

MW-25

Description:

55-60'



Photo No.

Date:

23 4/29/20

Location:

MW-25

Description:

60-62'



Photo No.

Date:

24 4/29/20

Location:

MW-25

Description:

62-65'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 25

Date: 4/29/20

Location:

MW-25

Description:

65-67.5'



Photo No.

Date:

26 4/29/20

Location:

MW-25

Description:

67.5-70'



Photo No.

Date:

27 4/29/20

Location:

MW-25

Description:

70-71.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 28

Date: 4/29/20

Location:

MW-25

Description:

71.5-74



Photo No.

Date:

29 4/29/20

Location:

MW-25

Description:

74-77



Photo No.

Date: 4/29/20

30

Location:

MW-25

Description:





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 31

Date: 4/29/20

Location:

MW-25

Description:

80-83'



Photo No.

Date:

32 4/29/20

Location:

MW-25

Description:

83-85'



Photo No.

Date: 4/29/20

33

Location:

MW-25

Description:





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 34

Date: 4/29/20

Location:

MW-25

Description:

87-90'



Photo No.

Date:

35 4/29/20

Location:

MW-25

Description:

90-92'



Photo No.

Date:

36

4/29/20

Location:

MW-25

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/29/20

Location:

MW-25

Description:

94-97'



Photo No.

Date:

38 4/29/20

Location:

MW-25

Description:

97-100'



Photo No.

39

Date: 4/30/20

Location:

MW-25

Description:

100-102'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 40

Date: 4/30/20

Location:

MW-25

Description:

102-105'



Photo No. 41 **Date:** 4/30/20

Location:

MW-25

Description:

105-110'



Photo No.

Date:

42

4/30/20

Location:

MW-25

Description:

110-113.25'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 43 4/30/20

Location:

MW-25

Description:

113.25-114.5'



Photo No. 44

Date: 4/30/20

Location:

MW-25

Description:

114.5-116'



Photo No.

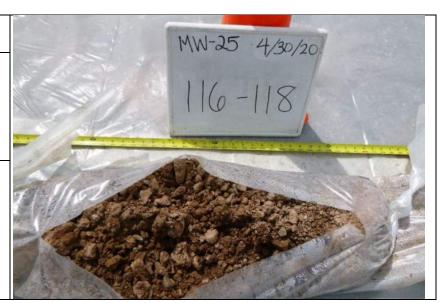
Date: 4/30/20

45 Location:

MW-25

Description:

116-118'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 46 4/30/20

Location:

MW-25

Description:

118-120'



Photo No. 47

Date: 4/30/20

Location:

MW-25

Description:

120-122.5'



Photo No.

Date:

48

4/30/20

Location:

MW-25

Description:

122.5-125.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 49

Date: 4/30/20

Location:

MW-25

Description:

125.5-128'



Photo No. 50

Date: 4/30/20

Location:

MW-25

Description:

128-130'



Photo No.

Date: 51

4/30/20

Location:

MW-25

Description:

130-132'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **52**

Date: 4/30/20

Location:

MW-25

Description:

132-134.5'



Photo No. 53

Date: 4/30/20

Location:

MW-25

Description:

134.5-137



Photo No.

Date: 54

4/30/20

Location:

MW-25

Description:

137-139'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 4/30/20

Location:

MW-25

Description:

140-142'



Photo No. Date: 4/30/20

Location:

MW-25

Description:

142-144'



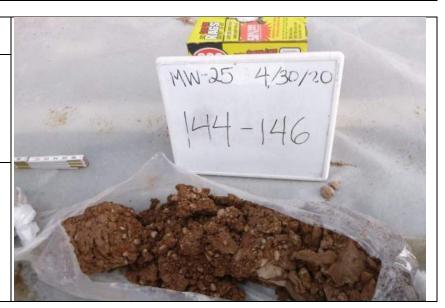
Photo No. Date: 4/30/20

Location:

MW-25

Description:

144-146'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **58**

Date: 4/30/20

Location:

MW-25

Description:

146-148'



Photo No. 59

Date: 4/30/20

Location:

MW-25

Description:

148-150'

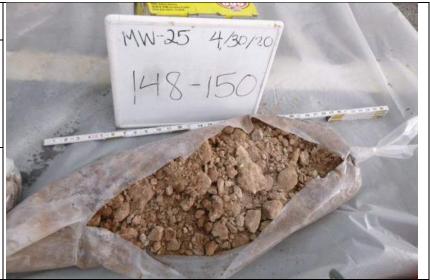


Photo No.

Location:

Date: 5/1/20

60

MW-25

Description:

150-152'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 5/1/20

Location:

MW-25

Description:

152-154'

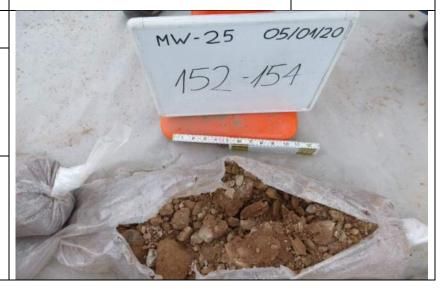


Photo No. Date: 5/1/20

Location:

MW-25

Description:

154-157'



Photo No. Date: 5/1/20

Location:

MW-25

Description:

157-160'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 5/1/20

Location:

MW-25

Description:

160-163'



Photo No. Date: 5/1/20

Location:

MW-25

Description:

163-166.5'



Photo No. Date: 5/1/20

Location:

MW-25

Description:

166.5-168.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 67

Date: 5/1/20

Location:

MW-25

Description:

168.5-170'



Photo No.

Date: 5/1/20

68

1

Location:

MW-25

Description:

170-173



Photo No.

Date:

69 5/1/20

Location:

MW-25

Description:

173-175.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 5/1/20

Location:

MW-25

Description:

175.5-178'



Photo No.

Date: 5/1/20

71
Location:

MW-25

Description:

178-180'



Photo No.

Date: 5/1/20

72
Location:

MW-25

Description:

180-183'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **73**

Date: 5/1/20

Location:

MW-25

Description:

183-185'



Photo No. **74**

Date: 5/1/20

Location:

MW-25

Description:

185-188'



Photo No.

75

Date: 5/1/20

Location:

MW-25

Description:

188-190'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **76**

Date: 5/1/20

Location:

MW-25

Description:

190-192.5'



Photo No.

Date:

77 5/1/20

Location:

MW-25

Description:

192.5-195.5'



Photo No.

Date:

78

5/1/20

Location:

MW-25

Description:

195.5-198'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 5/1/20

Location:

MW-25

Description:

198-200'



Photo No. 80

Date: 5/1/20

Location:

MW-25

Description:

200-202.5'



Photo No.

Date:

81

5/1/20

Location:

MW-25

Description:

202.5-205'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **D** 5/

Date: 5/1/20

Location:

MW-25

Description:

205-208' No Recovery

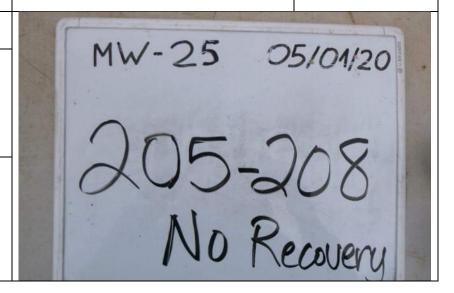


Photo No. 80

Date: 5/1/20

Location:

MW-25

Description:

208-210'



Photo No.

No. Date:

81 5/3/20

Location:

MW-25

Description:

210-211.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 82

Date: 5/3/20

Location:

MW-25

Description:

211.5-214'



Photo No.

Date:

83 5/3/20

Location:

MW-25

Description:

214-217'



Photo No.

Date:

84 5/3/20

Location:

MW-25

Description:

217-220'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 5/3/20

Location:

MW-25

Description:

220-222'



Photo No. Date: 5/3/20

Location:

MW-25

Description:

222-225'



Photo No. Date: 5/3/20

Location:

MW-25

Description:

225.227.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 5/3/20

Location:

MW-25

Description:

227.5-230'



Photo No. Date: 5/3/20

Location:

MW-25

Description:

230-233'



Photo No. Date: 5/3/20

Location:

MW-25

Description:

233-235'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **91**

Date: 5/3/20

Location:

MW-25

Description:

235-238'



Photo No. 92

Date: 5/3/20

Location:

MW-25

Description:

238-240'



Photo No.

Date: 5/3/20

93 Location:

MW-25

Description:

240-242'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **94**

Date: 5/3/20

Location:

MW-25

Description:

242-245'



Photo No. 95

Date: 5/3/20

Location:

MW-25

Description:

245-247



Photo No.

96

Date: 5/3/20

Location:

MW-25

Description:

247-250'

Photos unavailable for 250-310 feet



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **97**

Date: 5/6/20

Location:

MW-25

Description:

310-312'



Photo No. 98 **Date:** 5/6/20

Location:

MW-25

Description:

312-315'



Photo No. 99

Date: 5/6/20

Location:

MW-25

Description:

315-318'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 5/6/20

Location:

MW-25

Description:

318-320'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

1

Date: 4/22/20

Location:

MW-26

Description:

9-12'



Photo No.

Date:

4/22/20

Location:

MW-26

Description:

12-14'



Photo No.

Date:

3

4/22/20

Location:

MW-26

Description:

14-17



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

4

Date: 4/22/20

Location:

MW-26

Description:

17-22'



Photo No.

Date:

4/22/20

Location:

MW-26

Description:

20-22



Photo No.

Date:

6

4/22/20

Location:

MW-26

Description:

22-24





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

to No. Date: 4/22/20

Location:

MW-26

Description:

24-27'



Photo No.

Date:

8 4/22/20

Location:

MW-26

Description:

27-30'



Photo No.

Date:

9

4/22/20

Location:

MW-26

Description:

30-32.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/22/20

Location:

MW-26

Description:

32.5-35'



Photo No.

Date:

4/22/20

Location:

MW-26

Description:

35-37.5'



Photo No.

Date:

12

4/22/20

Location:

MW-26

Description:

37.5-40'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 13 4/23/20

Location:

MW-26

Description:

40-42'



Photo No.

Date:

4/23/20 14

Location:

MW-26

Description:

42-43.5'



Photo No.

Date:

15

4/23/20

Location:

MW-26

Description:

43.5-45'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/23/20

Location:

MW-26

Description:

45-46.5'



Photo No.

Date: 4/23/20

Location:

MW-26

Description:

46.5-48'



Photo No.

Date: 4/23/20

Location:

MW-26

Description:

48-50'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/23/20

Location:

MW-26

Description:

50-52'



Photo No. 20

Date: 4/23/20

Location:

MW-26

Description:

53-54'



Photo No.

Date:

21

4/23/20

Location:

MW-26

Description:

54-56'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

22

Date: 4/23/20

Location:

MW-26

Description:

56-57.5'



Photo No. 23

Date:

4/23/20

Location:

MW-26

Description:

57.5-59'

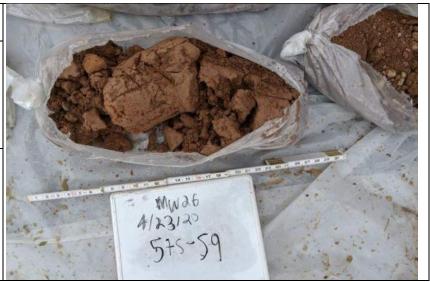


Photo No.

Date:

24 4/23/20

Location:

MW-26

Description:

59-60'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 25

Date: 4/23/20

Location:

MW-26

Description:

60-63'



Photo No. 26

Date: 4/23/20

Location:

MW-26

Description:

63-66'



Photo No.

Date: 4/23/20

27
Location:

MW-26

Description:

66-68'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 28

Date: 4/23/20

Location:

MW-26

Description:

68-70'



Photo No.

Date: 4/23/20

29 Location:

MW-26

Description:

70-73



Photo No. 30

Date: 4/23/20

Location:

MW-26

Description:

73-75



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/23/20

Location:

MW-26

Description:

75-77



Photo No. 32

Date: 4/23/20

Location:

MW-26

Description:

77-80'



Photo No.

Date:

33

4/23/20

Location:

MW-26

Description:

80-82.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 34 4/23/20

Location:

MW-26

Description:

82.5-85'



Photo No.

Location:

Date: 4/23/20

35

MW-26

Description:

85-87.5'



Photo No.

Date:

4/23/20 36

Location:

MW-26

Description:

87.5-90'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 4/23/20

Location:

MW-26

Description:

90-92.5'



Photo No.

Date:

38 4/23/20

Location:

MW-26

Description:

92.5-95'



Photo No.

Date:

39 4/23/20

Location:

MW-26

Description:

95-97.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 40 4/23/20

Location:

MW-26

Description:

97.5-100'

No photolog available for 100-150 feet

Photo No.

Date:

41

5/5/20

Location:

MW-26

Description:

150-153.5'

MW26 4/23/20 975-100	
MW-26 5/5/2020 150-153.5	

Photo No.

Date:

42

5/5/20

Location:

MW-26

Description:

153.5-157'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/5/20

Location:

MW-26

Description:

157-160'



Photo No.

Date: 5/5/20

Location:

MW-26

Description:



Photo No.

45

Date: 5/5/20

Location:

MW-26

Description:

162.5-165'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/5/20

Location:

MW-26

Description:

165-167.5'



Photo No.

Date: 5/5/20

47

Location:

MW-26

Description:

167.5-170'



Photo No.

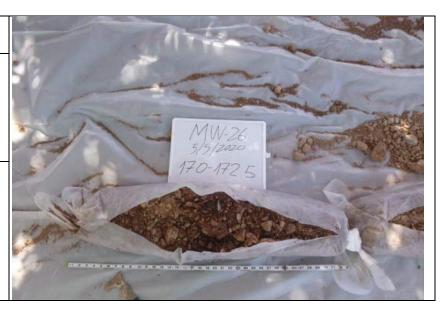
Date: 5/5/20

48
Location:

MW-26

Description:

170-172.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 49

Date: 5/5/20

Location:

MW-26

Description:

172.5-175'



Photo No. **50**

Date: 5/5/20

Location:

MW-26

Description:

175-177.5'



Photo No.

Date: 5/5/20 51

Location:

MW-26

Description:

177.5-180'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 52

Date: 5/5/20

Location:

MW-26

Description:

180-183'



Photo No. 53

Date: 5/5/20

Location:

MW-26

Description:

183-186'



Photo No.

Date:

54 5/5/20

Location:

MW-26

Description:

186-188'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 55

Date: 5/5/20

Location:

MW-26

Description:

188-190'



Photo No. **56**

Date: 5/5/20

Location:

MW-26

Description:

190-192.5'



Photo No. **57**

Date: 5/5/20

Location:

MW-26

Description:

192.5-195'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 58

Date: 5/5/20

Location:

MW-26

Description:

195-197.5'



Photo No. **59**

Date: 5/5/20

Location:

MW-26

Description:

197.5-200'



Photo No.

Date:

60 5/6/20

Location:

MW-26

Description:

200-202.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 61 5/6/20

Location:

MW-26

Description:

202.5-205'



Photo No. **62**

Date: 5/6/20

Location:

MW-26

Description:

205-207.5'

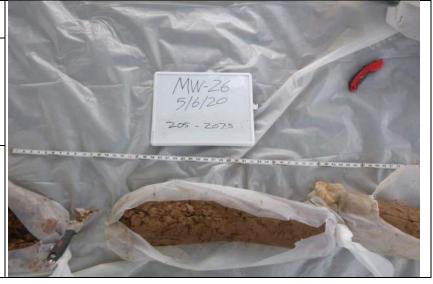


Photo No.

Date:

63 5/6/20

Location:

MW-26

Description:

207.5-210'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **64**

Date: 5/6/20

Location:

MW-26

Description:

210-212.5'



Photo No. 65

Date: 5/6/20

Location:

MW-26

Description:

212.5-215'



Photo No.

66 5/6/20

Date:

Location:

MW-26

Description:

215-217.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 67

Date: 5/6/20

Location:

MW-26

Description:

217.5-220'



Photo No. 68

Date: 5/6/20

Location:

MW-26

Description:

220-222.5'



Photo No.

Date: 69

5/6/20

Location:

MW-26

Description:

222.5-225'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 5/6/20

Location:

MW-26

Description:

225-227.5'



Photo No.

Date: 5/6/20

71 Location:

MW-26

Description:

227.5-230'



Photo No.

Location:

Date:

72 5/6/20

MW-26

Description:

230-232.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **73**

Date: 5/6/20

Location:

MW-26

Description:

232.5-235'



Photo No. 74

Date: 5/6/20

Location:

MW-26

Description:

235-237.5'



Photo No.

Date: 5/6/20 **75**

Location:

MW-26

Description:

237.5-240'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/7/20

Location:

MW-26

Description:

240-242.5'



Photo No.

Date: 5/7/20

77
Location:

MW-26

Description:

242.5-245'



Photo No.

Date:

78

5/7/20

Location:

MW-26

Description:

245-247.5



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 5/7/20

Location:

MW-26

Description:

247.5-250'



Photo No. 80

Date: 5/7/20

Location:

MW-26

Description:

250-252.5'



Photo No. 78

Date:

5/7/20

Location:

MW-26

Description:

252.5-255'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 5/7/20

Location:

MW-26

Description:

255-257.5'



Photo No. 80

Date: 5/7/20

Location:

MW-26

Description:

257.5-260'



Photo No.

Date:

81

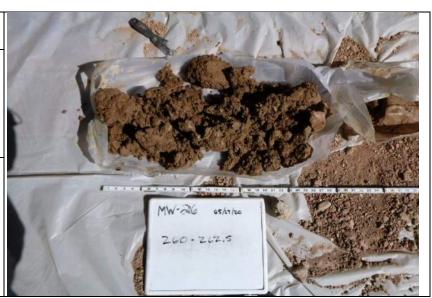
5/7/20

Location:

MW-26

Description:

260-262.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 82

Date: 5/7/20

Location:

MW-26

Description:

262.5-265'



Photo No. 83

Date: 5/7/20

Location:

MW-26

Description:

265-267.5



Photo No.

84 5/7/20

Date:

Location:

MW-26

Description:

267.5-270'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 85

Date: 5/8/20

Location:

MW-26

Description:

270-272'



Photo No.

Date: 5/8/20

86 Location:

MW-26

Description:

272-274'



Photo No.

Date:

87

5/8/20

Location:

MW-26

Description:

274-276'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 88

Date: 5/8/20

Location:

MW-26

Description:

276-278'



Photo No. 89

Date: 5/8/20

Location:

MW-26

Description:

278-280'



Photo No.

Date: 5/8/20 90

Location:

MW-26

Description:

280-282.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 91

Date: 5/8/20

Location:

MW-26

Description:

282.5-285'



Photo No. 92

Date: 5/8/20

Location:

MW-26

Description:

285-287.5



Photo No. 93

Date: 5/8/20

Location:

MW-26

Description:

287.5-289'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **94**

Date: 5/10/20

Location:

MW-26

Description:

290-292.5'



Photo No.

Date:

95 5/10/20

Location:

MW-26

Description:

292.5-295'



Photo No.

Date:

96

5/10/20

Location:

MW-26

Description:

295-297.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 97

Date: 5/10/20

Location:

MW-26

Description:

297.5-300'



Photo No. 98

Date: 5/10/20

Location:

MW-26

Description:

300-305



Photo No.

99 5/10/20

Date:

Location:

MW-26

Description:

305-310'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 100

Date: 5/10/20

Location:

MW-26

Description:

310-312.5'



Photo No. 101 **Date:** 5/10/20

Location:

MW-26

Description:

312.5-315'



Photo No. 102

Date:

5/10/20

Location:

MW-26

Description:

315-317.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 100

Date: 5/10/20

Location:

MW-26

Description:

317.5-320'



Photo No. 101 **Date:** 5/11/20

Location:

MW-26

Description:

320-322.5'



Photo No.

Date:

102 5/11/20

Location:

MW-26

Description:

322.5-325'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 103

Date: 5/11/20

Location:

MW-26

Description:

325-327.5'



Photo No. 104

Date: 5/11/20

Location:

MW-26

Description:

327.5-330'



Photo No.

Date: 5/11/20

105 Location:

MW-26

Description:

330-332.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 106

Date: 5/11/20

Location:

MW-26

Description:

332.5-335'



Photo No. 107

Date: 5/11/20

Location:

MW-26

Description:

335-337.5'



Photo No.

108

Date: 5/11/20

Location:

MW-26

Description:

337.5-340'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 109

Date: 5/11/20

Location:

MW-26

Description:

340-350'



Photo No. 110 **Date:** 5/12/20

Location:

MW-26

Description:

350-355'



Photo No.

Location:

Date: 5/12/20

111

MW-26

Description:

355-357.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 112

Date: 5/12/20

Location:

MW-26

Description:

357.5-360'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 3/22/20

Location:

MW-27

Description:

13-15'



Photo No.

Date:

3/22/20

Location:

MW-27

Description:

15-17'



Photo No.

Location:

Date: 3/22/20

3

MW-27

Description:

17-19



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 4

No. Date: 3/22/20

Location:

MW-27

Description:

19-20'



Photo No.

Date:

3/22/20

Location:

MW-27

Description:

20-30'



Photo No.

Date:

6

3/22/20

Location:

MW-27

Description:

30-35'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 3/22/20

Location:

MW-27

Description:

30-35'



Photo No.

Date:

8 3/22/20

Location:

MW-27

Description:

35-40'



Photo No.

Date:

9

3/22/20

Location:

MW-27

Description:

40-42'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 3/22/20

Location:

MW-27

Description:

42-44'



Photo No.

Date:

11 3/22/20

Location:

MW-27

Description:

44-46'



Photo No.

Date: 3/22/20

12 Location:

MW-27

Description:

45-50'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

No. Date: 3/22/20

Location:

MW-27

Description:

50-53'



Photo No.

Date:

3/22/20

Location:

MW-27

Description:

53-56'



Photo No.

Date:

3/22/20

Location:

MW-27

Description:

56-60'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 3/22/20

Location:

MW-27

Description:

60-70'



Photo No.

Date: 3/22/20

Location:

MW-27

Description:

70-80



Photo No.

Date:

18

3/22/20

Location:

MW-27

Description:

80-85



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 3/22/20

Location:

MW-27

Description:

85-90'



Photo No.

Date:

20 3/22/20

Location:

MW-27

Description:

90-95'



Photo No. 21

Date:

3/22/20

Location:

MW-27

Description:

95-100'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **22**

Date: 3/23/20

Location:

MW-27

Description:

100-105'



Photo No.

Date:

23 3/23/20

Location:

MW-27

Description:

105-110'



Photo No.

Date:

24

3/23/20

Location:

MW-27

Description:

110-112'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 25

Date: 3/23/20

Location:

MW-27

Description:

112-114'



Photo No.

Date:

26 3/23/20

Location:

MW-27

Description:

114-117



Photo No. 27

Date:

3/23/20

Location:

MW-27

Description:

117-120'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 28

Date: 3/23/20

Location:

MW-27

Description:

120-122.5'

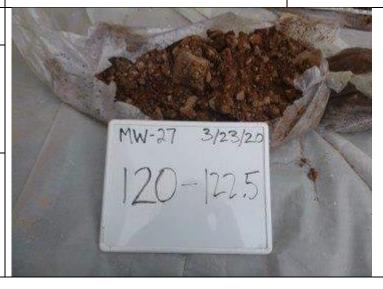


Photo No. 29

Date: 3/23/20

Location:

MW-27

Description:

122.5-125'

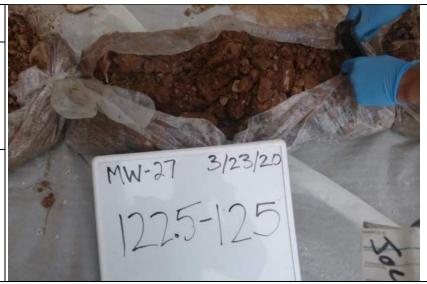


Photo No.

