SITE INFORMATION

Report Type: Work Plan 1RP-4183

General Site Information:						
Site:	**SEMU Eumont #84 Release**					
Company:	**ConocoPhillips**					
Section, Township and Range	**Unit A**	**Sec. 22**	**T 20S**	**R 37E**		
Lease Number:	**Associated API No. 30-025-20654**					
County:	**Lea**					
GPS:	**32.564469**			**-103.232878**		
Surface Owner:	**State**					
Mineral Owner:	**N/A**					
Directions:	Depart from Hobbs (US Hwy 180/NM 18). Head south on NM18 for 7.25 miles. Turn right onto Billy Walker Rd. Head west for 6.33 miles. Continue west on dirt road for 0.74 miles. Turn left on dirt road. Head south for 2.94 miles. Site is on the right side of the road.					

Release Data:		
Date Released:	2/13/2016	
Type Release:	Produced Water	
Source of Contamination:	Transite Pipe	
Fluid Released:	5.4 bbls	
Fluids Recovered:	0 bbls	

Official Communication:			
Name:	Marvin Soriwei		Christian M. Llull
Company:	Conoco Phillips - RMR		Tetra Tech
Address:	935 N. Eldridge Pkwy.		8911 North Capital of Texas Highway
			Building 2, Suite 2310
City:	Houston, Texas 77079		Austin, Texas
Phone number:	(832) 486-2730		(512) 338-2861
Fax:			
Email:	marvin.soriwei@conocophillips.com		christian.llull@tetratech.com

Site Characterization	
Shallowest Depth to Groundwater:	*57' below surface*
Impact to groundwater or surface water:	*No*
Extents within 300 feet of a watercourse:	*No*
Extents within 200 feet of lakebed, sinkhole, or playa la	*No*
Extents within 300 feet of an occupied structure:	*No*
Extents within 500 horizontal feet of a private water wel	*No*
Extents within 1000 feet of any water well or spring:	*No*
Extents within incorporated municipal well field:	*No*
Extents within 300 feet of a wetland:	*No*
Extents overlying a subsurface mine:	*No*
Karst Potential:	*Low*
Extents within a 100-year floodplain:	*No*
Impact to areas not on a production site:	*No*

Recommended Remedial Action Levels (RRALs)				
Benzene	***Total BTEX***	***TPH (GRO+DRO)***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*1,000 mg/kg*	*2,500 mg/kg*	*10,000 mg/kg*
		NOTE:	*100 mg/kg (0-4')*	*600 mg/kg (0-4')*

TETRA TECH

May 7, 2020

District Supervisor
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Release Characterization and Remediation Work Plan
ConocoPhillips
SEMU Eumont #84 Release
Unit Letter A, Section 22, Township 20 South, Range 37 East
Lea County, New Mexico
1RP-4183
Incident ID# NJXK1604825469

Sir or Madam:

ConocoPhillips is pleased to submit the following release characterization work plan in response to a release that occurred adjacent to the SEMU Eumont #84, located in Unit Letter A, Section 22, Township 20 South, Range 37 East, Lea County, New Mexico (Site). The Release site coordinates are 32.564469°, -103.232878°. The Site location is shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) Initial Report (Form C-141), the release occurred on February 13, 2016. The release occurred when a third party crossed over an 8-inch transite pipe during the installation and trench backfilling process. The release resulted in the discharge of 5.4 barrels (bbls) of produced water to the ground surface. Immediate action was to shut down the job and isolate the line. No fluids were recovered. The incident was assigned the Remediation Permit (RP) 1RP-4183 and Incident Tracking ID of NJXK1604825469. The C-141 Form is included in Appendix A.

SITE CHARACTERIZATION

A site characterization was performed and per 19.15.29.12 NMAC, no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances and the Site is in a low karst potential area. The Site is within a New Mexico oil and gas production area.

According to the New Mexico Office of the State Engineer (NMOSE) well database, there are no wells located in Section 22, Township 20 South, Range 37 East. The nearest well is located in Section 27 and has a depth to groundwater documented at 57 feet below ground surface (bgs). The groundwater data is included in Appendix B.

Tetra Tech
901 West Wall St., Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

REGULATORY FRAMEWORK

Based upon the release footprint location and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil.

Based on the site characterization, the proposed RRALs for soil at the Site are as follows:

Benzene: 10 milligrams per kilogram (mg/kg);

- Total BTEX (sum of benzene, toluene, ethylbenzene, and xylene): 50 mg/kg;
- TPH (GRO + DRO + ORO): 2,500 mg/kg;
- TPH (GRO + DRO): 1,000 mg/kg;
- Chloride: 10,000 mg/kg (600 mg/kg in the top four feet)

INITIAL SITE ASSESSMENT

In April 2016, Basin Environmental Service Technologies (Basin) were onsite to map and assess the initial release adjacent to the SEMU Eumont #84. Basin provided the initial release extent as shown in Figure 3. Basin installed three (3) vertical hand auger borings (Verticals 1, 2 and 3) within the release extent to a depth of 4 feet below ground surface (bgs). Soil samples were collected at multiple intervals down to 4 feet bgs. The samples were field screened for chlorides and TPH. The field screening values indicated that soils in the upper four feet within the release extent were potentially above the 600 mg/kg threshold for chlorides. The TPH screening values were minimal. However, no soil samples were submitted for laboratory analysis. The sample locations are shown on Figure 4.

INITIAL RESPONSE

In accordance with 19.15.29.8. B. (4) NMAC that states “the responsible party may commence remediation immediately after discovery of a release”, ConocoPhillips elected to begin remediation of the impacted area in February 2017. The general footprint of the release extending from east of the release point over to the northwest edge was excavated to approximately two to three feet bgs (Figure 4). Impacted soil was disposed of in a permitted landfill facility. The far eastern portion of this excavated area was later backfilled for utility and pipeline access in 2017, as shown in Figure 4.

A soil stockpile was brought in to final backfill the excavation, however, the excavated area was never fully backfilled. Site photographs taken in November 2019 indicate that the remaining excavated area is approximately 2-3 feet bgs throughout its extent (Appendix E).

SITE ASSESSMENTS

On March 28, 2018, Tetra Tech personnel were onsite to install soil borings to evaluate and delineate the vertical extent of contamination in the release area. As mentioned, the release area footprint had been previously excavated to a depth of approximately 3 feet bgs. A total of two (2) soil borings (BH-1 and BH-2) were completed to 3 feet bgs inside the release area footprint. A third soil boring was going to be completed on the east side, however, an air bridge completed over the excavation and backfill rendered this area inaccessible. Soil samples were collected, and field screened with a photoionization detector (PID) and for chlorides using an EC400 ExStik. Samples were placed into laboratory provided sample containers, transferred under chain of custody, and analyzed within appropriate holding times. Selected soil samples from each boring were analyzed for TPH by method 8015B modified, BTEX by Method 8260 and chloride by EPA method 300.0. A copy of the analytical report and chain-of-custody documentation are included in Appendix C.

In order to more fully characterize and delineate the horizontal and vertical extents of the release area, Tetra Tech personnel conducted an additional assessment on November 14, 2019. A total of four (4) soil borings were installed, one within the excavated release area (BH-4) and three around the perimeter of the release area (BH-1, BH-2 and BH-3) (Figure 3). BH-1 and BH-3 were advanced to 35 feet bgs. BH-2 was advanced to 20 feet bgs, and BH-4 was advanced to 10 feet bgs. All samples were field screened for organic vapors with a PID and for chlorides using an ExStik. Samples were placed into laboratory provided sample containers, transferred under chain of custody, and analyzed within appropriate holding times by Pace Analytical. Selected samples were analyzed for TPH via EPA Method 8015B modified, BTEX via EPA Method 8260B and chloride via EPA Method 300.0. Boring logs, included as Appendix D, present soil descriptions, sample depths and field screening data from the additional site assessment.

Additionally, as part of the November 2019 soil assessment, Tetra Tech personnel collected two confirmation sidewall samples (SW-1 and SW-2) along the eastern sidewall of the existing excavation and one sample of the soil stockpile north of the release area (Stockpile-1). These samples were submitted to the analytical laboratory along with other samples associated with the November 2019 soil assessment. A copy of the analytical report and chain-of-custody documentation are included in Appendix C.

SUMMARY OF ASSESSMENT RESULTS

The results of the initial sampling events in March 2018 are summarized in Table 1. The sample locations are shown on Figure 4. The analytical results associated with BH-1 (2018) and BH-2 (2018) were below RRALs for BTEX, TPH and chloride.

The results of the additional assessment event in November 2019 are summarized in Table 2. The sample locations are shown in Figure 4. The analytical results associated with borings BH-1 through BH-4 were below RRALs for TPH, BTEX and chloride.

The results of the sidewall confirmation sampling in November 2019 are also summarized in Table 2. The sample locations are shown in Figure 5. The analytical results associated with confirmation sidewall samples SW-1 and SW-2 were below RRALs for TPH, BTEX and chloride.

After reviewing the analytical results of the combined assessments at the Site, the release was considered vertically and horizontally delineated according to the closure criteria listed in Table I. After review of the analytical data from the confirmation sampling events, COP decided to collect additional sidewall samples to verify that the impacted materials were properly removed and determine if the existing excavation could be backfilled with no further expansion.

ADDITIONAL CONFIRMATION SAMPLING AND RESULTS

On January 28, 2020, Tetra Tech personnel were onsite to collect additional confirmation samples from the sidewalls and at bottom of the excavation. Eight (8) confirmation sidewall samples (SW-3 through SW-10) and four (4) confirmation floor samples (FS-1 through FS-4) were collected. Samples were placed into laboratory provided sample containers, transferred under chain of custody, and analyzed within appropriate holding times by Pace Analytical. Selected samples were analyzed for TPH via EPA Method 8015B modified, BTEX via EPA Method 8260B and chloride via EPA Method 300.0. The confirmation sampling locations are shown in Figure 5.

The results of the sidewall confirmation sampling in January 2020 are summarized in Table 3. All confirmation soil samples (floor and sidewall) were below the RRALs for BTEX, TPH and chloride, except for sidewall samples SW-3 and SW-6 and floor sample FS-2. The analytical results associated with sidewall samples SW-3 and SW-6 were above the RRAL for TPH in the top four feet (100 mg/kg). The analytical results associated with floor sample FS-2 was above the RRAL for TPH in the top four feet (100 mg/kg) with a total TPH concentration of 180.8 mg/kg. Photographic documentation of the sampling locations is included in Appendix E.

REMEDIATION WORK PLAN

Based on the soil sample results, COP proposes to remove the remaining material exceeding RRALs shown in Table 3 and as depicted in Figure 6. Excavation in the area will be performed using heavy equipment (backhoes and track hoes) to a maximum depth of 4 feet below ground surface from the identified areas at the Site.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation floor and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX and chloride. Once the sample results are received, NMOCD will be notified and the entirety of the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is 200 cubic yards.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, ConocoPhillips proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 7. Seven (7) confirmation floor samples. and eleven (11) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavations encompass an area of approximately 1,600 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 500 square feet of excavated area. Confirmation samples will be sent to Pace Analytical for analysis of TPH, BTEX and chloride. The new sidewall confirmation samples will be used in conjunction with the previously collected sidewall and floor samples to verify impacted soils were removed.

SITE REVEGETATION PLAN

The analytical results associated with Stockpile-1 were well below RRALs for TPH, BTEX and chloride. Upon approval of closure of the Site, the soil from the stockpile with be placed and graded in the excavation as backfill material, as originally intended. The laboratory analytical results of the soil stockpile are included in Appendix C.

The backfilled areas will be seeded in Spring 2020 (first favorable growing season) to aid in revegetation. Based on the soil types present at the site, the New Mexico State Land Office (NMSLO) Sandy (S) Sites Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed (PLS) per acre. The seed mixture will be spread by a drill equipped with a depth regulator or a hand-held broadcaster and raked. If a hand-held broadcaster is used for dispersal, the pounds pure live seed per acre will be doubled.

Site inspections will be performed to assess the revegetation progress and evaluate the site for the presence of primary or secondary noxious weeds. If noxious weeds are identified, the NMSLO will be contacted to determine an effective method for eradication. If the site does not show revegetation after one growing season, the area will be reseeded as appropriate. The NMSLO seed mixture details and corresponding pounds pure live seed per acre are included in Appendix F.

CONCLUSION

ConocoPhillips proposes to complete remediation activities at the Site within 90 days of the date of NMOCD approval of this submittal. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD. If you have any questions concerning the soil assessment or the proposed remediation activities for the Site, please call me at (512) 338-2861 or Greg at (432) 682-4559.

Sincerely,
Tetra Tech, Inc.

Christian M. Llull, P.G.
Project Manager

Greg W. Pope, P.G.
Program Manager

cc:
Mr. Marvin Soriwei, RMR – ConocoPhillips
Mr. Charles Beauvais, GPBU - ConocoPhillips

LIST OF ATTACHMENTS

Figures:

- Figure 1 – Site Location/Overview Map
- Figure 2 – Site Location/Topographic Map
- Figure 3 – Approximate Release Extent
- Figure 4 – Initial Response Actions and Release Assessment Map
- Figure 5 – Confirmation Sampling Locations
- Figure 6 – Proposed Additional Remediation Areas
- Figure 7 – Alternative Confirmation Sampling Plan

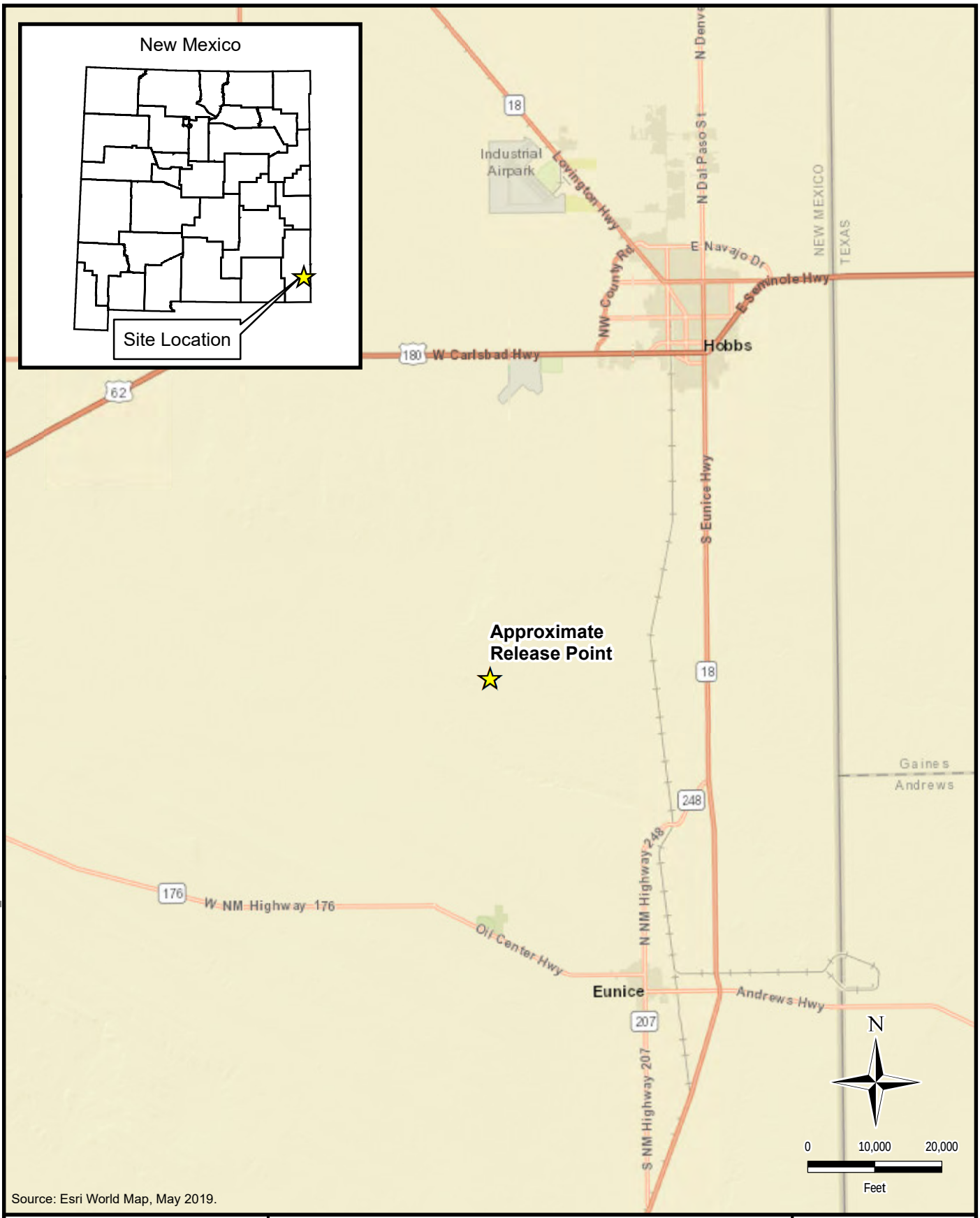
Tables:

- Table 1 – Summary of Analytical Results –Site Assessment
- Table 2 – Summary of Analytical Results – Additional Site Assessment
- Table 3 – Summary of Analytical Results – Additional Assessment and Confirmation Sampling

Appendices:

- Appendix A – C-141 Form
- Appendix B – NMOSE Groundwater Data/Karst Potential Map
- Appendix C – Laboratory Analytical Data
- Appendix D – Soil Boring Logs
- Appendix E – Photographic Documentation
- Appendix F – NMSLO Seed Mixture Details

FIGURES



Source: Esri World Map, May 2019.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\EUMONT\FIGURE 1 OVERVIEW MAP_EUMONT.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

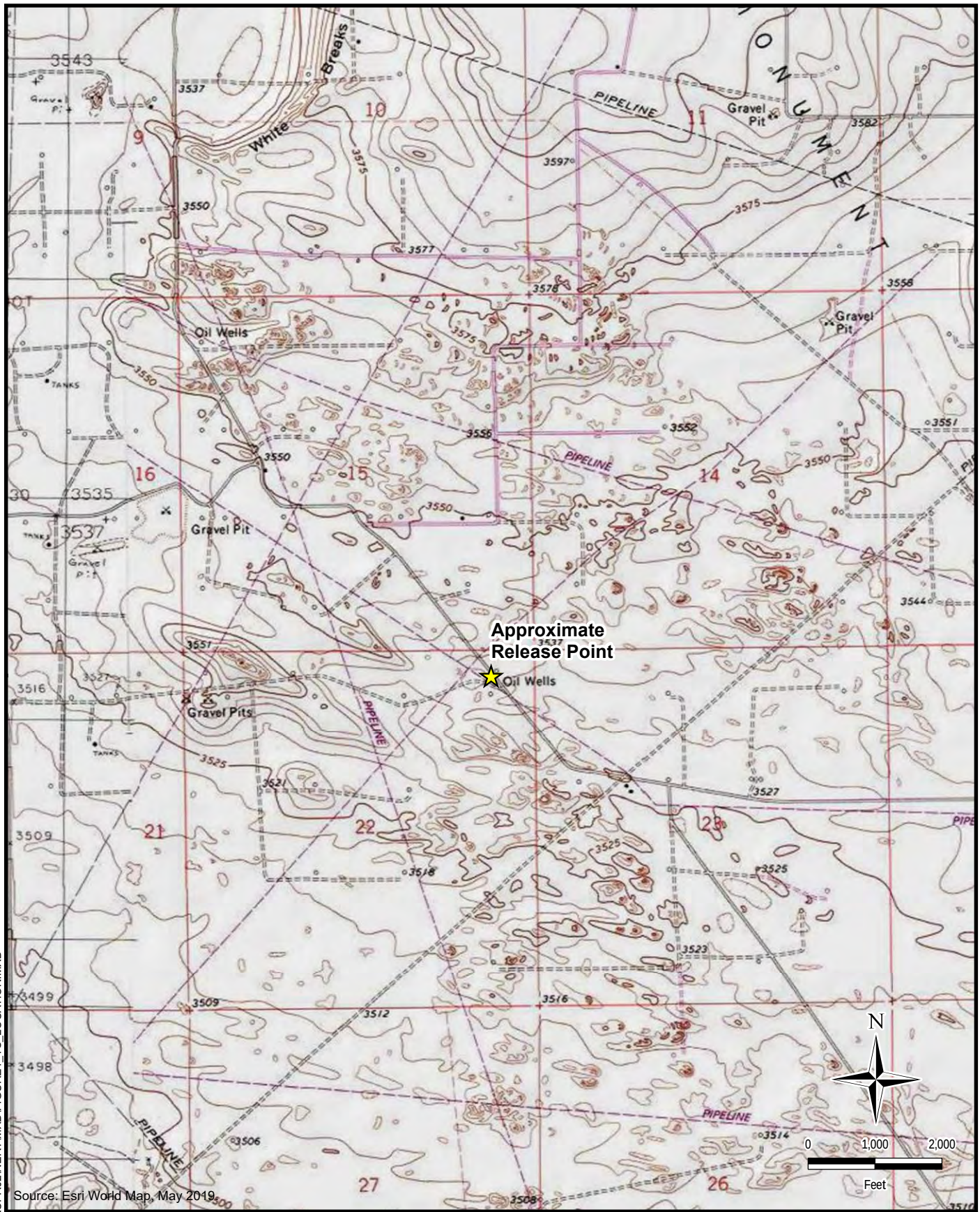
CONOCOPHILLIPS

1RP-4183
(32.564469°, -103.232878°)
LEA COUNTY, NEW MEXICO

SEMU EUMONT #84 RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-01991
DATE:	APRIL 30, 2020
DESIGNED BY:	AAM

Figure No.
1



Source: Esri World Map, May 2019.

\\TTS134FS1\SUP-GIS\ARCPRJ2\NERT\MXD\FIGURE1_TS_LOCATION.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

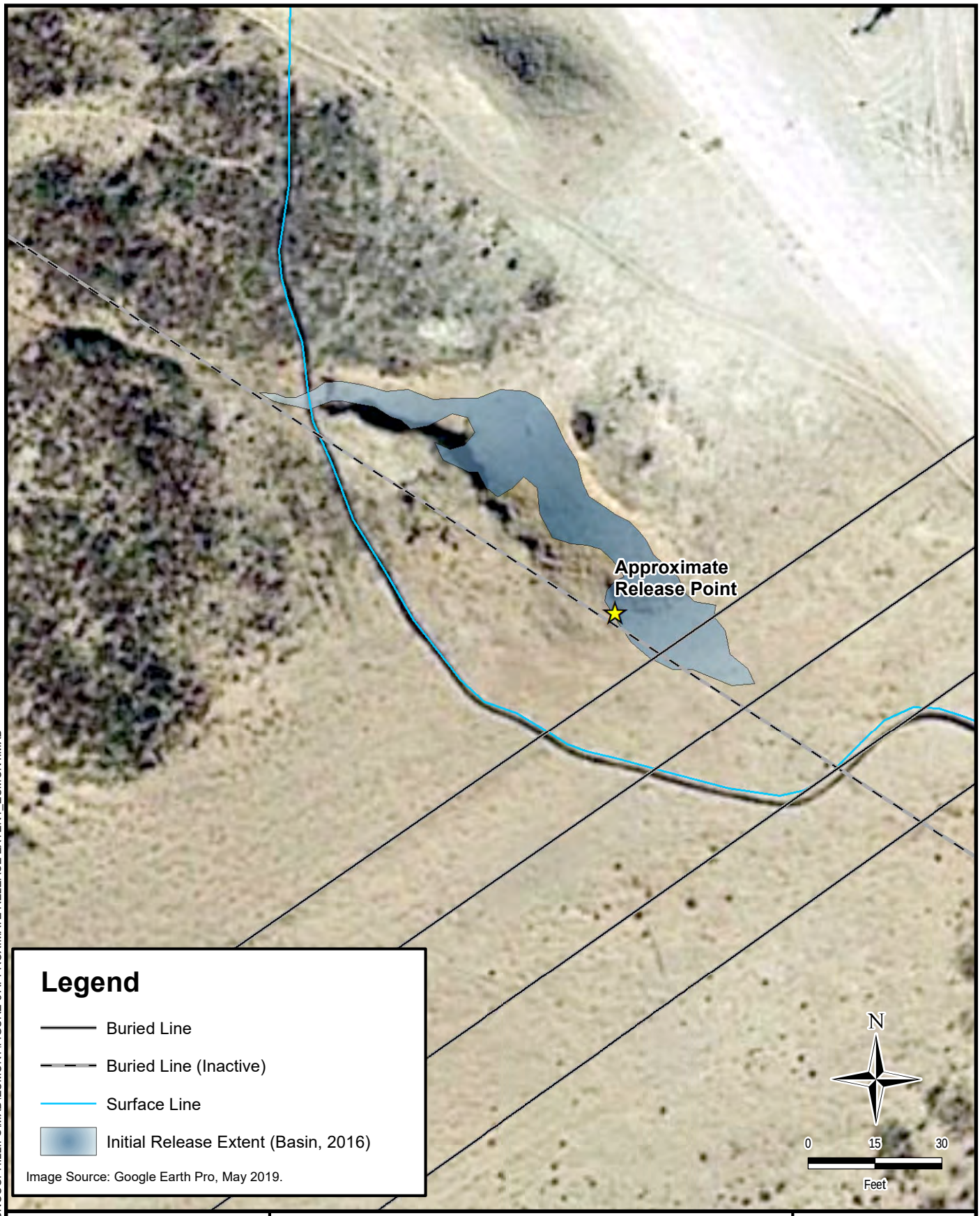
CONOCOPHILLIPS

1RP-4183
(32.564469°, -103.232878°)
LEA COUNTY, NEW MEXICO

SEMU EUMONT #84 RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-01991
DATE:	APRIL 20, 2020
DESIGNED BY:	AAM

Figure No.
2



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\EUMONT\FIGURE 3 APPROXIMATE RELEASE EXTENT_EUMONT.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

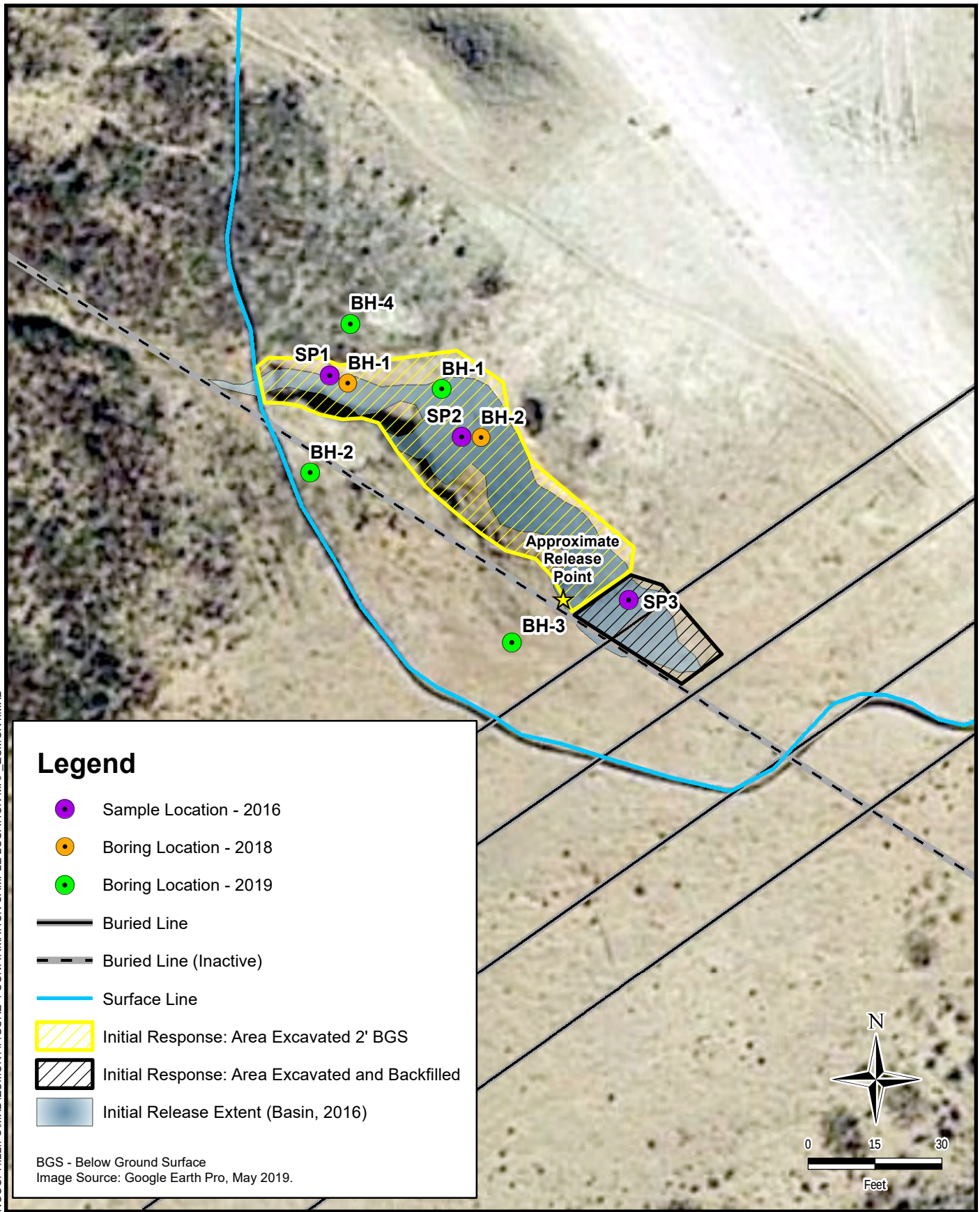
CONOCOPHILLIPS

1RP-4183
(32.564469°, -103.232878°)
LEA COUNTY, NEW MEXICO

SEMU EUMONT #84 RELEASE
APPROXIMATE RELEASE EXTENT

PROJECT NO.:	212C-MD-01991
DATE:	APRIL 30, 2020
DESIGNED BY:	AAM

Figure No.
3



Legend

- Sample Location - 2016
- Boring Location - 2018
- Boring Location - 2019
- Buried Line
- Buried Line (Initial)
- Surface Line
- Initial Response: Area Excavated 2' BGS
- Initial Response: Area Excavated and Backfilled
- Initial Release Extent (Basin, 2016)

BGS - Below Ground Surface
Image Source: Google Earth Pro, May 2019.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\EUMONT\FIGURE 4 CONFIRMATION SAMPLE LOCATION MAP_EUMONT.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

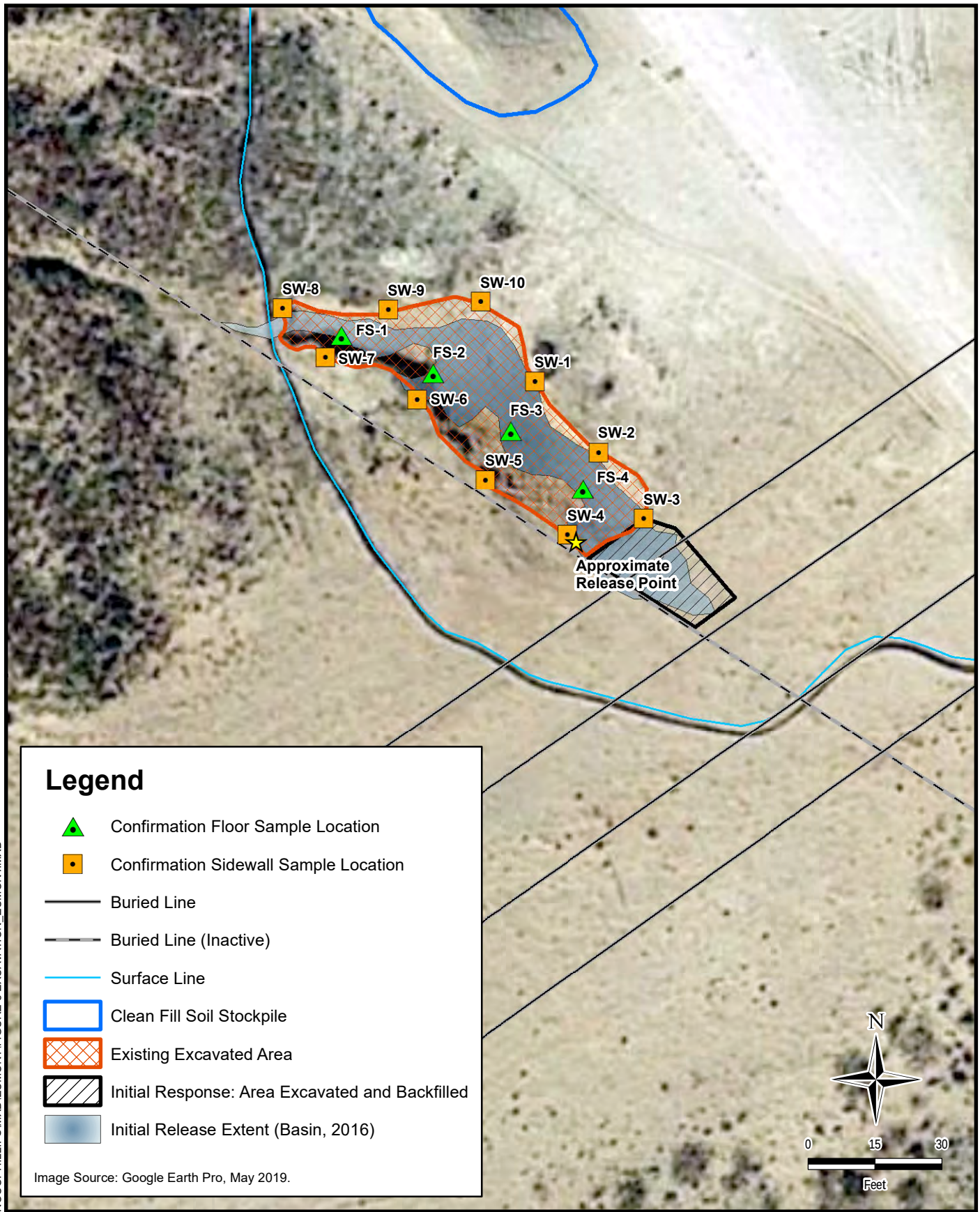
CONOCOPHILLIPS

(32.564469°, -103.232878°)
LEA COUNTY, NEW MEXICO

SEMU EUMONT #84 RELEASE
INITIAL RESPONSE ACTIONS AND RELEASE ASSESSMENT MAP

PROJECT NO.:	212C-MD-01991
DATE:	APRIL 30, 2020
DESIGNED BY:	AAM

Figure No.
4



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\EUMONT\FIGURE 5 EXCAVATION_EUMONT.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

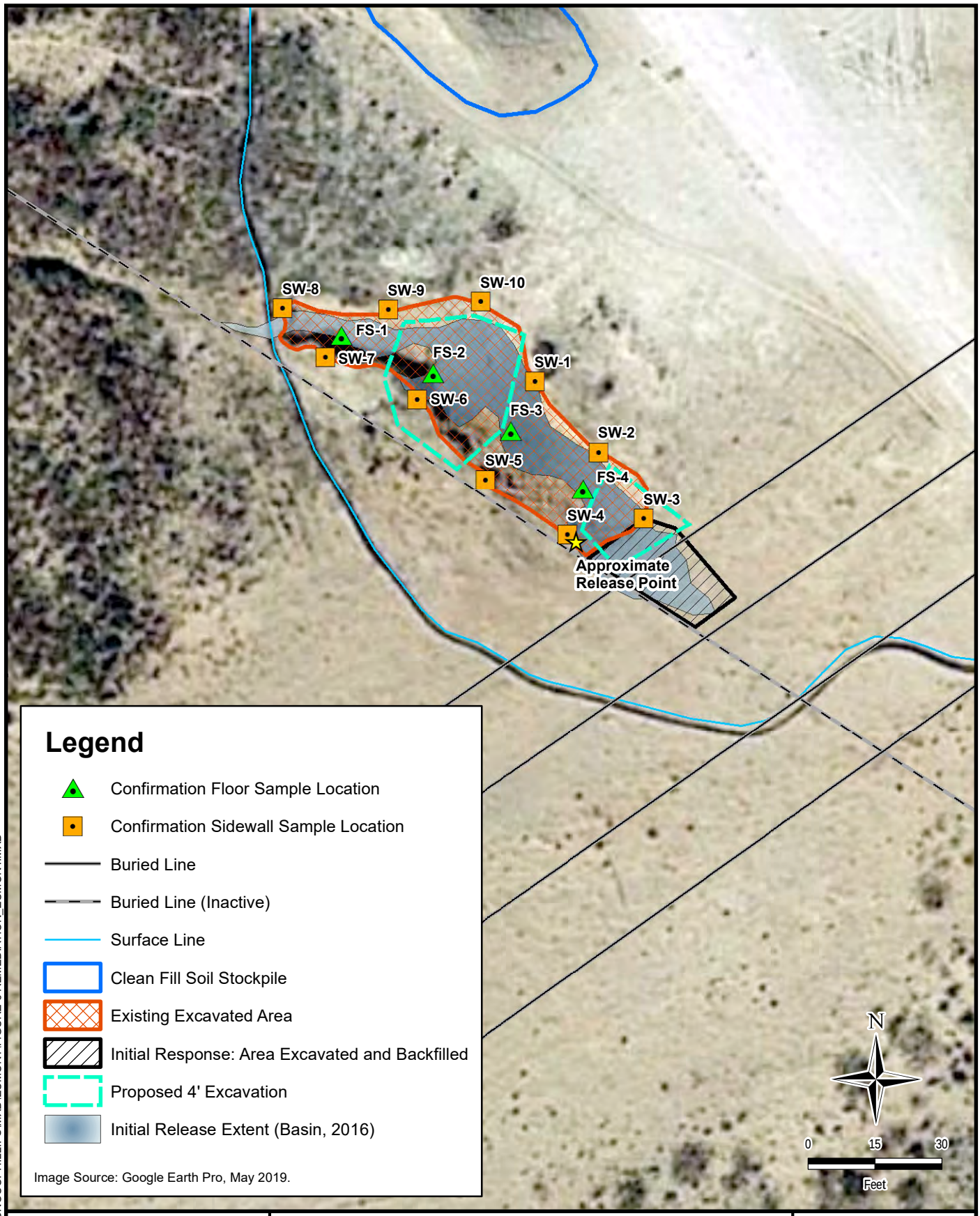
CONOCOPHILLIPS

(32.564469°, -103.232878°)
LEA COUNTY, NEW MEXICO

SEMU EUMONT #84 RELEASE
CONFIRMATION SAMPLING LOCATIONS

PROJECT NO.:	212C-MD-01991
DATE:	APRIL 30, 2020
DESIGNED BY:	AAM

Figure No.
5



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\EUMONT\FIGURE 6 REMEDIATION_EUMONT.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

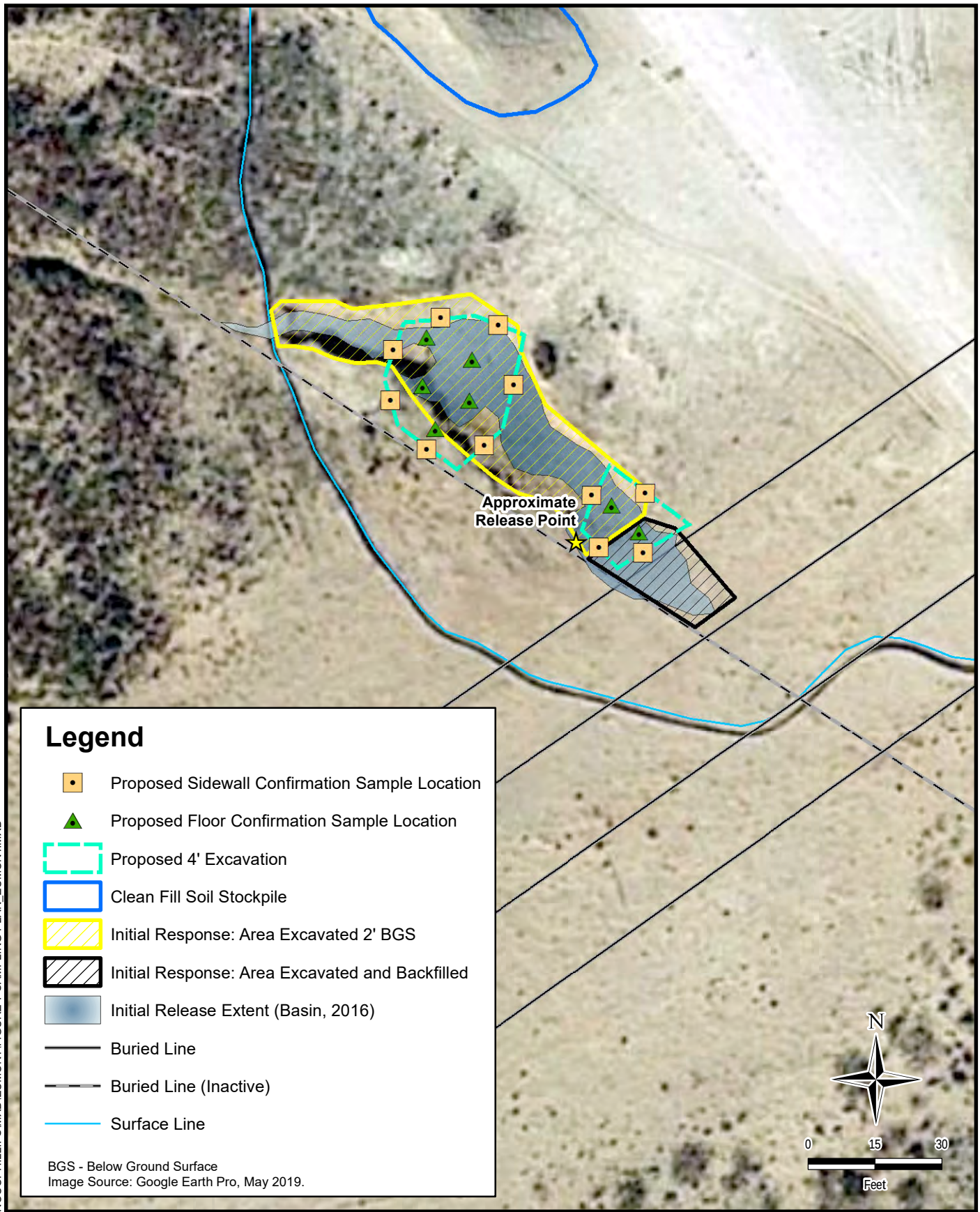
CONOCOPHILLIPS

(32.564469°, -103.232878°)
LEA COUNTY, NEW MEXICO

SEMU EUMONT #84 RELEASE
PROPOSED ADDITIONAL REMEDIATION AREAS

PROJECT NO.:	212C-MD-01991
DATE:	APRIL 30, 2020
DESIGNED BY:	AAM

Figure No.
6



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\EUMONT\FIGURE 7 SAMPLING PLAN_EUMONT.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS

(32.564469°, -103.232878°)
LEA COUNTY, NEW MEXICO

SEMU EUMONT #84 RELEASE
ALTERNATIVE CONFIRMATION SAMPLING PLAN

PROJECT NO.:	212C-MD-01991
DATE:	APRIL 30, 2020
DESIGNED BY:	AAM

Figure No.
7

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT
SEMU EUMONT #84 RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Interval	Field Screening Results		Chloride[1]		BTEX[2]										TPH[3]							
							Benzene		Toluene		Ethylbenzene		Xylene		Total BTEX		GRO (C_3 - C_{10})[4]		DRO (C_{10} - C_{28})		ORO (C_{28} - C_{40})		TPH (C_3 - C_{40})	
		ft bgs	Chloride	PID																				
			ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
BH-1	03/28/18	0-1	70.1	0.2	81.7		< 0.00157		< 0.00302		< 0.00156		< 0.00578		--		< 0.0262		2.14	J	4.86		7.00	
		1-2	86.3	0.2	81.1		< 0.00160		< 0.00326		< 0.00159		< 0.00588		--		< 0.0267		< 1.98		1.1	J	1.1	
		2-3	120.0	0.4	181		< 0.00161		< 0.00329		< 0.00160		< 0.00594		--		< 0.0269		< 2.00		< 0.340		--	
BH-2	03/28/18	0-1	310.0	0.2	126		< 0.00139		< 0.00283		< 0.00138		< 0.00510		--		< 0.0232		< 1.72		< 0.292		--	
		1-2	79.6	0.3	146		< 0.00164		< 0.00333		< 0.00162		< 0.00601		--		< 0.0273		< 2.03		< 0.345		--	
		2-3	289	0.4	270		< 0.00142		< 0.00289		< 0.00141		< 0.00521		--		< 0.0237		28.4		13.00		41.40	