Date:

30 3/23/20

Location:

MW-27

Description:

125-127.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 31

Date: 3/23/20

Location:

MW-27

Description:

127.5-130'



Photo No. 32

Date: 3/23/20

Location:

MW-27

Description:

130-132'



Photo No.

Date:

33

3/23/20

Location:

MW-27

Description:

132.5-135'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 34

lo. Date: 3/23/20

Location:

MW-27

Description:

135-137'



Photo No. 35

Date: 3/23/20

Location:

MW-27

Description:

137-139



Photo No.

•

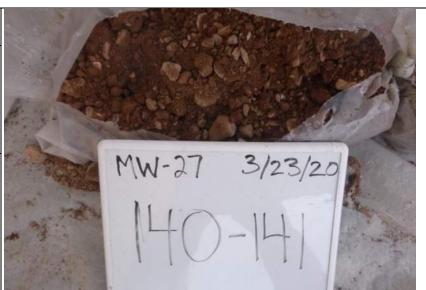
Date: 3/23/20

36 Location:

MW-27

Description:

140-141'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 37

Date: 3/23/20

Location:

MW-27

Description:

141-142.5'



Photo No.

Date: 3/23/20

38
Location:

MW-27

Description:

142.5-145'



Photo No. 39

o. Date:

3/23/20

Location:

MW-27

Description:

145-147'





700 South 1600 East PCE Plume

Project No. 238824

40

Date: 3/23/20

Location:

MW-27

Description:

147-150'



Photo No.

Date: 3/23/20

41

Location:

MW-27

Description:

150-154'



Photo No.

Date: 3/23/20

42 3

Location:

MW-27

Description:

154-156'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 43

Date: 3/23/20

Location:

MW-27

Description:

156-158'



Photo No.

Date: 3/23/20

44

Location:

MW-27

Description:

158-160'

No photolog available for 160-168 feet



Photo No.

Date:

45

3/23/20

Location:

MW-27

Description:

168-170'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 46

Date: 3/23/20

Location:

MW-27

Description:

170-175'



Photo No.

Date:

47 3/23/20

Location:

MW-27

Description:

174-176'

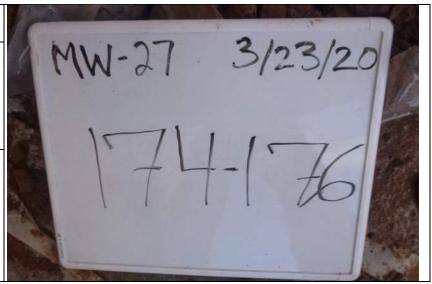


Photo No.

Date:

48

3/23/20

Location:

MW-27

Description:

178-180'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 49

Date: 3/24/20

Location:

MW-27

Description:

180-181.5'



Photo No. **50**

Date: 3/24/20

Location:

MW-27

Description:

181.5-183'



Photo No.

Location:

Date: 3/24/20

51

MW-27

Description:

183-185'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **52**

Date: 3/24/20

Location:

MW-27

Description:

185-187'



Photo No. 53

Date: 3/24/20

Location:

MW-27

Description:

187-190'



Photo No.

Date:

54

3/24/20

Location:

MW-27

Description:

190-192.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **55**

Date: 3/24/20

Location:

MW-27

Description:

192.5-195'



Photo No. **56**

Date: 3/24/20

Location:

MW-27

Description:

195-197.5'



Photo No. **57**

Date:

3/24/20

Location:

MW-27

Description:

197.5-200'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **58**

Date: 3/24/20

Location:

MW-27

Description:

200-210'



Photo No. 59

Date: 3/24/20

Location:

MW-27

Description:

210-220' Low recovery



CDM	PHOTOGRAPHIC LOG
Smith	PHOTOGRAPHIC LOG

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 3/12/20 1

Location:

MW-28

Description:

0-10' - no sample

Photo No.

Date: 3/12/20 2

Location:

MW-28

Description:

10-11'

MW-28 3/12/2020 10'-11

Photo No. 3

Date: 3/12/20

Location:

MW-28

Description:

11-13'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

4

Date: 3/12/20

Location:

MW-28

Description:

13-14'



Photo No.

5

Date: 3/12/20

Location:

MW-28

Description:

14-15'

	MW-2 3/12/2020	8 2	
本			
N		1/25	

Photo No.

6

Date: 3/12/20

Location:

MW-28

Description:

15-16'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7 3/12/20

Location:

MW-28

Description:

16-17'



Photo No.

Date: 3/12/20 8

Location:

MW-28

Description:

17-18'



Photo No.

9

Date: 3/12/20

Location:

MW-28

Description:

18-20'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 10

Date: 3/12/20

Location:

MW-28

Description:

20-22'

Photo No.

Date: 3/12/20 11

Location:

MW-28

Description:

22-24'



Photo No.

12

Date: 3/12/20

Location:

MW-28

Description:

24-26'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 13 3/12/20

Location:

MW-28

Description:

26-27'



Photo No.

14

Date: 3/12/20

Location:

MW-28

Description:

27-29'



Photo No.

15

Date: 3/12/20

Location:

MW-28

Description:

29-30'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 16 3/12/20

Location:

MW-28

Description:

30-32



Photo No.

Date: 3/12/20 17

Location:

MW-28

Description:

32-34'



Photo No.

18

Date: 3/12/20

Location:

MW-28

Description:

34-36'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 3/12/20

Location:

MW-28

Description:

36-38'



Photo No.

20

Date: 3/12/20

Location:

MW-28

Description:

38-39'



Photo No. 21

Date: 3/12/20

Location:

MW-28

Description:

39-40'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 22 3/13/20

Location:

MW-28

Description:

40-42'



Photo No.

23

Date: 3/13/20

Location:

MW-28

Description:

42-44'



Photo No.

24

Date: 3/13/20

Location:

MW-28

Description:

44-48'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **25**

Date: 3/13/20

Location:

MW-28

Description:

48-50'

MW-28 3/13/2020 48-50'

Photo No.

26

Date: 3/13/20

Location:

MW-28

Description:

50-52.5'

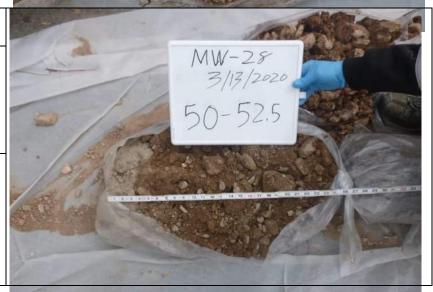


Photo No.

27

Date: 3/13/20

Location:

MW-28

Description:

52.5-55'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

28

Date: 3/13/20

Location:

MW-28

Description:

55-57'



Photo No.

29

Date: 3/13/20

Location:

MW-28

Description:

57-58

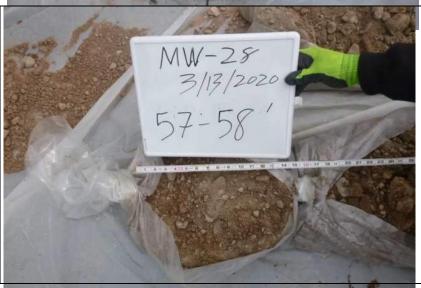


Photo No.

30

Date: 3/13/20

Location:

MW-28

Description:

58-60'



Smi	th PHOTOGRAPHIC LOG	Site: 700 South 1600 East PCE Plume	Project No. 238824
Photo No.	Date: 3/13/20	MW-28	
Location: MW-28		MW-28 3/13/2020 60-63'	20
Description	:	17 10 -	1 de es de de de es es se se se
60-63'			
Photo No.	Date:	A Production	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
32 Location:	3/13/20		
MW-28		MW-28 3/13/2020 63-65'	
Description 63-65'	:		0 00 72 73
Di ata Na	I Date		
Photo No.	Date: 3/13/20		-
Location:	1	MW-28	
MW-28		MW-28 3/13/2020 65-66	
Description	:		W/ CONTRACTOR
65-66'		2-1-011-0-3 On2 (10 s)	1-13 - 13-17 - 13 - 4 - 60 - 87 - 82 - 10 - 10 - 13 - 28 - 27

CDM	
Smith	PHOTOGRAPHIC LOG

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 34

Date: 3/13/20

Location:

MW-28

Description:

66-69'



Photo No.

35

Date: 3/13/20

Location:

MW-28

Description:

69-70'

	MW-28 3/13/2020
	69-70
44 45 48 42 42 4	80 51 59 53 55 ** 56 57 50 59 80 0 68 63 64 65 65 ** 68 69 70 71

Photo No.

36

Date: 3/13/20

Location:

MW-28

Description:

70-73





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 37

Date: 3/13/20

Location:

MW-28

Description:

73-75'



Photo No.

Date: 3/13/20 38

Location:

MW-28

Description:

75-77

91 (8) co	MW-23 3/13/2 75-7;
30 to (4) ed (5) or (1) (1) (7) (7)	

Photo No. 39

Date: 3/13/20

Location:

MW-28

Description:

77-80'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 40

Date: 3/13/20

Location:

MW-28

Description:

80-81.5'



Photo No.

Date: 3/13/20 41

Location:

MW-28

Description:

81.5-84'

	3/13/2020
	81.5-84
TA.	27 28 28 30 ° 30 33 34 35 33 ° 38 33 40 41 42 4) 44 45 46 41
33 17 20 27 22 23 27 1 30	27 28 29 30 9 31 33 34 35 33 1 35 35 45
1011	

Photo No.

42

Date: 3/13/20

Location:

MW-28

Description:

84-86'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 43

Date: 3/13/20

Location:

MW-28

Description:

86-88'

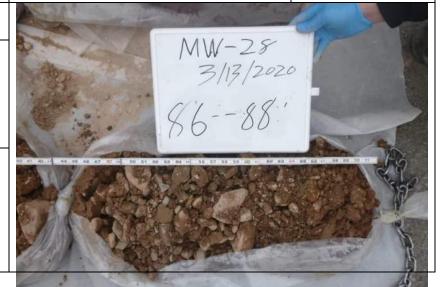


Photo No.

44

Date: 3/13/20

Location:

MW-28

Description:

88-89'

100		1000
	MW-28 3/13/2020	
	8889'	15-17 13 0) 80 FH RE HS DE 11
-	2 Angure y guego to to the a tarti	

Photo No. 45 **Date:** 3/13/20

Location:

MW-28

Description:

89-90'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 46

Date: 3/13/20

Location:

MW-28

Description:

90-92'



Photo No. 47

No. Date: 3/13/20

Location:

MW-28

Description:

92-94'

MN-28 3/13/2020	- SERVE
3/13/2020	BOST
92-94	THE STATE OF THE S
	Buil.
1 2 3 4 3 5 6 7 18 3 10 11 16 6 14 15 16 17	9 4 68 58 18 08 0
A STATE OF THE PARTY OF THE PAR	A STATE OF

Photo No.

48

Date: 3/13/20

Location:

MW-28

Description:

94-96'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 49

Date: 3/13/20

Location:

MW-28

Description:

96-98'



Photo No.

Date: 3/15/20 **50**

Location:

MW-28

Description:

98-100'

MW-28 3/15/2020 98-100		
2 3 4 5 - 8 2 8 - 8 - 12 11	44 15 30 17 3 10 65	7 22 22 20 2 2 2 2 2 2 2 2 2

Photo No. 51

Date: 3/15/20

Location:

MW-28

Description:

100-103'



CDM Smith PHOTOGRAPHIC LOG

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **52**

Date: 3/15/20

Location:

MW-28

Description:

103-105.5'



Photo No.

53

Date: 3/15/20

Location:

MW-28

Description:

105.5-107

	MW-28 3/15/2020 1055-107
Assert A	105.5-107
	PENSON
	THE REAL PROPERTY.

Photo No. **54**

Date: 3/15/20

Location:

MW-28

Description:

107-108'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 55

Date: 3/15/20

Location:

MW-28

Description:

108-109'

Photo No.

Date: 3/15/20 56

Location:

MW-28

Description:

109-110'

	MW-28 3/15/2020 109-110	
39 39 40 41 40 1 40	48 48 47 9 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Photo No. **57**

Date: 3/15/20

Location:

MW-28

Description:

110-112.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 58

Date: 3/15/20

Location:

MW-28

Description:

112.5-115'



Photo No.

Date: 3/15/20 **59**

Location:

MW-28

Description:

115-117

MW-28 3/15/2020 115-117

Photo No. 60

Date: 3/15/20

Location:

MW-28

Description:

117-119'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 61 3/16/20

Location:

MW-28

Description:

119-120'

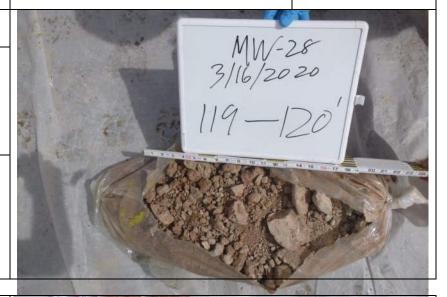


Photo No.

62

Date: 3/16/20

Location:

MW-28

Description:

120-122'

MW-28 3/16/2020 120-122	
The country of the second country of the country of	20 27 28 29

Photo No.

3/16/20 63

Date:

Location:

MW-28

Description:

122-123.5'



CDM Smith PHOTOGRAPHIC LOG

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 64

Date: 3/16/20

Location:

MW-28

Description:

123.5-127'



Photo No.

Date: 3/16/20 65

Location:

MW-28

Description:

127-130'

	AND	
7/35	MW-28 3/16/2020	
	177-130	
3 33 50 0 0 0 0 0 0 0 0	80 51 50 52 M + 84 57 80 52 (0° + 62 62	24 85 65 ··· 68 84 70 71
THE STATE OF THE S		11.1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		

Photo No.

Date: 3/16/20 66

Location:

MW-28

Description:

130-132'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 67

Date: 3/16/20

Location:

MW-28

Description:

132-134'



Photo No.

Date: 3/16/20 68

Location:

MW-28

Description:

134-135'

	MW-28 3/16/2020
	134 -135
92 83 94 4	9 57 58 50 50 4 52 63 64 85 08 5 69 70 71

Photo No. 69

Date: 3/16/20

Location:

MW-28

Description:

135-136'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 3/16/20

Location:

MW-28

Description:

136-138'



Photo No.

Date: 3/16/20 71

Location:

MW-28

Description:

138-140'

	MW-28 3/16/2020 138 - 140	
35 25 ii 38 30 40 51 42	a) 44 45 48 47 12 50 57 52 53 51 C	

Photo No. **72**

Date: 3/17/20

Location:

MW-28

Description:

140-143'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **73**

Date: 3/17/20

Location:

MW-28

Description:

143-145'



Photo No.

74

Date: 3/17/20

Location:

MW-28

Description:

145-147

	MIN/-28 3/17/2020
	145-147.
13 11 20 81 82 23 60 11 26 87 26	20 23 34 35 35 17 39 38 46 41 42 41 45 45 45 45 47 47 44 50 51
500	

Photo No. **75**

Date: 3/17/20

Location:

MW-28

Description:

147-150'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **76**

Date: 3/17/20

Location:

MW-28

Description:

150-153'



Photo No.

Date: 3/17/20 **77**

Location:

MW-28

Description:

153-155'

MIN-28 3/17/2020
3/17/2020
TO A TO A STATE OF THE PARTY OF
153-155'
27 28 29 30 11 32 33 34 35 33 11 38 39 40 41 62 12 44 45 46 47 63 13 50 51 52 53 54 60
27 28 29 30 7 32 33 34 35 35 77 36 35 40 47
Control of the state of the sta

Photo No. **78**

Date: 3/17/20

Location:

MW-28

Description:

155-158'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 3/17/20

Location:

MW-28

Description:

158-160'

MIN-28 3/17/2020 158-160'

Photo No.

80

Date: 3/17/20

Location:

MW-28

Description:

160-162

-	4
A.	MW-28 3/17/2020 160-162
	3/17/2020
	160-162
	Ta la
	A STATE OF THE STA
1 2 3 4 9 9 7 8 9 1	0 17 52 5 44 15 5 77 33 4 00 8 00 05 11 5 26 27 88 17
	The state of the s
1	
Contract of the second	The same of the sa

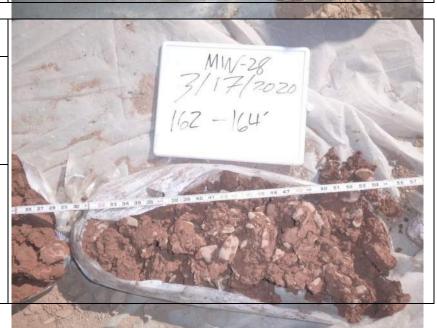
Photo No. 81 **Date:** 3/17/20

Location:

MW-28

Description:

162-164'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 82

Date: 3/17/20

Location:

MW-28

Description:

164-166'



Photo No.

Date: 3/17/20 83

Location:

MW-28

Description:

166-167'



Photo No.

84 3/17/20

Date:

Location:

MW-28

Description:

167-169'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 85

Date: 3/17/20

Location:

MW-28

Description:

169-170'



Photo No.

Date: 3/17/20 86

Location:

MW-28

Description:

170-172.5'

	W-29 7/2020)-172.5		
-2-111-0-1-0-1-0-1	10 10 10 10 10 10 10 10 10	10 to	
			No.

Photo No. 87

Date: 3/17/20

Location:

MW-28

Description:

172.5-175'



CDM Smith PHOTOGRAPHIC LOG

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 88

Date: 3/17/20

Location:

MW-28

Description:

175-177.5'



Photo No.

Date: 3/17/20 89

Location:

MW-28

Description:

177.5-180'

	MW-22 3/17/2020 1775-180	
25 47 4 1 30	S1 52 53 894 M 56 57 08 59 803 P 62 83 64 85 65 F 66 55	

Photo No. 90

Date: 3/17/20

Location:

MW-28

Description:

180-182.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 91

Date: 3/17/20

Location:

MW-28

Description:

182.5-185'

Photo No.

Date: 3/17/20 92

Location:

MW-28

Description:

185-187.5'

Photo No.

93

Date: 3/17/20

Location:

MW-28

Description:

187.5-190'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **94**

Date: 3/17/20

Location:

MW-28

Description:

190-193'

MW-28 3/17/20 190-193

Photo No.

95

Date: 3/17/20

Location:

MW-28

Description:

193-195'

MW-28 3/17/20	87
- 193-195	47 4 4 50 81 52 53 50 50
	-

Photo No. **96** **Date:** 3/17/20

Location:

MW-28

Description:

195-198'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 97

Date: 3/17/20

Location:

MW-28

Description:

198-200'

Photo No.

Date: 3/17/20 98

Location:

MW-28

Description:

200-202'

	note:	
	3/17/20 \	
	200-202'	
1 2-3	S-8 7 B-8 10 11 92 - 14 15	11-17 20 to 80 81 88 83 94 11 26 87 81

Photo No. 99

Date: 3/17/20

Location:

MW-28

Description:

202-204'



Smith PHOTOGRAPHIC LOG		Site: 700 South 1600 East PCE Plume		Project No. 238824	
Photo No.	Date: 3/17/20		M.W-28	The state of	
Location:	3/1//20	3	117/20	- 12/2/2	
MW-28		70	MW-28 117/20 t-706'		
Description	1:	28 23 24 11 35 27 28 25 30 11 37 33	3A 35 38 17 38 38 40 41	as and as as as	
204-206'					
Photo No.	Date:	THE PARTY OF THE P	111111111111111111111111111111111111111		
101	3/17/20		M.W-28	A STATE OF THE PARTY OF THE PAR	
Location:		3/	17/20		
MW-28		201	N/W-28 17/20 6-707'		
Description:		5 48 47 41 41 50 51 52 53 54 41 56 57 5	51 (a) 11 62 63 11 65 56		
206-207'					
Photo No.	Date: 3/18/20			14.11	
Location:	-	The state of the s	MIN1-28		
MW-28			3/18/20	5	
Description:			a 10 11	12 13 14 15 15 17 18 19 20	
207-208.5		1 2 3 4	S 6 7 8 9 10 11		



700 South 1600 East PCE Plume

Project No.

238824

Photo No. 103

Date: 3/18/20

Location:

MW-28

Description:

208.5-210'



CDM Smith PHOTOGRAPHIC LOG

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

1

Date: 5/27/20

Location:

MW-29

Description:

10-11'



Photo No.

Date:

5/27/20

Location:

MW-29

Description:

11-13

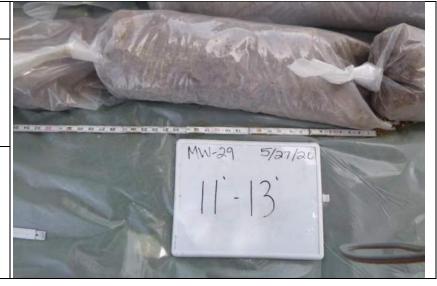


Photo No.

Date:

3

5/27/20

Location:

MW-29

Description:

13-15.5'



CDM Smith PHOTOGRAPHIC LOG

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

4

Date: 5/27/20

Location:

MW-29

Description:

15.5-17.5'



Photo No.

Date:

5/27/20

Location:

MW-29

Description:

16-18'



Photo No.

Date:

6

5/27/20

Location:

MW-29

Description:

18-29





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/27/20

Location:

MW-29

Description:

20-22'



Photo No.

Date:

5/27/20

Location:

MW-29

Description:

22-24'



Photo No.

Date:

9

5/27/20

Location:

MW-29

Description:

24-26





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/27/20

Location:

MW-29

Description:

26-28'



Photo No.

Date:

11 5/27/20

Location:

MW-29

Description:

28-30'



Photo No.

Date:

12

5/27/20

Location:

MW-29

Description:

30-31





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/27/20

Location:

MW-29

Description:

31-32'



Photo No.

Date: 5/27/20

14 5/

Location:

MW-29

Description:

32-34'



Photo No.

Date:

15

5/27/20

Location:

MW-29

Description:

34-36'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/27/20

Location:

MW-29

Description:

36-38'



Photo No.

Date:

5/27/20

Location:

MW-29

Description:

38-40'



Photo No.

Date:

5/27/20

Location:

MW-29

Description:

40-42.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/27/20

Location:

MW-29

Description:

42.5-45'



Photo No.

Date:

20 5/27/20

Location:

MW-29

Description:

45-46'



Photo No.

Date:

21

5/27/20

Location:

MW-29

Description:

46-48'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **22**

Date: 5/27/20

Location:

MW-29

Description:

48-50'



Photo No.

Date:

23 5/28/20

Location:

MW-29

Description:

50-52



Photo No.

Date:

24 5/28/20

Location:

MW-29

Description:

52-54'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **25**

Date: 5/28/20

Location:

MW-29

Description:

54-56'



Photo No.

Date:

26 5/28/20

Location:

MW-29

Description:

56-58'



Photo No.

Date:

27 5/28/20

Location:

MW-29

Description:

58-60'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 28

Date: 5/28/20

Location:

MW-29

Description:

60-62'



Photo No.

Date:

29 5/28/20

Location:

MW-29

Description:

62-64'



Photo No.

Date:

30

5/28/20

Location:

MW-29

Description:

64-66'



Site:

700 South 1600 East PCE Plume

Project No. 238824

Photo No.

Date: 31 5/28/20

Location:

MW-29

Description:

66-68'



Photo No. 32

Date: 5/28/20

Location:

MW-29

Description:

68-70



Photo No.

Date:

33

5/28/20

Location:

MW-29

Description:

70-72



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 34

Date: 5/28/20

Location:

MW-29

Description:

72-74'



Photo No.

Date: 5/28/20

35 Location:

MW-29

Description:

74-76



Photo No.

36

Date: 5/28/20

Location:

MW-29

Description:

76-78'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 37

Date: 5/28/20

Location:

MW-29

Description:

78-80'



Photo No.

Date:

5/28/20 38

Location:

MW-29

Description:

80-82



Photo No. 39

Date: 5/28/20

Location:

MW-29

Description:

82-84





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 40 5/28/20

Location:

MW-29

Description:

84-85'



Photo No.

Date: 5/28/20

41 Location:

MW-29

Description:

85-88'



Photo No.

Date:

42

5/28/20

Location:

MW-29

Description:

88-90'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 43

Date: 5/28/20

Location:

MW-29

Description:

90-91'



Photo No.

Date:

44

5/28/20

Location:

MW-29

Description:

91-94'



Photo No.

Date: 5/28/20

45
Location:

MW-29

Description:

94-97



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 46

Date: 5/28/20

Location:

MW-29

Description:

97-100'



Photo No. 47

Date: 5/28/20

Location:

MW-29

Description:

101-104



Photo No.

Date:

48

5/28/20

Location:

MW-29

Description:

104-107





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 46

Date: 5/28/20

Location:

MW-29

Description:

107-110'

Photolog unavailable for 110-115 feet



Photo No.

Date:

47 5/29/20

Location:

MW-29

Description:

115-117'



Photo No.

Date:

48

5/29/20

Location:

MW-29

Description:

117-119'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 46

Date: 5/29/20

Location:

MW-29

Description:

119-120'



Photo No. 47

Date:

5/29/20

Location:

MW-29

Description:

120-122'



Photo No. 48

lo. Date:

5/29/20

Location:

MW-29

Description:

122-124'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 49

Date: 5/29/20

Location:

MW-29

Description:

124-126'



Photo No.

Date:

50 5/29/20

Location:

MW-29

Description:

126-128'



Photo No.

No. Date: 5/29/20

51

Location:

MW-29

Description:

128-130'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **52**

Date: 5/29/20

Location:

MW-29

Description:

130-133'



Photo No.

Date: 5/29/20

53 Location:

MW-29

Description:

133-135'



Photo No.

Date:

54

5/29/20

Location:

MW-29

Description:

135-138'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 5/29/20

Location:

MW-29

Description:

138-140'



Photo No. Date: 5/29/20

Location:

MW-29

Description:

140-143'



Photo No. Date: 5/29/20

Location:

MW-29

Description:

143-145'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **58**

Date: 5/29/20

Location:

MW-29

Description:

145-148'



Photo No.

Date:

59 5/29/20

Location:

MW-29

Description:

148-150'



Photo No.

Date: 5/29/20

60

Location:

MW-29

Description:

150-153'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/29/20

Location:

MW-29

Description:

153-155'



Photo No.

Date:

62 5/29/20

Location:

MW-29

Description:

155-158'



Photo No.

Date:

63

5/29/20

Location:

MW-29

Description:

158-160'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/29/20

Location:

MW-29

Description:

160-162'



Photo No.

Date:

65 5/29/20

Location:

MW-29

Description:

162-165'



Photo No.

Date: 5/29/20

66

Location:

MW-29

Description:

165-168'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 67

Date: 5/29/20

Location:

MW-29

Description:

168-170'



Photo No.

Date: 5/29/20

68 Location:

MW-29

Description:

170-172.5



Photo No. 69

Date: 5/29/20

Location:

MW-29

Description:

172.5-175'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 5/29/20

Location:

MW-29

Description:

175-178'



Photo No. 71

Date:

5/29/20

Location:

MW-29

Description:

178-180'



Photo No.

Date:

72

5/29/20

Location:

MW-29

Description:

182'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 73

Date: 5/29/20

Location:

MW-29

Description:

182-184'



Photo No. **74**

Date: 5/29/20

Location:

MW-29

Description:

184-186'



Photo No.

Date:

75

5/29/20

Location:

MW-29

Description:

186-188'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 5/29/20

Location:

MW-29

Description:

188-190'

Photolog unavailable for 190-230 feet



Photo No. 71

Date: 6/1/20

Location:

MW-29

Description:

230-234'



Photo No.

Date:

72

6/1/20

Location:

MW-29

Description:

234-237'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **73**

Date: 6/1/20

Location:

MW-29

Description:

237-240'



Photo No. 74

Date: 6/1/20

Location:

MW-29

Description:

240-242.5'



Photo No. **75**

Date: 6/1/20

Location:

MW-29

Description:

242.5-245'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **76**

Date: 6/1/20

Location:

MW-29

Description:

245-247.5'



Photo No. 77

Date: 6/1/20

Location:

MW-29

Description:

247.5-250'



Photo No.

Date:

78 6/1/20

Location:

MW-29

Description:

250-253'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 6/1/20

Location:

MW-29

Description:

253-256'



Photo No.

Date:

80

6/1/20

Location:

MW-29

Description:

256-260'



Photo No.

Date:

81

6/2/20

Location:

MW-29

Description:

260-262'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 82

Date: 6/2/20

Location:

MW-29

Description:

262-265'



Photo No.

Date: 6/2/20

83 Location:

MW-29

Description:

265-267.5



Photo No.

Date:

84 6/2/20

Location:

MW-29

Description:

267.5-270'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/3/20

Location:

MW-29

Description:

271-273' No recovery

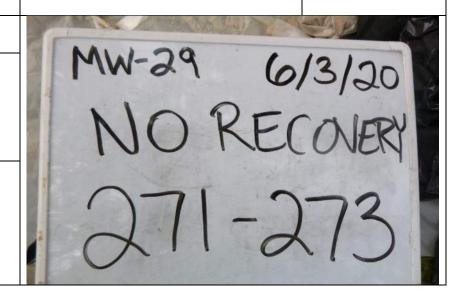


Photo No. Date: 6/3/20

Location:

MW-29

Description:

273-274'

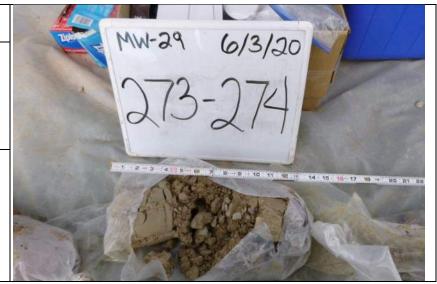


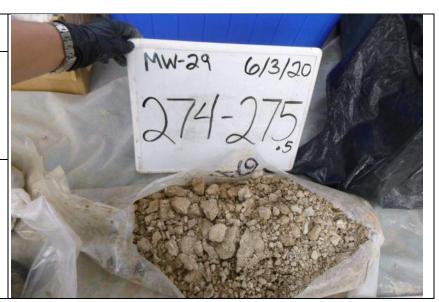
Photo No. Date: 6/3/20

Location:

MW-29

Description:

274-275.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/3/20

Location:

MW-29

Description:

275.5-280' No recovery

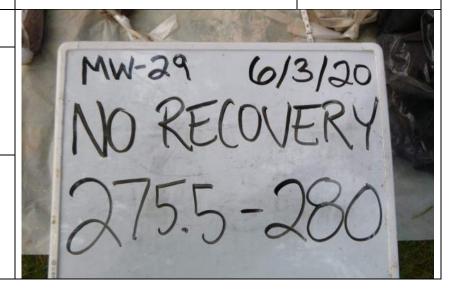


Photo No.

89 6/3/20

Date:

Location:

MW-29

Description:

280-282.5'



Photo No.

90 6/3/20

Date:

Location:

MW-29

Description:

282.5-285'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 91 6/3/20

Location:

MW-29

Description:

285-287.5'



Photo No. 92

Date: 6/3/20

Location:

MW-29

Description:

287.5-290'



Photo No.

Date: 6/3/20

93

Location:

MW-29

Description:

290-292.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **94**

Date: 6/3/20

Location:

MW-29

Description:

292.5-295'



Photo No.

Date: 6/3/20

95 Location:

MW-29

Description:

295-297.5'



Photo No.

96

Date: 6/3/20

Location:

MW-29

Description:

297.5-300'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 97

Date: 6/3/20

Location:

MW-29

Description:

300-303'



Photo No. 98

Date: 6/3/20

Location:

MW-29

Description:

303-306'



Photo No. 99

Date:

6/3/20

Location:

MW-29

Description:

306-308'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 100

Date: 6/3/20

Location:

MW-29

Description:

308-310'



Photo No. 101 **Date:** 6/3/20

Location:

MW-29

Description:

310-313'



Photo No. 102

Date:

6/3/20

Location:

MW-29

Description:

313-315'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 103

Date: 6/3/20

Location:

MW-29

Description:

315-317.5'



Photo No. 104

Date: 6/3/20

Location:

MW-29

Description:

317.5-320'



Photo No. 105 **Date:** 6/3/20

Location:

MW-29

Description:

320-322.5'

Water infiltrated down from the casing





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/3/20

Location:

MW-29

Description:

322.5-325'

Water is infiltrated down from the casing



Photo No. Date: 6/3/20

Location:

MW-29

Description:

325-328'

Water is infiltrated down from the casing



Photo No. Date: 6/3/20

Location:

MW-29

Description:

328-330'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 109

Date: 6/4/20

Location:

MW-29

Description:

330-332'



Photo No.

Date: 6/4/20

110 Location:

MW-29

Description:

332-334.5

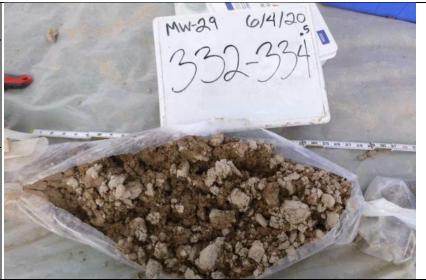


Photo No.

Date: 6/4/20

111 Location:

MW-29

Description:

334.5-337'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/4/20

Location:

MW-29

Description:

337-340'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

1

Date: 5/22/20

Location:

MW-30

Description:

9-10'



Photo No.

Date:

5/22/20

Location:

MW-30

Description:

10-12'



Photo No.

Date:

3

5/22/20

Location:

MW-30

Description:

12-14'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

4

Date: 5/22/20

Location:

MW-30

Description:

14-16'



Photo No.

Date:

5/22/20

Location:

MW-30

Description:

16-18'



Photo No.

Date:

6

5/22/20

Location:

MW-30

Description:

18-20'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/22/20 7

Location:

MW-30

Description:

20-23'



Photo No. 8

Date:

5/22/20

Location:

MW-30

Description:

23-25'



Photo No.

9

Date: 5/22/20

Location:

MW-30

Description:

25-27.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/22/20

Location:

MW-30

Description:

27.5-30'



Photo No.

Date: 5/22/20

11 Location:

MW-30

Description:

30-32



Photo No.

Location:

Date: 5/22/20

12

MW-30

Description:

32-35'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/22/20

Location:

MW-30

Description:

35-37'



Photo No.

Date:

5/22/20

Location:

MW-30

Description:

37-40



Photo No.

Date: 5/22/20

15

Location: MW-30

Description:

40-41.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/22/20

Location:

MW-30

Description:

41.5-43'



Photo No.

Date:

17 5/22/20

Location:

MW-30

Description:

43-45'



Photo No.

Location:

Date: 5/22/20

18

MW-30

Description:

45-46.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 19

Date: 5/22/20

Location:

MW-30

Description:

46.5-48'



Photo No. 20

Date: 5/22/20

Location:

MW-30

Description:

48-50'



Photo No.

Date:

21 5/22/20

Location:

MW-30

Description:

50-53'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **22**

Date: 5/22/20

Location:

MW-30

Description:

53-56'



Photo No.

Date:

23 5/22/20

Location:

MW-30

Description:

56-58'



Photo No.

Location:

Date: 5/22/20

24

MW-30

Description:

58-60'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 25

Date: 5/22/20

Location:

MW-30

Description:

60-63'



Photo No.

Location:

Date: 5/22/20

26

MW-30

Description:

63-66'



Photo No.

Date:

27 5/22/20

Location:

MW-30

Description:

66-68'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 28

Date: 5/22/20

Location:

MW-30

Description:

68-70'



Photo No.

Date:

29 5/22/20

Location:

MW-30

Description:

70-72.5'



Photo No.

Date:

5/22/20

Location:

MW-30

Description:

72.5-75



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 31 5/22/20

Location:

MW-30

Description:

75-77

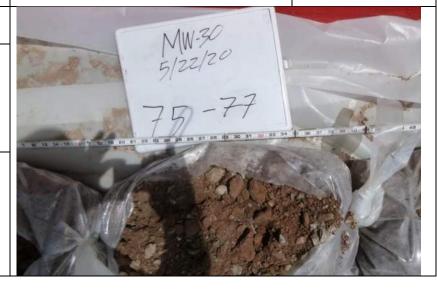


Photo No.

Date:

5/22/20 **32**

Location:

MW-30

Description:

77-80'

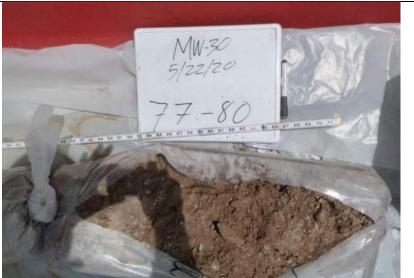


Photo No.

Date:

33

5/22/20

Location:

MW-30

Description:

80-82.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/22/20

Location:

MW-30

Description:

82.5-85'



Photo No.

Date:

35 5/22/20

Location:

MW-30

Description:

85-87.5'



Photo No.

Date:

36

5/22/20

Location:

MW-30

Description:

87.5-90'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 37

Date: 5/22/20

Location:

MW-30

Description:

90-93'



Photo No.

Date:

38 5/22/20

Location:

MW-30

Description:

93-96'



Photo No.

Date:

39 5/22/20

Location:

MW-30

Description:

96-98'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 40

Date: 5/22/20

Location:

MW-30

Description:



Photo No. Date: 41

5/22/20

Location:

MW-30

Description:

100-103'



Photo No.

Date:

5/22/20 42

Location:

MW-30

Description:

103-106'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 5/22/20

Location:

MW-30

Description:

106-108'



Photo No.

Date:

44 5/22/20

Location:

MW-30

Description:

108-110'



Photo No. 45

Date:

6/2/20

Location:

MW-30

Description:

110-113'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/2/20

Location:

MW-30

Description:

113-115'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

115-118'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

118-120'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/2/20

Location:

MW-30

Description:

120-123'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

123-125'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

125-128'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/2/20

52 Location:

MW-30

Description:

128-130'



Photo No.

Date: 6/2/20

53 Location:

MW-30

Description:

130-132'



Photo No.

Location:

Date: 6/2/20

54

MW-30

Description:

132-134'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/2/20

Location:

MW-30

Description:

134-136'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

136-138



Photo No. Date: 6/2/20

Location:

MW-30

Description:

138-140'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/2/20

Location:

MW-30

Description:

140-142'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

142-144'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

144-147'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/2/20

Location:

MW-30

Description:

147-150'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

150-152'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

152-154'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/2/20

Location:

MW-30

Description:

154-157'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

157-160'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

160-162.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/2/20

Location:

MW-30

Description:

162.5-164'



Photo No. Date: 6/2/20

Location:

MW-30

Description:

164-167



Photo No. Date: 6/2/20

Location:

MW-30

Description:

167-170'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 6/2/20

Location:

MW-30

Description:

170-173'



Photo No. 71

Date: 6/2/20

Location:

MW-30

Description:

173-175'



Photo No. 72

Date: 6/2/20

Location:

MW-30

Description:

175-177





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 73

Date: 6/2/20

Location:

MW-30

Description:

177-179'



Photo No. **74**

Date: 6/2/20

Location:

MW-30

Description:

179-182'

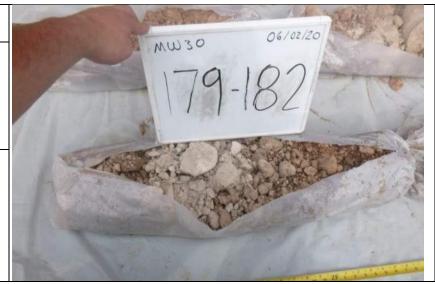


Photo No.

Date:

75

6/2/20

Location:

MW-30

Description:

182-184'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/2/20

Location:

MW-30

Description:

184-187'



Photo No. 77

Date:

6/2/20

Location:

MW-30

Description:

187-190'



Photo No.

Date:

78

6/3/20

Location:

MW-30

Description:

190-192.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 6/3/20

Location:

MW-30

Description:

192.5-195'



Photo No.

Date: 6/3/20

80 Location:

MW-30

Description:

195-198'



Photo No.

Date:

81 6/3/20

Location:

MW-30

Description:

198-200'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/3/20

Location:

MW-30

Description:

200-201'



Photo No. Date: 6/3/20

Location:

MW-30

Description:

201-203



Photo No. Date: 6/3/20

Location:

MW-30

Description:

203-206'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/3/20

Location:

MW-30

Description:

206-208'



Photo No. Date: 6/3/20

Location:

MW-30

Description:

208-210'



Photo No. Date: 6/3/20

Location:

MW-30

Description:

210-211'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/3/20

Location:

MW-30

Description:

211-214'



Photo No. Date: 6/3/20

Location:

MW-30

Description:

214-216'



Photo No. Date: 6/3/20

Location:

MW-30

Description:

216-218'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/3/20

Location:

MW-30

Description:

218-221'



Photo No. Date: 6/3/20

Location:

MW-30

Description:

221-224'



Photo No. Date: 6/3/20

Location:

MW-30

Description:

224-227'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 93

Date: 6/3/20

Location:

MW-30

Description:

227-230'



Photo No. 94

Date: 6/3/20

Location:

MW-30

Description:

230-233'



Photo No.

Date: 6/3/20

95

Location: MW-30

Description:

233-235'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/3/20

Location:

MW-30

Description:

235-237'



Photo No. 97

Date: 6/3/20

Location:

MW-30

Description:

237-240'



Photo No. 98

Date: 6/3/20

Location:

MW-30

Description:

240-243



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 99

6/3/20

Location:

MW-30

Description:

243-245'



Photo No. Date: 6/4/20 100

Location:

MW-30

Description:

245-247.5'



Photo No. Date: 101 6/4/20

Location:

MW-30

Description:

247.5-250'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 102

Date: 6/4/20

Location:

MW-30

Description:

250-252.5'



Photo No. 103

Date: 6/4/20

Location:

MW-30

Description:

252.5-255'



Photo No. 104

Date:

6/4/20

Location:

MW-30

Description:

255-257.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 105

Date: 6/4/20

Location:

MW-30

Description:

<mark>257.5-260</mark>



Photo No. 106 **Date:** 6/4/20

Location:

MW-30

Description:

260-263



Photo No. 107 **Date:** 6/4/20

Location:

MW-30

Description:

262-265'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 108

Date: 6/4/20

Location:

MW-30

Description:

265-267.5'



Photo No. 109 **Date:** 6/4/20

Location:

MW-30

Description:

267.5-270'



Photo No. 110 **Date:** 6/4/20

Location:

MW-30

Description:

270-272'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 111

Date: 6/4/20

Location:

MW-30

Description:

272-275'



Photo No. 112

Date: 6/4/20

Location:

MW-30

Description:

275-277.5'



Photo No. 113 **Date:** 6/4/20

Location:

MW-30

Description:

277.5-280'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 114

Date: 6/5/20

Location:

MW-30

Description:

280-282.5'



Photo No. 115 **Date:** 6/5/20

Location:

MW-30

Description:

282.5-285'



Photo No.

116

Date: 6/5/20

Location:

MW-30

Description:

285-287'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/5/20

Location:

MW-30

Description:

287-290'

No photolog available for 290-291.5 feet



Photo No. Date: 6/5/20

Location:

MW-30

Description:

291.5-293'



Photo No. Date: 6/5/20

Location:

MW-30

Description:

293-295.5





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/5/20

Location:

MW-30

Description:

295.5-298'



Photo No. Date: 6/5/20

Location:

MW-30

Description:

298-300'

No photolog available for 300-301 feet



Photo No. Date: 6/5/20

Location:

MW-30

Description:

301-302.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/5/20

Location:

MW-30

Description:

302.5-305'



Photo No. Date: 6/5/20

Location:

MW-30

Description:

305-307.5'



Photo No. Date: 6/5/20

Location:

MW-30

Description:

307.5-310'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 126 6/5/20

Location:

MW-30

No photolog available for 310-315.5 feet

Description:

313.5-315.5'



Photo No. 127

Date: 6/5/20

Location:

MW-30

Description:

315.5-318'



Photo No. 128

Date:

6/5/20

Location:

MW-30

Description:

No photolog available for 320-321 feet





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 129

Date: 6/7/20

Location:

MW-30

Description:

321-322'



Photo No.

Date: 6/7/20

130 Location:

MW-30

Description:

322-325'



Photo No.

•

Date: 6/7/20

Location:

MW-30

Description:

325-327.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 132

Date: 6/7/20

Location:

MW-30

Description:

327.5-330'



Photo No.

Date: 6/7/20

133 Location:

MW-30

Description:

330-333'



Photo No.

134

Date: 6/7/20

Location:

MW-30

Description:

333-335.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 135

Date: 6/7/20

Location:

MW-30

Description:

335.5-337.5'



Photo No.

Date: 6/7/20

136 Location:

MW-30

Description:

337.5-340'



Photo No.

Date: 6/8/20

137 Location:

MW-30

Description:

340-342.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/8/20

Location:

MW-30

Description:

342.5-345'



Photo No. Date: 6/8/20

Location:

MW-30

Description:

345-347.5'



Photo No. Date: 6/8/20

Location:

MW-30

Description:

347.5-350'



CDM	
Smith	PHOTOGRAPHIC LOG

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

1

Date: 6/9/20

Location:

MW-31

Description:



Photo No.

o No. Date: 6/9/20

Location:

MW-31

Description:

12.5-15'



Photo No.

Date:

3

6/9/20

Location:

MW-31

Description:

15-17.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

4

Date: 6/9/20

Location:

MW-31

Description:

17.5-20'



Photo No.

Date:

6/9/20

Location:

MW-31

Description:

20-21'



Photo No.

Date: 6/9/20

6

Location:

MW-31

Description:





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/9/20

Location:

MW-31

Description:

24-27'



Photo No.

Date: 6/9/20

Location:

MW-31

Description:

27-30'



Photo No.

۵

Date: 6/9/20

Location:

MW-31

Description:

30-32.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/9/20

Location:

MW-31

Description:

32.5-35'



Photo No.

Date: 6/9/20

Location:

MW-31

Description:

35-37.5



Photo No.

Date: 6/9/20

12

Location: MW-31

Description:

37.5-40



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/9/20

Location:

MW-31

Description:

40-42.5'



Photo No.

Date: 6/9/20

14

Location:

MW-31

Description:

42.5-45'



Photo No.

Date: 6/9/20

Location:

MW-31

Description:

45-47.5





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/9/20

Location:

MW-31

Description:

47.5-50'



Photo No.

Date: 6/9/20

Location:

MW-31

Description:

50-52



Photo No.

Date: 6/9/20

Location:

MW-31

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/9/20

Location:

MW-31

Description:

55-58'



Photo No. 20

Date: 6/9/20

Location:

MW-31

Description:

58-60'



Photo No.

21 6/9/20

Date:

Location:

MW-31

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 22

Date: 6/9/20

Location:

MW-31

Description:

62-65'



Photo No.

Date:

23 6/9/20

Location:

MW-31

Description:

65-68



Photo No.

Date:

24 6/9/20

Location:

MW-31

Description:





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **25**

Date: 6/9/20

Location:

MW-31

Description:

70-72.5'



Photo No. 26

Date: 6/9/20

Location:

MW-31

Description:

72.5-75



Photo No. 27

Date: 6/9/20

Location:

MW-31

Description:

75-77.5



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 28

Date: 6/9/20

Location:

MW-31

Description:

77.5-80;



Photo No. 29

Date: 6/9/20

Location:

MW-31

Description:

80-82.5



Photo No. 30

Date: 6/9/20

Location:

MW-31

Description:

82.5-85'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/9/20

Location:

MW-31

Description:

85-87.5



Photo No.