NOTES:

ft	Feet	***Bold and italicized values indicate exceedance of RRALS.***	
bgs	Below ground surface	1	Method 300.0
ppm	Parts per million	2	Method 8260B
mg/kg	Milligrams per kilogram	3	Method 8015
NM	Not measured	4	Method 8015D/GRO
HOLD	Hold on sample analysis	B	The same analyte is found in the associated blank.
TPH	Total Petroleum Hydrocarbons	J	The identification of the analyte is acceptable; the reported value is an estimate.
GRO	Gasoline range organics	T8	Sample(s) received past/too close to holding time expiration.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
ADDITIONAL ASSESSMENT
SEMU EUMONT #84 RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Interval	Field Screening Results		Chloride[1]		BTEX[2]										TPH[3]							
							Benzene		Toluene		Ethylbenzene		Xylene		Total BTEX		GRO (C_3 - C_{10})[4]		DRO (C_{10} - C_{28})		ORO (C_{28} - C_{40})		TPH (C_3 - C_{40})	
		ft bgs	Chloride	PID																				
			ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
BH -1	11/14/19	0-1	--	0.8	33.7		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0498	B J	3.78	J	8.75		12.5798	
		2-3	--	1.1	53.1		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0501	B J	3.25	J	7.66		10.9601	
		4-5	137	1.1	25.9	B	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0985	J	< 4.00		4.44		4.54	
		6-7	--	1.2	5.7	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0423	J	< 4.00		1.3	J	1.3423	
BH-2	11/14/19	0-1	--	0.9	3.96	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0372	J	< 4.00		2.07	J	2.1072	
		2-3	42.3	1.0	3.78	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0378	J	< 4.00		0.711	J	0.7488	
		4-5	--	1.2	6.29	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0376	J	< 4.00		0.675	J	0.71	
		6-7	291	1.1	32.0	B	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0248	B J	< 4.00		4.8		4.8248	
BH-3	11/14/19	0-1	128	1.1	13.9	B	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0492	B J	7.59		19.9		27.5392	
		2-3	--	1.2	5.12	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0301	B J	< 4.00		1.42	J	1.4501	
		4-5	321	1.1	13.8	B	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0288	B J	< 4.00		0.642	J	0.6708	
		6-7	--	0.5	11.4	B	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0261	B J	< 4.00		0.892	J	0.9181	
		9-10	167	0.9	27.8	B	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0262	B J	< 4.00		< 4.00		0.0262	
		14-15	935	1.2	356		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0375	B J	< 4.00		< 4.00		0.0375	
		19-20	843	0.8	463		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.038	B J	< 4.00		< 4.00		0.038	
		24-25	--	0.9	434		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0248	B J	< 4.00		1.13	J	1.1548	
		29-30	742	1.1	511		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		< 0.100		< 4.00		< 4.00		--	
		34-35	544	1.2	409		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.028	B J	1.99	J	2.99	J	5.008	
BH-4	11/14/19	0-1	43.1	0.6	54.9		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		< 0.100		10.9		39.4		50.30	
		2-3	--	0.9	6.48	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		< 0.100		3.32	J	16.2		19.52	
		4-5	68.9	0.8	5.58	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		< 0.100		< 4.00		2.10	J	2.10	
		6-7	--	1.1	7.98	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0253	B J	< 4.00		1.31	J	1.3353	
SW-1	11/14/19	-	0.9	29.6	35.1	B	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0236	B J	< 4.00		0.694	J	0.7176	
SW-2	11/14/19	-	0.8	421	91		< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.036	J	< 4.00		0.986	J	1.022	
Stockpile-1	11/14/19	-	--	--	3.13	B J	< 0.00100		< 0.00500		< 0.00250		< 0.00650		--		0.0338	J	< 4.00		4.64		4.67	

NOTES:

ft	Feet	***Bold and italicized values indicate exceedance of RRALS.***	
bgs	Below ground surface	1	Method 300.0
ppm	Parts per million	2	Method 8260B
mg/kg	Milligrams per kilogram	3	Method 8015
NM	Not measured	4	Method 8015D/GRO
HOLD	Hold on sample analysis	B	The same analyte is found in the associated blank.
TPH	Total Petroleum Hydrocarbons	J	The identification of the analyte is acceptable; the reported value is an estimate.
GRO	Gasoline range organics	T8	Sample(s) received past/too close to holding time expiration.

TABLE 3
SUMMARY OF ANALYTICAL RESULTS
ADDITIONAL ASSESSMENT AND CONFIRMATION SAMPLING
SEMU EUMONT #84 RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Field Screening Results	Chloride[1]		BTEX[2]								TPH[3]							
		Chloride			Benzene		Toluene		Ethylbenzene		Xylene		Total BTEX	GRO (C_3 - C_{10})[4]		DRO (C_{10} - C_{28})		ORO (C_{28} - C_{40})		TPH (C_3 - C_{40})
		ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
SW-3	01/28/20	125	16.5		0.000283	J	< 0.000155		<0.000114		< 0.000476		0.000283	0.0815	B J	55.7		185		**240.8**
SW-4	01/28/20	88.7	13.6	B	0.000707		< 0.000150		<0.000110		< 0.000461		0.000707	0.0776	B J	20.6		65.3		86.0
SW-5	01/28/20	301	4.64	B J	< 0.000123		< 0.000154		< 0.000113		< 0.000471		--	0.0814	B J	< 1.65		3.95	J	4.03
SW-6	01/28/20	325.0	133		< 0.000120		<0.000151		< 0.000110		< 0.000462		--	0.0576	B J	190		397		**587.1**
SW-7	01/28/20	445	0.977	B J	< 0.000126		< 0.000157		< 0.000115		< 0.000483		--	0.0800	B J	4.27		15.50		19.9
SW-8	01/28/20	530	103	B	< 0.000122		< 0.000153		< 0.000112		< 0.000469		--	0.0637	B J	< 1.64		1.6	J	1.7
SW-9	01/28/20	455	19.8		< 0.000123		< 0.000154		< 0.000113		< 0.000471		--	0.0637	B J	< 1.65		3.24	J	3.3
SW-10	01/28/20	85.4	1.12	B J	< 0.000127		< 0.000159		< 0.000117		< 0.000488		--	0.064	B J	11.3		34		45.4
FS-1	01/28/20	319	3.53	B J	< 0.000125		< 0.000156		< 0.000114		< 0.000477		--	0.0426	B J	6.02		21.3		27.4
FS-2	01/28/20	201	15.1	B	< 0.000121		< 0.000152		< 0.000111		< 0.000466		--	0.0539	B J	46.7		134		**180.8**
FS-3	01/28/20	216	12.9	B	< 0.000122		< 0.000152		< 0.000112		< 0.000467		--	0.0563	B J	19.7	J	49.3		69.1
FS-4	01/28/20	256	2.51	B J	< 0.000125		< 0.000157		< 0.000115		< 0.000480		--	0.0617	J	4.66		14.8		19.5

NOTES:

Shaded rows indicate depth intervals proposed for excavation and remediation.

Bold and italicized values indicate exceedance of RRALS.

ft	Feet
bgs	Below ground surface
ppm	Parts per million
mg/kg	Milligrams per kilogram
NM	Not measured
HOLD	Hold on sample analysis
TPH	Total Petroleum Hydrocarbons
GRO	Gasoline range organics
DRO	Diesel range organics
ORO	Oil range organics

1	Method 300.0
2	Method 8260B
3	Method 8015
4	Method 8015D/GRO
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.

APPENDIX A
C-141 Forms

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **ConocoPhillips**	Contact: **Jose A Zepeda**
Address: **1410 N West County Road**	Telephone No. **575-391-3165**
Facility Name: **SEMU Eumont #84**	Facility Type: **Well**

Surface Owner: State	Mineral Owner: N/A	API No. 3002520654

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	22	20S	37E					**Lea**

Latitude _____ **Longitude**_____

NATURE OF RELEASE

Type of Release: **Produce Water**	Volume of Release: 5.4	Volume Recovered: 0
Source of Release: **transite pipe**	Date and Hour of Occurrence **02/13/16 0800**	Date and Hour of Discovery **SAME**
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? **Jamie Keyes**	
By Whom? **Jose A Zepeda**	Date and Hour: **02/16/2017 1520 hrs**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.* On February 13, 2016 at 0800 MST at SEMU Eumont 84, a leak occurred when a third party crossed over a 8 inch transite pipe during the backfill process resulting in a release of 5.4 bbls of produced water with none recovered. Immediate action was to shut down job and isolate the line. Spill site will be remediated in according to NMOCD guidelines.

Describe Area Affected and Cleanup Action Taken.*

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: JOSE A ZEPEDA	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Jamie Keyes	
Printed Name: Jose A Zepeda		
Title: LEAD HSE	Approval Date: 02/17/2016	Expiration Date: 04/17/2016
E-mail Address: **Jose. A. Zepeda@conocophillips.com**	Conditions of Approval: Discrete site samples only. Delineate and remediate per NMOCD guidelines.	Attached ☐ 1RP 4183
Date: 02/16/16 Phone:575-391-3158		

* Attach Additional Sheets If Necessary

nJXK1604825469
pJXK1604825576

Incident ID	nJXK1604825469
District RP	1RP-4183
Facility ID	
Application ID	pJXK1604825576

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	57 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nJXK1604825469
District RP	1RP-4183
Facility ID	
Application ID	pJXK1604825576

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Marvin Soriwei Title: Program Manager, Risk MGMT & Remediation

Signature: Date: 5/7/2020

email: marvin.soriwei@conocophillips.com Telephone: 832-486-2730

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nJXK1604825469
District RP	1RP-4183
Facility ID	
Application ID	pJXK1604825576

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

☒ Detailed description of proposed remediation technique
☒ Scaled sitemap with GPS coordinates showing delineation points
☒ Estimated volume of material to be remediated
☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Marvin Soriwei Title: Program Manager, Risk MGMT & Remediation

Signature: Soriwei Date: 5/7/2020

email: marvin.soriwei@conocophillips.com Telephone: 832-486-2730

OCD Only

Received by: _____ Date: _____

☒ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Bradford Billings Date: 02/16/2021

Variance request for maximum 500 sq.ft. for confirmation sampling is approved.

APPENDIX B
NMOSE Groundwater Data/Karst Potential Map

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 14583 POD1		L	LE	1	3	1	27	20S	37E	664656	3602312	2418	65	57	8

Average Depth to Water: **57 feet**
Minimum Depth: **57 feet**
Maximum Depth: **57 feet**

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 665886.307 **Northing (Y):** 3604395.264 **Radius:** 2500

11/12/19 1:47 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Karst Potential Map

SEMU Eumont #84 Release

Legend

- High
- Low
- Medium
- SEMU Eumont #84 Release

Hobbs

62

SEMU Eumont #84 Release

Eunice

N

10 mi

Google Earth

Image Landsat / Copernicus

SEMU Eumont #84 Release

11/19/2019 2:38:22 PM

Override 1

New Mexico Counties

New Mexico Towns

NMDOT GPS ROADS

NMDOT Railroads

OSE Water-bodies

PLJV Probable Playas

OSE Streams

1:26,540

0 0.28 0.55 1.1 mi

0 0.45 0.9 1.8 km

US Census Bureau, NMDOT, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/: New Mexico Oil Conservation Division

APPENDIX C
Laboratory Analytical Data

ANALYTICAL REPORT

April 06, 2018

Tetra Tech EMI - Midland, TX

Sample Delivery Group:	L981779
Samples Received:	03/30/2018
Project Number:	212C-MD-01153
Description:	COP-SEMU Eumont 84
Site:	SEMU-84 EUMENT
Report To:	Greg pope 1910 North Big Spring Midland, TX 79705

Entire Report Reviewed By:

Chris McCord
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

BH-1 (0-1) L981779-01 Solid

Collected by: Clint Merritt | Collected date/time: 03/28/18 10:20 | Received date/time: 03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1092987	1	04/04/18 11:16	04/04/18 11:25	JD
Wet Chemistry by Method 300.0	WG1092169	1	04/01/18 09:59	04/01/18 12:08	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1092742	1	04/03/18 10:01	04/03/18 16:10	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1092146	1	03/31/18 09:15	04/02/18 02:49	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1093260	1	04/03/18 16:32	04/04/18 04:47	DMW

BH-1 (1-2) L981779-02 Solid

Collected by: Clint Merritt | Collected date/time: 03/28/18 10:20 | Received date/time: 03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1092990	1	04/04/18 11:00	04/04/18 11:11	JD
Wet Chemistry by Method 300.0	WG1092169	1	04/01/18 09:59	04/01/18 12:17	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1092742	1	04/03/18 10:01	04/03/18 16:32	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1092146	1	03/31/18 09:15	04/02/18 03:08	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1093260	1	04/03/18 16:32	04/04/18 05:03	DMW

BH-1 (2-3) L981779-03 Solid

Collected by: Clint Merritt | Collected date/time: 03/28/18 10:20 | Received date/time: 03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1092990	1	04/04/18 11:00	04/04/18 11:11	JD
Wet Chemistry by Method 300.0	WG1092169	1	04/01/18 09:59	04/01/18 12:25	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1092742	1	04/03/18 10:01	04/03/18 16:54	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1092146	1	03/31/18 09:15	04/02/18 03:26	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1093260	1	04/03/18 16:32	04/04/18 05:20	DMW

BH-2 (0-1) L981779-04 Solid

Collected by: Clint Merritt | Collected date/time: 03/28/18 12:50 | Received date/time: 03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1092990	1	04/04/18 11:00	04/04/18 11:11	JD
Wet Chemistry by Method 300.0	WG1092169	1	04/01/18 09:59	04/01/18 12:34	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1092742	1	04/03/18 10:01	04/03/18 17:15	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1092216	1	03/31/18 09:15	04/01/18 17:46	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1093260	1	04/03/18 16:32	04/04/18 05:37	DMW

BH-2 (1-2) L981779-05 Solid

Collected by: Clint Merritt | Collected date/time: 03/28/18 12:50 | Received date/time: 03/30/18 08:45

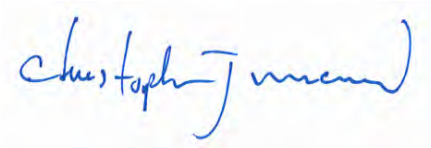
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1092990	1	04/04/18 11:00	04/04/18 11:11	JD
Wet Chemistry by Method 300.0	WG1092169	1	04/01/18 09:59	04/01/18 13:08	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1092742	1	04/03/18 10:01	04/03/18 17:37	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1092216	1	03/31/18 09:15	04/01/18 18:05	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1093260	1	04/03/18 16:32	04/04/18 05:54	DMW

BH-2 (2-3) L981779-06 Solid

	Collected by	Collected date/time	Received date/time
	Clint Merritt	03/28/18 12:50	03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1092990	1	04/04/18 11:00	04/04/18 11:11	JD
Wet Chemistry by Method 300.0	WG1092169	1	04/01/18 09:59	04/01/18 13:16	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1092742	1	04/03/18 10:01	04/03/18 17:59	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1092216	1	03/31/18 09:15	04/01/18 18:24	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1093260	1	04/03/18 16:32	04/04/18 06:45	DMW

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris McCord
Technical Service Representative

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.7		1	04/04/2018 11:25	WG1092987

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	81.7		0.961	12.1	1	04/01/2018 12:08	WG1092169

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0262	0.121	1	04/03/2018 16:10	WG1092742
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*77.0-120*		*04/03/2018 16:10*	WG1092742

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00157	0.00302	1	04/02/2018 02:49	WG1092146
Toluene	U		0.00320	0.00604	1	04/02/2018 02:49	WG1092146
Ethylbenzene	U		0.00156	0.00302	1	04/02/2018 02:49	WG1092146
Total Xylenes	U		0.00578	0.00907	1	04/02/2018 02:49	WG1092146
(S) Toluene-d8	*100*			*80.0-120*		*04/02/2018 02:49*	WG1092146
(S) Dibromofluoromethane	*87.6*			*74.0-131*		*04/02/2018 02:49*	WG1092146
(S) a,a,a-Trifluorotoluene	*97.0*			*80.0-120*		*04/02/2018 02:49*	WG1092146
(S) 4-Bromofluorobenzene	*86.9*			*64.0-132*		*04/02/2018 02:49*	WG1092146

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.14	J	1.95	4.84	1	04/04/2018 04:47	WG1093260
C28-C40 Oil Range	4.86		0.331	4.84	1	04/04/2018 04:47	WG1093260
(S) o-Terphenyl	*89.9*			*18.0-148*		*04/04/2018 04:47*	WG1093260

BH-1 (12)
Collected date/time: 03/28/18 10:20

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.4		1	04/04/2018 11:11	WG1092990

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	81.1		0.977	12.3	1	04/01/2018 12:17	WG1092169

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0267	0.123	1	04/03/2018 16:32	WG1092742
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*77.0-120*		*04/03/2018 16:32*	WG1092742

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00160	0.00307	1	04/02/2018 03:08	WG1092146
Toluene	U		0.00326	0.00615	1	04/02/2018 03:08	WG1092146
Ethylbenzene	U		0.00159	0.00307	1	04/02/2018 03:08	WG1092146
Total Xylenes	U		0.00588	0.00922	1	04/02/2018 03:08	WG1092146
(S) Toluene-d8	*99.0*			*80.0-120*		*04/02/2018 03:08*	WG1092146
(S) Dibromofluoromethane	*80.7*			*74.0-131*		*04/02/2018 03:08*	WG1092146
(S) a,a,a-Trifluorotoluene	*95.8*			*80.0-120*		*04/02/2018 03:08*	WG1092146
(S) 4-Bromofluorobenzene	*88.2*			*64.0-132*		*04/02/2018 03:08*	WG1092146

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.98	4.92	1	04/04/2018 05:03	WG1093260
C28-C40 Oil Range	1.10	J	0.337	4.92	1	04/04/2018 05:03	WG1093260
(S) o-Terphenyl	*47.2*			*18.0-148*		*04/04/2018 05:03*	WG1093260

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	80.5		1	04/04/2018 11:11	WG1092990

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	181		0.987	12.4	1	04/01/2018 12:25	WG1092169

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0269	0.124	1	04/03/2018 16:54	WG1092742
(S) a,a,a-Trifluorotoluene(FID)	*98.5*			*77.0-120*		*04/03/2018 16:54*	WG1092742

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00161	0.00310	1	04/02/2018 03:26	WG1092146
Toluene	U		0.00329	0.00621	1	04/02/2018 03:26	WG1092146
Ethylbenzene	U		0.00160	0.00310	1	04/02/2018 03:26	WG1092146
Total Xylenes	U		0.00594	0.00931	1	04/02/2018 03:26	WG1092146
(S) Toluene-d8	*95.4*			*80.0-120*		*04/02/2018 03:26*	WG1092146
(S) Dibromofluoromethane	*84.2*			*74.0-131*		*04/02/2018 03:26*	WG1092146
(S) a,a,a-Trifluorotoluene	*98.0*			*80.0-120*		*04/02/2018 03:26*	WG1092146
(S) 4-Bromofluorobenzene	*86.1*			*64.0-132*		*04/02/2018 03:26*	WG1092146

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		2.00	4.97	1	04/04/2018 05:20	WG1093260
C28-C40 Oil Range	U		0.340	4.97	1	04/04/2018 05:20	WG1093260
(S) o-Terphenyl	*90.0*			*18.0-148*		*04/04/2018 05:20*	WG1093260

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.7		1	04/04/2018 11:11	WG1092990

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	126		0.848	10.7	1	04/01/2018 12:34	WG1092169

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0232	0.107	1	04/03/2018 17:15	WG1092742
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*77.0-120*		*04/03/2018 17:15*	WG1092742

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00139	0.00267	1	04/01/2018 17:46	WG1092216
Toluene	U		0.00283	0.00534	1	04/01/2018 17:46	WG1092216
Ethylbenzene	U		0.00138	0.00267	1	04/01/2018 17:46	WG1092216
Total Xylenes	U		0.00510	0.00800	1	04/01/2018 17:46	WG1092216
(S) Toluene-d8	*99.5*			*80.0-120*		*04/01/2018 17:46*	WG1092216
(S) Dibromofluoromethane	*86.3*			*74.0-131*		*04/01/2018 17:46*	WG1092216
(S) a,a,a-Trifluorotoluene	*96.3*			*80.0-120*		*04/01/2018 17:46*	WG1092216
(S) 4-Bromofluorobenzene	*89.8*			*64.0-132*		*04/01/2018 17:46*	WG1092216

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.72	4.27	1	04/04/2018 05:37	WG1093260
C28-C40 Oil Range	U		0.292	4.27	1	04/04/2018 05:37	WG1093260
(S) o-Terphenyl	*91.8*			*18.0-148*		*04/04/2018 05:37*	WG1093260

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	79.5		1	04/04/2018 11:11	WG1092990

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	146		1.00	12.6	1	04/01/2018 13:08	WG1092169

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0273	0.126	1	04/03/2018 17:37	WG1092742
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*77.0-120*		*04/03/2018 17:37*	WG1092742

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00164	0.00315	1	04/01/2018 18:05	WG1092216
Toluene	U		0.00333	0.00629	1	04/01/2018 18:05	WG1092216
Ethylbenzene	U		0.00162	0.00315	1	04/01/2018 18:05	WG1092216
Total Xylenes	U		0.00601	0.00944	1	04/01/2018 18:05	WG1092216
(S) Toluene-d8	*100*			*80.0-120*		*04/01/2018 18:05*	WG1092216
(S) Dibromofluoromethane	*80.5*			*74.0-131*		*04/01/2018 18:05*	WG1092216
(S) a,a,a-Trifluorotoluene	*97.3*			*80.0-120*		*04/01/2018 18:05*	WG1092216
(S) 4-Bromofluorobenzene	*90.4*			*64.0-132*		*04/01/2018 18:05*	WG1092216

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		2.03	5.03	1	04/04/2018 05:54	WG1093260
C28-C40 Oil Range	U		0.345	5.03	1	04/04/2018 05:54	WG1093260
(S) o-Terphenyl	*61.6*			*18.0-148*		*04/04/2018 05:54*	WG1093260

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.7		1	04/04/2018 11:11	WG1092990