Date: 6/9/20

32 Location:

MW-31

Description:

87.5-90'



Photo No.

Date: 6/9/20

33 Location:

MW-31

Description:

90-92.5





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 34

Date: 6/9/20

Location:

MW-31

Description:

92.5-95'



Photo No. 35

Date: 6/9/20

Location:

MW-31

Description:

95-975



Photo No.

Date: 6/9/20

36 Location:

MW-31

Description:

97.5-100'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 37

Date: 6/9/20

Location:

MW-31

Description:

100-102.5'

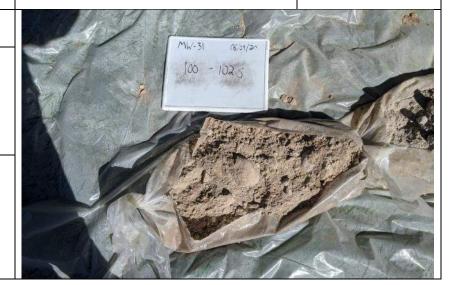


Photo No. 38

Date: 6/9/20

Location:

MW-31

Description:

102.5-105



Photo No. 39

Date: 6/9/20

Location:

MW-31

Description:

105-107.5



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 40

Date: 6/9/20

Location:

MW-31

Description:

107.5-110'



Photo No. 41 **Date:** 6/9/20

Location:

MW-31

Description:

110-113



Photo No.

Date: 6/9/20

42

Location:

MW-31

Description:

113-115'



CDM	
Smith	PHOTOGRAPHIC LOG

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/10/20

Location:

MW-31

Description:

115-117'



Photo No. Date: 6/10/20

Location:

MW-31

Description:



Photo No. Date: 6/10/20

Location:

MW-31

Description:

120-122.5



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/10/20

Location:

MW-31

Description:

122.5-125'



Photo No. Date: 6/10/20

Location:

MW-31

Description:

125-127.5'



Photo No. Date: 6/10/20

Location:

MW-31

Description:

127.5-130'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 49 6/10/20

Location:

MW-31

Description:



Photo No. **50**

Date: 6/10/20

Location:

MW-31

Description:

132-135'



Photo No. 51

Date:

6/10/20

Location:

MW-31

Description:

134-136'



Date:

6/10/20

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 52

Location:

MW-31

Description:

136-138'



Photo No. Date: 6/10/20

Location:

MW-31

Description:

138-140'



Photo No. Date: 6/10/20

Location:

MW-31

Description:

140-142.5



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/10/20

Location:

MW-31

Description:

142.5-145'



Photo No. Date: 6/10/20

Location:

MW-31

Description:

145-147.5



Photo No. Date: 6/10/20

Location:

MW-31

Description:

147.5-150'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **58**

Date: 6/10/20

Location:

MW-31

Description:

150-151'



Photo No. 59

Date: 6/10/20

Location:

MW-31

Description:

151-154'



Photo No.

Date: 6/10/20

60 Location:

MW-31

Description:

154-157'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/10/20

Location:

MW-31

Description:

157-160'



Photo No. 62

Date: 6/10/20

Location:

MW-31

Description:

160-163'



Photo No.

Date:

63

6/10/20

Location:

MW-31

Description:

162-165'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/10/20

Location:

MW-31

Description:

165-167'



Photo No.

Date: 6/10/20

65
Location:

MW-31

Description:

167-170'



Photo No.

Date:

66

6/10/20

Location:

MW-31

Description:

170-172'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 67

Date: 6/10/20

Location:

MW-31

Description:

172-175'



Photo No. 68

Date: 6/10/20

Location:

MW-31

Description:

175-177



Photo No.

Location:

Date: 6/10/20

69

MW-31

Description:

177-180'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 6/10/20

Location:

MW-31

Description:

180-182.5'



Photo No. 71

Date: 6/10/20

Location:

MW-31

Description:

182.5-185'



Photo No.

Date: 6/10/20

72

Location:

MW-31

Description:

185-187.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 73

Date: 6/10/20

Location:

MW-31

Description:

187.5-190'



Photo No.

Date: 6/10/20

74
Location:

MW-31

Description:

190-192



Photo No.

Date:

75

6/10/20

Location:

MW-31

Description:

192-195'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/10/20

Location:

MW-31

Description:

195-198'



Photo No. 77

Date: 6/10/20

Location:

MW-31

Description:

198-200'



Photo No.

78

Date: 6/10/20

Location:

MW-31

Description:

200-202'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 6/10/20

Location:

MW-31

Description:

202-204'



Photo No. 80

Date: 6/10/20

Location:

MW-31

Description:

204-207



Photo No.

Date:

81

6/10/20

Location:

MW-31

Description:

210-212.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 82

Date: 6/10/20

Location:

MW-31

Description:

212.5-215'



Photo No. 83

Date: 6/10/20

Location:

MW-31

Description:

215-217.5'



Photo No.

84 6/10/20

Date:

Location:

MW-31

Description:

217.5-220'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 6/10/20

Location:

MW-31

Description:

220-222.5'



Photo No. Date: 6/10/20

Location:

MW-31

Description:

222.5-225'



Photo No. Date: 6/10/20

Location:

MW-31

Description:

225-227.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/10/20

Location:

MW-31

Description:

227.5-230'



Photo No.

Date: 6/12/20

89
Location:

MW-31

Description:

230-232.5'



Photo No. **90**

Date:

6/12/20

Location:

MW-31

Description:

232.5-234'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 91 6/12/20

Location:

MW-31

Description:

234-237'



Photo No. 92

Date: 6/12/20

Location:

MW-31

Description:

237-240'



Photo No. 93

Date:

6/12/20

Location:

MW-31

Description:

240-242.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **94**

Date: 6/12/20

Location:

MW-31

Description:

242.5-245'



Photo No. 95

Date: 6/12/20

Location:

MW-31

Description:

245-247.5'



Photo No.

96

Date: 6/12/20

Location:

MW-31

Description:

257.5-250'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 97

Date: 6/12/20

Location:

MW-31

Description:

250-252.5'



Photo No. 98

Date: 6/12/20

Location:

MW-31

Description:

252.5-255'



Photo No. 99

Date:

6/12/20

Location:

MW-31

Description:

255-257.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 100

Date: 6/12/20

Location:

MW-31

Description:

257.5-260'



Photo No. 101 **Date:** 6/12/20

Location:

MW-31

Description:

260-262'



Photo No. 102

Date:

6/12/20

Location:

MW-31

Description:

262-265'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 103

Date: 6/12/20

Location:

MW-31

Description:

265-267.5'



Photo No. 104

Date: 6/12/20

Location:

MW-31

Description:

267.5-270'



Photo No.

105

Date: 6/12/20

Location:

MW-31

Description:

270-274'





Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 106

Date: 6/12/20

Location:

MW-31

Description:

274-277'



Photo No. 107

Date: 6/12/20

Location:

MW-31

Description:

277-280'



Photo No.

108

Date: 6/12/20

Location:

MW-31

Description:

280-282'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 109

Date: 6/12/20

Location:

MW-31

Description:

292-283'



Photo No.

Date: 6/12/20

110 G

MW-31

Description:

283-285'



Photo No.

111

Date: 6/12/20

Location:

MW-31

Description:

285-287'





Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date:

112 6/12/20

Location:

MW-31

Description:

287-290'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

1

Date: 6/22/20

Location:

MW-32

Description:

10-12.5'



Photo No.

Date:

6/22/20

Location:

MW-32

Description:

12.5-15'



Photo No.

Date:

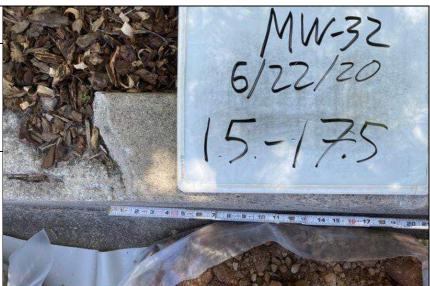
6/22/20

Location:

MW-32

Description:

15-17.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 4

No. Date: 6/22/20

Location:

MW-32

Description:

17.5-20'



Photo No.

Date:

6/22/20

Location:

MW-32

Description:

20-22



Photo No.

Date: 6/22/20

6
Location:

MW-32

Description:





Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/22/20

Location:

MW-32

Description:

24-25'



Photo No.

Date:

8 6/22/20

Location:

MW-32

Description:

25-27



Photo No.

Date:

6/22/20

Location:

MW-32

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/22/20

Location:

MW-32

Description:

28-30'



Photo No.

Date:

6/22/20

Location:

MW-32

Description:

30-32



Photo No.

Location:

Date: 6/22/20

12

MW-32

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 13

Date: 6/22/20

Location:

MW-32

Description:

34-35'



Photo No.

Date: 6/22/20

14

Location: MW-32

Description:

35-36'



Photo No. 15

Date: 6/22/20

Location:

MW-32

Description:

36-38'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/22/20

Location:

MW-32

Description:

38-40'



Photo No.

Date:

6/22/20

Location:

MW-32

Description:

40-42'



Photo No.

Date:

18

6/22/20

Location:

MW-32

Description:

42-44'



CDM	
Smith	PHOTOGRAPHIC LOG

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/22/20

Location:

MW-32

Description:

44-46'



Photo No.

Date: 6/22/20

20 Location:

MW-32

Description:

46-48'



Photo No. 21

Date:

6/22/20

Location:

MW-32

Description:

48-50'





Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 22

Date: 6/22/20

Location:

MW-32

Description:

50-52'



Photo No.

Date:

23 6/22/20

Location:

MW-32

Description:

52-54'



Photo No.

Date:

24 6/22/20

Location:

MW-32

Description:

54-56'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 25

Date: 6/22/20

Location:

MW-32

Description:

56-58'



Photo No.

Date:

26 6/22/20

Location:

MW-32

Description:

58-60'



Photo No.

Date:

27 6/22/20

Location:

MW-32

Description:

60-61.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 28

Date: 6/22/20

Location:

MW-32

Description:

61.5-64'



Photo No. 29

Date: 6/22/20

Location:

MW-32

Description:

64-66.5'



Photo No.

30

Date: 6/22/20

Location:

MW-32

Description:

66.5-68'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 31 6/22/20

Location:

MW-32

Description:

68-70'



Photo No.

Date: 6/22/20

32

Location:

MW-32

Description:

70-72



Photo No.

Date:

33

6/22/20

Location:

MW-32

Description:

72-74'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 34 6/22/20

Location:

MW-32

Description:

72-76'



Photo No.

Date:

6/22/20 35

Location:

MW-32

Description:

76-78



Photo No.

36

Date: 6/22/20

Location:

MW-32

Description:

78-80'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/23/20

Location:

MW-32

Description:

80-81.5'



Photo No. 38

Date: 6/23/20

Location:

MW-32

Description:

81.5-83.5



Photo No.

Date: 6/23/20

39 Location:

MW-32

Description:

83.5-85'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 40

Date: 6/23/20

Location:

MW-32

Description:

85-87



Photo No.

Date: 6/23/20

41 6

Location:

MW-32

Description:

87-88.5



Photo No.

Date:

42

6/23/20

Location:

MW-32

Description:

88.5-90'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/23/20

Location:

MW-32

Description:

90-92'



Photo No.

Location:

Date: 6/23/20

44

MW-32

Description:

92-94



Photo No.

Date:

45

6/23/20

Location:

MW-32

Description:

94-96'





Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 46 6/23/20

Location:

MW-32

Description:

96-98'

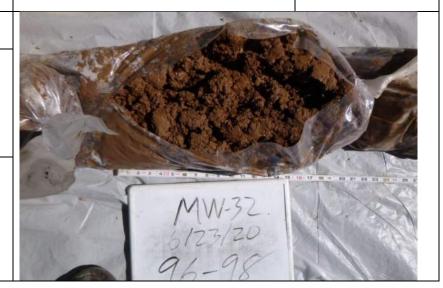


Photo No. 47

Date: 6/23/20

Location:

MW-32

Description:

98-100'



Photo No.

Date:

48

6/24/20

Location:

MW-32

Description:

100-102'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 49 6/24/20

Location:

MW-32

Description:

102-104'



Photo No.

Date: 6/24/20

50 Location:

MW-32

Description:

104-106

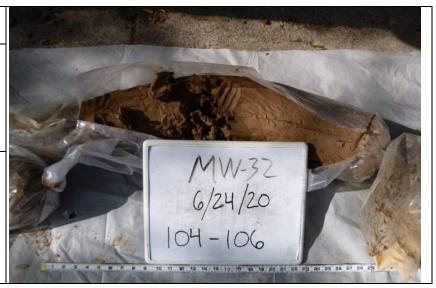


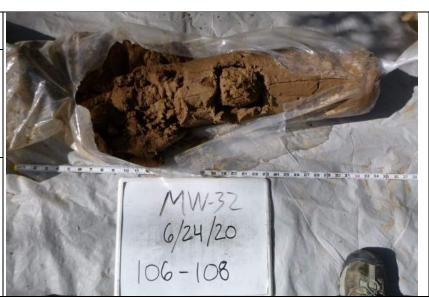
Photo No.

Date: 6/24/20

51 Location:

MW-32

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **52**

Date: 6/24/20

Location:

MW-32

Description:

108-110'

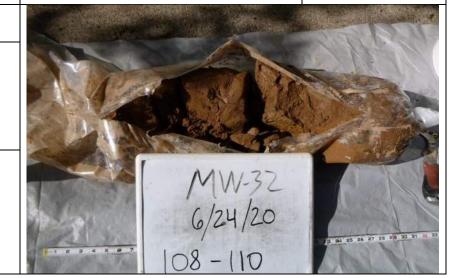


Photo No. 53

Date: 6/24/20

Location:

MW-32

Description:

110-110.5



Photo No.

54 6/24/20

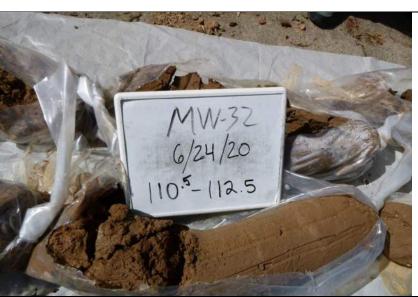
Date:

Location:

MW-32

Description:

110.5-112.5'





Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **55**

Date: 6/24/20

Location:

MW-32

Description:

112.5-115'



Photo No. **56**

Date: 6/24/20

Location:

MW-32

Description:

115-117.5



Photo No.

Date:

57 6/24/20

Location:

MW-32

Description:

117.5-120'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **58**

Date: 6/24/20

Location:

MW-32

Description:

120-122'



Photo No. 59

Date: 6/24/20

Location:

MW-32

Description:

122-124'



Photo No. **60**

Date:

6/24/20

Location:

MW-32

Description:

124-126'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/24/20

Location:

MW-32

Description:

126-128'



Photo No.

Location:

Date: 6/24/20

62

MW-32

Description:

128-130'



Photo No.

Date:

63

6/24/20

Location:

MW-32

Description:

130-132'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 6/24/20

Location:

MW-32

Description:

132-134'



Photo No.

Date:

65 6/24/20

Location:

MW-32

Description:

134-136



Photo No.

Date: 6/24/20

66 Location:

MW-32

Description:

136-138'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 67

Date: 6/24/20

Location:

MW-32

Description:

138-140'



Photo No. 68

Date: 6/24/20

Location:

MW-32

Description:

140-140.5



Photo No.

Date:

69

6/24/20

Location:

MW-32

Description:

140.5-142.5'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 6/24/20

Location:

MW-32

Description:

142.5-145'



Photo No.

Date: 6/24/20

71 Location:

MW-32

Description:

145-147.5'



Photo No.

Date:

72

6/24/20

Location:

MW-32

Description:

147.5-150'

No photolog available for 150-260 feet





700 South 1600 East PCE Plume

Project No.

238824

Photo No. **73**

Date: 6/28/20

Location:

MW-32

Description:

260-262'



Photo No.

Date: 6/28/20 74

Location:

MW-32

Description:

262-264



Photo No.

75

Date: 6/28/20

Location:

MW-32

Description:

264-266'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **76**

o. Date: 6/28/20

Location:

MW-32

Description:

266-268'



Photo No. 77

Date:

6/28/20

Location:

MW-32

Description:

268-270'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

8-10'



Photo No.

Date: 7/7/20

Location:

MW-34

Description:

10-12.5'



Photo No.

Date:

3

7/7/20

Location:

MW-34

Description:

12.5-15



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

15-17.5'



Photo No.

Date: 7/7/20

Location:

MW-34

Description:

17.5-20'



Photo No.

Date:

6 7/7/20

Location:

MW-34

Description:





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7 7/7/20

Location:

MW-34

Description:

22-24'

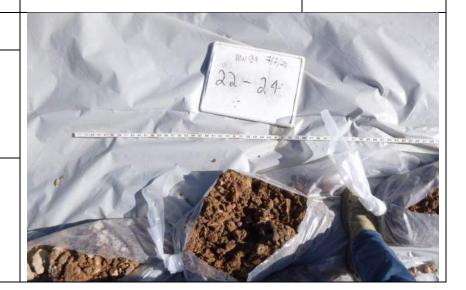


Photo No. Date:

7/7/20 8

Location:

MW-34

Description:

24-26'



Photo No. Date:

7/7/20

Location:

MW-34

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

27-30'



Photo No.

Date: 7/7/20

Location:

MW-34

Description:

30-31

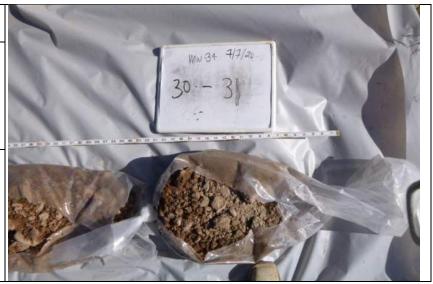


Photo No.

Date: 7/7/20

12 Location:

MW-34

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

33-36'



Photo No.

Date: 7/7/20

Location:

MW-34

Description:

36-38



Photo No.

Date: 7/7/20

15 Location:

MW-34

Description:

38-40'



CDM	
Smith	PHOTOGRAPHIC LOG

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date:

7/7/20

16 Location:

MW-34

Description:

40-42'



Photo No. Date: 7/7/20

Location:

MW-34

Description:

42-44



Photo No. Date: 7/7/20

Location:

MW-34

Description:

44-46'



CDM	
Smith	PHOTOGRAPHIC LOG

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

46-48'



Photo No. 20

Date: 7/7/20

Location:

MW-34

Description:

48-50'



Photo No.

Date:

21

7/7/20

Location:

MW-34

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 22

Date: 7/7/20

Location:

MW-34

Description:

52-54'



Photo No. 23

Date: 7/7/20

Location:

MW-34

Description:

54-56'



Photo No.

24 7/7/20

Date:

Location:

MW-34

Description:

56-58'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 25

Date: 7/7/20

Location:

MW-34

Description:

58-60'



Photo No. 26

Date: 7/7/20

Location:

MW-34

Description:

60-62.5



Photo No. 27

Date:

7/7/20

Location:

MW-34

Description:

62.5-65'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 28

Date: 7/7/20

Location:

MW-34

Description:

65-66'



Photo No. 29

Date: 7/7/20

Location:

MW-34

Description:

66-68



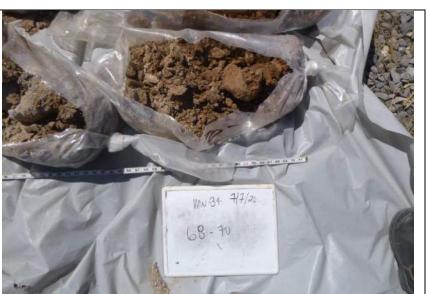
Photo No. 30

Date: 7/7/20

Location:

MW-34

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

70-72



Photo No. 32

Date: 7/7/20

Location:

MW-34

Description:

72-74



Photo No.

Date:

33

7/7/20

Location:

MW-34

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

76-78



Photo No. 35

Date: 7/7/20

Location:

MW-34

Description:

78-80



Photo No.

Date:

36

7/7/20

Location:

MW-34

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

82.5-85'



Photo No. 38

Date: 7/7/20

Location:

MW-34

Description:

85-87.5



Photo No. 39

Date: 7/7/20

Location:

MW-34

Description:

87.5-90'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

90-92'



Photo No. 41 **Date:** 7/7/20

Location:

MW-34

Description:

92-94



Photo No.

Date:

42

7/7/20

Location:

MW-34

Description:



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

96-98'



Photo No.

Date: 7/7/20

Location:

MW-34

Description:

98-100'



Photo No.

Date: 7/7/20

45
Location:

MW-34

Description:

100-101'



Date:

7/7/20

Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

46

Location:

MW-34

Description:

101-103'



Photo No. 47

Date: 7/7/20

Location:

MW-34

Description:

103-105.5



Photo No.

48 7/7/20

Date:

Location:

MW-34

Description:

105.5-107.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/7/20

Location:

MW-34

Description:

107.5-110'



Photo No. **50**

Date: 7/7/20

Location:

MW-34

Description:

110-111'



Photo No.

. Date:

51 7/7/20

Location:

MW-34

Description:

111-113'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **52**

Date: 7/7/20

Location:

MW-34

Description:

113-115'



Photo No. 53

Date: 7/7/20

Location:

MW-34

Description:

115-116'



Photo No.

54 7/7/20

Date:

Location:

MW-34

Description:

116-118'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **55**

Date: 7/7/20

Location:

MW-34

Description:

118-120'



Photo No. **56**

Date: 7/7/20

Location:

MW-34

Description:

120-122.5'



Photo No. **57**

Date: 7/7/20

Location:

MW-34

Description:

122.5-125'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 7/7/20

Location:

MW-34

Description:

125-127'



Photo No. Date: 7/7/20

Location:

MW-34

Description:

127-128'



Photo No. Date: 7/7/20

Location:

MW-34

Description:

128-130'





700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 61 7/8/20

Location:

MW-34

Description:

130-133'



Photo No. 62

Date: 7/8/20

Location:

MW-34

Description:

133-135'



Photo No.

Date: 7/8/20

63 Location:

MW-34

Description:

135-136'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 64

Date: 7/8/20

Location:

MW-34

Description:

136-138'

WW 34 7/8/20

Photo No. 65

Date: 7/8/20

Location:

MW-34

Description:

138-140'



Photo No.

Date: 7/8/20 66

Location:

MW-34

Description:

140-142'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 67

Date: 7/8/20

Location:

MW-34

Description:

142-144'



Photo No. 68

Date: 7/8/20

Location:

MW-34

Description:

144-146'



Photo No.

Date: 7/8/20

Location:

MW-34

Description:

146-148'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **70**

Date: 7/8/20

Location:

MW-34

Description:

148-150'



Photo No. 71

Date: 7/8/20

Location:

MW-34

Description:

150-151'



Photo No. 72

Date: 7/8/20

Location:

MW-34

Description:

151-153'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 73

Date: 7/8/20

Location:

MW-34

Description:

153-155'



Photo No. **74**

Date: 7/8/20

Location:

MW-34

Description:

155-157'



Photo No.

75

Date: 7/8/20

Location:

MW-34

Description:

157-160'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **76**

Date: 7/8/20

Location:

MW-34

Description:

160-161'



Photo No. 77

Date: 7/8/20

Location:

MW-34

Description:

161-163'



Photo No.

. Date:

78 7/8/20

Location:

MW-34

Description:

163-166'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **79**

Date: 7/8/20

Location:

MW-34

Description:

166-168'



Photo No. 80

Date: 7/8/20

Location:

MW-34

Description:

168-170'



Photo No. 81

Date:

7/8/20

Location:

MW-34

Description:

170-172'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 82

Date: 7/8/20

Location:

MW-34

Description:

172-174'



Photo No.

Date: 7/8/20

83 Location:

MW-34

Description:

174-176'



Photo No.