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	270		0.867	10.9	1	04/01/2018 13:16	WG1092169

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0237	0.109	1	04/03/2018 17:59	WG1092742
(S) a,a,a-Trifluorotoluene(FID)	*99.9*			*77.0-120*		*04/03/2018 17:59*	WG1092742

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00142	0.00273	1	04/01/2018 18:24	WG1092216
Toluene	U		0.00289	0.00545	1	04/01/2018 18:24	WG1092216
Ethylbenzene	U		0.00141	0.00273	1	04/01/2018 18:24	WG1092216
Total Xylenes	U		0.00521	0.00818	1	04/01/2018 18:24	WG1092216
(S) Toluene-d8	*102*			*80.0-120*		*04/01/2018 18:24*	WG1092216
(S) Dibromofluoromethane	*81.8*			*74.0-131*		*04/01/2018 18:24*	WG1092216
(S) a,a,a-Trifluorotoluene	*96.5*			*80.0-120*		*04/01/2018 18:24*	WG1092216
(S) 4-Bromofluorobenzene	*87.8*			*64.0-132*		*04/01/2018 18:24*	WG1092216

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	28.4		1.76	4.36	1	04/04/2018 06:45	WG1093260
C28-C40 Oil Range	13.0		0.299	4.36	1	04/04/2018 06:45	WG1093260
(S) o-Terphenyl	*78.7*			*18.0-148*		*04/04/2018 06:45*	WG1093260

Method Blank (MB)

(MB) R3299226-1 04/04/18 11:25

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L981776-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981776-01 04/04/18 11:25 • (DUP) R3299226-3 04/04/18 11:25

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	95.7	95.9	1	0.218		5

Laboratory Control Sample (LCS)

(LCS) R3299226-2 04/04/18 11:25

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3299224-1 04/04/18 11:11

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L981779-04 Original Sample (OS) • Duplicate (DUP)

(OS) L981779-04 04/04/18 11:11 • (DUP) R3299224-3 04/04/18 11:11

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.7	93.8	1	0.105		5

Laboratory Control Sample (LCS)

(LCS) R3299224-2 04/04/18 11:11

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3298307-1 04/01/18 11:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.72	J	0.795	10.0

L981779-04 Original Sample (OS) • Duplicate (DUP)

(OS) L981779-04 04/01/18 12:34 • (DUP) R3298307-4 04/01/18 12:42

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	126	119	1	5.88		20

L982057-09 Original Sample (OS) • Duplicate (DUP)

(OS) L982057-09 04/01/18 15:07 • (DUP) R3298307-7 04/01/18 15:16

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	70.7	71.7	1	1.38		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298307-2 04/01/18 11:19 • (LCSD) R3298307-3 04/01/18 11:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	200	210	206	105	103	90.0-110			2.25	20

L982057-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L982057-01 04/01/18 13:25 • (MS) R3298307-5 04/01/18 13:33 • (MSD) R3298307-6 04/01/18 13:42

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	548	72.3	648	648	105	105	1	80.0-120			0.103	20

Method Blank (MB)

(MB) R3299768-3 04/03/18 11:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*99.0*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3299768-1 04/03/18 10:21 • (LCSD) R3299768-2 04/03/18 10:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	4.74	5.50	86.1	100	70.0-136			15.0	20
(S) a,a,a-Trifluorotoluene(FID)				*100*	*101*	*77.0-120*				

L981768-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981768-10 04/03/18 15:48 • (MS) R3299768-4 04/03/18 18:43 • (MSD) R3299768-5 04/03/18 19:04

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.81	5.62	137	162	76.9	92.1	25	10.0-147			17.3	30
(S) a,a,a-Trifluorotoluene(FID)					*98.6*	*100*		*77.0-120*				

Method Blank (MB)

(MB) R3299596-3 04/01/18 23:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.00130	0.00250
Ethylbenzene	U		0.00129	0.00250
Toluene	U		0.00265	0.00500
Xylenes, Total	U		0.00478	0.00750
(S) Toluene-d8	*99.0*			*80.0-120*
(S) Dibromofluoromethane	*89.2*			*74.0-131*
(S) a,a,a-Trifluorotoluene	*97.8*			*80.0-120*
(S) 4-Bromofluorobenzene	*84.5*			*64.0-132*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3299596-1 04/01/18 21:50 • (LCSD) R3299596-2 04/01/18 22:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.625	0.498	0.445	79.8	71.2	71.0-124			11.3	20
Ethylbenzene	0.625	0.606	0.560	97.0	89.7	77.0-120			7.86	20
Toluene	0.625	0.541	0.521	86.6	83.4	70.0-120			3.73	20
Xylenes, Total	1.88	1.72	1.60	91.8	85.1	77.0-120			7.60	20
(S) Toluene-d8				*92.2*	*95.7*	*80.0-120*				
(S) Dibromofluoromethane				*98.7*	*92.9*	*74.0-131*				
(S) a,a,a-Trifluorotoluene				*101*	*99.5*	*80.0-120*				
(S) 4-Bromofluorobenzene				*87.0*	*91.5*	*64.0-132*				

L981633-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981633-11 04/02/18 04:23 • (MS) R3299596-4 04/02/18 05:38 • (MSD) R3299596-5 04/02/18 05:57

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.625	ND	94.2	94.8	75.0	75.5	200	13.0-146			0.687	27
Ethylbenzene	0.625	11.5	141	137	104	100	200	10.0-147			3.24	31
Toluene	0.625	ND	113	109	90.7	87.2	200	10.0-144			3.93	28
Xylenes, Total	1.88	37.7	401	396	96.9	95.5	200	10.0-150			1.25	31
(S) Toluene-d8					*97.8*	*93.8*		*80.0-120*				
(S) Dibromofluoromethane					*93.0*	*96.1*		*74.0-131*				
(S) a,a,a-Trifluorotoluene					*97.7*	*98.9*		*80.0-120*				
(S) 4-Bromofluorobenzene					*90.3*	*89.7*		*64.0-132*				

Sample Narrative:

OS: Target compounds too high to run at a lower dilution.

Method Blank (MB)

(MB) R3298155-3 04/01/18 12:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.00130	0.00250
Ethylbenzene	U		0.00129	0.00250
Toluene	U		0.00265	0.00500
Xylenes, Total	U		0.00478	0.00750
(S) Toluene-d8	*99.1*			*80.0-120*
(S) Dibromofluoromethane	*87.1*			*74.0-131*
(S) a,a,a-Trifluorotoluene	*95.6*			*80.0-120*
(S) 4-Bromofluorobenzene	*86.4*			*64.0-132*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298155-1 04/01/18 10:44 • (LCSD) R3298155-2 04/01/18 11:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.625	0.485	0.455	77.7	72.8	71.0-124			6.49	20
Ethylbenzene	0.625	0.598	0.559	95.6	89.4	77.0-120			6.71	20
Toluene	0.625	0.553	0.531	88.4	85.0	70.0-120			3.93	20
Xylenes, Total	1.88	1.72	1.61	91.6	85.8	77.0-120			6.49	20
(S) Toluene-d8				*93.9*	*95.2*	*80.0-120*				
(S) Dibromofluoromethane				*94.4*	*94.4*	*74.0-131*				
(S) a,a,a-Trifluorotoluene				*98.0*	*98.5*	*80.0-120*				
(S) 4-Bromofluorobenzene				*93.1*	*91.1*	*64.0-132*				

L981779-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981779-06 04/01/18 18:24 • (MS) R3298155-4 04/01/18 20:54 • (MSD) R3298155-5 04/01/18 21:12

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.681	U	0.394	0.349	57.8	51.3	1	13.0-146			12.0	27
Ethylbenzene	0.681	U	0.562	0.516	82.4	75.7	1	10.0-147			8.56	31
Toluene	0.681	U	0.500	0.462	73.4	67.8	1	10.0-144			7.92	28
Xylenes, Total	2.04	U	1.62	1.51	79.5	73.7	1	10.0-150			7.52	31
(S) Toluene-d8					*97.9*	*102*		*80.0-120*				
(S) Dibromofluoromethane					*87.3*	*83.9*		*74.0-131*				
(S) a,a,a-Trifluorotoluene					*107*	*115*		*80.0-120*				
(S) 4-Bromofluorobenzene					*89.1*	*89.1*		*64.0-132*				

Method Blank (MB)

(MB) R3298936-1 04/04/18 03:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*63.2*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298936-2 04/04/18 04:13 • (LCSD) R3298936-3 04/04/18 04:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	41.1	47.1	82.2	94.2	50.0-150			13.5	20
(S) o-Terphenyl				*95.7*	*105*	*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

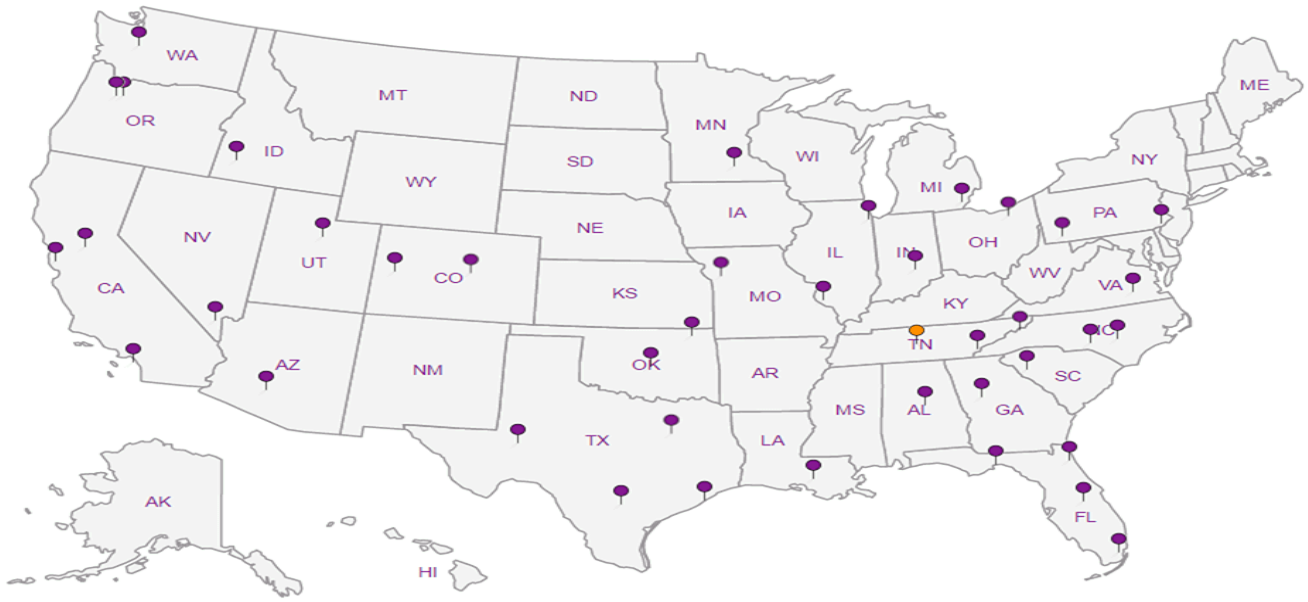
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



Tetra Tech
4000N Big Spring St.
Ste. 401
Midland, TX 79705

Billing Information:

Report to: Greg Pope

Email To: greg.pope@tetratech.com

Project Description: COP - SEMU Eumont 84

City/State Collected: Eunice NM

Phone: 432-682-4559
Fax:

Client Project # 212C-MD-01153

Lab Project #

Collected by (print): Clint Merritt

Site/Facility ID # SEMU-84 Eumont

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX	TPH	Chlorides							Hold		Remarks	Sample # (lab only)
BH-1 (0-1)		S		3/28	10:20	1	X	X	X										-01
BH-1 (1-2)		S					X	X	X										-02
BH-1 (2-3)		S					X	X	X										-03
BH-1 (3-4)		S														X			
BH-1 (4-5)		S														X			
BH-2 (0-1)		S			12:50		X	X	X										-04
BH-2 (1-2)		S					X	X	X										-05
BH-2 (2-3)		S					X	X	X										-06
BH-2 (3-4)		S														X			
BH-2 (4-5)		S														X			

Chain of Custody Page ___ of ___

ESC LABORATORIES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 981779

Table G025

Acctnum: TETRAHTX

Template:

Prelogin:

TSR:

PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: Run deeper samples if TPH exceeds 5000mg/kg or if benzene exceeds 10mg/kg. or BTEX exceeds 50mg/kg.

pH ___ Temp ___

Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier ___

Tracking # 4276 0142 2006

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
	3/28	16:00	Kayla Saylor	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.4 °C Bottles Received: 10
Kayla Saylor	3-29-18	0930		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3.30.18 Time: 845

If preservation required by Login: Date/Time

Hold: 3-244

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 02, 2019

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1161775
Samples Received:	11/16/2019
Project Number:	212C-MD-01991
Description:	COP SEMU Eumont #84

Report To: Christian Llull
901 West Wall
Suite 100
Midland, TX 79701

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

BH-1 (0-1) L1161775-01 Solid

Collected by | Collected date/time 11/14/19 09:30 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385448	1	11/22/19 18:51	11/22/19 19:08	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1383481	1	11/21/19 07:57	11/21/19 13:46	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384158	1	11/18/19 10:23	11/22/19 01:04	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1384837	1	11/18/19 10:23	11/22/19 04:24	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 01:08	JDG	Mt. Juliet, TN

BH-1 (2-3) L1161775-02 Solid

Collected by | Collected date/time 11/14/19 09:35 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385448	1	11/22/19 18:51	11/22/19 19:08	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1383481	1	11/21/19 07:57	11/21/19 14:15	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384158	1	11/18/19 10:23	11/22/19 01:27	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1384837	1	11/18/19 10:23	11/22/19 04:44	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 01:21	JDG	Mt. Juliet, TN

BH-1 (4-5) L1161775-03 Solid

Collected by | Collected date/time 11/14/19 09:40 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1383481	1	11/21/19 07:57	11/21/19 14:25	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1386148	1	11/18/19 10:23	11/24/19 01:59	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1384837	1	11/18/19 10:23	11/22/19 05:04	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 01:34	JDG	Mt. Juliet, TN

BH-1 (6-7) L1161775-04 Solid

Collected by | Collected date/time 11/14/19 09:45 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1383481	1	11/21/19 07:57	11/21/19 14:34	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1386148	1	11/18/19 10:23	11/24/19 02:19	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1384837	1	11/18/19 10:23	11/22/19 05:25	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 01:47	JDG	Mt. Juliet, TN

BH-2 (0-1) L1161775-05 Solid

Collected by | Collected date/time 11/14/19 12:00 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 15:55	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1386148	1	11/18/19 10:23	11/24/19 02:40	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1384837	1	11/18/19 10:23	11/22/19 05:45	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 02:00	JDG	Mt. Juliet, TN

BH-2 (2-3) L1161775-06 Solid

Collected by | Collected date/time 11/14/19 12:05 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 16:04	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1386148	1	11/18/19 10:23	11/24/19 03:00	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1384837	1	11/18/19 10:23	11/22/19 06:05	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 02:14	JDG	Mt. Juliet, TN

BH-2 (4-5) L1161775-07 Solid

Collected by | Collected date/time 11/14/19 12:10 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 16:13	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1386148	1	11/18/19 10:23	11/24/19 03:21	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1384837	1	11/18/19 10:23	11/22/19 06:26	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 02:27	JDG	Mt. Juliet, TN

BH-2 (6-7) L1161775-08 Solid

Collected by | Collected date/time 11/14/19 12:15 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 16:32	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1386770	1	11/18/19 10:23	11/27/19 14:06	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 13:08	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 02:40	JDG	Mt. Juliet, TN

BH-3 (0-1) L1161775-09 Solid

Collected by | Collected date/time 11/14/19 13:00 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 16:42	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384906	1	11/18/19 10:23	11/23/19 08:55	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 14:30	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 03:06	JDG	Mt. Juliet, TN

BH-3 (2-3) L1161775-10 Solid

Collected by | Collected date/time 11/14/19 13:05 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 16:51	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384906	1	11/18/19 10:23	11/23/19 09:15	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 14:50	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1385013	1	11/20/19 18:49	11/22/19 02:53	JDG	Mt. Juliet, TN

BH-3 (4-5) L1161775-11 Solid

Collected by | Collected date/time 11/14/19 13:10 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 17:01	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384906	1	11/18/19 10:23	11/23/19 09:36	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 15:11	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 16:55	KME	Mt. Juliet, TN

BH-3 (6-7) L1161775-12 Solid

Collected by | Collected date/time 11/14/19 13:15 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385449	1	11/22/19 18:33	11/22/19 18:49	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 17:48	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384906	1	11/18/19 10:23	11/23/19 09:56	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 15:31	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 17:09	KME	Mt. Juliet, TN

BH-3 (9-10) L1161775-13 Solid

Collected by | Collected date/time 11/14/19 13:20 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 17:58	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384906	1	11/18/19 10:23	11/23/19 10:16	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 15:51	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 17:23	KME	Mt. Juliet, TN

BH-3 (14-15) L1161775-14 Solid

Collected by | Collected date/time 11/14/19 13:30 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 18:08	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/22/19 21:58	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 16:12	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 17:36	KME	Mt. Juliet, TN

BH-3 (19-20) L1161775-15 Solid

Collected by | Collected date/time 11/14/19 13:40 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 18:17	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/22/19 22:18	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 16:32	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 17:49	KME	Mt. Juliet, TN

BH-3 (24-25) L1161775-16 Solid

Collected by | Collected date/time 11/14/19 13:50 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 18:27	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/22/19 22:39	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 16:51	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 18:02	KME	Mt. Juliet, TN

BH-3 (29-30) L1161775-17 Solid

Collected by | Collected date/time 11/14/19 14:00 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 18:46	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/22/19 22:59	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 17:11	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 18:15	KME	Mt. Juliet, TN

BH-3 (34-35) L1161775-18 Solid

Collected by | Collected date/time 11/14/19 14:15 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 18:55	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/22/19 23:20	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 17:31	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 18:29	KME	Mt. Juliet, TN

BH-4 (0-1) L1161775-19 Solid

Collected by | Collected date/time 11/14/19 14:45 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 19:24	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/22/19 23:41	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 17:51	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 21:21	KME	Mt. Juliet, TN

BH-4 (2-3) L1161775-20 Solid

Collected by | Collected date/time 11/14/19 14:50 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 19:33	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/23/19 00:01	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 18:11	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 21:34	KME	Mt. Juliet, TN

BH-4 (4-5) L1161775-21 Solid

Collected by | Collected date/time 11/14/19 14:55 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 19:43	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/23/19 00:22	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 18:31	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 18:56	KME	Mt. Juliet, TN

BH-4 (6-7) L1161775-22 Solid

Collected by | Collected date/time 11/14/19 15:00 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385450	1	11/22/19 18:05	11/22/19 18:32	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 19:52	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/23/19 00:42	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 18:51	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 18:42	KME	Mt. Juliet, TN

SW-1 L1161775-23 Solid

Collected by | Collected date/time 11/14/19 15:30 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385452	1	11/23/19 17:46	11/23/19 18:01	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 20:02	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1384913	1	11/18/19 10:23	11/23/19 01:03	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 19:10	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 19:35	KME	Mt. Juliet, TN

SW-2 L1161775-24 Solid

Collected by | Collected date/time 11/14/19 15:45 | Received date/time 11/16/19 13:45

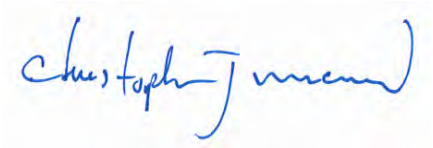
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385452	1	11/23/19 17:46	11/23/19 18:01	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1384958	1	11/23/19 13:01	11/23/19 20:11	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1386148	1	11/18/19 10:23	11/24/19 04:02	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 19:30	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 19:49	KME	Mt. Juliet, TN

STOCKPILE-1 L1161775-25 Solid

Collected by | Collected date/time 11/14/19 16:00 | Received date/time 11/16/19 13:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1385452	1	11/23/19 17:46	11/23/19 18:01	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1385504	1	11/23/19 08:03	11/23/19 09:50	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1386148	1	11/18/19 10:23	11/24/19 04:23	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1385326	1	11/18/19 10:23	11/22/19 19:50	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1384003	1	11/20/19 18:17	11/22/19 20:02	KME	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris McCord
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.1		1	11/22/2019 19:08	WG1385448

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	33.7		0.844	10.6	1	11/21/2019 13:46	WG1383481

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0498	B J	0.0230	0.106	1	11/22/2019 01:04	WG1384158
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*11/22/2019 01:04*	WG1384158

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000425	0.00106	1	11/22/2019 04:24	WG1384837
Toluene	U		0.00133	0.00531	1	11/22/2019 04:24	WG1384837
Ethylbenzene	U		0.000563	0.00266	1	11/22/2019 04:24	WG1384837
Total Xylenes	U		0.00508	0.00690	1	11/22/2019 04:24	WG1384837
(S) Toluene-d8	*101*			*75.0-131*		*11/22/2019 04:24*	WG1384837
(S) 4-Bromofluorobenzene	*85.5*			*67.0-138*		*11/22/2019 04:24*	WG1384837
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*11/22/2019 04:24*	WG1384837

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.78	J	1.71	4.25	1	11/22/2019 01:08	WG1385013
C28-C40 Oil Range	8.75		0.291	4.25	1	11/22/2019 01:08	WG1385013
(S) o-Terphenyl	*65.8*			*18.0-148*		*11/22/2019 01:08*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.6		1	11/22/2019 19:08	WG1385448

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	53.1		0.858	10.8	1	11/21/2019 14:15	WG1383481

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0501	B J	0.0234	0.108	1	11/22/2019 01:27	WG1384158
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*11/22/2019 01:27*	WG1384158

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000432	0.00108	1	11/22/2019 04:44	WG1384837
Toluene	U		0.00135	0.00540	1	11/22/2019 04:44	WG1384837
Ethylbenzene	U		0.000572	0.00270	1	11/22/2019 04:44	WG1384837
Total Xylenes	U		0.00516	0.00702	1	11/22/2019 04:44	WG1384837
(S) Toluene-d8	*99.8*			*75.0-131*		*11/22/2019 04:44*	WG1384837
(S) 4-Bromofluorobenzene	*82.5*			*67.0-138*		*11/22/2019 04:44*	WG1384837
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*11/22/2019 04:44*	WG1384837