Date:

84 7/8/20

Location:

MW-34

Description:

176-178'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 85

No. Date: 7/8/20

Location:

MW-34

Description:

178-180'



Photo No. Date: 7/8/20

Location:

MW-34

Description:

180-182'



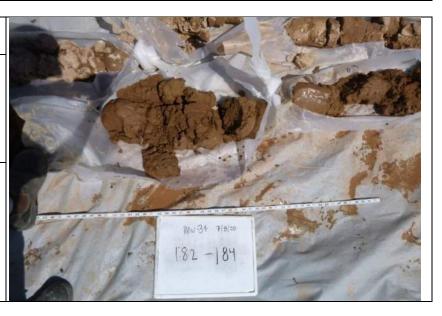
Photo No. Date: 7/8/20

Location:

MW-34

Description:

182-184'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/8/20

Location:

MW-34

Description:

184-186'



Photo No. 89

Date: 7/8/20

Location:

MW-34

Description:

186-188'



Photo No. 90

lo. Date: 7/8/20

Location:

MW-34

Description:

188-190'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. **91**

Date: 7/8/20

Location:

MW-34

Description:

190-192'



Photo No. 92

Date: 7/8/20

Location:

MW-34

Description:

192-194'



Photo No.

Date: 7/8/20

93 Location:

MW-34

Description:

194-196'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 94

Date: 7/8/20

Location:

MW-34

Description:

196-199'



Photo No. 95

Date: 7/8/20

Location:

MW-34

Description:

199-200'



Photo No.

Date: 7/8/20 96

Location:

MW-34

Description:

200-202'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 97

Date: 7/8/20

Location:

MW-34

Description:

202-204'



Photo No. 98

Date: 7/8/20

Location:

MW-34

Description:

204-206'



Photo No. 99

Date: 7/8/20

Location:

MW-34

Description:

206-208'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 100 7/8/20

Location:

MW-34

Description:

208-210'



Photo No. Date: 101

7/9/20

Location:

MW-34

Description:

210-212'



Photo No. Date: 102 7/9/20

Location:

MW-34

Description:

212-214'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 103

Date: 7/9/20

Location:

MW-34

Description:

214-216'



Photo No. 104

Date: 7/9/20

Location:

MW-34

Description:

216-218'



Photo No. 105

Date: 7/9/20

Location:

MW-34

Description:

218-220'



Site:

700 South 1600 East PCE Plume

Project No. 238824

Photo No. 106

Date: 7/9/20

Location:

MW-34

Description:

220-224'



Photo No. 107

Date: 7/9/20

Location:

MW-34

Description:

224-227'



Photo No. 108 **Date:** 7/9/20

Location:

MW-34

Description:

227-230'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 109

Date: 7/9/20

Location:

MW-34

Description:

230-232'



Photo No. 110 **Date:** 7/9/20

Location:

MW-34

Description:

232-234'



Photo No.

Date: 7/9/20

Location:

MW-34

Description:

234-236'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 112

Date: 7/9/20

Location:

MW-34

Description:

236-238'



Photo No. 113 **Date:** 7/9/20

Location:

MW-34

Description:

238-240'



Photo No.

114

Date: 7/9/20

Location:

MW-34

Description:

240-242



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. Date: 7/9/20

Location:

MW-34

Description:

242-244'



Photo No. Date: 7/9/20

Location:

MW-34

Description:

244-246'



Photo No. Date: 7/9/20

Location:

MW-34

Description:

246-248'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 118

Date: 7/9/20

Location:

MW-34

Description:

248-250'



Photo No. 119 **Date:** 7/9/20

Location:

MW-34

Description:

250-252'



Photo No. 120

Date: 7/9/20

Location:

MW-34

Description:

252-254'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 121

Date: 7/9/20

Location:

MW-34

Description:

254-256'



Photo No. 122

Date: 7/9/20

Location:

MW-34

Description:

256-258'



Photo No.

Date: 123 7/9/20

Location:

MW-34

Description:

258-260'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 124

Date: 7/10/20

Location:

MW-34

Description:

260-261.5'



Photo No. 125

Date: 7/10/20

Location:

MW-34

Description:

261.5-263'



Photo No.

126

Date: 7/10/20

Location:

MW-34

Description:

263-265'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 127

Date: 7/10/20

Location:

MW-34

Description:

265-267.5'



Photo No. 128

Date: 7/10/20

Location:

MW-34

Description:

267.5-270'



Photo No. 129

Date:

7/10/20

Location:

MW-34

Description:

270-272



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 130

Date: 7/10/20

Location:

MW-34

Description:

272-274'



Photo No. 131 **Date:** 7/10/20

Location:

MW-34

Description:

274-276'



Photo No.

Date:

7/10/20

Location:

MW-34

Description:

276-278



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/10/20

Location:

MW-34

Description:

278-280'



Photo No. 134 **Date:** 7/10/20

Location:

MW-34

Description:

280-282'



Photo No.

Date:

135 7/10/20

Location:

MW-34

Description:

282-284'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No.

Date: 7/10/20

Location:

MW-34

Description:

284-286'



Photo No. 137

Date: 7/10/20

Location:

MW-34

Description:

286-288'



Photo No.

No. Date:

138 7/10/20

Location:

MW-34

Description:

288-290'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 139

Date: 7/10/20

Location:

MW-34

Description:

290-295'



Photo No. 140

Date: 7/10/20

Location:

MW-34

Description:

300-302



Photo No.

Date:

7/10/20

Location:

MW-34

Description:

302-304'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 142

Date: 7/10/20

Location:

MW-34

Description:

304-306'



Photo No.

Date: 7/10/20

143 Location:

MW-34

Description:

306-308'



Photo No.

Date:

7/10/20

Location:

MW-34

Description:

308-310'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 145

Date: 7/10/20

Location:

MW-34

Description:

310-312'



Photo No. 146

Date: 7/10/20

Location:

MW-34

Description:

312-314'



Photo No. 147

Date:

7/10/20

Location:

MW-34

Description:

314-316'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 148

Date: 7/10/20

Location:

MW-34

Description:

316-318'



Photo No. 149 **Date:** 7/10/20

Location:

MW-34

Description:

318-320'



Photo No.

Date:

150 7/12/20

Location:

MW-34

Description:

320-322'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 151

Date: 7/12/20

Location:

MW-34

Description:

322-324'



Photo No. 152

Date: 7/12/20

Location:

MW-34

Description:

324-325'



Photo No.

153 7/12

Date: 7/12/20

Location:

MW-34

Description:

325-327.5'



Site:

700 South 1600 East PCE Plume

Project No.

238824

Photo No. 154

Date: 7/12/20

Location:

MW-34

Description:

327.5-330'



Photo No. 155 **Date:** 7/12/20

Location:

MW-34

Description:

330-332'



Photo No. 156

Date:

7/12/20

Location:

MW-34

Description:

332-334'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 157

Date: 7/12/20

Location:

MW-34

Description:

334-336'



Photo No.

Date:

158

7/12/20

Location:

MW-34

Description:

336-338'



Photo No.

Date:

159 7/12/20

Location:

MW-34

Description:

338-340'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 160

Date: 7/12/20

Location:

MW-34

Description:

340-342'



Photo No. 161 **Date:** 7/12/20

Location:

MW-34

Description:

342-344'



Photo No.

Date: 7/12/20

162 Location:

MW-34

Description:

344-346'





700 South 1600 East PCE Plume

Project No.

238824

Photo No. 163

Date: 7/12/20

Location:

MW-34

Description:

346-348.5'



Photo No.

Date:

158 7/12/20

Location:

MW-34

Description:

348.5-350'



Appendix I

MW-30 Installation Summary





Memorandum

To: Josephine Newton-Lund, PMP – Senior Project Manager, Environmental Branch,

U.S. Army Corps of Engineers

From: Nathan Smith, PMP – Project Manager

Neil Smith - Project Technical Leader

Date: September 8, 2020

Subject: Monitoring Well MW-30 Summary of Installation and Planned Path Forward, 700

South 1600 East PCE Plume Operable Unit 1, Contract W912DQ-18-D-3008,

Task Order W912DQ19F3048

This memorandum summarizes the Holt Services (Holt) installation of Well MW-30 at the 700 South 1600 East PCE Plume Superfund Site in Salt Lake City, Utah. Following installation of this well, CDM Federal Programs Corporation (CDM Smith) identified installation problems that prevented collection of representative groundwater samples from two of the three well completion intervals, which indicated that the well needs to be replaced. The Holt crew installed 7 of the 11 new wells on-site, including MW-30 and four ZIST system installations. No construction or installation issues were identified in the other wells.

Well Installation Summary

On May 6, 2020, Badger Daylighting precleared the MW-30 location with a hydrovac truck to 9.5 feet below ground surface (ft bgs). Badger Daylighting had refusal at that depth, and no utilities were identified. Carlos Aguilar (VA) approved the location for drilling. The boring was backfilled with pea gravel.

Holt (Pete Rosenburg – driller) began sonic drilling at MW-30 on May 22, 2020 and advanced the boring to 110 ft bgs. Holt resumed drilling (after scheduled days off) on 6/2/2020. The boring reached a total depth of 350 ft bgs on 6/8/2020.

Holt began installation of the ZIST wells, which were constructed using 1-inch-diameter Schedule 80 PVC, on June 9, 2020; three screen intervals were installed at 240–250 ft bgs (Zone A), 282–292 ft bgs (Zone B), and 317–327 ft bgs (Zone C). The Zone A well was installed on 6/10/2020; afterwards, while pulling the 7-inch casing out from 180 ft bgs, all three well casings pulled up. Work was stopped and Neil Smith was notified. The field team determined that the well casings were bridged with bentonite against the 7-inch sonic casing and the wells were pulled up when a section of the sonic casing was removed. The remainder of the 7-inch casing was removed from the

Ms. Newton-Lund September 8, 2020 Page 2

boring. On June 11, 2020, Holt advanced the 7-inch casing to 320 ft bgs to remove the well materials. They also advanced the 6-inch core barrel to 330 ft bgs to clean out the boring.

Reinstallation of Well MW-30 resumed on June 12, 2020. The Zone C (target screen interval 317–327 ft bgs) and Zone B (target screen interval 282–292 ft bgs) PVC were installed. While backfilling with sand around the Zone B PVC, the driller tagged depth in the annulus at 280 ft bgs, though a depth closer to 290 ft bgs was expected. The cause of the blockage was not determined, but was suspected to be either formation collapse into the borehole or sand bridging at the bottom of the sonic casing. The driller tried to vibrate the sonic casing to remove the blockage, but still tagged at 280 ft bgs. The driller pulled the next 10-foot section of 7-inch casing (270–280 ft bgs) and tagged at 273 ft bgs. The driller noted that it was likely a formation collapse, as there was minimal filter pack around Zone B. The blockage at 280 ft bgs likely caused the driller to conduct extra vibrating of the sonic casing, which could have broken the PVC well casing or exacerbated the formation collapse. On June 14, 2020, Holt resumed backfilling and pulling 7-inch casing. The Zone A well was installed with screen at 240–250 ft bgs with sand pack at 237–253.5 ft bgs. The Zone A well casing also had a soil vapor probe installed at 30 ft bgs. Holt incrementally pulled the 7-inch casing and backfilled with bentonite chips to a depth 150 ft bgs, then incrementally pulled the 8-inch casing and backfilled with bentonite chips to 40 ft bgs, leaving the 9-inch casing in the boring.

On June 15, 2020, Holt resumed bentonite backfilling from 40 ft bgs. The soil vapor probe sand pack was installed at 27–33 ft bgs. Bentonite was installed at 20–27 ft bgs, and a grout seal was installed (using tremie pipe) at 3.5–20 ft bgs. A flush-mounted Augustyn vault was used as the surface completion.

Unlike most conventional well installations, the ZIST well systems require hanging the well casings during installation. The 1-inch Schedule 80 PVC is not robust enough to support the weight of the entire well. With larger diameter wells (e.g., 4-inch), it is possible to verify depth to bottom prior to installing the filter pack and backfilling the annulus. ZIST well systems provide more information for gradient and vertical delineation than a conventional well, which is important for site characterization, but their construction precludes measurement of total depth inside the well casing at the time of sand filter pack and bentonite seal installation.

Pump Installation and Development

On July 27–28, 2020, CDM Smith attempted to install sampling pumps at MW-30. The total depth measured at MW-30A prior to pump installation was approximately 242 ft bgs, which was near the top of the planned screen interval. The sampling pump was lowered to a depth of approximately 237 ft bgs, several feet above the measured total depth. While water was initially purged using this pump, the recharge rate and performance slowed over time. After pulling the pump, gray silty clay (bentonite) was noted on the pump.

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When deploying the MW-30B pump, there was difficulty lowering it approximately the last 8 feet through the well, potentially due to the presence of sediment in the water column above the depth of the pump receiver (anticipated depth of 282 ft bgs). The field team deployed a larger diameter water level meter to tag the bottom of the well; they reached 283.7 ft bgs. The pump was redeployed and pumping was attempted. Dark clay-like material quickly clogged the pump filter.

The sampling pump at MW-30C was installed and purged with no issues noted.

On August 10, 2020, a downhole camera inspection was conducted at MW-30A and MW-30B. At MW-30A, video inspection of the well casing indicated a blockage at approximately 241 ft bgs and the well screen was not visible above that blockage. Slots in the screen should be visible in the video, as even underwater casing joints are apparent in the video as the camera passes. It is likely this well casing is broken and filled with either sand, bentonite, or some combination thereof (the blockage appears to be light in color similar to bentonite).

At MW-30B, the video is difficult to see underwater because of the turbidity, which matches observations made during the pump installation. The camera lowered easily to approximately 274 ft bgs, and the camera slowly sank to approximately 281 ft bgs. This matches observations made while lowering the sampling pump into the well during deployment—when the pump was difficult to lower for the last approximately 8 feet.

Site Geology and Impacts on Drilling

The site is located on alluvial fan deposits that originated in the Wasatch Mountains. During normal conditions, the streams that drain the mountain range develop channels and preferred flow paths. During flooding events, these channels are abandoned, which allows for erosion, transport, and deposition of coarser materials that range from coarse sand and gravel to cobbles and boulders. Once the drainage gradient drops from the mountain stream to the alluvial fan, the transport energy is dissipated and the finer grained materials (silt and sand) are deposited.

These alluvial fan deposits have heterogeneous soil conditions that can make drilling difficult. Drilling through the boulders and cobbles can dislodge materials, create voids, and loosen surrounding materials that were originally supported by finer-grained matrix or against other clasts.

Lithologically, Zone B at MW-30 was installed in gravel and gravel/sand between majority clay units. Potential formation-related drilling issues include potential for wet sand to heave into the boring, or once the surrounding clay gets wet it may slough into the hole. Zone A was installed in a similar lithology with silty sand and sandy gravel between sandy and gravelly clay. It is possible that, during drilling, these zones were effectively cased off; subsequently, these materials might have sloughed into the borehole during backfilling after the casing removal.

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Path Forward

Because representative groundwater samples could not be collected from Well MW-30 at Zones A and B, reinstallation is required as summarized:

- Holt Services will abandon-in-place Zones A and B at MW-30 and redrill at an offset location to reinstall Zones A and B at the planned target screen intervals (240–250 ft bgs for Zone A and 282–292 ft bgs for Zone B). The abandonment is pending approval from the State of Utah to pressure grout Zones A and B.
- If the State of Utah does not permit Zones A and B at MW-30 to be pressure grouted, the well will be overdrilled and Zones A, B, and C will all be reinstalled.
- Care will be taken during the reinstallation to avoid formation-related issues that may have been encountered during the initial well installation. The drillers will ensure the sonic casing is free in the hole to minimize the amount of vibration needed to remove casing. The drillers will also clean out the casing of any bridged drilling materials during installation. Well depths will be verified as soon as practical, following installation, to check for damaged well casing.
- Subcontractor costs associated with abandonment, redrilling and well installation, and investigation-derived waste disposal will be borne by Holt Services.

cc: Mr. Greg Hattan – U.S. Army Corps of Engineers

Appendix J

Quality Control Summary Report

This appendix is being provided under separate cover.



Appendix K

Survey Data



Point	Northing	Easting	Elevation	ID
820671	7443663.78	1544832.82	4665.50	CL MW-1
820672	7443664.30	1544832.78	4665.50	NO MW-1
820673	7443664.01	1544833.01	4664.80	MW-1S
820674	7443663.80	1544832.74	4664.80	MW-1D
820675	7443618.23	1545346.65	4685.76	CL MW-2
820676	7443618.76	1545346.62	4685.76	NO MW-2
820677	7443618.28	1545346.71	4685.24	MW-2
820694	7444184.94	1545418.19	4698.74	CL MW-3
820695	7444185.28	1545417.86	4698.74	NO MW-3
820696	7444184.95	1545418.14	4698.12	MW-3A
820697	7444185.07	1545418.33	4697.90	MW-3B
820698	7444185.19	1545418.23	4697.92	MW-3C
820699	7444184.80	1545418.35	4697.93	MW-3D
820678	7442902.88	1545176.20	4657.20	CL MW-4
820679	7442903.31	1545176.26	4657.20	NO MW-4
820680	7442903.12	1545176.19	4656.85	MW-4
820719	7444293.27	1546450.38	4738.25	CL MW-5
820720	7444293.52	1546449.93	4738.25	NO MW-5
820721	7444293.35	1546450.34	4737.99	MW-5
820686	7442705.05	1546174.37	4679.13	CL MW-6
820687	7442705.36	1546174.55	4679.13	NO MW-6
820688	7442705.14	1546174.50	4678.66	MW-6
820606	7443625.54	1542467.21	4540.36	CL MW-08
820607	7443626.04	1542467.18	4540.36	NO MW-08
820608	7443625.56	1542467.38	4539.81	MW-08A
820609	7443625.49	1542467.11	4539.77	MW-08B
820610	7443625.72	1542467.20	4539.68	MW-08C
820626	7442139.20	1540464.27	4360.40	CL MW-12D
820627	7442139.62	1540464.30	4360.40	NO MW-12D
820628	7442139.30	1540464.08	4360.07	MW-12D
820623	7442144.27	1540464.18	4360.35	CL MW-12S
820624	7442144.62	1540464.20	4360.35	NO MW-12S
820625	7442144.49	1540464.22	4360.03	MW-12S
820617	7442104.65	1541840.18	4482.93	CL MW-13D
820618	7442105.06	1541840.19	4482.93	NO MW-13D
820619	7442104.79	1541840.30	4482.62	MW-13D
820620	7442104.90	1541844.99	4483.26	CL MW-13S
820621	7442105.23	1541844.99	4483.26	NO MW-13S
820622	7442105.03	1541845.01		MW-13S
820638		1541345.22	4416.45	CL MW-14D
820639	7441874.69	1541344.95		NO MW-14D
820640	7441874.21	1541345.30		MW-14D
	7441871.55			CL MW-14S
	7441871.91			NO MW-14S
	7441871.60			MW-14S
	2 30			-

820629	7441412.63	1540283.39	4347.99 CL MW-15D
820630	7441413.07	1540283.38	4347.99 NO MW-15D
820631	7441412.68	1540283.41	4347.72 MW-15D
820632	7441412.92	1540276.55	4347.65 CL MW-15S
820633	7441413.29	1540276.54	4347.65 NO MW-15S
820634	7441412.97	1540276.53	4347.35 MW-15S
820614	7443052.83	1541188.80	4455.32 CL MW-16D
820615	7443053.29	1541188.75	4455.32 NO MW-16D
820616	7443053.06	1541188.67	4454.84 MW-16D
820611	7443049.27	1541188.74	4455.19 CL MW-16S
820612	7443049.67	1541188.75	4455.19 NO MW-16S
820613	7443049.27	1541188.64	4454.83 MW-16S
820641	7441762.17	1542159.83	4465.86 CL MW-17D
820642	7441762.54	1542159.69	4465.86 NO MW-17D
820643	7441762.18	1542159.89	4465.69 MW-17D
820644	7441761.45	1542156.28	4465.51 CL MW-17S
820645	7441761.85	1542156.15	4465.51 NO MW-17S
820646	7441761.31	1542156.28	4465.18 MW-17S
820647	7443344.52	1542789.74	4559.06 CL MW-18
820648	7443344.91	1542789.69	4559.06 NO MW-18
820649	7443344.60	1542789.79	4558.76 MW-18
820650	7443109.99	1542791.56	4557.51 CL MW-19
820651	7443110.37	1542791.55	4557.51 NO MW-19
820652	7443109.94	1542791.53	4557.16 MW-19
820656	7442813.21	1542905.39	4558.46 CL MW-20D
820657	7442813.58	1542905.41	4558.46 NO MW-20D
820658	7442813.27	1542905.41	4558.19 MW-20D
820653	7442822.74	1542905.98	4558.92 CL MW-20S
820654	7442823.12	1542905.92	4558.92 NO MW-20S
820655	7442822.83	1542905.94	4558.61 MW-20S
820659	7442343.24	1543130.25	4563.57 CL MW-21
820660	7442343.59	1543130.25	4563.57 NO MW-21
820661	7442343.33	1543130.28	4563.32 MW-21
820662	7441969.31	1543122.59	4563.06 CL MW-22
820663	7441969.66	1543122.56	4563.06 NO MW-22
820664	7441969.26	1543122.55	4562.72 MW-22
820722	7443809.38	1546280.59	4712.47 CL MW-23
820723	7443809.73	1546280.20	4712.47 NO MW-23
820724	7443809.23	1546280.52	4711.80 MW-23A
820725	7443809.39	1546280.45	4711.77 MW-23B
820726	7443809.44	1546280.57	4711.69 MW-23C
820710	7443698.74	1546266.48	4709.77 CL MW-24
820711	7443698.86	1546266.01	4709.77 NO MW-24
820712	7443698.80	1546266.33	4709.19 MW-24
820705	7443676.94	1546071.97	4703.04 CL MW-25
820706	7443677.09	1546071.47	4703.04 NO MW-25

920707	7443676.93	1546072.04	4702.02 MW-25A
	7443676.99		4702.02 MW-25B
	7443676.79		4702.09 MW-25C
	7443907.17		4713.25 CL MW-26
0_0/		1546132.53	4713.25 NO MW-26
820715	7443907.29	1546132.89	4712.29 MW-26A
820716	7443907.24		4712.55 MW-26B
820717	7443907.12	1546133.02	4712.51 MW-26C
	7443907.17		4712.50 MW-26D
	7443766.76	1546337.14	4712.61 CL MW-27
	7443767.09		4712.61 NO MW-27
	7443766.85		4712.34 MW-27
820730	7443764.76	1546532.92	4712.80 CL MW-28
	7443764.95		4712.80 NO MW-28
820732	7443764.81	1546532.89	4712.54 MW-28
820689	7442845.95	1545935.59	4679.35 CL MW-29
820690	7442846.46	1545935.58	4679.35 NO MW-29
820691	7442846.05	1545935.56	4678.46 MW-29 A
820692	7442845.99	1545935.56	4678.45 MW-29 B
820693	7442845.97	1545935.69	4678.68 MW-29 C
820700	7445073.45	1545424.98	4723.07 CL MW-30
820701	7445073.87	1545424.67	4723.07 NO MW-30
820702	7445073.57	1545424.83	4722.00 MW-30A
820703	7445073.49	1545424.96	4721.79 MW-30B
820704	7445073.42	1545425.05	4721.92 MW-30C
820681	7442512.47	1545351.52	4655.22 CL MW-31
820682	7442512.99	1545351.45	4655.22 NO MW-31
820683	7442512.66	1545351.42	4654.27 MW-31A
820684	7442512.69	1545351.52	4654.39 MW-31B
820685	7442512.61	1545351.65	4654.35 MW-31C
820601	7444416.40	1542692.62	4566.22 CL MW-32
820602	7444416.90	1542692.59	4566.22 NO MW-32
820603	7444416.50	1542692.74	4565.67 MW-32A
820604	7444416.64	1542692.56	4565.63 MW-32B
820605	7444416.36	1542692.54	4565.59 MW-32C
820665	7443498.84	1543745.66	4623.61 CL MW-34
820666	7443499.37	1543745.69	4623.61 NO MW-34
820667	7443498.97	1543745.67	4623.09 MW-34A
820668	7443499.00	1543745.52	4622.71 MW-34B
820669	7443498.86	1543745.46	4622.63 MW-34C
	7443498.76		4622.58 MW-34D