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.25	J	1.74	4.32	1	11/22/2019 01:21	WG1385013
C28-C40 Oil Range	7.66		0.296	4.32	1	11/22/2019 01:21	WG1385013
(S) o-Terphenyl	*68.4*			*18.0-148*		*11/22/2019 01:21*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.4		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	25.9	B	0.870	10.9	1	11/21/2019 14:25	WG1383481

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0985	J	0.0238	0.109	1	11/24/2019 01:59	WG1386148
(S) a,a,a-Trifluorotoluene(FID)	*97.9*			*77.0-120*		*11/24/2019 01:59*	WG1386148

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000438	0.00109	1	11/22/2019 05:04	WG1384837
Toluene	U		0.00137	0.00547	1	11/22/2019 05:04	WG1384837
Ethylbenzene	U		0.000580	0.00274	1	11/22/2019 05:04	WG1384837
Total Xylenes	U		0.00523	0.00712	1	11/22/2019 05:04	WG1384837
(S) Toluene-d8	*100*			*75.0-131*		*11/22/2019 05:04*	WG1384837
(S) 4-Bromofluorobenzene	*79.4*			*67.0-138*		*11/22/2019 05:04*	WG1384837
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*11/22/2019 05:04*	WG1384837

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.76	4.38	1	11/22/2019 01:34	WG1385013
C28-C40 Oil Range	4.44		0.300	4.38	1	11/22/2019 01:34	WG1385013
(S) o-Terphenyl	*55.9*			*18.0-148*		*11/22/2019 01:34*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.0		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	5.70	B J	0.811	10.2	1	11/21/2019 14:34	WG1383481

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0423	J	0.0221	0.102	1	11/24/2019 02:19	WG1386148
(S) a,a,a-Trifluorotoluene(FID)	*98.0*			*77.0-120*		*11/24/2019 02:19*	WG1386148

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000408	0.00102	1	11/22/2019 05:25	WG1384837
Toluene	U		0.00127	0.00510	1	11/22/2019 05:25	WG1384837
Ethylbenzene	U		0.000541	0.00255	1	11/22/2019 05:25	WG1384837
Total Xylenes	U		0.00488	0.00663	1	11/22/2019 05:25	WG1384837
(S) Toluene-d8	*99.1*			*75.0-131*		*11/22/2019 05:25*	WG1384837
(S) 4-Bromofluorobenzene	*81.3*			*67.0-138*		*11/22/2019 05:25*	WG1384837
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*11/22/2019 05:25*	WG1384837

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.64	4.08	1	11/22/2019 01:47	WG1385013
C28-C40 Oil Range	1.30	J	0.279	4.08	1	11/22/2019 01:47	WG1385013
(S) o-Terphenyl	*76.3*			*18.0-148*		*11/22/2019 01:47*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.8		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	3.96	B J	0.866	10.9	1	11/23/2019 15:55	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0372	J	0.0236	0.109	1	11/24/2019 02:40	WG1386148
(S) a,a,a-Trifluorotoluene(FID)	*97.8*			*77.0-120*		*11/24/2019 02:40*	WG1386148

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000436	0.00109	1	11/22/2019 05:45	WG1384837
Toluene	U		0.00136	0.00544	1	11/22/2019 05:45	WG1384837
Ethylbenzene	U		0.000577	0.00272	1	11/22/2019 05:45	WG1384837
Total Xylenes	U		0.00520	0.00708	1	11/22/2019 05:45	WG1384837
(S) Toluene-d8	*99.7*			*75.0-131*		*11/22/2019 05:45*	WG1384837
(S) 4-Bromofluorobenzene	*81.4*			*67.0-138*		*11/22/2019 05:45*	WG1384837
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*11/22/2019 05:45*	WG1384837

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.75	4.36	1	11/22/2019 02:00	WG1385013
C28-C40 Oil Range	2.07	J	0.298	4.36	1	11/22/2019 02:00	WG1385013
(S) o-Terphenyl	*68.1*			*18.0-148*		*11/22/2019 02:00*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.7		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	3.78	B J	0.831	10.5	1	11/23/2019 16:04	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0378	J	0.0227	0.105	1	11/24/2019 03:00	WG1386148
(S) a,a,a-Trifluorotoluene(FID)	*97.8*			*77.0-120*		*11/24/2019 03:00*	WG1386148

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000418	0.00105	1	11/22/2019 06:05	WG1384837
Toluene	U		0.00131	0.00523	1	11/22/2019 06:05	WG1384837
Ethylbenzene	U		0.000554	0.00261	1	11/22/2019 06:05	WG1384837
Total Xylenes	U		0.00500	0.00680	1	11/22/2019 06:05	WG1384837
(S) Toluene-d8	*103*			*75.0-131*		*11/22/2019 06:05*	WG1384837
(S) 4-Bromofluorobenzene	*74.6*			*67.0-138*		*11/22/2019 06:05*	WG1384837
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*11/22/2019 06:05*	WG1384837

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.68	4.18	1	11/22/2019 02:14	WG1385013
C28-C40 Oil Range	0.711	J	0.286	4.18	1	11/22/2019 02:14	WG1385013
(S) o-Terphenyl	*70.6*			*18.0-148*		*11/22/2019 02:14*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.4		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	6.29	B J	0.833	10.5	1	11/23/2019 16:13	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0376	J	0.0227	0.105	1	11/24/2019 03:21	WG1386148
(S) a,a,a-Trifluorotoluene(FID)	*97.5*			*77.0-120*		*11/24/2019 03:21*	WG1386148

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000419	0.00105	1	11/22/2019 06:26	WG1384837
Toluene	U		0.00131	0.00524	1	11/22/2019 06:26	WG1384837
Ethylbenzene	U		0.000555	0.00262	1	11/22/2019 06:26	WG1384837
Total Xylenes	U		0.00501	0.00681	1	11/22/2019 06:26	WG1384837
(S) Toluene-d8	*103*			*75.0-131*		*11/22/2019 06:26*	WG1384837
(S) 4-Bromofluorobenzene	*75.8*			*67.0-138*		*11/22/2019 06:26*	WG1384837
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*11/22/2019 06:26*	WG1384837

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.69	4.19	1	11/22/2019 02:27	WG1385013
C28-C40 Oil Range	0.675	J	0.287	4.19	1	11/22/2019 02:27	WG1385013
(S) o-Terphenyl	*76.3*			*18.0-148*		*11/22/2019 02:27*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.0		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	32.0	B	0.837	10.5	1	11/23/2019 16:32	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0248	B J	0.0228	0.105	1	11/27/2019 14:06	WG1386770
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*77.0-120*		*11/27/2019 14:06*	WG1386770

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000421	0.00105	1	11/22/2019 13:08	WG1385326
Toluene	U		0.00132	0.00526	1	11/22/2019 13:08	WG1385326
Ethylbenzene	U		0.000558	0.00263	1	11/22/2019 13:08	WG1385326
Total Xylenes	U		0.00503	0.00684	1	11/22/2019 13:08	WG1385326
(S) Toluene-d8	*100*			*75.0-131*		*11/22/2019 13:08*	WG1385326
(S) 4-Bromofluorobenzene	*80.9*			*67.0-138*		*11/22/2019 13:08*	WG1385326
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*11/22/2019 13:08*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.70	4.21	1	11/22/2019 02:40	WG1385013
C28-C40 Oil Range	4.80		0.288	4.21	1	11/22/2019 02:40	WG1385013
(S) o-Terphenyl	*75.2*			*18.0-148*		*11/22/2019 02:40*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.1		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	13.9	B	0.836	10.5	1	11/23/2019 16:42	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0492	B J	0.0228	0.105	1	11/23/2019 08:55	WG1384906
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*77.0-120*		*11/23/2019 08:55*	WG1384906

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000421	0.00105	1	11/22/2019 14:30	WG1385326
Toluene	U		0.00131	0.00526	1	11/22/2019 14:30	WG1385326
Ethylbenzene	U		0.000557	0.00263	1	11/22/2019 14:30	WG1385326
Total Xylenes	U		0.00503	0.00683	1	11/22/2019 14:30	WG1385326
(S) Toluene-d8	*98.6*			*75.0-131*		*11/22/2019 14:30*	WG1385326
(S) 4-Bromofluorobenzene	*89.4*			*67.0-138*		*11/22/2019 14:30*	WG1385326
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*11/22/2019 14:30*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	7.59		1.69	4.21	1	11/22/2019 03:06	WG1385013
C28-C40 Oil Range	19.9		0.288	4.21	1	11/22/2019 03:06	WG1385013
(S) o-Terphenyl	*64.0*			*18.0-148*		*11/22/2019 03:06*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.6		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	5.12	B J	0.823	10.3	1	11/23/2019 16:51	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0301	B J	0.0225	0.103	1	11/23/2019 09:15	WG1384906
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*77.0-120*		*11/23/2019 09:15*	WG1384906

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000414	0.00103	1	11/22/2019 14:50	WG1385326
Toluene	U		0.00129	0.00517	1	11/22/2019 14:50	WG1385326
Ethylbenzene	U		0.000549	0.00259	1	11/22/2019 14:50	WG1385326
Total Xylenes	U		0.00495	0.00673	1	11/22/2019 14:50	WG1385326
(S) Toluene-d8	*100*			*75.0-131*		*11/22/2019 14:50*	WG1385326
(S) 4-Bromofluorobenzene	*79.9*			*67.0-138*		*11/22/2019 14:50*	WG1385326
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*11/22/2019 14:50*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.67	4.14	1	11/22/2019 02:53	WG1385013
C28-C40 Oil Range	1.42	J	0.284	4.14	1	11/22/2019 02:53	WG1385013
(S) o-Terphenyl	*71.3*			*18.0-148*		*11/22/2019 02:53*	WG1385013

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.0		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	13.8	B	0.893	11.2	1	11/23/2019 17:01	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0288	B J	0.0244	0.112	1	11/23/2019 09:36	WG1384906
(S) a,a,a-Trifluorotoluene(FID)	*99.2*			*77.0-120*		*11/23/2019 09:36*	WG1384906

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000449	0.00112	1	11/22/2019 15:11	WG1385326
Toluene	U		0.00140	0.00562	1	11/22/2019 15:11	WG1385326
Ethylbenzene	U		0.000595	0.00281	1	11/22/2019 15:11	WG1385326
Total Xylenes	U		0.00537	0.00730	1	11/22/2019 15:11	WG1385326
(S) Toluene-d8	*102*			*75.0-131*		*11/22/2019 15:11*	WG1385326
(S) 4-Bromofluorobenzene	*79.1*			*67.0-138*		*11/22/2019 15:11*	WG1385326
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*11/22/2019 15:11*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.81	4.49	1	11/22/2019 16:55	WG1384003
C28-C40 Oil Range	0.642	J	0.308	4.49	1	11/22/2019 16:55	WG1384003
(S) o-Terphenyl	*66.6*			*18.0-148*		*11/22/2019 16:55*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.0		1	11/22/2019 18:49	WG1385449

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	11.4	B	0.846	10.6	1	11/23/2019 17:48	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0261	B J	0.0231	0.106	1	11/23/2019 09:56	WG1384906
(S) a,a,a-Trifluorotoluene(FID)	*99.1*			*77.0-120*		*11/23/2019 09:56*	WG1384906

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000426	0.00106	1	11/22/2019 15:31	WG1385326
Toluene	U		0.00133	0.00532	1	11/22/2019 15:31	WG1385326
Ethylbenzene	U		0.000564	0.00266	1	11/22/2019 15:31	WG1385326
Total Xylenes	U		0.00509	0.00692	1	11/22/2019 15:31	WG1385326
(S) Toluene-d8	*103*			*75.0-131*		*11/22/2019 15:31*	WG1385326
(S) 4-Bromofluorobenzene	*76.8*			*67.0-138*		*11/22/2019 15:31*	WG1385326
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*11/22/2019 15:31*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.71	4.26	1	11/22/2019 17:09	WG1384003
C28-C40 Oil Range	0.892	J	0.292	4.26	1	11/22/2019 17:09	WG1384003
(S) o-Terphenyl	*67.5*			*18.0-148*		*11/22/2019 17:09*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.9		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	27.8	B	0.821	10.3	1	11/23/2019 17:58	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0262	B J	0.0224	0.103	1	11/23/2019 10:16	WG1384906
(S) a,a,a-Trifluorotoluene(FID)	*97.2*			*77.0-120*		*11/23/2019 10:16*	WG1384906

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000413	0.00103	1	11/22/2019 15:51	WG1385326
Toluene	U		0.00129	0.00516	1	11/22/2019 15:51	WG1385326
Ethylbenzene	U		0.000547	0.00258	1	11/22/2019 15:51	WG1385326
Total Xylenes	U		0.00493	0.00671	1	11/22/2019 15:51	WG1385326
(S) Toluene-d8	*98.9*			*75.0-131*		*11/22/2019 15:51*	WG1385326
(S) 4-Bromofluorobenzene	*82.2*			*67.0-138*		*11/22/2019 15:51*	WG1385326
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*11/22/2019 15:51*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.66	4.13	1	11/22/2019 17:23	WG1384003
C28-C40 Oil Range	U		0.283	4.13	1	11/22/2019 17:23	WG1384003
(S) o-Terphenyl	*72.0*			*18.0-148*		*11/22/2019 17:23*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.3		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	356		0.891	11.2	1	11/23/2019 18:08	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0375	B J	0.0243	0.112	1	11/22/2019 21:58	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*97.4*			*77.0-120*		*11/22/2019 21:58*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000448	0.00112	1	11/22/2019 16:12	WG1385326
Toluene	U		0.00140	0.00560	1	11/22/2019 16:12	WG1385326
Ethylbenzene	U		0.000594	0.00280	1	11/22/2019 16:12	WG1385326
Total Xylenes	U		0.00535	0.00728	1	11/22/2019 16:12	WG1385326
(S) Toluene-d8	*100*			*75.0-131*		*11/22/2019 16:12*	WG1385326
(S) 4-Bromofluorobenzene	*79.4*			*67.0-138*		*11/22/2019 16:12*	WG1385326
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*11/22/2019 16:12*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.80	4.48	1	11/22/2019 17:36	WG1384003
C28-C40 Oil Range	U		0.307	4.48	1	11/22/2019 17:36	WG1384003
(S) o-Terphenyl	*70.3*			*18.0-148*		*11/22/2019 17:36*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.6		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	463		0.877	11.0	1	11/23/2019 18:17	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0380	B J	0.0239	0.110	1	11/22/2019 22:18	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*77.0-120*		*11/22/2019 22:18*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000441	0.00110	1	11/22/2019 16:32	WG1385326
Toluene	U		0.00138	0.00552	1	11/22/2019 16:32	WG1385326
Ethylbenzene	U		0.000585	0.00276	1	11/22/2019 16:32	WG1385326
Total Xylenes	U		0.00528	0.00717	1	11/22/2019 16:32	WG1385326
(S) Toluene-d8	*102*			*75.0-131*		*11/22/2019 16:32*	WG1385326
(S) 4-Bromofluorobenzene	*75.9*			*67.0-138*		*11/22/2019 16:32*	WG1385326
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*11/22/2019 16:32*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.78	4.41	1	11/22/2019 17:49	WG1384003
C28-C40 Oil Range	U		0.302	4.41	1	11/22/2019 17:49	WG1384003
(S) o-Terphenyl	*63.7*			*18.0-148*		*11/22/2019 17:49*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.3		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	434		0.852	10.7	1	11/23/2019 18:27	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0248	B J	0.0233	0.107	1	11/22/2019 22:39	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*97.2*			*77.0-120*		*11/22/2019 22:39*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000429	0.00107	1	11/22/2019 16:51	WG1385326
Toluene	U		0.00134	0.00536	1	11/22/2019 16:51	WG1385326
Ethylbenzene	U		0.000568	0.00268	1	11/22/2019 16:51	WG1385326
Total Xylenes	U		0.00512	0.00697	1	11/22/2019 16:51	WG1385326
(S) Toluene-d8	*100*			*75.0-131*		*11/22/2019 16:51*	WG1385326
(S) 4-Bromofluorobenzene	*76.9*			*67.0-138*		*11/22/2019 16:51*	WG1385326
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*11/22/2019 16:51*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.73	4.29	1	11/22/2019 18:02	WG1384003
C28-C40 Oil Range	1.13	J	0.294	4.29	1	11/22/2019 18:02	WG1384003
(S) o-Terphenyl	*68.5*			*18.0-148*		*11/22/2019 18:02*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.9		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	511		0.847	10.7	1	11/23/2019 18:46	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0231	0.107	1	11/22/2019 22:59	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*98.9*			*77.0-120*		*11/22/2019 22:59*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000426	0.00107	1	11/22/2019 17:11	WG1385326
Toluene	U		0.00133	0.00533	1	11/22/2019 17:11	WG1385326
Ethylbenzene	U		0.000564	0.00266	1	11/22/2019 17:11	WG1385326
Total Xylenes	U		0.00509	0.00692	1	11/22/2019 17:11	WG1385326
(S) Toluene-d8	*100*			*75.0-131*		*11/22/2019 17:11*	WG1385326
(S) 4-Bromofluorobenzene	*77.5*			*67.0-138*		*11/22/2019 17:11*	WG1385326
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*11/22/2019 17:11*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.71	4.26	1	11/22/2019 18:15	WG1384003
C28-C40 Oil Range	U		0.292	4.26	1	11/22/2019 18:15	WG1384003
(S) o-Terphenyl	*59.2*			*18.0-148*		*11/22/2019 18:15*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.0		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	409		0.828	10.4	1	11/23/2019 18:55	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0280	B J	0.0226	0.104	1	11/22/2019 23:20	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*97.6*			*77.0-120*		*11/22/2019 23:20*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000417	0.00104	1	11/22/2019 17:31	WG1385326
Toluene	U		0.00130	0.00521	1	11/22/2019 17:31	WG1385326
Ethylbenzene	U		0.000552	0.00260	1	11/22/2019 17:31	WG1385326
Total Xylenes	U		0.00498	0.00677	1	11/22/2019 17:31	WG1385326
(S) Toluene-d8	*102*			*75.0-131*		*11/22/2019 17:31*	WG1385326
(S) 4-Bromofluorobenzene	*76.7*			*67.0-138*		*11/22/2019 17:31*	WG1385326
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*11/22/2019 17:31*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.99	J	1.68	4.17	1	11/22/2019 18:29	WG1384003
C28-C40 Oil Range	2.99	J	0.285	4.17	1	11/22/2019 18:29	WG1384003
(S) o-Terphenyl	*66.4*			*18.0-148*		*11/22/2019 18:29*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.2		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	54.9		0.922	11.6	1	11/23/2019 19:24	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0252	0.116	1	11/22/2019 23:41	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*99.6*			*77.0-120*		*11/22/2019 23:41*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000464	0.00116	1	11/22/2019 17:51	WG1385326
Toluene	U		0.00145	0.00580	1	11/22/2019 17:51	WG1385326
Ethylbenzene	U		0.000615	0.00290	1	11/22/2019 17:51	WG1385326
Total Xylenes	U		0.00554	0.00754	1	11/22/2019 17:51	WG1385326
(S) Toluene-d8	*100*			*75.0-131*		*11/22/2019 17:51*	WG1385326
(S) 4-Bromofluorobenzene	*79.1*			*67.0-138*		*11/22/2019 17:51*	WG1385326
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*11/22/2019 17:51*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	10.9		1.87	4.64	1	11/22/2019 21:21	WG1384003
C28-C40 Oil Range	39.4		0.318	4.64	1	11/22/2019 21:21	WG1384003
(S) o-Terphenyl	*48.4*			*18.0-148*		*11/22/2019 21:21*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.9		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	6.48	B J	0.829	10.4	1	11/23/2019 19:33	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0226	0.104	1	11/23/2019 00:01	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*97.8*			*77.0-120*		*11/23/2019 00:01*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000417	0.00104	1	11/22/2019 18:11	WG1385326
Toluene	U		0.00130	0.00521	1	11/22/2019 18:11	WG1385326
Ethylbenzene	U		0.000553	0.00261	1	11/22/2019 18:11	WG1385326
Total Xylenes	U		0.00498	0.00678	1	11/22/2019 18:11	WG1385326
(S) Toluene-d8	*102*			*75.0-131*		*11/22/2019 18:11*	WG1385326
(S) 4-Bromofluorobenzene	*73.2*			*67.0-138*		*11/22/2019 18:11*	WG1385326
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*11/22/2019 18:11*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.32	J	1.68	4.17	1	11/22/2019 21:34	WG1384003
C28-C40 Oil Range	16.2		0.286	4.17	1	11/22/2019 21:34	WG1384003
(S) o-Terphenyl	*64.5*			*18.0-148*		*11/22/2019 21:34*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.9		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	5.58	B J	0.821	10.3	1	11/23/2019 19:43	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0224	0.103	1	11/23/2019 00:22	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*98.6*			*77.0-120*		*11/23/2019 00:22*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000413	0.00103	1	11/22/2019 18:31	WG1385326
Toluene	U		0.00129	0.00516	1	11/22/2019 18:31	WG1385326
Ethylbenzene	U		0.000547	0.00258	1	11/22/2019 18:31	WG1385326
Total Xylenes	U		0.00494	0.00671	1	11/22/2019 18:31	WG1385326
(S) Toluene-d8	*101*			*75.0-131*		*11/22/2019 18:31*	WG1385326
(S) 4-Bromofluorobenzene	*75.3*			*67.0-138*		*11/22/2019 18:31*	WG1385326
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*11/22/2019 18:31*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.66	4.13	1	11/22/2019 18:56	WG1384003
C28-C40 Oil Range	2.10	J	0.283	4.13	1	11/22/2019 18:56	WG1384003
(S) o-Terphenyl	*66.9*			*18.0-148*		*11/22/2019 18:56*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.5		1	11/22/2019 18:32	WG1385450

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	7.98	B J	0.823	10.4	1	11/23/2019 19:52	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0253	B J	0.0225	0.104	1	11/23/2019 00:42	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*96.8*			*77.0-120*		*11/23/2019 00:42*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000414	0.00104	1	11/22/2019 18:51	WG1385326
Toluene	U		0.00129	0.00518	1	11/22/2019 18:51	WG1385326
Ethylbenzene	U		0.000549	0.00259	1	11/22/2019 18:51	WG1385326
Total Xylenes	U		0.00495	0.00673	1	11/22/2019 18:51	WG1385326
(S) Toluene-d8	*101*			*75.0-131*		*11/22/2019 18:51*	WG1385326
(S) 4-Bromofluorobenzene	*79.0*			*67.0-138*		*11/22/2019 18:51*	WG1385326
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*11/22/2019 18:51*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.67	4.14	1	11/22/2019 18:42	WG1384003
C28-C40 Oil Range	1.31	J	0.284	4.14	1	11/22/2019 18:42	WG1384003
(S) o-Terphenyl	*66.9*			*18.0-148*		*11/22/2019 18:42*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.2		1	11/23/2019 18:01	WG1385452