Appendix L

Well Development Purge Logs



Appendix L Table 1 Monitoring Well Development Summary

Location	Sample Interval	Development Approach	Date Developed	Volume of Water Added During Drilling (gallons)	Volume of Water Removed During Development (gallons)	Pump Type
	Α	Not developed	NA		NA	ZIST w/ reciever
MW-23	В	Not developed	NA	300	NA	ZIST w/ reciever
	С	Air lift	6/12/2020		NR	ZIST w/ reciever
MW-24	-	Bail and pump (submersible) by Holt	6/18/2020	200	640	Solinst bladder pump
	Α	Pump (Panacea) by CDM Smith	6/9/2020		4	ZIST w/ reciever
MW-25	В	Air lift	6/8/2020	0	NR	ZIST w/ reciever
	С	Pump (Panacea) by CDM Smith	6/9/2020		4	ZIST w/ reciever
	Α	Not developed	NA		NA	ZIST w/ reciever
MW-26	В	Not developed	NA	0	NA	ZIST w/ reciever
10100-20	С	Not developed	NA	U	NA	ZIST w/ reciever
	D	Air lift	6/11/2020		NR	ZIST w/ reciever
MW-27	-	Bail and pump by Holt	6/17/2020	0	360	Solinst bladder pump
MW-28	-	Bail and pump by Holt	6/18/2020	0	370	Solinst bladder pump
	Α	Pump (Panacea) by CDM Smith	7/31/2020		NR	ZIST w/o reciever
MW-29	В	Pump (Panacea) by CDM Smith	7/31/2020	0	NR	ZIST - w/ reciever
	С	Air lift	7/29/2020		20	ZIST - w/ reciever
	Α	Not developed	NA		NA	NA
MW-30	В	Not developed	NA	0	NA	NA
	С	Air lift	7/27/2020		20	ZIST w/ reciever
	Α	Pump (Panacea) by CDM Smith	7/29/2020		NR	ZIST w/o reciever
MW-31	В	Pump (Panacea) by CDM Smith	7/29/2020	0	NR	ZIST w/ reciever
	С	Air lift	7/29/2020		27	ZIST w/ reciever
	Α	Bail and pump by CDM Smith	7/31/2020		47	Solinst bladder pump
MW-32	В	Air lift	7/31/2020	0	20	ZIST w/o reciever
	С	Air lift	7/31/2020		30	ZIST w/o reciever
	Α	Not developed	NA	_	NA	ZIST w/o reciever
MW-34	В	Pump (Panacea) by CDM Smith	7/30/2020	0	NR	ZIST w/o reciever
10100-34	С	Air lift	7/30/2020	U	20	ZIST w/o reciever
	D	Air lift	7/30/2020		40	ZIST w/o reciever

Acronyms:

amsl = above mean sea level bgs = below ground surface ft = feet NA = not applicable

NA = not applicable NR = not recorded

ZIST = Zone Isolation Sampling Technology



Appendix A.3. Well Development Log

		•	•			, <u>}</u>
g Point: <u>M</u>	W-2	4				Date: Coll8/2020 Sampler: K-Keller
•			_A ·		Visitors	S:
a. 🗸	Casi	ng Dia. 🤄	ij.	DTW: 18	3.9 TO TD	: 240 Pump Intake Depth: 270 Pump Top Depth:
mpling Metho	d: \$~~	c-6/B.	ler pang	>	Vial pH	H: Depth to Water @Sampling:
d Purge Volui Method 2) olume Factors (g	me [(D (ft) - 1 0.1(; 4"=0.6	$\frac{3}{5}$, $\frac{3}{1}$,	x 2 =	urge Volume (gal) (0.0) Vol. Above Vol. Casing Leng. (ols. (Cas.Dia/Bor.Dia/	1 = Calculate the purge volume using both methods. Purge the well to whichever volume is greater. 1 = Calculate the purge volume using both methods. Purge the well to whichever volume is greater. 1 = Calculate the purge volume using both methods. Purge the well to whichever volume is greater. 1 = Calculate the purge volume using both methods. Purge the well to whichever volume is greater.
Purge Vol specify ml or gal		1 nH /0 0\	Specific Cond. (mS/cm) (0.000)	Turbidity (NTU) (0.0)	GW Level (ft below MP)	$\frac{635}{83} = 76.5 \text{ MComments} \qquad \frac{635}{69 \text{ gpm}} = 600 \text{ mm}$
. #440			And the second second	4	184.55	pre promif
108 in KIL	1275	6:77	1.23	43.5	185,14	
marin KK	12.68	6.90	1.25	18.2	184.14	
12 - 12 3 Kd	1260	6,25	1.246	20.0	189-12	
1000 M 14	1201	6.99	1.248	19.6	185.13	
LO CAM KK	12.62	7.00	1,251	15.2	189.12	
183 W	1264		1.256	<u> </u>		250 gallons = (8.3 gpm)
8-3		-	H .			
-	 	 [<u>-</u>		Stopper to empty tobe 320 total to this point
((3,7:14)						Stopper to empty total 320 total to this point restarting to pump (Holt seps 10 spm)
2 60 pm NL	13.12	7.27	1,298	2.69		
26 apm KK	12.83		1,282			
8 Kypm Kin		·	1.274			
8 6gpm KK	12.74	<u> </u>	 			
BEgan It	12.76		<u> </u>	- · ·		U L
86 wam	17.74	 	1			250 gal at a 463 m.ns = 25 gpm
36 granki	12,74					
				-		640 gallons total at 1151
J -						` { ` ,
	mpling Method 1) d Purge Volume Method 2) olume Factors (giv): Purge Volume Factors (giv): Purge Vol	A. Casimpling Method: Swampling Method: Swampling Method: Swampling Method: Swampling Method: Swampling Method: Water Method: Wa	Casing Dia. mpling Method: Swc-b (B. mpling Method: Swc-b (B. mpling Method: Swc-b (B. mpling Method:	Casing Dia.	Casing Dia. 24 DTW: 18 mpling Method: Sweb Bull Property Method 1) Casing and Annular Volume Property Casing and Annular Volume Property Casing and Annular Volume Casing and Annular Volume Property	Visitor: A. Casing Dia. Casing Dia. Casing Dia. Casing Dia. Casing Dia. Casing Dia. Casing Method: Casing and Annular Volume Casing and Annular Volume Casing and Annular Volume Casing and Annular Volume (Casing and Annular Volume Casing Annular Volume (Casing and Annular Volume (Casing and Annular Volume (Casing Leng. Only Casing Leng. Only Casing Leng. Only Casing Leng. Only Casing Leng. Only (Casing Leng. Only (Casing Leng. Only Casing Leng. Only (Casing Leng. Only (Casing Leng. Only Casing Leng. Only (Casing Leng. Only (Casin

Appendix A.3. Well Development Log

			-	_				. /	
Monitoring	Point: <u>M</u>	W-2	7			D	ate: 6/17/20	Sampler: J. M.//L	titelle
Weather:	•			10 (1		VISITORS	3:		
Boring Dia	8	Casi	ng Dia	6-4"	DTW: 186	.87 TD:	220. 2 Pump Inta	ke Depth: 1700 200 Pump	Top Depth: / 9 6
Purge/Sam	pling Method	: <u>کنر</u>	-16/Ba	Her Pu	Ohn	Vial pH	: Depth to Wa	iter @Sampling:	
Calculated (N Calculated (N Casing Vo Site Safety	ethod 2) ume Factors (g	ne ¹ wate ne ¹ [(<u>2-2</u>	er added durin 33 Casir 0 2 - / D (ft) - L 17 4"=0.60	g construction (gal) 中子 上 ng and Annular V 分子(ft) 3:5章0.95 Bo	x2 = Pu Olume 66 + 4.68 OF Frehole Factor Vo sition of Purg	Vol. Above Casing Leng. (Cas.Dia/Bor.Dia e Water:	_	the well to whicher	ourge volume using both methods. Purge ver volume is greater. 3 3 0 Purge Volume (gal) (0.0) Al/ft Purge Volume (gal) 0.00
Time	Purge Vol specify ml or gal	Temp (C) (0.0)		Specific Cond. (mS/cm) (0.000)	Turbidity (NTU) (0.0)	GW Level (ft below MP)		Comments (Color/Odor)	330991 - 44a
1466	<u></u>	_	_			186,90	Predigue		,
1400	7.5gm	14,28	6,61	1.385	1068 AU	18730			
1415	Z Sagn	13,27		1-3-1709	104 NTW	187.18			
1 25	7	12.99		17-13	23.9	107.76	7/100		
1430	7.79PA	12,85	1	1717-	100	107 03	100-1		
14.50	7. 24 m	12.80	 	1717	116/	107.00	100921		
1433	- F. SgAI				14.0	10/ 38	-		
jugo	7.7gm	12.98	7.09	1717	792	16 T. 20	- HANN		
jub	4.5	13.18	7-25	1721	7.7-1	87.29			
1450	4.2	1287	7-109	1325	7.60	184.29	330991		
1454	7.5	12.93	17.11	1719	Z57	187.25	360, al to		
		·			,	ι /			
								·	
								444	
							***************************************	Western Co.	
								- A A A A A Principle of the Control	
	<u></u> .								

Appendix A.3. Well Development Log

Monitorina	Point:	MI	-28			D	ate: 6/18/20 Sampler: K. Keller
Weather:							
Roring Dia	\$	Casir	ng Dia	16	DTW: 1	5.71 TD:	Pump Intake Depth:Pump Top Depth:
Duran/San	pling Method	ط٠ حوي		 		Vial pH	: Depth to Water @Sampling:
ruige/Sail	iping Metro	u					
Calculated (M	Purge Volur lethod 1)	me ¹ Wate	er added durin	ng construction (gal)	x2 =	urge Volume (gal) (0.0)	1 = Calculate the purge volume using both methods. Purge the well to whichever volume is greater.
Calculated (M Casing Vo	Purge Volur 1ethod 2) Iume Factors (g	me ¹ [(<u>2</u> Ti _{jal/ft): 2"= 0}	74, 9ast 40 - / D (ft)	ng and Annular V S S Z X (. 6) OTW (ft) 6; 5 = 0.95 Bo	olume (+ 98 CF + 98 rehole Factor Vo	Vol. Above Vol. Above + + + + + + + + + + + + + + + + + + +	Filter Pack $\frac{1}{\text{ft}} \times 0.6(.) = \frac{1}{\text{CF}} \times 3.74 \times 3.4 \times 3$
Site Safety	<i>י</i> :	PPE Dis	posal:	Dispo	sition of Purg	je Water:	90% Recharge Level:ft
Time	Purge Vol specify ml or gal	Temp (C) (0.0)	-U (0 0)	Specific	Turbidity (NTU) (0.0)	GW Level (ft below MP)	Comments (Color/Odor)
1435			-			185 95	Holt Tays alogem
1440	8.3	15.42	6.84	1.441	overage	187.75	Halt says a logem very turbed clearing slightly
1-45	8.3	13.15	0-90	1-367	2275	187.78	clearing slightly
1450	8.3	13.43		1.362	95	187.85	
1459	₹≈3	13.07	6.97	1.377	43.1	187-84	
1500	8.3	13.09	 	1.326	22-1	187.86	
1505	8-3	13.00	6.99	1.385	11.2	187.84	250 gallous
1510	8-3	12.88	7.03	1.393	8.32	187.84	
1515	Z-3		7.06	1.395	5.87	181.86	
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		l					
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Zone Isolation Sampling Technologies (ZIST)

2018 ZIST Well Installation Standard Operating Procedures - Nested Multi-Level Completions

Introduction:

Throughout the entire length of this document it is important to emphasize that the ZIST system is a scalable technology that can be made with essentially any combination of well products and materials. ZIST riser pipe can be made from PVC, fiber glass, steel, stainless steel, etc. ZIST tubing can be any grade of Teflon, polyethylene, Nylon etc. ZIST pumps can be made from a variety of materials such as PVC, Delrin, stainless steel etc. The key factors that determine the product materials combinations are water quality issues, and depth of application. The mention of various materials within the body of this document are one of many possible examples. Ultimately, the end user should consult with BESST, Inc. as to what the most suitable materials should be for their specific application. ZIST wells can be installed at very shallow depths to many thousands of feet. Various depths and diameters are all feasible as long as the appropriate materials are selected.

1. ZIST Monitoring Well Installation – Step#1: Preparation

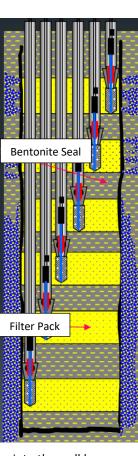
The first step in any well installation operation is always to inspect the product in order to identify potentially defective equipment. This is particularly important for the ZIST riser pipe. When the pipe arrives at the job site, all of the boxes should be opened as part of the inspection process to makes sure that the pipe threads are not damaged.

Occasionally, the female thread side of the riser pipe might be slightly chipped due to the thinness of the PVC around the outside of the thread. If this is observed, then the pipe section should be removed from the supply and set to the side and marked with a sharpie as damaged so that it is not used.

Before the installation begins, all of the pipe used for the installation should be laid out on a plastic or visqueen tarp. Before the placement of any riser pipe section into the well bore, the field staff shall inspect the pipe to make sure that the threads are not damaged and that a 020 o-ring is located around the base of the male flush thread on the pipe. If the o-ring appears to be worn or damaged in any way, it should be replaced with a new o-ring from the ZIST o-ring kit.

Another key point before the start of installation is for the field staff to discuss the method of installation and to agree on each person's responsibilities during the well installation process. A schematic of the well completion should be available during the group discussion to facilitate a visual image in each person's mind as to how the well will be installed. One of the most important discussion items to emphasize is that the process should not be rushed. Filter pack sand, bentonite pellets, bentonite chips and other types of annular materials should not be haphazardly dispensed into the well bore. Rather, a metered approach should be taken during emplacement of annular materials.

Before the process starts, the field team needs to make sure that there is a borehole tagger of appropriate length. The borehole tagger can be supplied by either BESST or the driller. As a matter of convenience, there should be two borehole taggers in the event that one gets stuck in the bore hole during the annular backfilling process.



The list below defines the most essential field equipment to have on hand for smooth installation of the ZIST multi-port system:

- Borehole Tagger with Weighted End (preferably 2 units): Supplied By Driller or BESST
- Curved Pipe Vice Grips for each nested well: Supplied By BESST
- Lifting Bails with Nylon rope: Supplied By BESST for each nested well
- 1 or 2 Pipe Dogs: Supplied By Driller or BESST
- ZIST O20 O-Ring Kit: Supplied By BESST
- Funnel for Filter Pack Material: Supplied By BESST or Driller
- Filter Pack Sand for ZIST Well Screens: Supplied By Driller
- PDS Co TR 30 Bentonite Pellets: Supplied by Driller
- All other annular materials: Supplied By Driller
- Brushes to clean pipe threads
- ZIST White Colored PVC Riser Pipe (Schedule 40 1" x 10' Long +/- ¼" to ¾") including short sections
 (Riser Pipe Adapters with same specification as 10' pipe) such as 3", 6", 1', 2', 3', 4' 5')
- ZIST Well Screens (10' sections) and 3-ft long Sumps with bottom cap
- ZIST Receivers
- ZIST Pumps
- ZIST Tubing and Fittings
- ZIST Well Caps
- Optional: ZIST Well Development Kit: Supplied By BESST

2. ZIST Monitoring Well Installation – Step #2: Installation Sequence

In a typical multi-level ZIST installation, the deepest ZIST zone is always installed first, followed by the second deepest and then the shallowest. As mentioned earlier, each ZIST monitoring zone is separated by an impermeable bentonite seal (or other type of required seal). For each installation, it is highly recommended that TR 30 coated bentonite pellets be used at the very least for a vertical lift distance of approximately 5 feet above the filter pack sand for the lowermost zone and approximately 5 feet above and below the filter pack sand for all shallower zones within the same borehole.

For each installation, a filter pack material will be used around the ZIST well screen. The sand should rise approximately 3-feet above the top of each well screen – as well as descend 3-feet below the well screen sump. The TR 30 is then emplaced onto the top of the sand. The borehole tagger should be constantly used throughout the backfill process to monitor the ascension depth of the annular materials. The TR 30 or other type of annular sealing material should rise only to within 3 feet of the next higher well screen / sump assembly. The 3-foot zone between the TR 30 bentonite and the bottom of the well screen sump should be filled with the appropriate filter pack sand. The purpose of constructing the ZIST monitoring point with an excess of 3-feet of filter pack sand below the well screen sump is to compensate for potential sinking of the riser pipe string during the installation process. The excess sand will ensure that the screened section of the well does not sink into the bentonite below – the well screen sump providing some extra distance.





When installing ZIST wells it is preferable to install the well with the male pipe threads facing up. The purpose of this approach is to avoid as much as possible getting grit into the female pipe threads during installation. Male threads are more easily cleaned during installation than female threads.

The first well component lowered into the well bore is the well screen sump and well screen. Field staff need to make sure that the bottom end cap resides at the bottom end of the sump. Field personnel also need to make sure that there are no broken screen ribs along the length of the well screen. The o-rfing at the top of the well screen, and surrounding the base of the male thread should be inspected to make sure it is not dessicated and/or cracked. If it is, then it should be immediately replaced in the field with a fresh, new o-ring (size = 020, buna, with a hardness durometer of 70).

Field staff should make sure that the ZIST receiver is attached to the top of the well screen (female side down) and can be easily identified by its black color. The male threads of the ZIST receiver should be facing up. Prior to threading on the ZIST receiver to the top of the well screen, field staff should inserted their index finger through the male thread end of the ZIST receiver and search for the tapered circumferential wall inside. If the tapered wall is not present, then the ZIST receiver should be discarded and one with a taper used in its place. The ZIST receiver should not be installed if field staff identify any of the following problems listed below:

- There is no circumferential internal taper inside the receiver.
- The bottom rim of the female thread is cracked or chipped.
- The female thread of the receiver does not completely screw onto the male thread of the well screen below it.
- The installer does not feel an o-ring crush when the female thread of the ZIST receiver is cinched onto the male thread of the well screen.
- The female thread of the first riser pipe stick does not screw onto the male thread of the ZIST receiver.
- The male thread of the ZIST receiver is cracked or chipped.
- Either the male or female thread of the ZIST receiver is out of round, appears ovalated, or crushed.
- NOTE: If there is no 020, Buna o-ring at the base of the make thread of the ZIST receiver, then one should be immediately installed onto the base of the make thread. The 020 o-ring can be located in the riser pipe o-ring kit.

Before installing the first riser pipe section to the top of the ZIST male thread, make sure that the female thread of the riser pipe section is not chipped or cracked. When the riser pipe is completely screwed

onto the male thread of the ZIST receiver, the installer should make sure that a crush is felt when the riser pipe is rotationally cinched onto the thread. The riser pipe is attached to the top end of the ZIST receiver. The entire section is lowered into the well bore by using the lifting bail sub supplied by BESST. The lifting bail sub consists of a PVC flush threaded well cap and steel I-Bolt (with a 1-inch pass through) extending from its top end. The driller then uses the winch hook with retractable clasp to secure the top of the lifting bail and then lowers the pipe section into the



borehole

Before the driller disconnects the winch from the lifting bail / I-Bolt assembly each time, the field staff must make sure that the pipe is firmly secured with the vice grips and pipe dog so that the pipe does not fall down the hole when the winch is disconnected. This process is repeated over and over until the riser pipe string touches the bottom of the borehole. At this point, the driller needs to lift the riser pipe string about 6-inches off the bottom of the borehole, such that the riser pipe string is completely suspended in the borehole. The purpose for doing this is twofold. First, weight should not be placed on the well screen and second, suspension of the riser pipe section helps to keep the well straight.

At this point, the first step in the back filling process begins. First, filter pack sand is tremmied into borehole or can be emplaced into the well through the well bore – allowing the sand to free-fall into position. This procedure will likely work very well where artesian conditions are absent. However, a tremmie pipe might be necessary where artesian conditions are encountered. The tagger is used to monitor the ascension of the filter pack sand and it is recommended that the sand ascends to a depth of 3-feet above the top of the ZIST well screen. Care should be taken to make sure that all of the sand has settled before moving on to emplacement of the TR 30 coated bentonite pellets.

It is recommended that the TR 30 be placed into the borehole without a tremmie and allowed to free-fall to the bottom. The TR 30 pellets should be scooped into the borehole at a measured pace. THE TR 30 PELLETS SHOULD NOT BE POURED INTO THE BOREHOLE TO AVOID BRIDGING AND TO AVOID BURIAL OF THE WLLBORE TAGGER. As mentioned above, the bentonite seal should only come within 3-feet of the bottom of the well screen sump of the next overlying monitoring zone. This process is repeated over and over for as many zones installed into the well bore.

As each riser pipe string becomes initially buried with the annular materials (specifically filter pack sand), the Nylon rope (supplied by BESST) should be attached between the lifting bail assembly and the winch. A moderate winch line tension should be used to make sure that the riser pipe remains straight in the borehole during delivery of the annular materials into the well bore. This straightening process will ensure that there is little to no deviation due to curving of the riser pipe during the backfilling process and that there is an adequate seal between each riser pipe.

The topmost TR 30 bentonite seal emplaced above the topmost filter pack sand section should be no less than 5-feet thick. Above this point, the driller has a choice of annular Back-fill materials to use. It is

recommended that a bentonite volclay seal be used to within 5-feet of the ground surface – and allowed to cure before a Portland cement surface seal is emplaced. A tremmie pipe can be used to emplace the volclay seal – or it can be pumped from the surface into the borehole – being that the top most zone is only 50 feet deep and that the 3 feet of # 2/12 sand above the well screen plus the 5 feet of TR 30 shallows the effective depth of the well bore to about 43 feet.



3. ZIST Monitoring Well Installation – Step #3: Surface

Completion

The surface completion is the last step in the ZIST well completion process. It is recommended that the surface completion box or vault provide ample working space for the nested well head configuration. In particular, extra space will allow for configuration of the well head assembly for artesian conditions as well as for storage of other items such as extra line and transducer cable. NOTE: DO NOT CUT OFF THE TOP OF THE ZIST RISER PIPE. IT MUST REMAIN THREADED. A THREADED END CAP IS PROVIDED. SHORT PIECE RISER PIPE ADAPTERS ARE PROVIDED TO ENSURE THAT THE RISER PIPE ASCENDS TO THE PROPER HEIGHT INSIDE THE SURFACE COMPLETION.

4. ZIST Monitoring Well Installation – Step #4

ZIST monitoring wells can be developed to achieve the goals of removing fines accumulated in the bottom of the wells, allowing the wells to be responsive to potentiometric head changes in the aquifer, and producing groundwater samples representative of the conditions in the adjacent formation.

4.1 Description of Development Equipment For ZIST Monitoring Wells

The ZIST wells shall be developed by a process known as air-lifting. The air-lifting process conceptually consists of injecting a compressed gas into the body of



vertical water column within a well. The compressed gas introduced into the well forms bubbles within the vertical water column thereby lowering it's specific gravity and causing the upward rise for the gaswater mixture to the ground surface. A diverter (Figure 5 - supplied by BESST, Inc.) is attached to the top of the ZIST well before the process begins. The operational nature of the diverter is that it allows for compressed gas to be injected through a top end tube-compression port and developed water from the ZIST well to be ejected out through a side tube-compression port. The first step in setting up the diverter for the 1-inch ZIST wells is to attach a tube of appropriate length for each well. As an example, 50-ft deep ZIST wells should use a gas-injection tube length of approximately 70 feet, 100-ft deep ZIST wells should use a gas-injection tube length of approximately 120 feet, and 150-ft ZIST wells should use a gas-injection tube length of approximately 170 feet. As indicated in these examples, the appropriate tubing length for each well depth is always about 20 feet longer than the well depth itself. This construct allows for ample working distance from the well-head for well development staff. For deeper ZIST wells the same logic is applied accordingly.

The gas-injection tube should consist of a fairly dense polymer with minimal coiling memory — allowing the tube to remain relatively straight within the well during well development. For this purpose and well depth, the most suitable choice as recommended by BESST is Teflon FEP and the dimension of FEP tubing that should be used with 1-inch Schedule 80- PVC ZIST pipe is $\frac{1}{2}$ " OD x $\frac{3}{16}$ " ID. However, as a matter of budget, other type of tubing can be used provided there is sufficient weight at the bottom of the tubing. At the bottom end of the gas-injection tubing is attached a stainless steel injection stinger supplied by BESST. The injection stinger (IS) is connected to the bottom of the gas- injection tubing by means of a $\frac{1}{2}$ " Swage-lok tube compression fitting. The injection stinger is perforated along its length and allows the release of the compressed gas into the vertical water column. The IS also is heavy enough to provide suitable straightening tension to the gas-injection tube.

When setting up the diverter, the first component that enters the top of the well is the IS, followed by the attached gas-injection tubing, and then by the diverter assembly itself. The diverter should rise about 3 feet from the ground surface by means of a 3-foot long, flush threaded, 1-inch Schedule 80 riser supplied by BESST. The bottom end of the riser is flush threaded and should easily screw onto the male flush thread ZIST pipe sticking out of the ground surface. The male end of the riser pipe should always be checked to see if there is any debris on the threads and that there is always a Buna or Viton 020 O-ring at the base of the 1-inch male flush thread. If the o-ring appears to be worn or damaged in any way, the o-ring should be removed and replaced with a new o- ring before well development begins. BESST shall provide an ample supply of 020 replacement o-rings as part of the diverter kit — as well as a small bristle brush for cleaning the male ZIST thread that the diverter is attached to.

At the ground surface, there should be about 20 to 30 feet of gas-injection tubing. As indicated in Figure 5, the gas injection tubing extends from a ¼" tube compression fitting located at the top of the diverter and is connected directly to a compressed gas regulator. A ¾" x 25-foot long garden hose is connected to the side of the diverter, with the end of the hose inserted into a containment vessel for the well development water.

The compressed gas regulator should be equipped with a manually controlled bleed off valve to allow the compressed gas inside the riser pipe to dissipate after each slug of water is removed during the air-lifting process. Dissipation of the compressed gas will allow the ZIST well to recharge before the next gas injection.

4.2 Operation Of Well Development Equipment For ZIST Monitoring Wells

When setting up the diverter assembly, the injection stinger (IS) should never be lowered into or just above the well screen section of the ZIST well. Instead, the IS should be lowered to a point that is no lower than 10-feet above the well screen for the shallow wells (50 to 75 feet bgs), and no lower than 20 feet above the deeper wells (100 to 150 feet deep). The reason for this is that it is important to minimize or prevent the injection of compressed gas into the surrounding formation. If compressed gas were to enter the surrounding formation an air-lock or air-bubble could form in the surrounding earth materials that would cause disruption of groundwater flow to the well during the development process and potentially during well sampling events.

The formula used for determining the appropriate lift pressure for air-lifting of any well is the following:

{[Depth To Injection Stinger / (2.31 Ft. / PSI)] x 1.1}

As indicated in the formula there is a factor of (1.1). This factor adds 10% more pressure to the calculation in order to compensate for head loss due to friction inside the riser pipe.

Before compressed gas is released to the diverter assembly, all of the surface fittings should be checked to see that they are tight. All lose connections should be tightened before air-lifting operations begin. The 3-foot long riser pipe extension should also be checked to see that is securely screwed onto the ZIST riser pipe sticking up from the ground surface. It is important to note here that it is not necessary to use Teflon tape around the male flush thread of the ZIST riser pipe — and that use of the 020 o-ring is all that is necessary. NOTE: THE USE OF TEFLON TAPE AROUND THE MALE FLUSH THREAD SHOULD NOT BE USED AT ALL. THE TEFLON TAPE MAY CAUSE THE THREADS TO LEAK DURING AIR-LIFTING AND POSSIBLY CAUSE THE 3-FOOT RISER ENXTENSION TO LAUNCH OFF OF THE MALE THREAD. ALWAYS MAKE SURE THAT THE 020 O-RING IS IN PLACE AN IN GOOD CONDITION. IF THE 020 O-RING APPEARS TO BE WORN OR DAMAGED THEN IT SHOULD BE CHANGED IMMEDIATELY BEFORE AIR-LIFTING OPERATIONS BEGIN.

As a practical matter, if the 3-foot long extender were to separate from the male thread during air-lifting operations, it would only lift about 1 to 2 feet above the male thread connection since the diverter is tethered to the inside of the well by the Teflon FEP tubing and injection stinger. The Teflon FEP tubing is considerably heavier than Nylon or polyethylene (about 3x) and therefore serving as a much more suitable tether.

However, this point emphasizes another reason for having extra tubing at the ground surface in order to insure a safe working distance from the well head.

Compressed Gas Source and Use

As far as a source of compressed gas there are two readily available options. The first option would consist of using nitrogen gas tanks and the second option would be an small air compressor that is powered by either electricity or gasoline. Either choice is acceptable. The advantage of using nitrogen gas is that nitrogen gas tank regulators supply more gas volume over unit of time than small portable air compressors — and therefore provide for faster development. The down-side is that the tanks are heavy and the tank volume limited. Small air compressors have an unlimited supply of air to be used from the surrounding atmosphere. However, depending on the make of air compressor they can sometimes overheat and should be checked periodically with one's hand. If the air compressor motor seems to be consistently hot to the touch, then the compressor should be turned off and allowed to cool in order to prevent the motor from burning out or ceasing.

If one decides to use nitrogen gas, then the formula for determining how much gas should be used is the following:

[{[Depth To Injection Stinger (IS) / (2.31 Ft. / PSI)] x 1.1}]x Riser Pipe Volume To IS Atmospheric Pressure At Job Site

The calculated result from this equation will determine the approximate amount of gas that is used for each air-lift purge cycle.

The first order of compressed gas operation when using nitrogen gas is to make sure that the regulator is screwed on tightly to the nitrogen gas tank, and that the brass handle of the nitrogen gas regulator is not screwed tightly into the main body of the regulator – but can swivel freely back and forth. This indicates that the regulator is in the closed position. When looking at the regulator its important to remember that the dial gauge to your left is the line gauge and the dial gauge to the right is the tank gauge. The line gauge indicates the gas pressure that is being released to the Teflon tube. The tank gauge indicates how much pressure is left in the tank. The typical starting pressure for a newly refilled tank ranges from about 2,200 PSI to 2,500 PSI.

Also, make sure that the gray or silver colored round handle at the top of the tank is securely tightened before start of air-lifting operation. Another important point is that the nitrogen gas tank should be secured with a tank dolly or chained to some solid structure in order to prevent the tank(s) from tipping over at any time. When the nitrogen gas tanks are not in use, the tank cover that covers the tank handle should be screwed on tight to protect the handle from breaking in the event that the tank falls over onto its side or bangs into something. Department of Transportation (DOT) rules allow for the transfer of up to 1,000 cubic feet of nitrogen gas in van and pickup trucks without use of an inert gas placard on the outside of the vehicle. However, the Salt Lake City area has plenty of nitrogen gas suppliers (such as Prax Air) who can easily deliver the gas to the job site.

When releasing nitrogen gas, the first step is open the gas tank by rotating the gray handle at the top of the tank in a counter clockwise direction. Rotation of the handle one complete turn will allow for a sufficient supply of gas to be delivered to the gas injection line. The second step is to open the regulator by turning the brass T-handle in a clockwise direction (not counter clockwise). The internal pin at the end of the T-handle pushes down on a spring loaded ball valve on the inside the regulator. It's important to turn the handle slowly to ramp up to the desired pressure so that the spring on the inside of the regulator is not damaged. The regulator will last longer if this operational procedure is adhered to.

As the brass handle is turned, the needle on the line pressure gauge will begin to rotate, indicating increasing pressures. As the line pressure begins to approach the desired pressure for lifting the water to the surface it is common to hear a gurgling noise from the well. This is perfectly normal and indicates the action of the water inside the well rising to the ground surface. When the water reaches the ground surface it will travel through the garden hose and transfer accordingly to the containment vessel. It's perfectly normal to hear a sputtering sound as the water discharges into the containment vessel. When the discharge into the containment vessel consists mostly of air, it is then time to bleed-off the nitrogen gas from the riser pipe. All one is required t do at this point is to turn the black handle on the bleed-off valve 180 degrees from its line position and the gas from the well will bleed off through the valve and the water discharge hose. The brass T-handle and the gray tank handle do not need to be turned at this point. Both handles are left in their set position during the entire air-lift operation. The action of turning the black handle 180 degrees on the bleed off valve automatically shuts off the nitrogen gas tank supply to the well.

As the nitrogen gas bleeds off from the well, groundwater from the formation will begin to recover to the inside of the well – carrying fines from the drilling process. There are typically two indicators that are used to monitor the recovery. The first indicator is the use of the bleed-off hissing sound of the nitrogen gas. When the bleed-off sound cannot be heard any longer the pressure inside the well has returned to almost ambient atmospheric condition for the location of the job site. The second indicator helps to monitor the level to which groundwater has risen inside the riser pipe. This is accomplished by disconnecting the gas-injection line from the bottom of the three-way bleed-off valve – using a 9/16 box wrench supplied in the diverter kit. It's easy to do and disconnection of the gas-in line will not allow the release of nitrogen gas from the tank.

The end of the gas-injection line can then be inserted into a bottle of water. As groundwater recharges the ZIST well, the groundwater will displace air inside the gas- injection line and force the air to exit the line inside the bottle of water where it will manifest itself as air bubbles. When the air bubbles are flowing or streaming into the water bottle, this indicates that the well is in the early stages of recharge where there is the greatest hydraulic head difference between the inside of the well (where there is less hydraulic head) and the hydraulic formation pressure on the outside of the well. As these two pressures reach a point of hydrostatic equilibrium, the bubbling rate slows down. During the last 10% of the well recharge, the bubbling rate from the gas-injection line is extremely slow inside the water bottle and is typically an indication that the next air-lift slug should be applied to the well. It's important to time the rate of recovery during the bubbling process so that time efficiency can utilized during the procedure. The recovery time versus volume should also be observed as another means of measuring the recovery of the well. The point here is that as one increases the volume of recovery to the well, the greater the hydraulic head differential that is achieved during each air- lifting step and therefore the more efficient the surge and cleaning effect around the well screen.



Airlifting procedure:

A: Assembling the diverter:

- Measure out length of airlift line (nylon tubing) that will be inside the well. It should be set 3-5
 feet above the well screen. BE SURE THE AIRLIFT WEIGHT DOES NOT HANG WITHIN THE WELL
 SCREEN. MAKE SURE IT IS IN THE BLANK CASING, AS PRESSURIZING INSIDE THE WELL SCREEN
 CAN DAMAGE THE SCREEN AND COMPROMISE THE INTEGRITY OF THE CASING ALLOWING
 SEDIMENT OR SAND INVASION AND RUINING THE WELL.
- 2. Thread the uphole or surface end of the nylon tube through the bored through fitting at the top of the plastic diverter and tighten it down.
- 3. Attach the airlift weight (stainless steel weight with fitting on top) to the nylon tube with the Swagelok connection.
- 4. Tighten down the airlift weight connection and diverter gas-line connection (on top of the diverter).
- 5. Feed airlift weight and nylon tube into well, thread diverter piece onto threads at the top of the well casing.
- 6. Attach a garden hose to the fitting on the diverter piece. Put the other end of the hose into discharge vessel.
- 7. Attach the loose nylon tube to nitrogen tank regulator.

B: Development:

- Calculate needed lift pressure with the following equation:
 depth of the airlift weight/2.31x1.1=airlift pressure (in psi)
 NEVER EXCEED 150 PSI WHICH IS THE WORKING PRESSURE OF 1" SCHED 80 THREADED PVC PIPE OR THE WELL THREADS AND WELL SCREEN COULD BE DAMAGED.
- 2. In order for this procedure to work about 25% of the casing above the airlift weight needs to be full of water. If static conditions aren't such that there is enough head above the screen and the airlift device then water needs to be added for each slug. 1" Schedule 80 pvc holds about .35gal/10ft so you can plan accordingly with the volume that will need to be added.
- 3. When all connections are tight and discharge tube is securely in discharge vessel, dial in the nitrogen to the pressure calculated above.
- 4. Let the nitrogen gas flow in until a slug of water comes into the diverter, turn off the pressure, let the water flow out of the diverter.
- 5. Repeat this process, giving enough time for recharge between cycles, until water either (A)is clear or (B)is no longer changing in its sediment load with each volume purged.
- 6. For example, at the beginning it may look like mud, ten cycles later it may look like chocolate milk, and five cycles after that it may look like murky water, but ten cycles later it still looks like murky water, then murky water is what the well is going to produce and the well is developed.

Appendix M

Investigation-Derived Waste Manifests



Special Waste Profile . https://doi.org/10.1001/10.100



Waste Profile #:

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, 110211	000		-	3.111.2311		700	7 32-2	3-1010
Waste Stree	ım informa	ition						
ome of Waste	SOIL CUT	TINGS from div	ling Monitori	ng Wells				
ocess Genera	fing Waste	Waste so		ed from installation vents. Waste is not				
pe of Waste	-Select W	uste Type-		Physical State: -Select	Physical	Method of Ship	ment -Sele	ct Shipment M
timated Volum	ne. 130				Volume Type:	Cubic Yards		
equency: Or	n-going Was	ste Stream	▼ Disp	osal Consideration: L	and/d	_		
10 101	Zajonajeni	Hipianess .						
No Sample		e Certification						
1 No samble		e of Sample	Campaci	- Carrier				
3 Cample Tal	sentative \$2	imple collected	to prepare	e this profile and labora	tory analysis, o	collected in accor	dance with J.	EPA 40 CFR
is the repre	idelines or	equivalent?	Yes 🗆	No				
			Sample	DW02-SB032				



1. SOIL	ponents (must equal 10		To by Weight (out of 100% - ran	iges acceptable	(3
			95% - 100			
Debrs grastic conce	wis mohat)		05-35			
4						
5.						
Color:	Odor (describe):	Does Waste Contain Free Liquids?	% Solds	pH	0.00	IS IN
BROWN	NONE	DYES EINO	100	NA.	Flash Poi	vc .
Attach Laboratory provided for this p	Analytical Report (and profile.	d/or Material Safety Data Sheet) inclu	ding Chain of C	Custody and req		ters
RCRA Regulatory C	Questions					
in 40 CFR 261.337		n regulated concentrations of the following Pe lind, Lindane, Methosychior, Toxaphone, 2,40	or 2.4.5.TP Sive	ferbicides.	□Yes	. DN
	a - Street His	Mer than 500 ρφ/π) or reactive cyanide (grace)			□ Yes	EN
3. Does this waste con	main regulated conceptrate	ions of Polychlorinated Biphenyls (PCBs) as de	fined in 40 CFR P.	art 7617	ПУн	□ No
4. Does this waste con RTRA (Listed Solve	tain concentrations of liste	nd Nazardous waszers defined in 40 C18 2613	1, 261 32, 261 33	including	HORIZINIA TANCO	-
5. Has this waste been	defeated weder an era ha	0.20 and 260.227 ff yes, attach the final decisi			□ Yes	□ No
					□Yes	□ No
applicable waste cor	ioit a Hurardous Churacter de and specify if the waste	nsix as defined by Federal and/or State regul is hazardous as defined by Federal State or b	ations? If Yes, idention?	el _y ste	□ Yes	□ No
Does this waste con	ton me dated constraint	Name and Address of the Owner, when the Owner, which the Owner,				
		ors of 2.3.7.8 Tetract is roombers rookowin (2.3.7		ther digien	□Yes	☑ No
sthis a regulated to	edica or Infectious Waste	as defined by Federal and/or State regulation	0		ΠYes	☑ No
is this a regulated Ra	adioactive Waste as defined	f by Federal and/or State regulations?				
0 is this a solid water	that is not a betterfood only	ster accordance with objects 251 4007 fyes	District Deputs of		□ Yes	1
corresponding regul	latory chation		Presse behavie		□Yes	☑ No
epublic Services W	laste Handling Questio	ons		L		
Does this waste gene	crate heat or react when co	orkacted with water/moisture?			□Yes	C. N.
Does the waste conta	an suffur or sulfur by prod	kan.			0.00020.853	1100
in this waste and one					□ Yes	☑ No
		perfund cleanup see subject to regulation une			☑ Yes	□ No
		or contolidator (i.e. multiple wazarulmultiple)	pressurary?		□Yes	D.N.
	vestion, please provide dur				m 162	E No



VI. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the waste material being affirmed for disposal and all known or suspected heareth have been disclosed. All Analytical Results/Material Softy Data Sheeks submitted for through and complete and are representative of the waste.

I further critify that by utilizing this profile, nother myself one may other employer of the company will define for disposal or attempts to define for disposal or attempts to define for disposal or particular water, or disposal or attempts to define for all reports and extended to desire or enjectived weets; or any other water intended to fine for a produce for any charge or condition personaling to the continue of the profile of produced for any charge or condition personaling to the continue of the profile of the profile

comprosion being innecurate or unitrue.

Individual data intensible an electromic signature, I am signing this discussest, consent to complete this treassection and receive all related communication electromically, and agree this document will be shoulden as though I had physically signed in. A principle of this document may be congreated with the same authority as the original.

If executive, Signature is professed please submit completed funniqued, form to your Special Waste Coordinator or Special Waste Soles Executive is whitele signature profess.

If where carefy the the company has not othered the form or concern of this arollie where as provided by Broadile Services.

Susanne M Fairclough	VA CERCLA Contracts Manager	veterans Health Administration CERCLA Program
Authorized Representative Name (Printed)	Fide (Printers)	Company Name
Susanne M	Fairclough	G10870
Representa	the Signature	Date



Disposal Facility: 4186 Wasa	tch Regional Landfill, l	nc. UT	. 🔻 W.	este Profile #:		
			Sa	les Rep #;		
I. Generator information						
Generator Name: VETER	ANS HEALTH AD	MINISTRATION	CERCLA F	Program		
Generator Site Address: 50	FOOTHILL DRI	IVE Mail Code 1	38 Buidling	6 CERCLA	Program	
City: SALT LAKE CITY	County:	SALT LAKE	State:	Select State-	▼ Zip:	84148
State ID/Reg No:	State Appro	val/Waste Code:			NAICS #:	
Generator Mailing Address ((if different) SAN	иE		***************************************		
City:	County:		State:	-Select State	Zip:	
Generator Contact Name: SI	USANNE FAIRC	LOUGH	Email:	Susanne.f	airclough@	ova.gov
Phone Number: 385-272-	4672	Ext;	Fax Nu	ımber:		
II. Billing Information		murapunturanun. Tahu				
BILTO: SEACOAST EN	VIRONMENTAL	SVCS, Contain	ct Name: EU	GENE R. S	TREITER	
Billing Address: 37 LOND	ONBERRY DRIV	/E	Email: stre	iterseacoas	t@gmail.c	om
City: HOLMDEL	State: Ne	w Jersey	Zip: 077	'33 Phor	e: 732-27	5-1616
III. Waste Stream Information						market in the
Name of Waste: GROUNDWATE	ER from drilling Monitoring	Well				
J. [20] [1] 10 [1] [1 [2] [2] [2] [2] [2] [2] [2] [2] [2] [2]	aste water generated frovents. Waste is not a l				contaminated v	with chlorinated
Type of Waste:Select Waste	Type Ph	ysical State: -Select I	Physical V	Method of Shipr	mentSelect	Shipment M 🗸
Estimated Volume: 15000-2000	10		alume Type:	Gallons		V
Frequency: On-going Waste St	eam Dispos	al Consideration: La	ndfill	V		
IV. Representative Sample Cer	tification					
☐ No Sample Taken	2					
Anna III.	ample Grab Sample					
Is the representative sample 261.20(c) guidelines or equiva	collected to prepare that ent?	nis profile and laborati	ory analysis, col	lected in accord	lance with U.S.	EPA 40 CFR
Sample Date: 3/24/2020	Sample ID Numbers or SDS:	IDW01-GW032	420		• ,	

Remember to attach Laboratory Analytical Report (and/or Material Safety Data Sheet) including Chain of Custody and required parameters provided for this profile.



1. water			95% - 100%			
2 sedment (sitt	1		0% - 5%		-1	
3			0.4-0.4			3333
4.						
5.	Garage Control					
Color:	Odor (describe):	30.2 (d. 10.2 (d. 17.7 (d. 17.7)) 1.2 (d. 17.8 (d. 17.7))				MILL
CleanBrown	none	Does Waste Contain Free Liquids? 2 Yes	% Salids:	pH:	Flash Point	**
	THE ALL PROPERTY.	(and/or Material Safety Data Sheet) incl	30 11 1 11 1 11 1		>200	
	this profile,					
Does this w Chlordane, E in 40 OFR 26	Endrin, Heotachlor (and its epi	ntain regulated concentrations of the following oxides), Lindane, Methoxychlor, Toxaphene, 2,4	Pesticides and/ or I-D, or 2,4,5-TP Silv	Herbicides: ex as defined	□ Yes	Z No
2. Daes this wa freference 4	este contain reactive suifides (IO CFR 261.23(a)(5)]?	greater than 500 ppm) or reactive cyanide (gre	ater than 250 ppm		☐ Yes	☑ No
. Does this wa	aste contain regulated concen	trations of Polychlorinated Biphenyls (PCBs) as	defined in 40 CFR	Part 761?	☐ Yes	☑ No
Does this wa		listed hazardous wastes defined in 40 CFR 261	31, 261 32, 261 3	3, inducting	□ Yes	☑ No
Has this was published in	te been delisted under 40 CFI the Federal Register.	R 260.20 and 260.227 If yes, attach the final des	sion to delist the	waste as	☐ Yes	☑ No
Does this wa	iste exhibit a Hazardous Char. aste code and specify if the w	acteristic as defined by Federal and/or State re aste is nazardous as defined by Federal, State o	gulations? If Yes, Id or both?	entify the	□ Yes	☑ No
Does this wa as defined in	ste contain regulated concent 40 CFR 261.31?	trations of 2.3.7,8 Tetrachlorodibenzodioxin (2.	3.7.8-TCCD), or any	rother dioxin	□Yes	☑ No
is this a regu	lated Medical or Infectious Wa	aste as defined by Federal and/or State regulat	ons?		☐ Yes	☑ No
. Is this a regul	lated Radioactive Waste as de	fined by Federal and/or State regulations?		ur kana	☐ Yes	☑ No
	d waste that is not a hazardouing regulatory otation.	is waste in accordance with 40 CFR 261 4(b)? If	yes, piease providi	ethe	☐ Yes	Ø No
epublic Serv	rices Waste Handling Que	estions				
Does this was	ste generate heat or react wh	en contacted with water/moisture?	- "現時"		☐ Yes	☑ N
Does the was	ste contain sulfur or sulfur by	products?			☐ Yes	☑ N
is this waste g	generated at a State or Federa	al Superfund deanup site subject to regulation	under CERCLA?			□ N
	from a TSD facility TSD The fa	ki i ty or consolidator (i.e. mu tiple wastes/multi	ple tenerators)		☐ Yes	☑ N
Is this waste	2	The state of the s	2		L 163	



VI. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and occurate description of the waste material being offered for disposal and all known or suspected hazards have been disclosed. All Analytical Results/Material Safety Data Sheets submitted are truthful and complete and are representative of the waste.

I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. I shall immediately give written notice of any change or condition pertaining to the waste not provided herein. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inoccurate or untrue.