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	35.1	B	0.818	10.3	1	11/23/2019 20:02	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0236	B J	0.0223	0.103	1	11/23/2019 01:03	WG1384913
(S) a,a,a-Trifluorotoluene(FID)	*97.5*			*77.0-120*		*11/23/2019 01:03*	WG1384913

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000412	0.00103	1	11/22/2019 19:10	WG1385326
Toluene	U		0.00129	0.00514	1	11/22/2019 19:10	WG1385326
Ethylbenzene	U		0.000545	0.00257	1	11/22/2019 19:10	WG1385326
Total Xylenes	U		0.00492	0.00669	1	11/22/2019 19:10	WG1385326
(S) Toluene-d8	*101*			*75.0-131*		*11/22/2019 19:10*	WG1385326
(S) 4-Bromofluorobenzene	*76.6*			*67.0-138*		*11/22/2019 19:10*	WG1385326
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*		*11/22/2019 19:10*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.66	4.12	1	11/22/2019 19:35	WG1384003
C28-C40 Oil Range	0.694	J	0.282	4.12	1	11/22/2019 19:35	WG1384003
(S) o-Terphenyl	*68.2*			*18.0-148*		*11/22/2019 19:35*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.7		1	11/23/2019 18:01	WG1385452

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	91.0		0.822	10.3	1	11/23/2019 20:11	WG1384958

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0360	J	0.0224	0.103	1	11/24/2019 04:02	WG1386148
(S) a,a,a-Trifluorotoluene(FID)	*97.1*			*77.0-120*		*11/24/2019 04:02*	WG1386148

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000414	0.00103	1	11/22/2019 19:30	WG1385326
Toluene	U		0.00129	0.00517	1	11/22/2019 19:30	WG1385326
Ethylbenzene	U		0.000548	0.00259	1	11/22/2019 19:30	WG1385326
Total Xylenes	U		0.00494	0.00672	1	11/22/2019 19:30	WG1385326
(S) Toluene-d8	*102*			*75.0-131*		*11/22/2019 19:30*	WG1385326
(S) 4-Bromofluorobenzene	*73.4*			*67.0-138*		*11/22/2019 19:30*	WG1385326
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*11/22/2019 19:30*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.66	4.14	1	11/22/2019 19:49	WG1384003
C28-C40 Oil Range	0.986	J	0.283	4.14	1	11/22/2019 19:49	WG1384003
(S) o-Terphenyl	*65.3*			*18.0-148*		*11/22/2019 19:49*	WG1384003

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.3		1	11/23/2019 18:01	WG1385452

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	3.13	B J	0.862	10.8	1	11/23/2019 09:50	WG1385504

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0338	J	0.0235	0.108	1	11/24/2019 04:23	WG1386148
(S) a,a,a-Trifluorotoluene(FID)	*98.0*			*77.0-120*		*11/24/2019 04:23*	WG1386148

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000434	0.00108	1	11/22/2019 19:50	WG1385326
Toluene	U		0.00135	0.00542	1	11/22/2019 19:50	WG1385326
Ethylbenzene	U		0.000574	0.00271	1	11/22/2019 19:50	WG1385326
Total Xylenes	U		0.00518	0.00705	1	11/22/2019 19:50	WG1385326
(S) Toluene-d8	*101*			*75.0-131*		*11/22/2019 19:50*	WG1385326
(S) 4-Bromofluorobenzene	*75.9*			*67.0-138*		*11/22/2019 19:50*	WG1385326
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*11/22/2019 19:50*	WG1385326

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.75	4.34	1	11/22/2019 20:02	WG1384003
C28-C40 Oil Range	4.64		0.297	4.34	1	11/22/2019 20:02	WG1384003
(S) o-Terphenyl	*61.1*			*18.0-148*		*11/22/2019 20:02*	WG1384003

Method Blank (MB)

(MB) R3475734-1 11/22/19 19:08

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1161775-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1161775-02 11/22/19 19:08 • (DUP) R3475734-3 11/22/19 19:08

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	92.6	92.8	1	0.126		10

Laboratory Control Sample (LCS)

(LCS) R3475734-2 11/22/19 19:08

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3475721-1 11/22/19 18:49

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1161775-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1161775-12 11/22/19 18:49 • (DUP) R3475721-3 11/22/19 18:49

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	94.0	93.9	1	0.123		10

Laboratory Control Sample (LCS)

(LCS) R3475721-2 11/22/19 18:49

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3475720-1 11/22/19 18:32

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1161775-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1161775-19 11/22/19 18:32 • (DUP) R3475720-3 11/22/19 18:32

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	86.2	86.3	1	0.0932		10

Laboratory Control Sample (LCS)

(LCS) R3475720-2 11/22/19 18:32

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.9	99.8	85.0-115	

Method Blank (MB)

(MB) R3475941-1 11/23/19 18:01

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1161775-23 Original Sample (OS) • Duplicate (DUP)

(OS) L1161775-23 11/23/19 18:01 • (DUP) R3475941-3 11/23/19 18:01

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	97.2	97.3	1	0.142		10

Laboratory Control Sample (LCS)

(LCS) R3475941-2 11/23/19 18:01

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.1	100	85.0-115	

Method Blank (MB)

(MB) R3474609-1 11/21/19 09:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.06	J	0.795	10.0

L1161719-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1161719-04 11/21/19 10:33 • (DUP) R3474609-3 11/21/19 10:43

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	11.1	10.6	1	4.67		20

L1161763-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1161763-08 11/21/19 12:49 • (DUP) R3474609-4 11/21/19 12:59

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	561	530	1	5.56		20

Laboratory Control Sample (LCS)

(LCS) R3474609-2 11/21/19 09:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	203	101	90.0-110	

L1161775-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161775-01 11/21/19 13:46 • (MS) R3474609-5 11/21/19 13:56 • (MSD) R3474609-6 11/21/19 14:06

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	531	33.7	560	554	99.1	98.0	1	80.0-120			0.986	20

Method Blank (MB)

(MB) R3475644-1 11/23/19 15:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.51	J	0.795	10.0

L1161775-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1161775-07 11/23/19 16:13 • (DUP) R3475644-3 11/23/19 16:23

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6.29	5.98	1	5.12	J	20

L1161775-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1161775-16 11/23/19 18:27 • (DUP) R3475644-6 11/23/19 18:36

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	434	465	1	6.85		20

Laboratory Control Sample (LCS)

(LCS) R3475644-2 11/23/19 15:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	203	101	90.0-110	

L1161775-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161775-11 11/23/19 17:01 • (MS) R3475644-4 11/23/19 17:29 • (MSD) R3475644-5 11/23/19 17:39

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	562	13.8	600	596	104	104	1	80.0-120			0.588	20

Method Blank (MB)

(MB) R3475394-1 11/23/19 09:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.47	J	0.795	10.0

L1161775-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1161775-25 11/23/19 09:50 • (DUP) R3475394-3 11/23/19 09:59

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3.13	2.83	1	10.1	J	20

L1161793-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1161793-13 11/23/19 13:57 • (DUP) R3475394-6 11/23/19 14:06

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	25.8	25.3	1	2.19		20

Laboratory Control Sample (LCS)

(LCS) R3475394-2 11/23/19 09:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	192	95.8	90.0-110	

L1161788-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161788-06 11/23/19 10:56 • (MS) R3475394-4 11/23/19 11:24 • (MSD) R3475394-5 11/23/19 11:34

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	530	4.24	532	547	99.6	103	1	80.0-120			2.86	20

Method Blank (MB)

(MB) R3476579-3 11/21/19 19:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0457	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3476579-2 11/21/19 18:00

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.35	115	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*107*	*77.0-120*	

Method Blank (MB)

(MB) R3475368-5 11/23/19 07:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0261	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3475368-3 11/23/19 06:31 • (LCSD) R3475368-4 11/23/19 06:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.01	5.02	91.1	91.3	72.0-127			0.199	20
(S) a,a,a-Trifluorotoluene(FID)				*108*	*108*	*77.0-120*				

L1161805-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161805-01 11/23/19 15:24 • (MS) R3475368-8 11/23/19 16:25 • (MSD) R3475368-9 11/23/19 16:45

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.241	1.79	1.72	28.2	26.9	1	10.0-151			3.99	28
(S) a,a,a-Trifluorotoluene(FID)					*92.0*	*91.4*		*77.0-120*				

Method Blank (MB)

(MB) R3475369-2 11/22/19 19:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0311	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3475369-3 11/22/19 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.10	92.7	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*108*	*77.0-120*	

L1161765-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161765-04 11/22/19 21:37 • (MS) R3475369-6 11/23/19 04:07 • (MSD) R3475369-7 11/23/19 04:28

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	2750	2570	4470	4570	69.1	72.7	500	10.0-151			2.21	28
(S) a,a,a-Trifluorotoluene(FID)					*109*	*108*		*77.0-120*				

Method Blank (MB)

(MB) R3475905-3 11/23/19 21:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3475905-1 11/23/19 19:20 • (LCSD) R3475905-2 11/23/19 20:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.06	5.00	92.0	90.9	72.0-127			1.19	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*107*	*77.0-120*				

L1161959-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161959-01 11/24/19 07:07 • (MS) R3475905-4 11/24/19 07:27 • (MSD) R3475905-5 11/24/19 07:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	135	ND	106	111	78.5	82.2	25	10.0-151			4.61	28
(S) a,a,a-Trifluorotoluene(FID)					*106*	*107*		*77.0-120*				

Method Blank (MB)

(MB) R3477205-3 11/27/19 11:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0230	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.4*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3477205-1 11/27/19 10:04 • (LCSD) R3477205-2 11/27/19 10:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.56	6.33	119	115	72.0-127			3.57	20
(S) a,a,a-Trifluorotoluene(FID)				*113*	*113*	*77.0-120*				

Method Blank (MB)

(MB) R3475066-1 11/21/19 20:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*100*			*75.0-131*
(S) 4-Bromofluorobenzene	*83.3*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3475066-2 11/21/19 21:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.122	97.6	70.0-123	
Ethylbenzene	0.125	0.123	98.4	74.0-126	
Toluene	0.125	0.0973	77.8	75.0-121	
Xylenes, Total	0.375	0.418	111	72.0-127	
(S) Toluene-d8			*100*	*75.0-131*	
(S) 4-Bromofluorobenzene			*107*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*101*	*70.0-130*	

Method Blank (MB)

(MB) R3476359-3 11/22/19 11:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*102*			*75.0-131*
(S) 4-Bromofluorobenzene	*82.0*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3476359-1 11/22/19 10:18 • (LCSD) R3476359-2 11/22/19 10:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.115	0.119	92.0	95.2	70.0-123			3.42	20
Ethylbenzene	0.125	0.114	0.117	91.2	93.6	74.0-126			2.60	20
Toluene	0.125	0.0945	0.0959	75.6	76.7	75.0-121			1.47	20
Xylenes, Total	0.375	0.398	0.409	106	109	72.0-127			2.73	20
(S) Toluene-d8				*102*	*101*	*75.0-131*				
(S) 4-Bromofluorobenzene				*104*	*108*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*100*	*101*	*70.0-130*				

L1161775-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161775-08 11/22/19 13:08 • (MS) R3476359-4 11/22/19 20:50 • (MSD) R3476359-5 11/22/19 21:10

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.132	U	0.108	0.116	82.4	88.0	1	10.0-149			6.57	37
Ethylbenzene	0.132	U	0.0955	0.104	72.6	78.8	1	10.0-160			8.25	38
Toluene	0.132	U	0.0868	0.0914	65.9	69.4	1	10.0-156			5.20	38
Xylenes, Total	0.395	U	0.332	0.350	84.0	88.5	1	10.0-160			5.26	38
(S) Toluene-d8					*102*	*98.9*		*75.0-131*				
(S) 4-Bromofluorobenzene					*99.9*	*102*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*103*	*99.9*		*70.0-130*				

Method Blank (MB)

(MB) R3475031-1 11/22/19 00:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*65.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3475031-2 11/22/19 00:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	41.8	83.6	50.0-150	
(S) o-Terphenyl			*60.8*	*18.0-148*	

L1161775-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161775-21 11/22/19 18:56 • (MS) R3475031-3 11/22/19 19:09 • (MSD) R3475031-4 11/22/19 19:22

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	51.6	U	38.8	38.7	75.2	75.0	1	50.0-150			0.266	20
(S) o-Terphenyl					*52.4*	*53.8*		*18.0-148*				

Method Blank (MB)

(MB) R3475034-1 11/21/19 21:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*93.1*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3475034-2 11/21/19 21:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	51.0	102	50.0-150	
(S) o-Terphenyl			*74.3*	*18.0-148*	

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

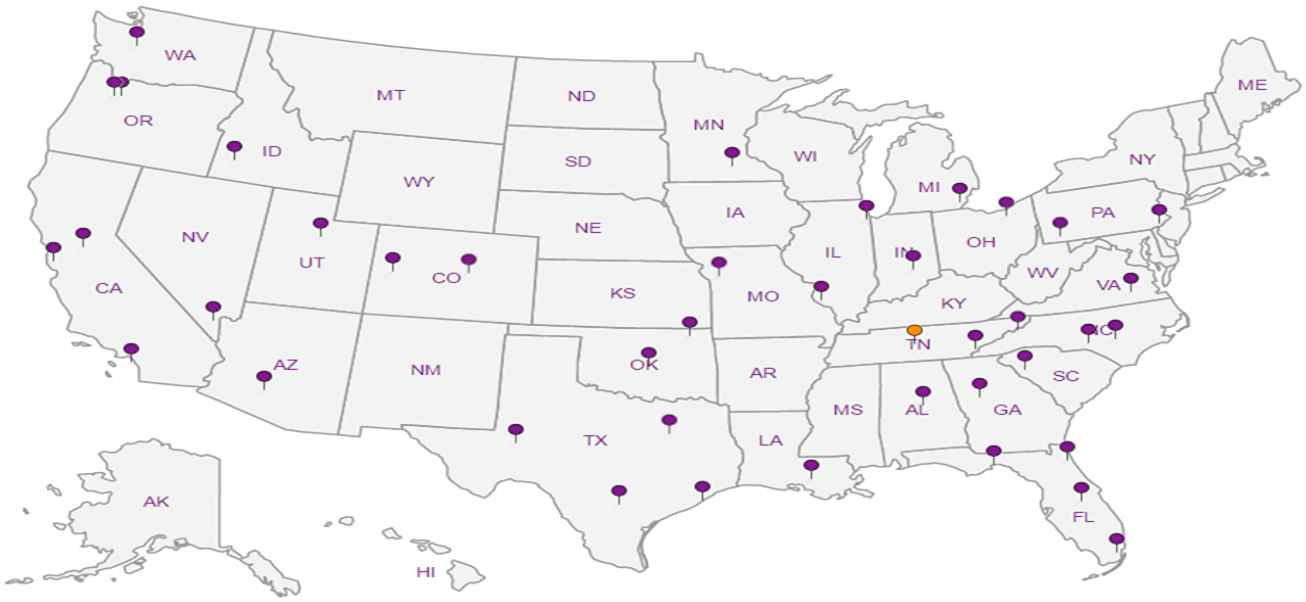
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



11-121
M097

Analysis Request of Chain of Custody Record

Page : 1 of 4

Tetra Tech, Inc.

901 West Wall Street, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

11/6/19

Client Name:	ConocoPhillips	Site Manager:	Christian Llull
Project Name:	COP SEMU Eumont #84		
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-01991
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
	BH-1 (0' - 1')	11/14/2019	0930		X				X		1	N	X		X												X					01
	BH-1 (2' - 3')	11/14/2019	0935		X				X		1	N	↓		↓												↓					02
	BH-1 (4' - 5')	11/14/2019	0940		X				X		1	N																				03
	BH-1 (6' - 7')	11/14/2019	0945		X				X		1	N																				04
	BH-1 (9' - 10')	11/14/2019	0950		X				X		1	N																				X
	BH-1 (14' - 15')	11/14/2019	1000		X				X		1	N																				↓
	BH-1 (19' - 20')	11/14/2019	1010		X				X		1	N																				
	BH-1 (24' - 25')	11/14/2019	1025		X				X		1	N																				
	BH-1 (29' - 30')	11/14/2019	1040		X				X		1	N																				
	BH-1 (34' - 35')	11/14/2019	1055		X				X		1	N																				

Relinquished by:	Date: 11-15-19	Time: 15:00	Received by:
Relinquished by:	Date: 11-15-19	Time: 1730	Received by: SWA
Relinquished by:	Date:	Time:	Received by:
	Date: 11-15	Time: 1700	
	Date: 11/16/19	Time: 1345	

LAB USE ONLY

Sample Temperature

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

2.4 + 0 = 2.4 KF KF

temps 1.1/1.4/0.3

TC: 3.7 = 4 oz

Analysis Request of Chain of Custody Record

116775

Page : 2 of 4

Tetra Tech, Inc.

901 West Wall Street, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: ConocoPhillips	Site Manager: Christian Llull
Project Name: COP SEMU Eumont #84	
Project Location: (county, state) Lea County, New Mexico	Project #: 212C-MD-01991
Invoice to: Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701	
Receiving Laboratory: Pace Analytical	Sampler Signature:
Comments: COPTETRA Acctnum	

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride SW846 9056 300.0	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	BH-1 (39' - 40')	11/14/2019	1110		X				X			1	N																					X
	BH-1 (44' - 45')	11/14/2019	1130		X				X			1	N																					X
	BH-2 (0' - 1')	11/14/2019	1200		X				X			1	N	X		X													X					05
	BH-2 (2' - 3')	11/14/2019	1205		X				X			1	N	↓		↓													↓					07
	BH-2 (4' - 5')	11/14/2019	1210		X				X			1	N																					09
	BH-2 (6' - 7')	11/14/2019	1215		X				X			1	N																					08
	BH-2 (9' - 10')	11/14/2019	1220		X				X			1	N																					X
	BH-2 (14' - 15')	11/14/2019	1230		X				X			1	N																					X
	BH-2 (19' - 20')	11/14/2019	1240		X				X			1	N																					X
	BH-3 (0' - 1')	11/14/2019	1300		X				X			1	N	X		X													X					09

Relinquished by:	Date: 11-15-19	Time: 15:00	Received by:
Relinquished by:	Date: 11-15-19	Time: 1730	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 11-15-19 Time: 15:00

Date: 11-5 Time: 1730

Date: 11/16/19 Time: 1345

LAB USE ONLY

Sample Temperature

2.4 ± 0 = 2.4 °C

temp 1.1/1.4/0.3

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901 West Wall Street, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

116775

Client Name: ConocoPhillips	**Site Manager:** Christian Llull
Project Name: COP SEMU Eumont #84	
Project Location: (county, state) Lea County, New Mexico	**Project #:** 212C-MD-01991
Invoice to: Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701	
Receiving Laboratory: Pace Analytical	**Sampler Signature:**
Comments: COPTETRA Acctnum	

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
	BH-3 (2' - 3')	11/14/2019	1305		X				X			1	N	X		X												X	X				10
	BH-3 (4' - 5')	11/14/2019	1310		X				X			1	N															X					11
	BH-3 (6' - 7')	11/14/2019	1315		X				X			1	N															X					12
	BH-3 (9' - 10')	11/14/2019	1320		X				X			1	N																				13
	BH-3 (14' - 15')	11/14/2019	1330		X				X			1	N																				14
	BH-3 (19' - 20')	11/14/2019	1340		X				X			1	N																				15
	BH-3 (24' - 25')	11/14/2019	1350		X				X			1	N																				16
	BH-3 (29' - 30')	11/14/2019	1400		X				X			1	N																				17
	BH-3 (34' - 35')	11/14/2019	1415		X				X			1	N																				18
	BH-4 (0' - 1')	11/14/2019	1445		X				X			1	N	X		X												X	X				19

Relinquished by:	Date: 11-15-19	Time: 15:00	Received by: Date: 11-15-19 Time: 15:00
Relinquished by:	Date: 11-15-19	Time: 17:30	Received by: Date: 11-15 Time: 17:30
Relinquished by:	Date:	Time:	Received by: Date: 11/16/19 Time: 1345

ORIGINAL COPY

LAB USE ONLY

Sample Temperature

2.4 ID=2.4 KP A3

temps 1.1/1.4/0.3

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901 West Wall Street, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

1161715

Client Name:	ConocoPhillips
Site Manager:	Christian Llull
Project Name:	COP SEMU Eumont #84
Project Location: (county, state)	Lea County, New Mexico
Project #:	212C-MD-01991
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701
Receiving Laboratory:	Pace Analytical
Sampler Signature:	[signature]
Comments:	COPTETRA Acctnum

ANALYSIS REQUEST (Circle or Specify Method No.)