I understand that attaching an electronic signature, I am signing this document, consent to complete this transaction and receive all related communication electronically, and agree this document will be binding as though I had physically signed it. A printout of this document may be accepted with the same authority as the original.

If electronic signature is preferred, please submit completed (unsigned) form to your Special Waste Coordinator or Special Waste Sales Executive to initiate signature process.

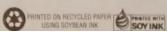
I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services.

Susanne M Fairclough	VA CERCLA Contracts Manager	Veterans Administration CERCLA Program	
Authorized Representative Name (Printed)	Tide (Printed)	· Company Name	
Susanne W	M Fairclough	04/08/2020	
Representa	tive Signature	Date	

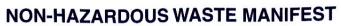
Please	print or type (Form designed for use on elite (1)	2 pitch) foreseritors							
	NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA	*10 000		Manifest Document No	20041	2	Page 1 of 1	
	3. Generator's Name and Mailing Address	210 201	340 403			20041		01 //	
	3. Generator's Name and Mailing Address VETES CEGERAL 500 1	EANS HEALTH	ADMINISTRATION /						
	BUILDING & CERCATA DE	POOTHILL DRI	IVE, MAIL CODE 138						
		COURAN, ATTI	I S. PATRCLOUGH						
	5. Transporter 1 Company Name		0						
	MP ENVIRONMENTAL CUD.	TODE	6. US EPA ID Number		A. State Trans				
	7. Transporter 2 Company Name		CAT 000 624 247		B. Transporter	1 Phone 35-884-	-080	8	
			8. US EPA ID Number		C. State Trans	porter's ID			
	Designated Facility Name and Site Address		10		D. Transporter	2 Phone			
	MASATCH PECTONAL TAN	Thurs.	10. US EPA ID Number		E. State Facilit	ry's ID			
	6533 MORTH ROULEY DE	4							
	SKULL VALLY, UT 840:	70			F. Facility's Ph				
	11. WASTE DESCRIPTION					-924-8540			
				12. Co	ntainers	13. Total		Ur	
	MONITA TARROUTE MON DE			No.	Туре	Quantity		WL	Vol.
	MONHAZARDOUS, NON RI	EGULATED							
	GROUNDWATER FROM DE	ILLING MONI	(TORING WELLS)		The same of the sa	2000		-	
G).			1	TT			G	
N									
EL									
R									
GENERATO									
0									
R									
	3. Additional Descriptions for Materials Listed Above				H. Handling C	odes for Wastes Listed At	hour		
	APPROVAL NUMBER: 4		22.26						
	5. Special Handling Instructions and Additional Infor	that the extent of this	shipment are fully and accurately described are not subject to federal hazardous waste re-	and are in gulations.	all respects		7		
P	inted/Typed Name		Signature			The same of the sa		Date	
						A	Month	Day	Year
17	. Transporter 1 Acknowledgement of Receipt of Ma	terials		1000		-	7	4	H
200	inted/Typed Name		Signature		1			Date	
	LUCHNO STLAZ	AV					Month	Day	Year
18	Transporter 2 Acknowledgement of Receipt of Ma		Manne	0/	DORO	201/2	05	77	20
Pr	inted/Typed Name	Toridio	Signature	-	/			Date	
			org. milito			۸	Month	Day	Year
	Discrepancy Indication Space								
20	. Facility Owner or Operator; Certification of receipt	of the waste materials of	covered by this maifest, except as noted in ite	em 19.					
						Г			
	nted/Typed Name		Signature				11	Date	-
			700000000000000000000000000000000000000				Month 1	Day	Year

NON-HAZARDOUS WASTE

NON-HAZARDOUS 1 Generator's US					
	3 EPA ID No. 281 SAR 985		Manifest Document No	20044	2 Page 1 of I
3. Generator's Name and Mailing Ackress	101 240 703		-	20044	
3. Generator's Name and Mailing Ackreas VETERANS HEAT	TH ADMINISTRATION				
CERCLA PROGRAM, 500 FOOTHILL	DR., MAIL CODE 138		-	And in case of the last of the	
CERCLA PROGRAM	ATTN: S. FAIRCLOUGH				
385/ 272-4672					
5. Transporter 1 Company Name	6. US EPA ID Number		A. State Tran		-
	16 65 00 000		B. Transporter	1 Phone	259 37 229
7. Transporter 2 Company Name	8. US EPA ID Number		C. State Trans	sporter's IO	
	1		D. Transporte	r 2 Phone	
Designated Facility Name and Site Address	10. US EPA ID Number		E. State Facili	ty's ID	
WASATCH REGIONAL LANDFILL					
8833 NORTH ROULEY RD			F. Facility's Pt	hona	
SKULL VALLEY, UT 84029			801	-924-8540	
11. WASTE DESCRIPTION		1 10 0	ontainers	13 Total	JA
		1000	1	Total Quantity	Unit WL/Vol.
a. NONHAZAPDONE NON		No.	Тура	Cathering	1112.101
a. NONHAZARDOUS, NON REGULATED					
(SOIL CUTTINGS FROM DRILLING	G MONITORING WELLS)	1	CH		T
b					
0,					
d.					
APPROVAL NUMBER: 4/5					
APPROVAL NUMBER: 4/9	5538				
		1.45	RB	x 2555	(8)
		1.45	RB	R 2555	8)
15. Special Handling Instructions and Additional Information	Bin			x 2555	8)
	hts of this shipment are fully and accurately descri	ibed and an	e in all respects	2 2555	8)
15. Special Handling Instructions and Additional Information 16. GENERATOR'S CERTIFICATION: I hereby certify that the content	hts of this shipment are fully and accurately descri	ibed and an	e in all respects	R 2555	8)
15. Special Handling Instructions and Additional Information 16. GENERATOR'S CERTIFICATION: I hereby certify that the content	nts of this shipment are fully and accurately description and the shipment are fully and accurately description and the shipment are fully and accurately description.	ibed and an	e in all respects	\$ 2555	Date
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15. Special Handling Instructions and Additional Information 16. GENERATOR'S CERTIFICATION: I hereby certify that the content in proper condition for transport. The materials described on this materials described on the printed/Typed Name	nts of this shipment are fully and accurately description and the shipment are fully and accurately description and the shipment are fully and accurately description.	ibed and an	e in all respects		Date forth Day
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15. Special Handling Instructions and Additional Information 16. GENERATOR'S CERTIFICATION: I hereby certify that the content in proper condition for transport. The materials described on this materials described on this materials. Printed/Typed Name 18. Transporter 2 Acknowledgement of Receipt of Materials. Printed/Typed Name	nts of this shipment are fully and accurately described are not subject to federal hazardous was Signature	ibed and an	e in all respects	A A	Date Month Day Date Annth Day Date
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15. Special Handling Instructions and Additional Information 16. GENERATOR'S CERTIFICATION: I hereby certify that the content in proper condition for transport. The materials described on this materials described on this materials. Printed/Typed Name 18. Transporter 2 Acknowledgement of Receipt of Materials. Printed/Typed Name	nts of this shipment are fully and accurately described are not subject to federal hazardous was Signature Signature Signature	bed and are to regulation	e in all respects	A A	Date Month Day Date Date Month Day
15. Special Handling Instructions and Additional Information 16. GENERATOR'S CERTIFICATION: I hereby certify that the content in proper condition for transport. The materials described on this materials described on this materials. Printed/Typed Name 17. Transporter 1 Acknowledgement of Receipt of Materials. Printed/Typed Name 18. Transporter 2 Acknowledgement of Receipt of Materials. Printed/Typed Name 19. Discrepancy Indication Space	nts of this shipment are fully and accurately described are not subject to federal hazardous was Signature Signature Signature	bed and are to regulation	e in all respects	A A	Date Month Day Date Date Date Date







Pleas	e print or type (Form designed for use on elite	(12 pitch) typewriter)					2. Page 1
	NON-HAZARDOUS	1. Generator's US EPA ID No).		Manifest Document N	0	
	WASTE MANIFEST	UTD 981 54	8 985			20041	of 1
	0.0						
	AFI	ERANS HEALTH AD					
	CERCLA PROGRAM, 500	FOOTHILL DRIVE	E, MAIL CODE 138				
	BUILDING 6 CERCALA	PROGRAM, ATTN:	S. FAIRCLOUGH				
	4. Generator's Pnone (385) 272 467						
	5. Transporter 1 Company Name	6.	US EPA ID Number		A. State Tran		0000
	MP ENVIRONMENTAL SE	CRVICES (CAT 000 624 247		B. Transporte	or 1 Phone435-884	-0808
	7. Transporter 2 Company Name	8.	US EPA ID Number		C. State Tran	sporter's ID	
		Ĩ			D. Transporte	er 2 Phone	
	9. Designated Facility Name and Site Address	10.	US EPA ID Number		E. State Faci	lity's ID	
						(15)	
	WASATCH REGIONAL I				F. Facility's F	Phone	
Page	8833 NORTH ROWLEY					-924-8540	
	SKULL VALLY, UT 84	1029		T 0	100000	13.	14
	11. WASTE DESCRIPTION				ntainers	Total	14. Unit Wt./Vol.
				No.	Туре	Quantity	VV(./ VOI.
	a. NONHAZARDOUS, NON	RECULATED					
1	(GROUNDWATER FROM		DINC UEIIC)			3600	
	(GROUNDWATER FROM	DKILLING HOMIT	OKING WELLS	1	TT	50	G
G	b.						
GEZ	5.						
N							
E				1			
R	C.						
A							
6							
OR	d.						
	G. Additonal Descriptions for Materials Listed Ab	ove			H. Handling	Codes for Wastes Listed	Above
	G. Additional Descriptions for Materials Elsted Ab	010					
		1110 0- 1	F > 1				
	APPROVAL NUMBER:	4186205	5 36				
	_						
					l		
	15. Special Handling Instructions and Additional I	nformation					
					7 /		
							d lead lead
	16. GENERATOR'S CERTIFICATION: I hereby co- in proper condition for transport. The materials	ertify that the contents of this ship	ment are fully and accurately describe ot subject to federal hazardous waste :	d and are in regulations.	all respects		
No.	in proper condition for transport. The materials	, doornood on ano	The state of the s				
					1		Date
	District Marie 1/1	1 - 0	Signature	110	110/		Month Day Year
	Printed ped Name	MIMPIAIG	h DIM	rai	na	hom !	05/04/10
	Jusui II le	Matarials	4			1	Date
I	17. Transporter 1 Acknowledgement of Receipt of	Iviatoriais	Signature			<u>U</u>	
Ä	Printed/Typed Name		o.g.maro				Month Day Year
S							
0	18. Transporter 2 Acknowledgement of Receipt of	Materials					Date
B	Printed/Typed Name		Signature				Month Day Year
TRAZOPORTER							
н	40 Diseasement Indication Comes						
F	19. Discrepancy Indication Space						
AC							
C				Har An			
11	20. Facility Owner or Operator; Certification of rec	ceipt of the waste materials cove	red by this maifest, except as noted in	item 19.			
-							Date
†	Printed/Typed Name		Signature				Month Day Year
Ÿ							

Plea	se print or type (Form designed for use on eli	te (12 pitch) typewriter)							
	NON-HAZARDOUS WASTE MANIFEST	1. Generator's US	EPA ID No. 81 548 985		Manifest Document No	20041	2.	Page 1 of 1	
	3. Generator's Name and Mailing Address	97599 4 429 ACT ACT ACT							
	CERCEAN TERCHERAM, 50	FOOTHILL !	DRIVE. MATL CODE 138						
	BUILDING 6 CERCALA 4. Generator's Pnone (385) 272 46	PROGRAM, A	CIN: 5. FAIRGIANGH						
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	7. Transporter 2 Company Name		8. US EPA ID Number						
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	11. WASTE DESCRIPTION			12. C	ontainers	13. Total	- 1	14 Uni	
				No.	Туре	Quantity		Wt.∧	Vol.
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	G. Additonal Descriptions for Materials Listed Ab	ove			H. Handling C	odes for wastes cisted A	2010		
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	16. GENERATOR'S CERTIFICATION: I hereby coming proper condition for transport. The materials	rtify that the contents of described on this manife	this snipment are fully and accurately described est are not subject to federal hazardous waste r	regulations.	шпоороспо				
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	17. Transporter 1 Acknowledgement of Receipt of	Materials						Date	
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	19. Discrepancy Indication Space								
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ĭ	20. Facility Owner or Operator; Certification of rec	eipt of the waste materia	Is covered by this maifest, except as noted in i	item 19.					
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1	Printed/Typed Name		Signature				Month		1/
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P	lease	Print or type (Form designed for use on eitle (1) NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA I	D No. 81_548_985		Manifest Document No.	20045	2. Page 1 of 1		
-	-	3. Generator's Name and Mailing Address VETE CERCLA PROGRAM, 500 BUILDING 6, CERCLA								
	1	4. Generator's Phone (385) 272–467 5. Transporter 1 Company Name MP Environment 7. Transporter 2 Company Name	-	6. US EPA ID Number L CATCHAGO HE 8. US EPA ID Number	247	A. State Transc B. Transporter C. State Transc	1 Phone j - 894 porter's ID	-0808		
	1	Designated Facility Name and Site Address WASATCH REGIONAL LA	NDFILL	10. US EPA ID Number NON FZ	D. Transporter 2 Phone Entate Facility's ID + # ØSOIRZ F. Facility's Phone					
	+	8833 NORTH ROWLEY R SKULL VALLEY, UT 84		101012	12. Co			14. Unit Wt./Vol.		
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NON-HAZARDOUS WASTE	E 4	G. Additional Descriptions for Materials Listed Abo APPROVAL NUMBER:	H. Handling Codes for Wastes Listed Above							
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	FACI	20. Facility Owner or Operator, Certification of rece	eipt of the waste materials	s covered by this mailest, except as noted i	n item 19.					
	LITY	Printed/Typed Name		Signature	2			Date Month Day Year		

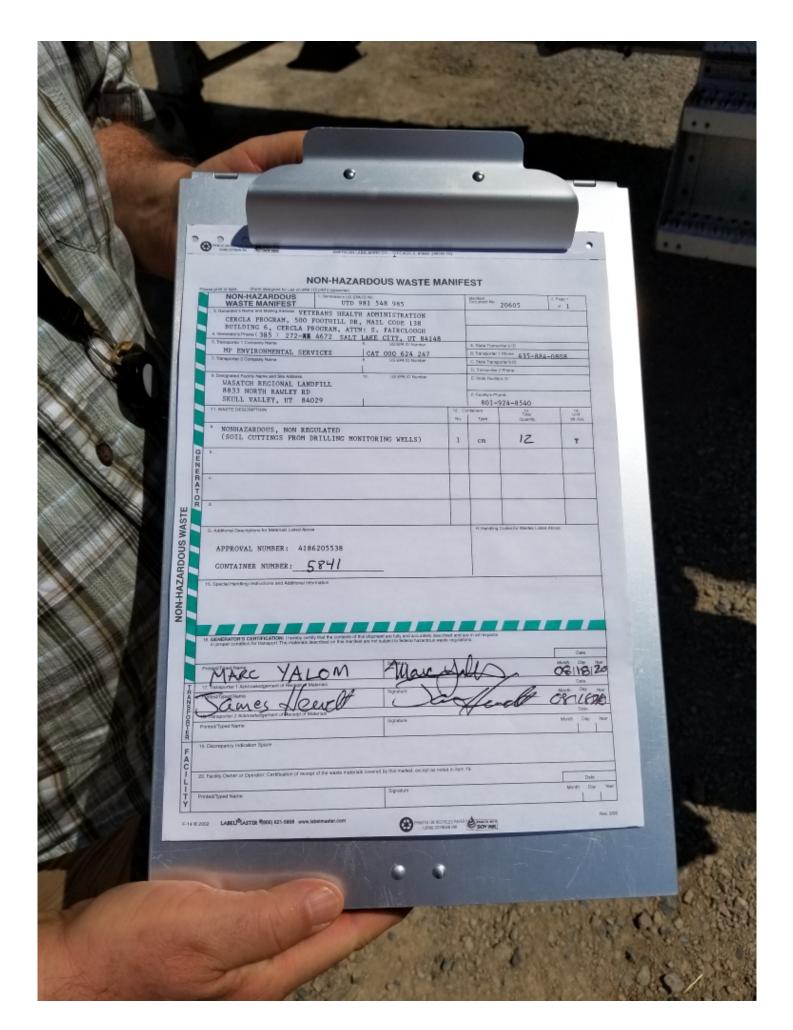
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	NON-HAZARDOUS 1. Generator's US EPA ID No			Manifest		2. Page 1	
	WASTE MANIFEST UTD 981 54	8 985		Manifest Document No.	20602	of 1	
	3. Generator's Name and Mailing Address VITRAYS HEALTH A	DMINISTRATION					
	CERCLA PROGRAM, 500 POOTHILL DR. MA						
	BUILDING 6, CERCLA PROGRAM, ATTN: S						
	SOR STOLETO	• FAIRGLOUGH					
	4. Generator's Pnone (385) 272-4672 SALT LAKE CI						
	5. Transporter 1 Company Name 6.	US EPA ID Number		A. State Trans			
	MP ENVIRONMENTAL SERVICES C	AT 000 624 247		B. Transporter	1 Phone 435-884	-0808	
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	11. WASTE DESCRIPTION			ntainers I	13. Total	1 ⁴ Un	4. nit
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	G. Additonal Descriptions for Materials Listed Above			H. Handling C	odes for Wastes Listed A	oove	
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	AALEE A PAUSE ALVESTA CO.						
	CONTAINER NIMEER:						
	15. Special Handling Instructions and Additional Information			1			
	16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this ship in proper condition for transport. The materials described on this manifest are no	ment are fully and accurately described of subject to federal hazardous waste re	and are in	all respects			
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	Printed/Typed Name	Signature	la se		1	Month Day	Year
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T	17. Transporter 1 Acknowledgement of Receipt of Materials	111			- Lander	Date	The same of the sa
TRANSPORTER	Printed/Typed Name	Signature			1	Month Day	Year
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P	18. Transporter 2 Acknowledgement of Receipt of Materials	TV	· ·				
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F	19. Discrepancy Indication Space						
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!	20. Facility Owner or Operator; Certification of receipt of the waste materials cover	red by this maifest, except as noted in i	tem 19.				
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			ARDOUS WASTE N		EST			
7	se print or type (Form designed for use on elite NON-HAZARDOUS	1. Generator's US E			Manifest Document No.	20601	2. Page 1 of 1	
	WASTE MANIFEST		31 548 985					
	3. Generator's Name and Mailing Address VET CERCLA PROGRAM, 500 BUILDING 6, CERCLA F 4. Generator's Prone (385) 272-467	R, MAIL CODE 138 CN: S. FAIRCLOUGH E CITY, UT 84148	L CODE 138 FAIRCLOUGH		A, State Transorter's ID			
5. Transporter 1 Company Name			CAT 000 624 247		B. Transporter 1 Phone 435 – 884 – 0808			
	MP ENVIRONMENTAL SER 7. Transporter 2 Company Name	VICES	8. US EPA ID Number		C. State Transp			
		Section 1			D. Transporter E. State Facilit			
	9. Designated Facility Name and Site Address WASATCH REGIONAL LAN	DETLI.	10. US EPA ID Number		E. State Facilit			
	8833 NORTH RAWLEY RD				F. Facility's Phone			
	SKULL VALLEY, UT 840				24-8540	14.		
	11. WASTE DESCRIPTION			ontainers Type	13. Total Quantity	14. Unit Wt_/Vol.		
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	G. Additonal Descriptions for Materials Listed Ab		H. Harlding O					
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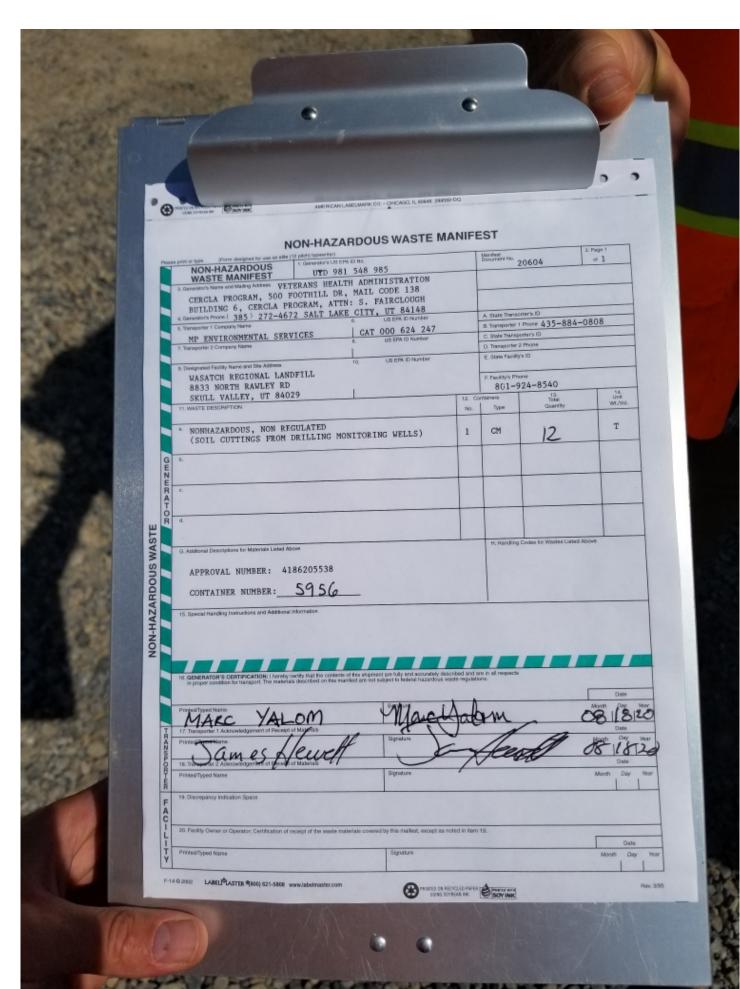
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NON-HAZARDOUS	UTD 981 5			Manifest Document No. 2	20603	of 1			
WASTE MANIFEST									
Generator's Name and Mailing Address VETE	ERANS HEALTH	ADMINISTRATION							
CERCLA PROGRAM, 500 F	COOTHILL DR,	MAIL CODE 130							
BUILDING 6, CERCLA PR	ROGRAM, ATTN:	S. FAIRGLOUGH							
4. Generator's Phone (385) 272-467	2 SALT LAKE	CITY, UT 84148		A. State Transon	ter's ID	84-0808			
5. Transporter 1 Company Name	6.	US EPA ID Number		B. Transporter 1 Phone 435-884-0808					
MP ENVIRONMENTAL SERV	ICES	CAT 000 624 247							
7. Transporter 2 Company Name	8.	US EPA ID Number	107 79	C. State Transport D. Transporter 2					
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SKULL VALLEY, UT 8402	9			801-924	-8540				
11. WASTE DESCRIPTION			12. Co	ntainers	13. Total	14. Unit			
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		WASTE MANIFEST	UTD 981	548 985		Manifest Document No.	20607	Page 1 of 1
	ŀ	3. Generator's Name and Malling Address VETE CERCLA PROGRAM, 500 FO BUILDING 6, CERCLA PRO 4. Generator's Phone (385-) 272-4672	OTHILL DR, GRAM, ATTN:	MAIL CODE 138 S. FAIRCLOUGH CITY, UT 84148				
		5. Transporter 1 Company Name NP ENVIRONMENTAL SERVICES CAT 000 624			A. State Transporter's ID			08
	H.	7. Transporter 2 Company Name		8. US EPA ID Number		C. State Trans	porter's ID	
		9. Designated Facility Name and Site Address		10. US EPA ID Number	D. Transporter 2 Phone E. State Facility's ID			
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		SKULL VALLEY, UT 84029 11. WASTE DESCRIPTION			12. Co	ntainers	24-8540	14 Unit
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