SAMPLING YEAR: 2019

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	DATE	TIME	WATER	SOIL	HCL	HNO_3	ICE	NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD	
	BH-4 (2' - 3')	11/14/2019	1450		X			X		1	N	X		X												X						-20
	BH-4 (4' - 5')	11/14/2019	1455		X			X		1	N	↓		↓												↓						-21
	BH-4 (6' - 7')	11/14/2019	1500		X			X		1	N	↓		↓												↓						-22
	BH-4 (9' - 10')	11/14/2019	1510		X			X		1	N																				X	
	SW-1	11/14/2019	1530		X			X		1	N	X		X												X						-23
	SW-2	11/14/2019	1545		X			X		1	N	X		X												X						-24
	Stockpile-1	11/14/2019	1600		X			X		1	N	X		X												X						-25

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	11-15-19	15:00	[signature]	11-15	15:00
[signature]	11-15-19	17:30	[signature] SOA	11-15	17:30
			[signature]	11/16/19	1345

LAB USE ONLY

Sample Temperature

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: ____________

ORIGINAL COPY

2.4±0=2.4 ℃ 143

temps 1.1/1.4/0.3

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 10, 2020

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1185207
Samples Received:	02/01/2020
Project Number:	212C-MD-01991
Description:	COP SEMU Eumont #84

Report To: Christian Llull
901 West Wall
Suite 100
Midland, TX 79701

Entire Report Reviewed By:

Jason Romer
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

SW-3 L1185207-01 Solid

Collected by | Collected date/time: 01/28/20 12:50 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422855	1	02/05/20 21:12	02/05/20 21:22	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 00:25	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422867	1	02/04/20 11:51	02/05/20 18:16	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423689	5	02/06/20 16:22	02/07/20 09:56	JDG	Mt. Juliet, TN

SW-4 L1185207-02 Solid

Collected by | Collected date/time: 01/28/20 13:00 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422855	1	02/05/20 21:12	02/05/20 21:22	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 00:58	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422867	1	02/04/20 11:51	02/05/20 18:38	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423689	5	02/06/20 16:22	02/07/20 14:36	JDG	Mt. Juliet, TN

SW-5 L1185207-03 Solid

Collected by | Collected date/time: 01/28/20 13:10 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422855	1	02/05/20 21:12	02/05/20 21:22	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 01:14	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422867	1	02/04/20 11:51	02/05/20 19:00	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423689	1	02/06/20 16:22	02/07/20 09:43	JDG	Mt. Juliet, TN

SW-6 L1185207-04 Solid

Collected by | Collected date/time: 01/28/20 13:20 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422855	1	02/05/20 21:12	02/05/20 21:22	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 01:31	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422867	1	02/04/20 11:51	02/05/20 19:23	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423689	10	02/06/20 16:22	02/07/20 10:22	JDG	Mt. Juliet, TN

SW-7 L1185207-05 Solid

Collected by | Collected date/time: 01/28/20 13:30 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422855	1	02/05/20 21:12	02/05/20 21:22	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 01:47	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422867	1	02/04/20 11:51	02/05/20 19:45	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423929	1	02/07/20 07:21	02/09/20 12:30	JDG	Mt. Juliet, TN

SW-8 L1185207-06 Solid

Collected by | Collected date/time: 01/28/20 13:40 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422857	1	02/05/20 16:50	02/05/20 16:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 02:03	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422867	1	02/04/20 11:51	02/05/20 20:08	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423929	1	02/07/20 07:21	02/09/20 14:44	KME	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

SW-9 L1185207-07 Solid

Collected by | Collected date/time: 01/28/20 13:50 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422857	1	02/05/20 16:50	02/05/20 16:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 02:53	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422867	1	02/04/20 11:51	02/05/20 20:29	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423929	1	02/07/20 07:21	02/09/20 12:17	JDG	Mt. Juliet, TN

SW-10 L1185207-08 Solid

Collected by | Collected date/time: 01/28/20 14:00 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422857	1	02/05/20 16:50	02/05/20 16:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 03:09	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422867	1	02/04/20 11:51	02/05/20 21:20	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423929	1	02/07/20 07:21	02/09/20 12:55	JDG	Mt. Juliet, TN

FS-1 L1185207-09 Solid

Collected by | Collected date/time: 01/28/20 12:10 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422857	1	02/05/20 16:50	02/05/20 16:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 03:25	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1423965	1	02/04/20 11:51	02/06/20 22:11	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423929	1	02/07/20 07:21	02/09/20 12:42	JDG	Mt. Juliet, TN

FS-2 L1185207-10 Solid

Collected by | Collected date/time: 01/28/20 12:20 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422857	1	02/05/20 16:50	02/05/20 16:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 03:42	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422994	1	02/04/20 11:51	02/06/20 02:32	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423929	5	02/07/20 07:21	02/10/20 10:18	KME	Mt. Juliet, TN

FS-3 L1185207-11 Solid

Collected by | Collected date/time: 01/28/20 12:30 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422857	1	02/05/20 16:50	02/05/20 16:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 04:31	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422994	1	02/04/20 11:51	02/06/20 02:54	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423930	5	02/07/20 06:22	02/09/20 15:35	KME	Mt. Juliet, TN

FS-4 L1185207-12 Solid

Collected by | Collected date/time: 01/28/20 12:40 | Received date/time: 02/01/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1422857	1	02/05/20 16:50	02/05/20 16:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1421507	1	02/03/20 20:30	02/04/20 04:48	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1422994	1	02/04/20 11:51	02/06/20 03:16	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1423930	1	02/07/20 06:22	02/09/20 11:39	JDG	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.7		1	02/05/2020 21:22	WG1422855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	16.5		0.822	10.3	1	02/04/2020 00:25	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.000283	J	0.000124	0.000517	1	02/05/2020 18:16	WG1422867
Toluene	U		0.000155	0.00517	1	02/05/2020 18:16	WG1422867
Ethylbenzene	U		0.000114	0.000517	1	02/05/2020 18:16	WG1422867
Total Xylene	U		0.000476	0.00155	1	02/05/2020 18:16	WG1422867
TPH (GC/FID) Low Fraction	0.0815	B J	0.0224	0.103	1	02/05/2020 18:16	WG1422867
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/05/2020 18:16*	WG1422867
(S) a,a,a-Trifluorotoluene(PID)	*102*			*72.0-128*		*02/05/2020 18:16*	WG1422867

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	55.7		8.33	20.7	5	02/07/2020 09:56	WG1423689
C28-C40 Oil Range	185		1.42	20.7	5	02/07/2020 09:56	WG1423689
(S) o-Terphenyl	*48.9*			*18.0-148*		*02/07/2020 09:56*	WG1423689

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.7		1	02/05/2020 21:22	WG1422855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	13.6	B	0.797	10.0	1	02/04/2020 00:58	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.000707		0.000120	0.000501	1	02/05/2020 18:38	WG1422867
Toluene	U		0.000150	0.00501	1	02/05/2020 18:38	WG1422867
Ethylbenzene	U		0.000110	0.000501	1	02/05/2020 18:38	WG1422867
Total Xylene	U		0.000461	0.00150	1	02/05/2020 18:38	WG1422867
TPH (GC/FID) Low Fraction	0.0776	B J	0.0218	0.100	1	02/05/2020 18:38	WG1422867
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/05/2020 18:38*	WG1422867
(S) a,a,a-Trifluorotoluene(PID)	*103*			*72.0-128*		*02/05/2020 18:38*	WG1422867

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	20.6		8.07	20.1	5	02/07/2020 14:36	WG1423689
C28-C40 Oil Range	65.3		1.37	20.1	5	02/07/2020 14:36	WG1423689
(S) o-Terphenyl	*62.6*			*18.0-148*		*02/07/2020 14:36*	WG1423689

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.7		1	02/05/2020 21:22	WG1422855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	4.64	B J	0.814	10.2	1	02/04/2020 01:14	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000123	0.000512	1	02/05/2020 19:00	WG1422867
Toluene	U		0.000154	0.00512	1	02/05/2020 19:00	WG1422867
Ethylbenzene	U		0.000113	0.000512	1	02/05/2020 19:00	WG1422867
Total Xylene	U		0.000471	0.00154	1	02/05/2020 19:00	WG1422867
TPH (GC/FID) Low Fraction	0.0814	B J	0.0222	0.102	1	02/05/2020 19:00	WG1422867
(S) a,a,a-Trifluorotoluene(FID)	*106*			*77.0-120*		*02/05/2020 19:00*	WG1422867
(S) a,a,a-Trifluorotoluene(PID)	*103*			*72.0-128*		*02/05/2020 19:00*	WG1422867

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.65	4.10	1	02/07/2020 09:43	WG1423689
C28-C40 Oil Range	3.95	J	0.281	4.10	1	02/07/2020 09:43	WG1423689
(S) o-Terphenyl	*68.0*			*18.0-148*		*02/07/2020 09:43*	WG1423689

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.7		1	02/05/2020 21:22	WG1422855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	133		0.798	10.0	1	02/04/2020 01:31	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000120	0.000502	1	02/05/2020 19:23	WG1422867
Toluene	U		0.000151	0.00502	1	02/05/2020 19:23	WG1422867
Ethylbenzene	U		0.000110	0.000502	1	02/05/2020 19:23	WG1422867
Total Xylene	U		0.000462	0.00151	1	02/05/2020 19:23	WG1422867
TPH (GC/FID) Low Fraction	0.0576	B J	0.0218	0.100	1	02/05/2020 19:23	WG1422867
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/05/2020 19:23*	WG1422867
(S) a,a,a-Trifluorotoluene(PID)	*100*			*72.0-128*		*02/05/2020 19:23*	WG1422867

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	190		16.2	40.1	10	02/07/2020 10:22	WG1423689
C28-C40 Oil Range	397		2.75	40.1	10	02/07/2020 10:22	WG1423689
(S) o-Terphenyl	*51.1*			*18.0-148*		*02/07/2020 10:22*	WG1423689

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.3		1	02/05/2020 21:22	WG1422855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	0.977	B J	0.834	10.5	1	02/04/2020 01:47	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000126	0.000525	1	02/05/2020 19:45	WG1422867
Toluene	U		0.000157	0.00525	1	02/05/2020 19:45	WG1422867
Ethylbenzene	U		0.000115	0.000525	1	02/05/2020 19:45	WG1422867
Total Xylene	U		0.000483	0.00157	1	02/05/2020 19:45	WG1422867
TPH (GC/FID) Low Fraction	0.0800	B J	0.0228	0.105	1	02/05/2020 19:45	WG1422867
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/05/2020 19:45*	WG1422867
(S) a,a,a-Trifluorotoluene(PID)	*102*			*72.0-128*		*02/05/2020 19:45*	WG1422867

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	4.27		1.69	4.20	1	02/09/2020 12:30	WG1423929
C28-C40 Oil Range	15.5		0.288	4.20	1	02/09/2020 12:30	WG1423929
(S) o-Terphenyl	*60.0*			*18.0-148*		*02/09/2020 12:30*	WG1423929

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.0		1	02/05/2020 16:58	WG1422857

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	103		0.811	10.2	1	02/04/2020 02:03	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000122	0.000510	1	02/05/2020 20:08	WG1422867
Toluene	U		0.000153	0.00510	1	02/05/2020 20:08	WG1422867
Ethylbenzene	U		0.000112	0.000510	1	02/05/2020 20:08	WG1422867
Total Xylene	U		0.000469	0.00153	1	02/05/2020 20:08	WG1422867
TPH (GC/FID) Low Fraction	0.0637	B J	0.0221	0.102	1	02/05/2020 20:08	WG1422867
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/05/2020 20:08*	WG1422867
(S) a,a,a-Trifluorotoluene(PID)	*102*			*72.0-128*		*02/05/2020 20:08*	WG1422867

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.64	4.08	1	02/09/2020 14:44	WG1423929
C28-C40 Oil Range	1.60	J	0.280	4.08	1	02/09/2020 14:44	WG1423929
(S) o-Terphenyl	*67.4*			*18.0-148*		*02/09/2020 14:44*	WG1423929

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.6		1	02/05/2020 16:58	WG1422857

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	19.8		0.814	10.2	1	02/04/2020 02:53	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000123	0.000512	1	02/05/2020 20:29	WG1422867
Toluene	U		0.000154	0.00512	1	02/05/2020 20:29	WG1422867
Ethylbenzene	U		0.000113	0.000512	1	02/05/2020 20:29	WG1422867
Total Xylene	U		0.000471	0.00154	1	02/05/2020 20:29	WG1422867
TPH (GC/FID) Low Fraction	0.0637	B J	0.0222	0.102	1	02/05/2020 20:29	WG1422867
(S) a,a,a-Trifluorotoluene(FID)	*108*			*77.0-120*		*02/05/2020 20:29*	WG1422867
(S) a,a,a-Trifluorotoluene(PID)	*103*			*72.0-128*		*02/05/2020 20:29*	WG1422867

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.65	4.10	1	02/09/2020 12:17	WG1423929
C28-C40 Oil Range	3.24	J	0.281	4.10	1	02/09/2020 12:17	WG1423929
(S) o-Terphenyl	*76.4*			*18.0-148*		*02/09/2020 12:17*	WG1423929

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.3		1	02/05/2020 16:58	WG1422857

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	1.12	B J	0.843	10.6	1	02/04/2020 03:09	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000127	0.000530	1	02/05/2020 21:20	WG1422867
Toluene	U		0.000159	0.00530	1	02/05/2020 21:20	WG1422867
Ethylbenzene	U		0.000117	0.000530	1	02/05/2020 21:20	WG1422867
Total Xylene	U		0.000488	0.00159	1	02/05/2020 21:20	WG1422867
TPH (GC/FID) Low Fraction	0.0640	B J	0.0230	0.106	1	02/05/2020 21:20	WG1422867
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/05/2020 21:20*	WG1422867
(S) a,a,a-Trifluorotoluene(PID)	*102*			*72.0-128*		*02/05/2020 21:20*	WG1422867

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	11.3		1.71	4.24	1	02/09/2020 12:55	WG1423929
C28-C40 Oil Range	34.0		0.290	4.24	1	02/09/2020 12:55	WG1423929
(S) o-Terphenyl	*60.7*			*18.0-148*		*02/09/2020 12:55*	WG1423929

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.4		1	02/05/2020 16:58	WG1422857

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	3.53	B J	0.825	10.4	1	02/04/2020 03:25	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000125	0.000519	1	02/06/2020 22:11	WG1423965
Toluene	U		0.000156	0.00519	1	02/06/2020 22:11	WG1423965
Ethylbenzene	U		0.000114	0.000519	1	02/06/2020 22:11	WG1423965
Total Xylene	U		0.000477	0.00156	1	02/06/2020 22:11	WG1423965
TPH (GC/FID) Low Fraction	0.0426	B J	0.0225	0.104	1	02/06/2020 22:11	WG1423965
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*02/06/2020 22:11*	WG1423965
(S) a,a,a-Trifluorotoluene(PID)	*95.5*			*72.0-128*		*02/06/2020 22:11*	WG1423965

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	6.02		1.67	4.15	1	02/09/2020 12:42	WG1423929
C28-C40 Oil Range	21.3		0.284	4.15	1	02/09/2020 12:42	WG1423929
(S) o-Terphenyl	*66.4*			*18.0-148*		*02/09/2020 12:42*	WG1423929

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.8		1	02/05/2020 16:58	WG1422857

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	15.1	B	0.805	10.1	1	02/04/2020 03:42	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000121	0.000506	1	02/06/2020 02:32	WG1422994
Toluene	U		0.000152	0.00506	1	02/06/2020 02:32	WG1422994
Ethylbenzene	U		0.000111	0.000506	1	02/06/2020 02:32	WG1422994
Total Xylene	U		0.000466	0.00152	1	02/06/2020 02:32	WG1422994
TPH (GC/FID) Low Fraction	0.0539	B J	0.0220	0.101	1	02/06/2020 02:32	WG1422994
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/06/2020 02:32*	WG1422994
(S) a,a,a-Trifluorotoluene(PID)	*103*			*72.0-128*		*02/06/2020 02:32*	WG1422994

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	46.7		8.15	20.2	5	02/10/2020 10:18	WG1423929
C28-C40 Oil Range	134		1.39	20.2	5	02/10/2020 10:18	WG1423929
(S) o-Terphenyl	*62.7*			*18.0-148*		*02/10/2020 10:18*	WG1423929

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.6		1	02/05/2020 16:58	WG1422857

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	12.9	B	0.806	10.1	1	02/04/2020 04:31	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000122	0.000507	1	02/06/2020 02:54	WG1422994
Toluene	U		0.000152	0.00507	1	02/06/2020 02:54	WG1422994
Ethylbenzene	U		0.000112	0.000507	1	02/06/2020 02:54	WG1422994
Total Xylene	U		0.000467	0.00152	1	02/06/2020 02:54	WG1422994
TPH (GC/FID) Low Fraction	0.0563	B J	0.0220	0.101	1	02/06/2020 02:54	WG1422994
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/06/2020 02:54*	WG1422994
(S) a,a,a-Trifluorotoluene(PID)	*103*			*72.0-128*		*02/06/2020 02:54*	WG1422994

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	19.7	J	8.17	20.3	5	02/09/2020 15:35	WG1423930
C28-C40 Oil Range	49.3		1.39	20.3	5	02/09/2020 15:35	WG1423930
(S) o-Terphenyl	*72.4*			*18.0-148*		*02/09/2020 15:35*	WG1423930

Sample Narrative:

L1185207-11 WG1423930: Cannot run at lower dilution due to viscosity of extract

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.8		1	02/05/2020 16:58	WG1422857

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	2.51	B J	0.830	10.4	1	02/04/2020 04:48	WG1421507

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000125	0.000522	1	02/06/2020 03:16	WG1422994
Toluene	U		0.000157	0.00522	1	02/06/2020 03:16	WG1422994
Ethylbenzene	U		0.000115	0.000522	1	02/06/2020 03:16	WG1422994
Total Xylene	U		0.000480	0.00157	1	02/06/2020 03:16	WG1422994
TPH (GC/FID) Low Fraction	0.0617	B J	0.0227	0.104	1	02/06/2020 03:16	WG1422994
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*02/06/2020 03:16*	WG1422994
(S) a,a,a-Trifluorotoluene(PID)	*101*			*72.0-128*		*02/06/2020 03:16*	WG1422994

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	4.66		1.68	4.18	1	02/09/2020 11:39	WG1423930
C28-C40 Oil Range	14.8		0.286	4.18	1	02/09/2020 11:39	WG1423930
(S) o-Terphenyl	*57.9*			*18.0-148*		*02/09/2020 11:39*	WG1423930

Method Blank (MB)

(MB) R3497535-1 02/05/20 21:22

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1185207-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1185207-01 02/05/20 21:22 • (DUP) R3497535-3 02/05/20 21:22

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	96.7	97.2	1	0.558		10

Laboratory Control Sample (LCS)

(LCS) R3497535-2 02/05/20 21:22

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	99.9	85.0-115	

Method Blank (MB)

(MB) R3497493-1 02/05/20 16:58

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1185207-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1185207-11 02/05/20 16:58 • (DUP) R3497493-3 02/05/20 16:58

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	98.6	99.3	1	0.695		10

Laboratory Control Sample (LCS)

(LCS) R3497493-2 02/05/20 16:58

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3496621-1 02/03/20 23:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	1.58	J	0.795	10.0

L1185207-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1185207-01 02/04/20 00:25 • (DUP) R3496621-3 02/04/20 00:41

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	16.5	14.9	1	9.89		20

L1185221-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1185221-02 02/04/20 06:59 • (DUP) R3496621-6 02/04/20 07:15

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4200	4110	10	2.31		20

Laboratory Control Sample (LCS)

(LCS) R3496621-2 02/03/20 23:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	209	104	90.0-110	

L1185207-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1185207-10 02/04/20 03:42 • (MS) R3496621-4 02/04/20 03:58 • (MSD) R3496621-5 02/04/20 04:15

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	506	15.1	548	539	105	104	1	80.0-120			1.56	20

Method Blank (MB)

(MB) R3497638-3 02/05/20 12:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0795	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*108*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*105*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3497638-1 02/05/20 10:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0568	114	76.0-121	
Toluene	0.0500	0.0555	111	80.0-120	
Ethylbenzene	0.0500	0.0526	105	80.0-124	
Total Xylene	0.150	0.152	101	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*108*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*105*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3497638-2 02/05/20 11:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.84	124	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*111*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*111*	*72.0-128*	

L1185207-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1185207-08 02/05/20 21:20 • (MS) R3497638-4 02/05/20 22:05 • (MSD) R3497638-5 02/05/20 22:27

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0514	U	0.0404	0.0430	78.6	82.0	1	10.0-155			6.35	32
Toluene	0.0514	U	0.0338	0.0345	65.8	65.7	1	10.0-160			1.86	34
Ethylbenzene	0.0514	U	0.0323	0.0334	62.9	63.6	1	10.0-160			3.23	32
Total Xylene	0.155	U	0.0868	0.0902	56.1	57.1	1	10.0-160			3.83	32
(S) a,a,a-Trifluorotoluene(FID)					*107*	*107*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*105*	*104*		*72.0-128*				

L1185207-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1185207-08 02/05/20 21:20 • (MS) R3497638-6 02/05/20 22:49 • (MSD) R3497638-7 02/05/20 23:11

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.83	0.0640	4.69	5.01	79.3	85.7	1	10.0-151			6.78	28
(S) a,a,a-Trifluorotoluene(FID)					*107*	*112*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*109*	*110*		*72.0-128*				

Method Blank (MB)

(MB) R3497639-3 02/06/20 02:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0598	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*108*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*104*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3497639-1 02/06/20 01:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0437	87.4	76.0-121	
Toluene	0.0500	0.0431	86.2	80.0-120	
Ethylbenzene	0.0500	0.0403	80.6	80.0-124	
Total Xylene	0.150	0.117	78.0	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*108*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*105*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3497639-2 02/06/20 01:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.14	112	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*110*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*111*	*72.0-128*	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

L1185207-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1185207-11 02/06/20 02:54 • (MS) R3497639-4 02/06/20 11:51 • (MSD) R3497639-5 02/06/20 12:13

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0492	U	0.0447	0.0481	90.9	95.8	1	10.0-155			7.21	32
Toluene	0.0492	U	0.0405	0.0442	82.3	88.1	1	10.0-160			8.86	34
Ethylbenzene	0.0492	U	0.0346	0.0365	70.3	72.7	1	10.0-160			5.42	32
Total Xylene	0.148	U	0.0976	0.103	65.9	68.5	1	10.0-160			5.85	32
(S) a,a,a-Trifluorotoluene(FID)					*108*	*108*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*104*	*104*		*72.0-128*				

L1185207-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1185207-11 02/06/20 02:54 • (MS) R3497639-6 02/06/20 12:35 • (MSD) R3497639-7 02/06/20 13:20

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.36	0.0563	4.08	4.54	75.1	82.9	1	10.0-151			10.8	28
(S) a,a,a-Trifluorotoluene(FID)					*108*	*108*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*108*	*108*		*72.0-128*				

Method Blank (MB)

(MB) R3497801-3 02/06/20 16:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0510	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*99.3*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3497801-1 02/06/20 15:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0513	103	76.0-121	
Toluene	0.0500	0.0503	101	80.0-120	
Ethylbenzene	0.0500	0.0481	96.2	80.0-124	
Total Xylene	0.150	0.137	91.3	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*101*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3497801-2 02/06/20 16:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.49	99.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*106*	*72.0-128*	

Method Blank (MB)

(MB) R3497783-1 02/07/20 00:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	0.302	J	0.274	4.00
(S) o-Terphenyl	*69.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3497783-2 02/07/20 00:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	31.3	62.6	50.0-150	
(S) o-Terphenyl			*65.0*	*18.0-148*	

L1185163-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1185163-03 02/07/20 04:16 • (MS) R3497783-3 02/07/20 04:29 • (MSD) R3497783-4 02/07/20 08:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	7.97	32.9	34.0	49.9	52.1	1	50.0-150	J6		3.29	20
(S) o-Terphenyl					*59.3*	*62.5*		*18.0-148*				

Method Blank (MB)

(MB) R3498207-1 02/09/20 09:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*77.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3498207-2 02/09/20 09:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	44.4	88.8	50.0-150	
(S) o-Terphenyl			*94.1*	*18.0-148*	

Method Blank (MB)

(MB) R3498208-1 02/09/20 10:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*74.6*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3498208-2 02/09/20 10:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	44.4	88.8	50.0-150	
(S) o-Terphenyl			*95.3*	*18.0-148*	

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

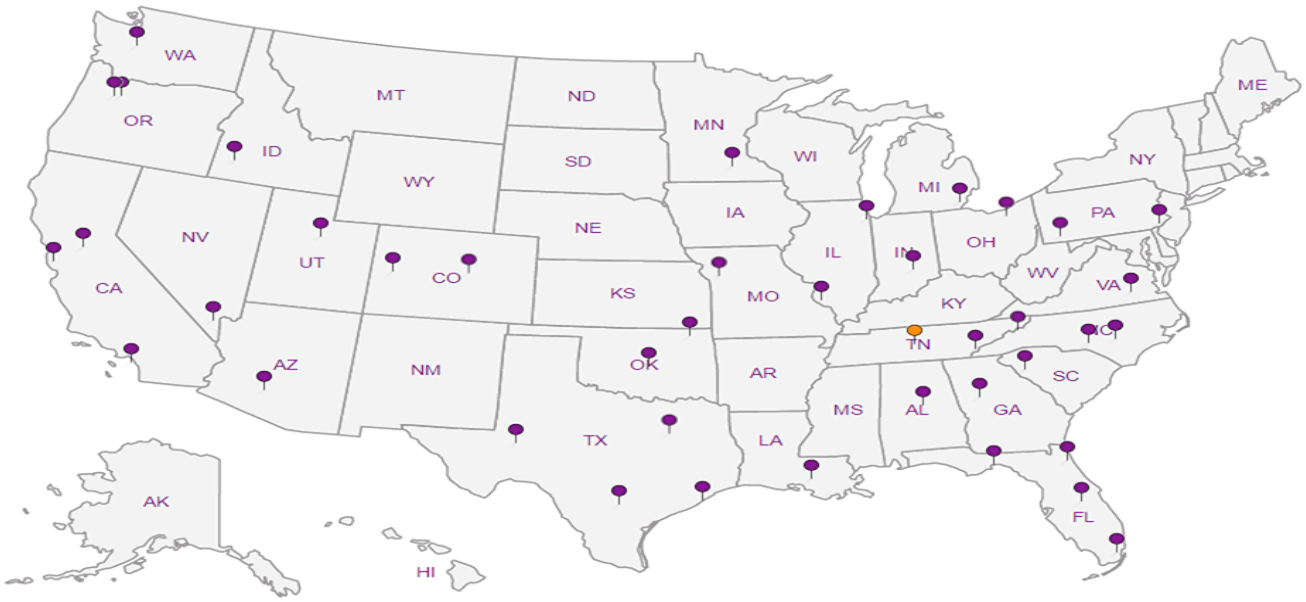
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Analysis Request of Chain of Custody Record

Page : 1 of 2

Tetra Tech, Inc.

901 West Wall Street, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

118520l

F079

Client Name:	Conoco Phillips	**Site Manager:**	Chrisian Llull
Project Name:	COP SEMU Eumont #84		
Project Location: (county, state)	Culberson County, Texas	**Project #:**	212C-MD-01153
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	[signature]
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2020)	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	HNO_3	ICE	NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B (circled) BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	SW-3	1/28/2020	1250		X			X		1	N	X		X												X					01	
	SW-4	1/28/2020	1300		X			X		1	N	X		X												X					02	
	SW-5	1/28/2020	1310		X			X		1	N	X		X												X					03	
	SW-6	1/28/2020	1320		X			X		1	N	X		X												X					04	
	SW-7	1/28/2020	1330		X			X		1	N	X		X												X					05	
	SW-8	1/28/2020	1340		X			X		1	N	X		X												X					06	
	SW-9	1/28/2020	1350		X			X		1	N	X		X												X					07	
	SW-10	1/28/2020	1400		X			X		1	N	X		X												X					08	
	FS-1	1/28/2020	1210		X			X		1	N	X		X												X					10	
	FS-2	1/28/2020	1220		X			X		1	N	X		X												X					10	

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	1-31-20	1330	[signature]	1-31-20	13:30
[signature]	1-31-20	16:30	FedEx	1-31-20	16:30
			[signature]	2/1/20	830

LAB USE ONLY

Sample Temperature

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: ______

ORIGINAL COPY

.8±0=.8 UM A6

RAD SCREEN: <0.5 mR/hr

12 cont. N/P TB

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901 West Wall Street, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

1185207

Client Name:	Conoco Phillips	**Site Manager:**	Chrisian Llull
Project Name:	COP Dust Devil CTB		
Project Location: (county, state)	Culberson County, Texas	**Project #:**	212C-MD-02028
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	[signature]
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	DATE (YEAR: 2020)	TIME	WATER	SOIL		HCL	HNO_3	ICE	NONE		# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	FS-3	1/28/2020	1230		X				X			1	N	X		X												X						11
	FS-4	1/28/2020	1240		X				X			1	N	X		X												X						12

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	1-31-20	1330	[signature]	1-31-20	13:31
[signature]	1-31-20	16:30	FedEx	1-31-20	1630
			[signature]	2/1/20	830

LAB USE ONLY

Sample Temperature

REMARKS:
- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: ________

4510165970096 ORIGINAL COPY .8±0=.8 uAH Ale

RAD SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: Coptetra	118520	
Cooler Received/Opened On: 3/1 / 20 Temperature:	-8	
Received By: CLARK DIXON		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901 West Wall Street, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

118520 F079

Client Name:	Conoco Phillips
Site Manager:	Chrisian Llull
Project Name:	COP SEMU Eumont #84
Project Location: (county, state)	Lea County, NM
Project #:	212C-MD-01991
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701
Receiving Laboratory:	Pace Analytical
Sampler Signature:	[signature]
Comments:	COPTETRA Acctnum

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2020 DATE	TIME	MATRIX WATER	SOIL	PRESERVATIVE METHOD HCL	HNO_3	ICE	NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	
	SW-3	1/28/2020	1250		X			X		1	N	X		X												X					01
	SW-4	1/28/2020	1300		X			X		1	N	X		X												X					02
	SW-5	1/28/2020	1310		X			X		1	N	X		X												X					-03
	SW-6	1/28/2020	1320		X			X		1	N	X		X												X					04
	SW-7	1/28/2020	1330		X			X		1	N	X		X												X					05
	SW-8	1/28/2020	1340		X			X		1	N	X		X												X					06
	SW-9	1/28/2020	1350		X			X		1	N	X		X												X					07
	SW-10	1/28/2020	1400		X			X		1	N	X		X												X					08
	FS-1	1/28/2020	1210		X			X		1	N	X		X												X					[illegible]
	FS-2	1/28/2020	1220		X			X		1	N	X		X												X					[illegible]

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	1-31-20	1330	[signature]	1-31-20	1330
[signature]	1-31-20	16:30	FedEx	1-31-20	16:30
			[signature]	2/1/20	830

LAB USE ONLY

Sample Temperature

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: ______

ORIGINAL COPY

.8±0=.8 uu A6

12 cont. MP-TB

RAD SCREEN: <0.5 mR/hr

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901 West Wall Street, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

1135207

Client Name:	Conoco Phillips
Site Manager:	Chrisian Llull
Project Name:	COP SEMU Eumont #84
Project Location: (county, state)	Lea County, NM
Project #:	212C-MD-01991
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701
Receiving Laboratory:	Pace Analytical
Sampler Signature:	[signature]
Comments:	COPTETRA Acctnum

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2020 DATE	TIME	MATRIX WATER	SOIL		PRESERVATIVE METHOD HCL	HNO_3	ICE	NONE	# CONTAINERS	FILTERED (Y/N)	(BTEX 8021B) BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	FS-3	1/28/2020	1230		X				X		1	N	X		X												X					1	1
	FS-4	1/28/2020	1240		X				X		1	N	X		X												X					1	2

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	1-31-20	1330	[signature]	1-31-20	13:3[illegible]
[signature]	1-31-20	16:30	FedEx	1-31-20	16:30
			[signature]	2/1/20	830

LAB USE ONLY

Sample Temperature

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: ___

6010165970 96 ORIGINAL COPY .8±0=8 uAH Rle

RAD SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: Coptetra	118570	
Cooler Received/Opened On: 2/1/20 Temperature:	-.8	
Received By: CLARK DIXON		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

APPENDIX D
Boring Logs

212C-MD-01991 | TETRA TECH | **LOG OF BORING BH-1** | Page 1 of 2

Project Name: SEMU Eumont #84 Release

Borehole Location: GPS: 32.564599°, -103.232965° | Surface Elevation: 3535 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 8 | Date Started: 11/14/2019 | Date Finished: 11/14/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				0.8								**-SM-** SILTY SAND: Brown, loose, with few gravel, no odor, no staining.		BH-1 (0-1')
				1.1										BH-1 (2-3')
5			137	1.1										BH-1 (4-5')
				1.2										BH-1 (6-7')
													8	
10			266	1								**-ML-** SILT: Tan, medium dense to dense, moderately cemented, with few gravel, no odor, no staining.		
15				0.9										
20			172	1.1										
25				0.6										

Sampler Types: Split Spoon, Shelby, Bulk Sample, Grab Sample, Acetate Liner, Vane Shear, California, Test Pit

Operation Types: Mud Rotary, Continuous Flight Auger, Wash Rotary, Auger, Air Rotary, Core Barrel, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01991 | TETRA TECH | **LOG OF BORING BH-1** | Page 2 of 2

Project Name: SEMU Eumont #84 Release

Borehole Location: GPS: 32.564599°, -103.232965° | Surface Elevation: 3535 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 8 | Date Started: 11/14/2019 | Date Finished: 11/14/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
													27	
												-SM- SILTY SAND: Brown, loose, with no odor, no staining.		
30			186	0.5									32	
												-SM- SILTY SAND: White, very dense, heavily cemented, with moderate gravel, no odor, no staining.		
35				0.8										
40			137	0.9									42	
												-GW- GRAVEL: White, very dense, with minimal fines, no odor, no staining.		
45				1.1									45	

Bottom of borehole at 45.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01991 | TETRA TECH | **LOG OF BORING BH-2** | Page 1 of 1

Project Name: SEMU Eumont #84 Release

Borehole Location: GPS: 32.564548°, -103.233061° | Surface Elevation: 3536 ft

Borehole Number: BH-2 | Borehole Diameter (in.): 8 | Date Started: 11/14/2019 | Date Finished: 11/14/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				0.9								**-TOPSOIL-** TOPSOIL: Brown, loose, with organics, no odor, no staining.	1	BH-2 (0-1')
												-SM- SILTY SAND: Brown, loose, with no odor, no staining.		
			42.3	1										BH-2 (2-3')
5				1.2										BH-2 (4-5')
			291	1.1										BH-2 (6-7')
													8	
												-SM- SILTY SAND: Tan, medium dense to dense, moderately cemented, with no odor, no staining.		
10			1220	0.8										
15			1170	0.9										
20			521	1.1									20	

Bottom of borehole at 20.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01991 | TETRA TECH | **LOG OF BORING BH-3** | Page 1 of 2

Project Name: SEMU Eumont #84 Release

Borehole Location: GPS: 32.564442°, -103.232916° | Surface Elevation: 3536 ft

Borehole Number: BH-3 | Borehole Diameter (in.): 8 | Date Started: 11/14/2019 | Date Finished: 11/14/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			128	1.1								**-TOPSOIL-** TOPSOIL: Brown, loose, with organics, no odor, no staining.	1	BH-3 (0-1')
												-SM- SILTY SAND: Brown, loose, with no odor, no staining.		
				1.2										BH-3 (2-3')
5			321	1.1										BH-3 (4-5')
				0.5										BH-3 (6-7')
													8	
												-SM- SILTY SAND: Tan, loose, with no odor, no staining.		
10			167	0.9										BH-3 (9-10')
													12	
												-SM- SILTY SAND: Tan, medium dense to dense, moderately cemented, with no odor, no staining.		
15			935	1.2										BH-3 (14-15')
20			843	0.8										BH-3 (19-20')
25				0.9										BH-3 (24-25')

Sampler Types: Split Spoon, Shelby, Bulk Sample, Grab Sample, Acetate Liner, Vane Shear, California, Test Pit

Operation Types: Mud Rotary, Continuous Flight Auger, Wash Rotary, Auger, Air Rotary, Core Barrel, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01991 | TETRA TECH | **LOG OF BORING BH-3** | Page 2 of 2

Project Name: SEMU Eumont #84 Release

Borehole Location: GPS: 32.564442°, -103.232916° | Surface Elevation: 3536 ft

Borehole Number: BH-3 | Borehole Diameter (in.): 8 | Date Started: 11/14/2019 | Date Finished: 11/14/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
													27	
												-SM- SILTY SAND: Tan, medium dense to dense, moderately cemented, with few gravel, no odor, no staining.		
30			742	1.1										BH-3 (29-30')
													32	
												-SM- SILTY SAND: White, very dense, heavily cemented, with moderate gravel, no odor, no staining.		
35			544	1.2									35	BH-3 (34-35')

Bottom of borehole at 35.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01991 | TETRA TECH | **LOG OF BORING BH-4** | Page 1 of 1

Project Name: SEMU Eumont #84 Release

Borehole Location: GPS: 32.564639°, -103.233031° | Surface Elevation: 3536 ft

Borehole Number: BH-4 | Borehole Diameter (in.): 8 | Date Started: 11/14/2019 | Date Finished: 11/14/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			43.1	0.6								**-TOPSOIL-** TOPSOIL: Brown, loose, with organics, no odor, no staining.	1	BH-4 (0-1')
												-SM- SILTY SAND: Brown, loose, with no odor, no staining.		
				0.9										BH-4 (2-3')
5			68.9	0.8										BH-4 (4-5')
				1.1										BH-4 (6-7')
													8	
												-SM- SILTY SAND: Tan, medium dense to dense, with no odor, no staining.		
10			54.3	0.6									10	

Bottom of borehole at 10.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

APPENDIX E
Photographic Documentation

TETRA TECH, INC. PROJECT NO. 212C-MD-01991	DESCRIPTION	View east of previously excavated area from the central area.	1
	SITE NAME	SEMU Eumont #84 Release	11/14/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01991	DESCRIPTION	View east of excavated area from inside release footprint.	2
	SITE NAME	SEMU Eumont #84 Release	11/14/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01991	DESCRIPTION	View north from excavated area inside release footprint. Clean stockpile visible.	3
	SITE NAME	SEMU Eumont #84 Release	11/14/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01991	DESCRIPTION	View northwest of excavated area from outside release footprint.	4
	SITE NAME	SEMU Eumont #84 Release	11/14/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01991	DESCRIPTION	View of confirmation sidewall sampling location.	5
	SITE NAME	SEMU Eumont #84 Release	01/28/2020

TETRA TECH, INC. PROJECT NO. 212C-MD-01991	DESCRIPTION	View of confirmation sidewall sampling location.	6
	SITE NAME	SEMU Eumont #84 Release	01/28/2020

TETRA TECH, INC. PROJECT NO. 212C-MD-01991	DESCRIPTION	View of confirmation sidewall sampling location.	7
	SITE NAME	SEMU Eumont #84 Release	01/28/2020

TETRA TECH, INC. PROJECT NO. 212C-MD-01991	DESCRIPTION	View of confirmation sidewall sampling location.	8
	SITE NAME	SEMU Eumont #84 Release	01/28/2020

APPENDIX F
NMSLO Seed Mixture Details

NMSLO Seed Mix Sandy (S)

SANDY (S) SITES SEED MIXTURE:

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sand bluestem	**Elida, VNS, So.**	**2.0**	**F**
Little bluestem	**Cimarron, Pastura**	**3.0**	**F**
Black grama	**VNS, Southern**	**1.0**	**D**
Sand dropseed	**VNS, Southern**	**4.0**	**S**
Plains bristlegrass	**VNS, Southern**	**2.0**	**D**
Forbs:			
Firewheel (Gaillardia)	**VNS, Southern**	**1.0**	**D**
Annual Sunflower	**VNS, Southern**	**1.0**	**D**
Shrubs:			
Fourwing Saltbush	**VNS, Southern**	**1.0**	**F**
	Total PLS/acre	**16.0**	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box
VNS = Variety Not Stated, PLS = Pure Live Seed

- Seed mixes should be provided in bags separating seed types into the three categories: small (S), standard (D) and fluffy (F).
- VNS, Southern – Seed should be from a southern latitude collection of this species.
- Double seed application rate for broadcast or hydroseeding.
- If one species is not available, contact the SLO for an approved substitute; alternatively the SLO may require other species proportionately increased.
- Additional information on these seed species can be found on the USDA Plants Database website at http://plants.usda.gov.

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Lea County, New Mexico

November 26, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

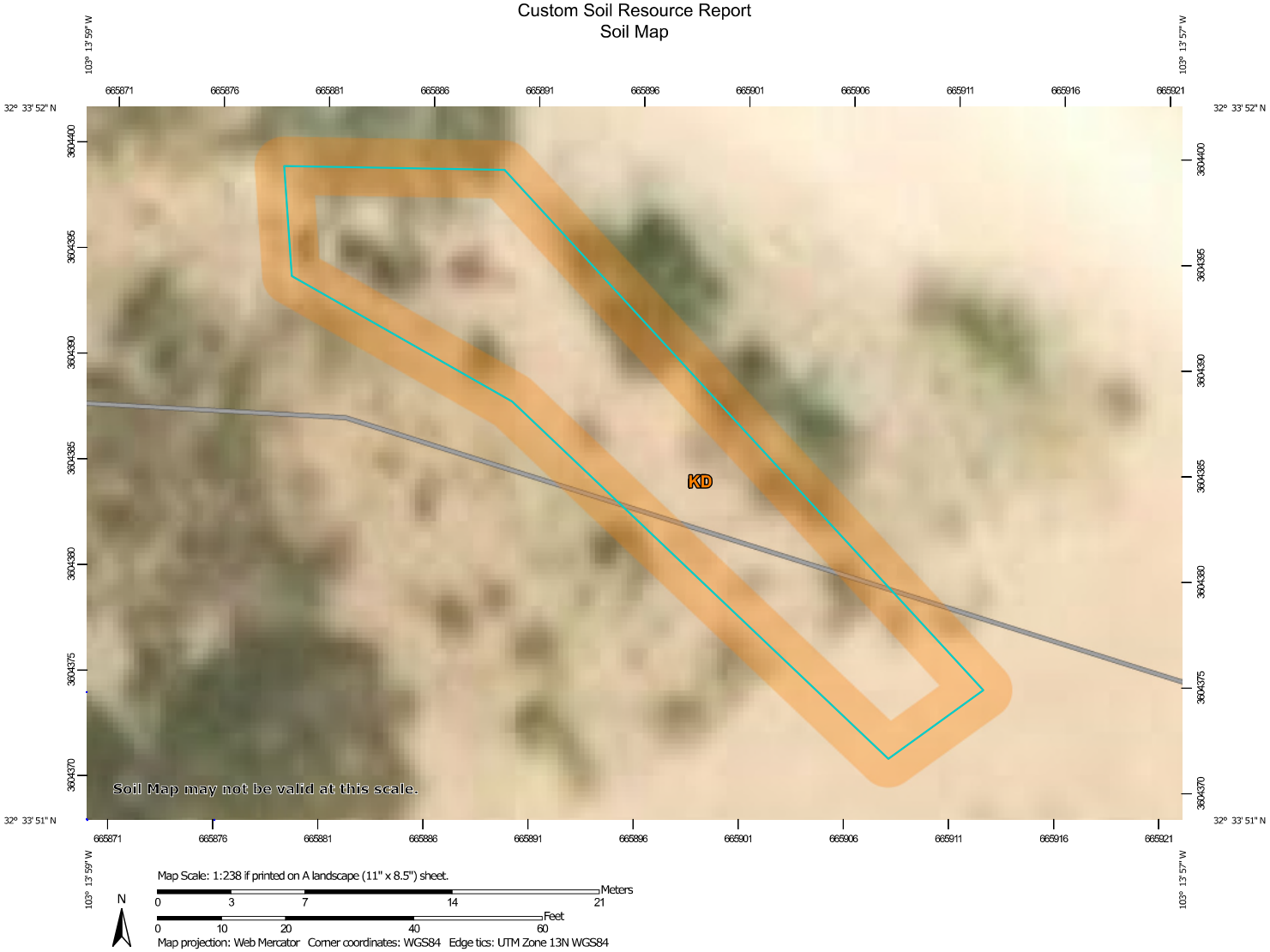
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:238 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 3 7 14 21

Feet
0 10 20 40 60

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 16, Sep 15, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2016—Dec 15, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KD	Kermit-Palomas fine sands, 0 to 12 percent slopes	0.1	100.0%
Totals for Area of Interest		**0.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lea County, New Mexico

KD—Kermit-Palomas fine sands, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: dmpv
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 70 percent
Palomas and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kermit

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex
Parent material: Calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sand
C - 8 to 60 inches: fine sand

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Deep Sand (R042XC005NM)
Hydric soil rating: No

Description of Palomas

Setting

Landform: Dunes

Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex
Parent material: Alluvium derived from sandstone

Typical profile

A - 0 to 16 inches: fine sand
Bt - 16 to 60 inches: sandy clay loam
Bk - 60 to 66 inches: sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 50 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Minor Components

Maljamar

Percent of map unit: 4 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Pyote

Percent of map unit: 4 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Dune land

Percent of map unit: 1 percent
Hydric soil rating: No

Palomas

Percent of map unit: 1 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Custom Soil Resource Report

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf