SITE INFORMATION

Report Type: Work Plan NRM2003450092

General Site Information:						
Site:	MCA Unit 108 Flowline Release					
Company:	ConocoPhillips					
Section, Township and Range	Unit Letter A	Sec. 30	T 17S	R 32E		
Lease Number:	N/A					
County:	Lea					
GPS:	32.809362°			-103.800769°		
Surface Owner:	State of New Mexico					
Mineral Owner:	N/A					
Directions:	Depart from Maljamar (US-82/Maljamar Rd): Head south on Maljamar Rd for 2.75 miles. Turn right onto dirt road. Head west for 2.08 miles. Turn left onto dirt road. Head south for 0.47 miles. Destination is on the right, 500 feet west of the road in the pasture.					

Release Data:		
Date Released:	1/18/2017	
Type Release:	Crude Oil and Produced Water	
Source of Contamination:	Flowline Release	
Fluid Released:	2 bbls crude oil, 6.4 bbls produced water	
Fluids Recovered:	0 bbls crude oil, 0 bbls produced water	

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
	832-486-2730		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:	*82' 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 lake:	*No*
Extents within 300 feet of an occupied structure:	*No*
Extents within 500 horizontal feet of a private water well:	*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*

TETRA TECH

September 28, 2020

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

Re: Release Characterization and Remediation Work Plan
ConocoPhillips
MCA Unit 108 Flowline Release
Unit Letter A, Section 30, Township 17 South, Range 32 East
Lea County, New Mexico
Incident ID NRM2003450092

Dear Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips (COP) to assess a release that occurred from the Maljamar Cooperative Agreement (MCA) Unit 108 well flowline, located in the Public Land Survey System (PLSS) Unit Letter N, Section 22, Township 17 South, Range 35 East, in Lea County, New Mexico (Site). The Site is located at coordinates 32.809362°, -103.800769°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), on January 18, 2017, a release occurred on a flowline from the MCA Unit 108 well. The release consisted of 2 barrels (bbls) of crude oil and 6.4 bbls of produced water. No liquids were recovered at the time of the release. According to COP records, the release was reported in 2017, but no proof of approval or remediation permit number was assigned to the release. Assessment work had begun at the release footprint for characterization purposes, however, the record of documentation of the release from 2017 was incomplete.

The C-141 was initially submitted to the New Mexico Oil Conservation District (NMOCD) on December 19, 2019 and rejected because the Unit Letter/Section/Township/Range (ULSTR) did not match the reported latitude and longitude of the release source. The C-141 was revised, resubmitted, approved by OCD on March 4, 2020, and then subsequently assigned the Incident ID NRM2003450092.

SITE CHARACTERIZATION

The Site is located in the dune fields of the Maljamar Cooperative Agreement (MCA) unit of the Maljamar Field in western Lea County. 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 distances specified in 19.15.29.11 NMAC. The site is in an area with low karst potential.

There are no water wells listed in the New Mexico Office of the State Engineer (NMOSE) database located within ½ mile of the site (approximately 800 m). There are no water wells listed in the NMOSE database within 1.5 miles (2414 m) of the Site. There are twelve water wells listed in the NMOSE database within 2 miles (3219 m) of the Site. The average depth to groundwater is 82 feet (ft) below ground surface (bgs). Site characterization data are included in Appendix B.

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REGULATORY FRAMEWORK

Based upon the release footprint 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 depth the groundwater at the Site (82 ft bgs), the RRALs for 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): 1,000 mg/kg;
- TPH (GRO + DRO + ORO): 2,500 mg/kg;
- Chloride: 600 mg/kg (0 – 4 ft bgs)
- Chloride: 10,000 mg/kg (>4 ft bgs)

INITIAL SITE ASSESSMENT

On March 27, 2018, Tetra Tech personnel were onsite to evaluate and sample the release area footprint. A total of six (6) bore holes (AH-1 through AH-6) were installed using a hand auger to define the vertical extent of the impacted soils within the release extent. The borings were terminated when the auger met refusal, which occurred at depths between 5 and 10 ft bgs. Collected soil samples were field screened for volatiles with a photoionization detector (PID) and for chlorides with an Extech EC400 ExStik. The sample locations are depicted on Figure 3.

A total of thirty-eight (38) samples were sent to Pace Analytical Services, LLC in Allen, Texas to be analyzed for a combination of TPH by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. Samples were analyzed in an iterative fashion, based upon the analytical results from stratigraphically higher intervals. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C.

ADDITIONAL SITE ASSESSMENT

Upon review, the initial site assessment was found to be inadequate for full characterization of the release footprint. The release extent was not vertically nor horizontally delineated for TPH, BTEX and chloride.

In order to adequately characterize the release and achieve horizontal and vertical delineation of the release extent, Tetra Tech, Inc. personnel conducted additional soil sampling in May of 2020 on behalf of COP. Access was severely limited due to the presence of multiple buried, pressurized flow lines running throughout the release extent. Additionally, the unconsolidated dune sand made access using a truck-mounted drilling rig impractical. Thus, soil assessment activities were conducted by both trenching using a mini-excavator and by using a hand auger. A total of eight (8) borings (AH-1 through AH-8) were installed to 5 ft bgs along the perimeter of the release. One trench (Trench 1, or T-1) was installed within the release extent to 20 feet bgs, which is the maximum depth that the mini-excavator was physically able to reach given the circumstances. Sample locations are shown in Figure 3 with the initial sampling locations, designated with (2020).

A total of thirty-three (33) samples were collected from the sample locations and submitted to Pace Analytical National Center for Testing & Innovation in Nashville, Tennessee to be analyzed for chlorides via EPA Method 300.0, TPH via EPA Method 8015M, and BTEX via EPA Method 8021B. A copy of the laboratory analytical report and chain-of-custody documentation is included in Appendix C. Photographic documentation of the additional site assessment is included in Appendix D.

SUMMARY OF SAMPLING RESULTS

Results from the March 2018 site assessment are summarized in Table 1. Analytical results associated with all six locations exceeded the 0 – 4 ft RRAL (100 mg/kg) in surface soils for TPH. Analytical results associated with boring location AH-6 exceeded the RRAL for soils deeper than 4 feet bgs (2,500 mg/kg) at the terminal depth of 6 feet bgs for TPH. Vertical delineation to Site RRALs was achieved at boring location BH-5 at 10 feet bgs, but chlorides exhibited anomalous results at depth. Analytical results associated with boring locations AH-1, AH-3 and AH-4 achieved vertical delineation for chloride at 4 ft bgs (AH-1 and AH-3) and 5 ft bgs (AH-4). There were no exceedances of the RRAL for chlorides in soils deeper than 4 feet bgs (10,000 mg/kg).

Results from the May 2020 soil sampling event are summarized in Table 2. Analytical results associated with the T-1 (trench) vertical location exceeded the 0 – 4 ft reclamation RRAL (100 mg/kg) for TPH in surface soils. At T-1, TPH was delineated vertically within the release extent at a depth of 9-10 feet bgs. Chloride concentrations were elevated above the delineation concentration of 600 mg/kg in subsurface soils (>4 ft bgs) at T-1. However, although analytical results associated with location T-1 exhibited variability at depth for chloride, all analytical results remained below the RRAL for soils deeper than 4 ft bgs of 10,000 mg/kg.

Analytical results associated with the perimeter borings (AH-1 through AH-8) were below Site RRALs in all sampled intervals. Therefore, horizontal delineation was achieved in the May 2020 sampling event. An acceptable vertical definition of contamination for chloride (driven by depth to groundwater and Table I in rule) was achieved to the maximum extent practicable given the circumstances.

REMEDIATION WORK PLAN

Based on the analytical results, COP proposes to remove the impacted material as shown in Tables 1 and 2 and as depicted in Figure 4. Impacted soils around the initial sampling locations AH-5 and AH-6 (2018) will be excavated to a depth of 8 ft bgs. The areas around the initial sampling locations AH-2, AH-3 and AH-4 (2018) and the additional sampling location T-1 (2020) will be excavated to a depth of 3 ft bgs. Finally, the areas around the initial sampling location AH-1 (2018) will be excavated to a depth of 4 ft bgs. Impacted soils within the vicinity of the surface and subsurface lines which intersect the release footprint will be dug by hand to the maximum extent practicable.

Excavated soils will be transported offsite and disposed of an NMOCD approved or permitted facility. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. Once results are received, NMOCD will be notified and the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is 800 cubic yards.

VARIANCE REQUEST

The release area poses significant remediation challenges based on the surface and subsurface conditions at the site. The MCA Unit 108 Flowline Release extent is located in the immediate vicinity of multiple buried, pressurized lines. Remediation of the full release footprint at the Site would require decommissioning these lines and cause a major disruption in production activities for multiple companies and operators in addition to COP.

Therefore, in accordance with 19.15.29.14(A) NMAC, COP requests a variance for the remediation of the release area within 3 feet of both the surface and buried flowlines. These areas will be hand dug to the maximum extent practicable. Given the average depth to groundwater at the Site (82 ft bgs) and the lack of sensitive receptors in the Site vicinity, impacted soils left in place within 3 ft of surface and subsurface flowlines do not pose an imminent risk to human health, the environment, or groundwater.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, COP proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 5. Approximately ten (10) confirmation floor samples and thirty-three (33) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses an area of approximately 4,575 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 Laboratories for analysis of TPH (Method 8015 modified), BTEX (Method 8260B), and chlorides (USEPA Method 300.0). Once results are received, NMOCD will be notified and the excavation will then be backfilled with clean material to surface grade.

SITE RECLAMATION AND RESTORATION PLAN

The backfilled areas will be seeded in Spring 2021 (first favorable growing season) to aid in revegetation. Based on the soils at the site, the New Mexico State Land Office (NMSLO) Sandy Loam (SL) Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed (PLS) per acre (Appendix F). 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 E.

CONCLUSION

The release extent was delineated vertically and horizontally through assessment activities, as discussed in the “Summary of Sampling Results” section and as shown on Figure 3. The deepest impacted interval encountered was 8 ft bgs at initial sample location AH-5. Based on these results, COP proposes to excavate the impacted areas to 8 ft bgs, 4 ft bgs, and 3 ft bgs as shown on Figure 4. Areas within 3 feet of pressurized flowlines will be hand dug to the maximum extent practicable. Confirmation floor and sidewall samples will be collected and analyzed for Site constituents as discussed in the “Alternative Confirmation Sampling Plan” section, and excavation areas will be expanded if analytical results exceed Site RRALs.

COP proposes to complete remediation activities at the Site within 90 days 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 – Overview Map
Figure 2 – Site Location/Topographic Map
Figure 3 – Release Assessment Map
Figure 4 – Proposed Remediation Extents
Figure 5 – Proposed Alternative Confirmation Sampling Plan

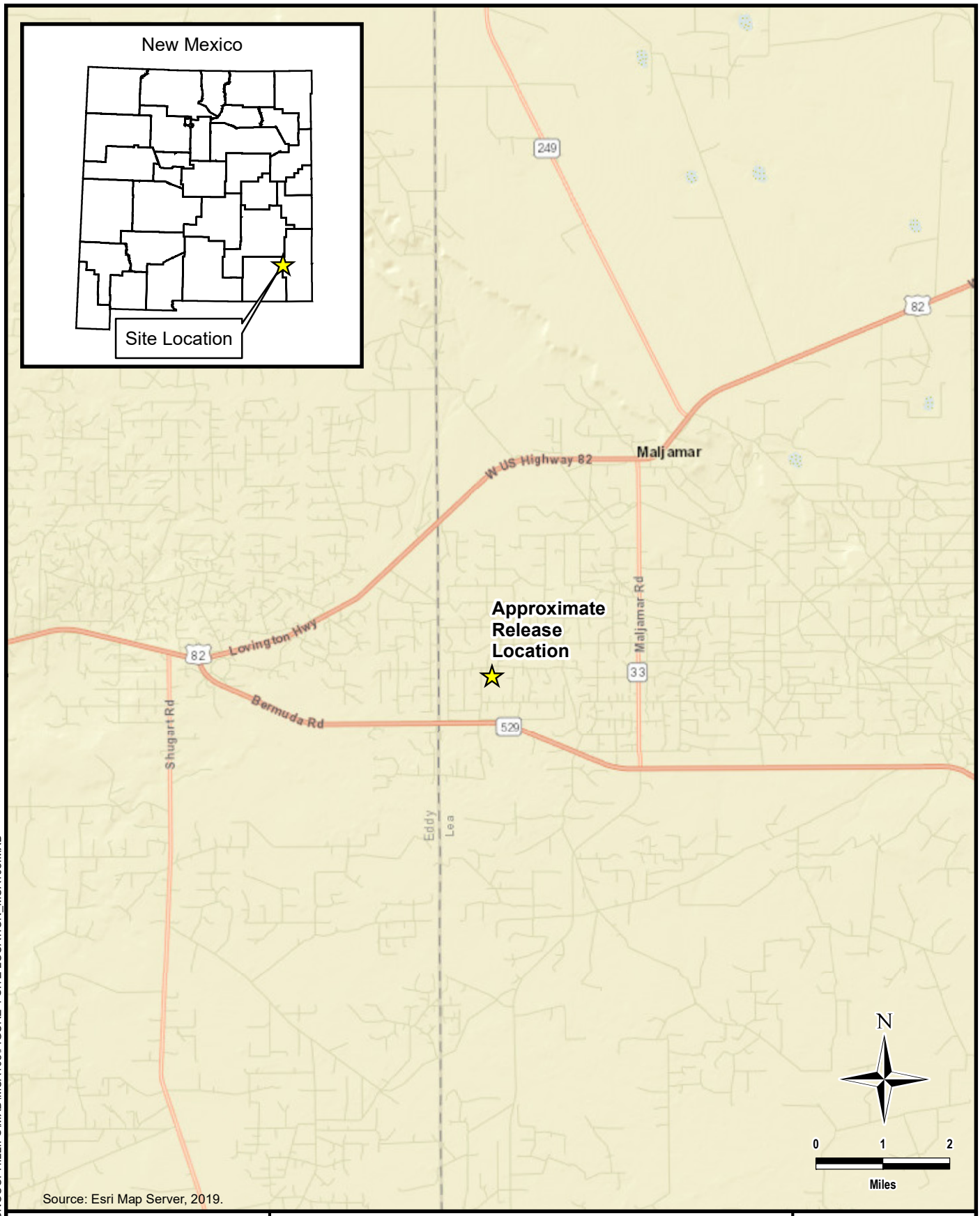
Tables:

Table 1 – Summary of Analytical Results – Initial Soil Assessment (March 2018)
Table 2 – Summary of Analytical Results – Additional Soil Assessment (May 2020)

Appendices:

Appendix A – C-141 Forms
Appendix B – Site Characterization Data
Appendix C – Laboratory Analytical Data
Appendix D – Photographic Documentation
Appendix E – NMSLO Seed Mixture

FIGURES



Source: Esri Map Server, 2019.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA108\FIGURE 1 SITE LOCATION_MCA108.MXD

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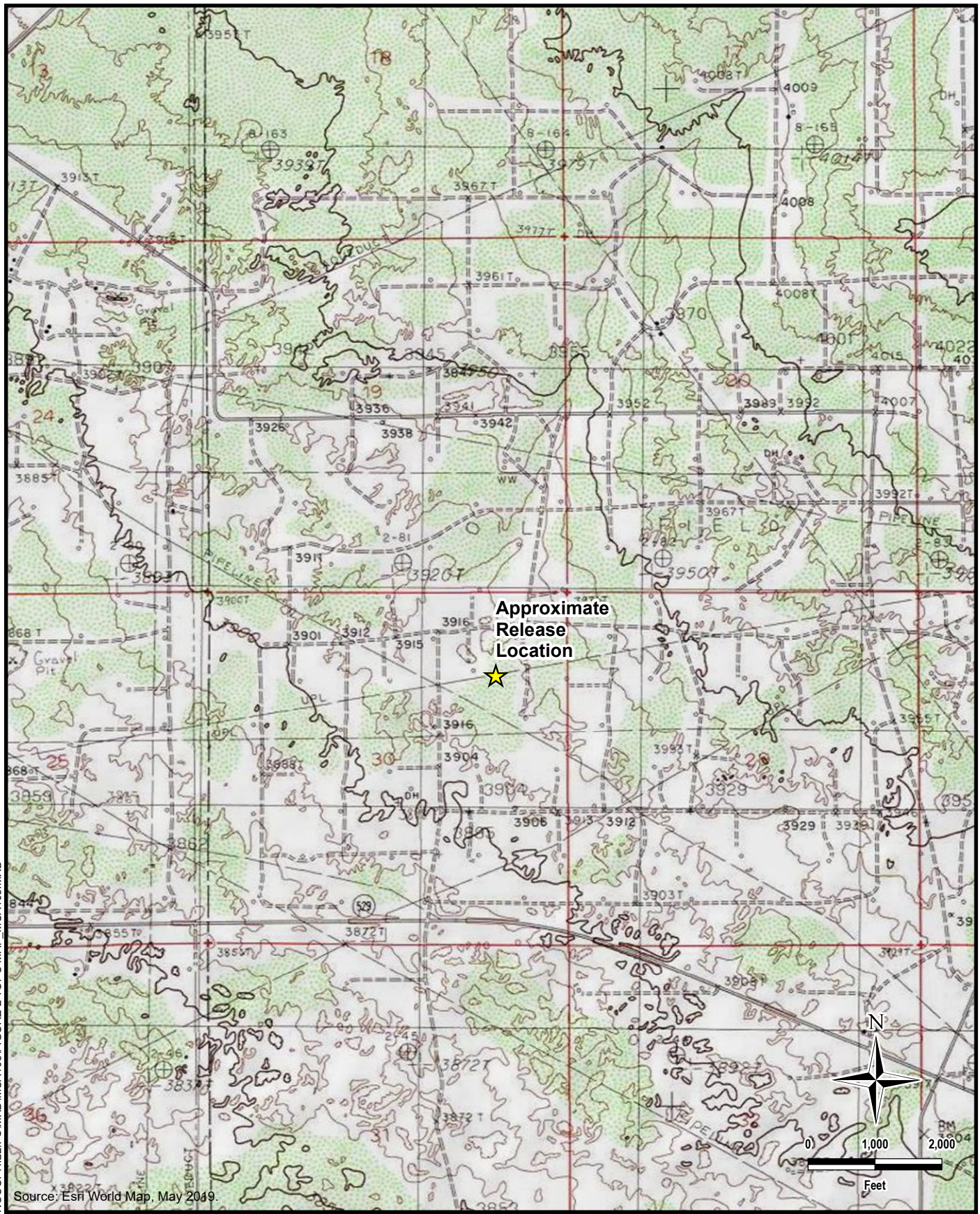
CONOCOPHILLIPS

INCIDENT ID NRM2003450092
(32.809362°, -103.800769°)
LEA COUNTY, NEW MEXICO

MCA 108 FLOWLINE RELEASE
SITE LOCATION MAP

PROJECT NO.:	212C-MD-02175
DATE:	SEPTEMBER 15, 2020
DESIGNED BY:	AAM

Figure No.
1



Source: Esri World Map, May 2019.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA108\FIGURE 2 TOPO MAP_MCA108.MXD

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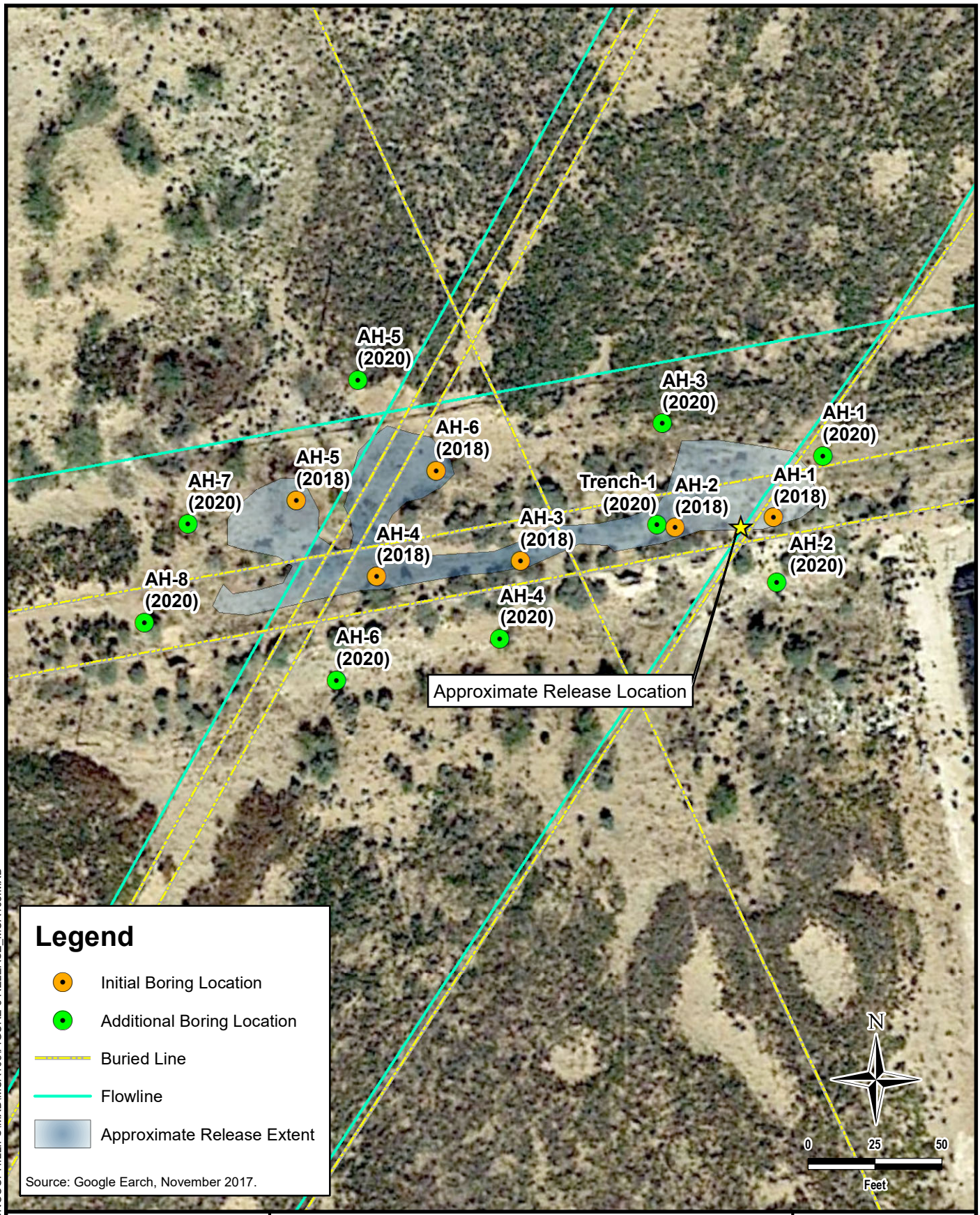
CONOCOPHILLIPS

INCIDENT ID NRM2003450092
(32.809362°, -103.800769°)
LEA COUNTY, NEW MEXICO

MCA 108 FLOWLINE RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02175
DATE:	SEPTEMBER 15, 2020
DESIGNED BY:	AAM

Figure No.
2



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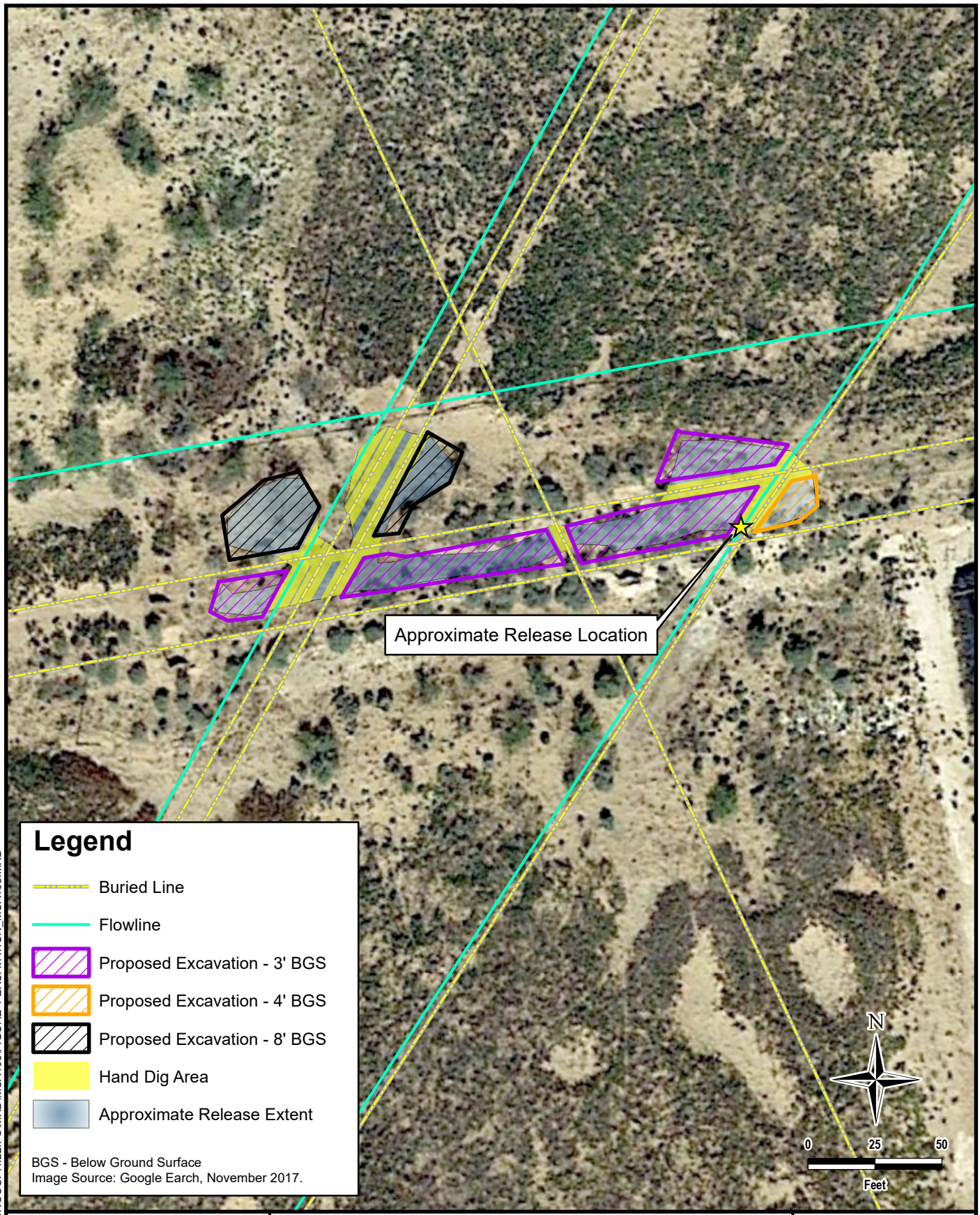
CONOCOPHILLIPS

INCIDENT ID NRM2003450092
(32.809362°, -103.800769°)
LEA COUNTY, NEW MEXICO

MCA 108 FLOWLINE RELEASE
RELEASE ASSESSMENT MAP

PROJECT NO.:	212C-MD-02175
DATE:	SEPTEMBER 15, 2020
DESIGNED BY:	AAM

Figure No.
3



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA108\FIGURE 4 EXCAVATION_MCA108.MXD

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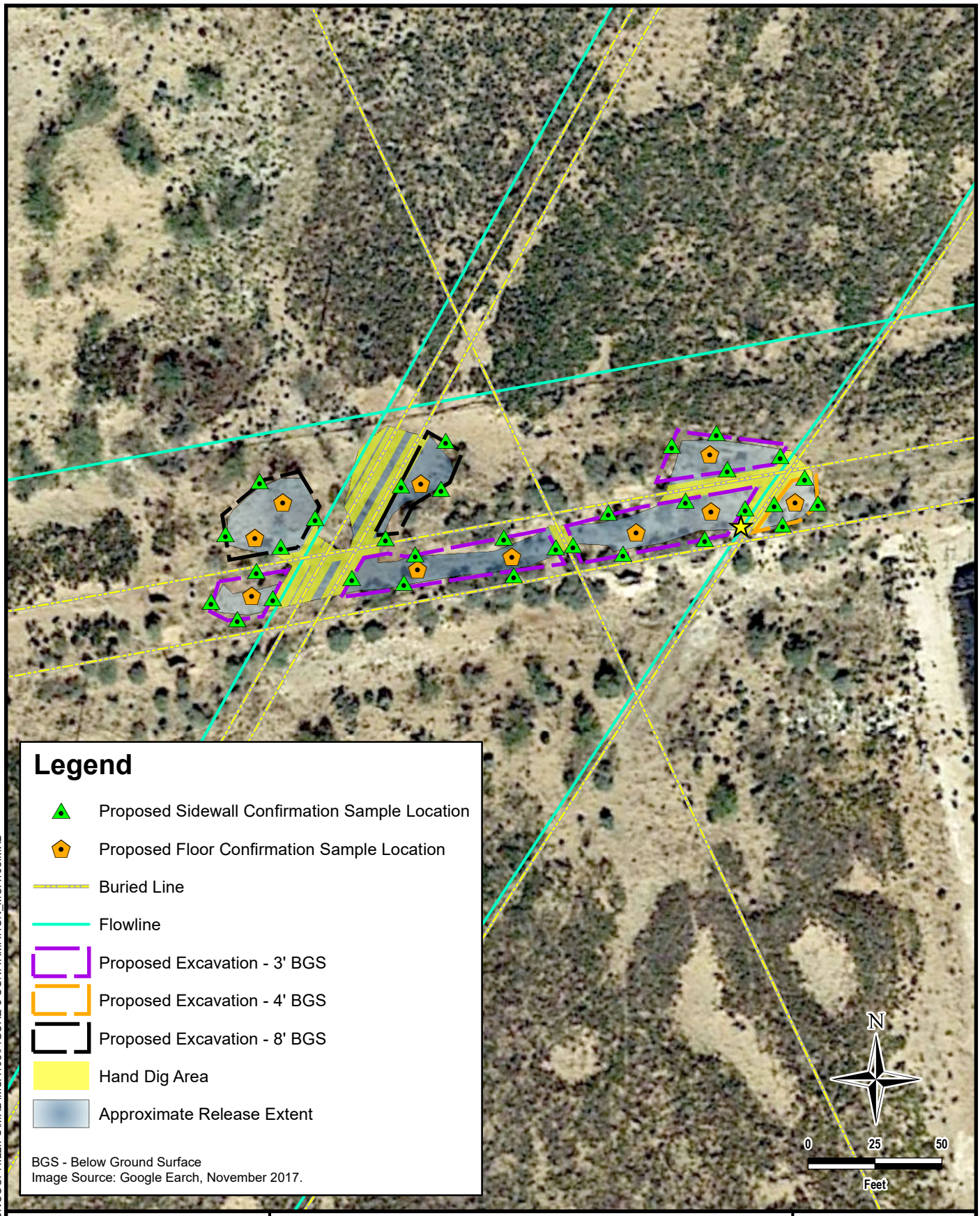
CONOCOPHILLIPS

INCIDENT ID NRM2003450092
(32.809362°, -103.800769°)
LEA COUNTY, NEW MEXICO

MCA 108 FLOWLINE RELEASE
PROPOSED REMEDIATION EXTENTS

PROJECT NO.:	212C-MD-02175
DATE:	SEPTEMBER 15, 2020
DESIGNED BY:	AAM

Figure No.
4



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA108\FIGURE 5 CONFIRMATION_MCA108.MXD

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CONOCOPHILLIPS

INCIDENT ID NRM2003450092
(32.809362°, -103.800769°)
LEA COUNTY, NEW MEXICO

MCA 108 FLOWLINE RELEASE
PROPOSED ALTERNATIVE CONFIRMATION SAMPLING PLAN

PROJECT NO.:	212C-MD-02175
DATE:	SEPTEMBER 15, 2020
DESIGNED BY:	AAM

Figure No.
5

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
2018 SOIL ASSESSMENT - NRM2003450092
CONOCOPHILLIPS
MCA 108 FLOWLINE RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth Interval	Field Screening Results		Chloride[1]		BTEX[2]									TPH[3]						
			Chloride	PID			Benzene		Toluene		Ethylbenzene		Xylene (Total)		Total BTEX	GRO C_3 - C_{10}		DRO C_{10} - C_{28}		ORO[4] C_{28} - C_{40}		Total TPH (GRO+DRO+ORO)
		ft. bgs	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
AH-1	3/29/2018	0-1	1020	458.6	***1720***		< 0.012		0.16		3.3		19.7		23	502	M1, R1	13400		10700	N2	***24602***
		1-2	1600	394.3	***962***		NA		NA		NA		NA		-	40.9	M1	1260		1320	N2	***2621***
		2-3	1750	85.8	***2760***		NA		NA		NA		NA		-	< 12.6		164		281	3t, N2	445
		3-4	1670	51.1	***1470***		NA		NA		NA		NA		-	NA		NA		NA		-
		4-5	540	31.8	365		NA		NA		NA		NA		-	NA		NA		NA		-
AH-2	3/29/2018	0-1	63.3	380.7	22.3		< 0.012		< 0.012		< 0.012		0.061		0.061	161		5940		4640	N2	***10741***
		1-2	123	387.7	71.3		NA		NA		NA		NA		-	242		5480		4610	N2	***10332***
		2-3	383	102.6	198		NA		NA		NA		NA		-	< 11.5		227	R1	200	3t, N2	***4837***
		3-4	568	505.6	369		NA		NA		NA		NA		-	NA		NA		NA		-
		4-5	930	362.1	849		NA		NA		NA		NA		-	NA		NA		NA		-
		5-6	NM	119.0	688		NA		NA		NA		NA		-	NA		NA		NA		-
AH-3	3/29/2018	0-1	822	551.3	***621***	M1	< 0.010		< 0.010		0.14		1.4		1.5	106		6950		5940	N2	***12996***
		1-2	675	591.0	581		NA		NA		NA		NA		-	294		5160		4250	N2	***9704***
		2-3	634	237.0	366		NA		NA		NA		NA		-	116		1750		1490	3t, N2	***3356***
		3-4	465	138.0	192		NA		NA		NA		NA		-	< 12.2		145		143	M1, N2, R1	288
		4-5	294	91.5	102		NA		NA		NA		NA		-	< 12.2		NA		NA		-
AH-4	3/29/2018	0-1	340	143.0	294		< 0.012		< 0.012		< 0.012		< 0.037		-	66.6		6870		6630	N2	***13567***
		1-2	396	145.1	332		NA		NA		NA		NA		-	253		6620		5500	N2	***12373***
		2-3	427	411.1	303		NA		NA		NA		NA		-	130		5110		4200	3t, N2	***9440***
		3-4	124	264.3	67.4		NA		NA		NA		NA		-	15.3		594		546	N2	1155
		4-5	201	102.8	90.1		NA		NA		NA		NA		-	< 11.7		236		224	N2	460
		5-6	239	10.9	123		NA		NA		NA		NA		-	< 11.6		NA		NA		-
AH-5	3/29/2018	0-1	268	109.0	176		< 0.011		< 0.011		< 0.011		< 0.034		-	23.4		11900		12400	N2	***24323***
		1-2	568	373.3	373		NA		NA		NA		NA		-	93.8		8510		7580	N2	***16184***
		2-3	769	635.6	***725***		NA		NA		NA		NA		-	480		9550		7620	3t, N2	***17650***
		3-4	1190	1155	***1070***		NA		NA		NA		NA		-	1100		12200		9390	N2	***22690***
		4-5	1030	653.6	1400		NA		NA		NA		NA		-	885		6200		5150	N2	***12235***
		5-6	905	923.4	1830		NA		NA		NA		NA		-	791		7740		6220	N2	***14751***
		6-7	779	472.9	908		NA		NA		NA		NA		-	676		6700		5390	N2	***12766***
		7-8	757	549.8	790		NA		NA		NA		NA		-	497		3680		3180	N2	***7357***
		8-9	843	522.7	1040		NA		NA		NA		NA		-	125		1000		871	N2	1996
		9-10	1300	73.3	1020	M1	NA		NA		NA		NA		-	56.4		593		518	N2	1167
AH-6	3/29/2018	0-1	262	143.1	238		< 0.010		< 0.010		0.011		0.032		0.043	493		18000		20200	N2	***38693***
		1-2	284	399.0	182		NA		NA		NA		NA		-	204		7690		6570	N2	***14464***
		2-3	153	590.6	90.0		NA		NA		NA		NA		-	674		5110		4470	3t, N2	***10254***
		3-4	143	189.9	76.7		NA		NA		NA		NA		-	120		1380		1140	N2	***2640***
		4-5	177	246.7	103		NA		NA		NA		NA		-	135		4960		4510	N2	***9605***
		5-6	225	182.2	61.3		NA		NA		NA		NA		-	440		7170		5730	N2	***13340***

NOTES:

ft. Feet
bgs Below ground surface
ppm Parts per million
mg/kg Milligrams per kilogram
NA Not analyzed
TPH Total Petroleum Hydrocarbons
GRO Gasoline range organics
DRO Diesel range organics
ORO Oil range organics

Bold and italicized values indicate exceedance of proposed RRALs

Shaded rows indicate sample intervals proposed for excavation and remediation

1 EPA Method 300.0
2 EPA Method 8260
3 EPA Method 8015B
4 EPA Method 8015B Modified

QUALIFIERS:

3t The LCS was not spiked due to laboratory error. See case narrative for details.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2 The lab does not hold NELAC/TNI accreditation for this parameter.
R1 RPD value was outside control limits.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
2020 SOIL ASSESSMENT - NRM2003450092
CONOCOPHILLIPS
MCA UNIT 108 FLOWLINE RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth Interval	Field Screening Results		Chloride[1]		BTEX[2]									TPH[3]							
			Chloride	PID			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX	GRO[4] C_3 - C_{10}		DRO C_{10} - C_{28}		ORO C_{28} - C_{40}		Total TPH (GRO+DRO+ORO)
		ft. bgs	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
T-1	5/8/2020	0-1	-	> 900	356		< 0.00101		0.00430	J	0.00472		0.183		0.192	8.55		11000		11700		***22709***
		2-3	-	> 900	144		< 0.00973		< 0.0487		< 0.0243		0.444		0.444	46.6		3040		1950		***5037***
		4-5	-	695	679		< 0.00109		< 0.00546		< 0.00273		< 0.00710		-	0.449		724		569		1293
		6-7	-	169	1590		< 0.00112		< 0.00558		< 0.00279		< 0.00726		-	0.0357	J	77.7		121		199
		9-10	1350	64.1	1020		< 0.00114		< 0.00568		< 0.00284		< 0.00738		-	< 0.114		3.73	J	4.37	B J	8.10
		12-13	901	221	644		< 0.00111		< 0.00557		< 0.00279		< 0.00724		-	0.0246	J	164		189		353
		14-15	-	145	793		< 0.00111		< 0.00556		< 0.00278		< 0.00723		-	< 0.111		35.5		49.8		85.3
		17-18	-	27.1	764		< 0.00107		< 0.00535		< 0.00267		< 0.00695		-	< 0.107		112		114		226
		19-20	-	12.0	858		< 0.00107		< 0.00535		< 0.00267		< 0.00695		-	0.0253	J	32.0		42.6		74.6
AH-1	5/7/2020	0-1	22.4	4.3	< 20.1		< 0.00101		< 0.00503		< 0.00252		< 0.00654		-	< 0.101		4.66		8.34		13.0
		2-3	97.1	4.5	33.0		< 0.00107		< 0.00534		< 0.00267		< 0.00694		-	< 0.107		4.24	J	5.87		10.1
		4-5	72.4	4.7	< 20.7		< 0.00104		< 0.00519		< 0.00259		< 0.00674		-	< 0.104		< 4.15		0.559	J	0.559
AH-2	5/7/2020	0-1	37.3	4.1	< 20.7		< 0.00104		< 0.00518		< 0.00259		< 0.00673		-	< 0.104		3.78	J	11.7		15.5
		2-3	71.5	4.6	< 19.5		< 0.00104		< 0.00521		< 0.00261		< 0.00678		-	< 0.104		< 4.17		5.03		5.03
		4-5	313	5.8	141		< 0.00107		< 0.00533		< 0.00267		< 0.00693		-	< 0.107		2.83	J	17.9		20.7
AH-3	5/7/2020	0-1	37.1	4.1	< 20.1		< 0.00101		< 0.00503		< 0.00251		< 0.00654		-	< 0.101		5.90		16.0		21.9
		2-3	534	4.6	121		< 0.00104		< 0.00521		< 0.00261		< 0.00677		-	< 0.104		2.29	J	6.13		8.42
		4-5	517	4.5	167		< 0.00105		< 0.00527		< 0.00263		< 0.00685		-	< 0.105		1.96	J	8.10		10.1
AH-4	5/7/2020	0-1	21.4	3.6	< 20.1		< 0.00101		< 0.00504		< 0.00252		< 0.00655		-	< 0.101		< 4.03		3.78	J	3.78
		2-3	91.9	3.4	< 112		< 0.00112		< 0.00560		< 0.00280		< 0.00729		-	< 0.112		6.58		2.63	B J	9.21
		4-5	41.2	3.6	< 21.2		< 0.00106		< 0.00530		< 0.00265		< 0.00689		-	< 0.106		2.06	J	3.39	J	5.45
AH-5	5/7/2020	0-1	38.1	4.4	< 20.1		< 0.00101		< 0.00504		< 0.00252		< 0.00655		-	< 0.101		13.7		25.6		39.3
		2-3	24.4	3.8	< 20.4		< 0.00102		< 0.00509		< 0.00254		< 0.00662		-	< 0.102		2.03	J	3.35	J	5.38
		4-5	45.2	4.1	< 20.4		< 0.00102		< 0.00510		< 0.00255		< 0.00663		-	< 0.102		11.1		19.0		30.1
AH-6	5/7/2020	0-1	19.4	5.3	< 20.2		< 0.00101		< 0.00505		< 0.00252		< 0.00656		-	0.0240	J	21.6		58.1		79.7
		2-3	31.4	2.9	< 24.1		< 0.00121		< 0.00604		< 0.00302		< 0.00785		-	0.0280	J	< 4.83		2.84	B J	2.87
		4-5	147	2.0	< 106		< 0.00106		< 0.00530		< 0.00265		< 0.00689		-	< 0.106		6.30		17.3		23.6
AH-7	5/8/2020	0-1	32.6	2.6	< 24.2		< 0.00121		< 0.00605		< 0.00302		< 0.00786		-	< 0.121		< 4.84		1.52	B J	1.52
		2-3	41.8	2.0	< 22.5		< 0.00113		< 0.00563		< 0.00282		< 0.00732		-	< 0.113		< 4.51		2.20	B J	2.20
		4-5	88.4	0.7	< 20.5		< 0.00102		< 0.00512		< 0.00256		< 0.00666		-	< 0.102		< 4.10		1.65	B J	1.65
AH-8	5/8/2020	0-1	36.1	0.7	< 20.3		< 0.00101		< 0.00506		< 0.00253		< 0.00658		-	< 0.101		1.85	J	4.73		6.58
		2-3	42.0	1.4	< 20.1		< 0.00100		< 0.00502		< 0.00251		< 0.00653		-	< 0.100		1.78	J	5.43		7.21
		4-5	86.9	0.9	< 20.7		< 0.00103		< 0.00516		< 0.00258		< 0.00671		-	< 0.103		< 4.13		3.72	B J	3.72

NOTES:

ft. Feet
bgs Below ground surface
ppm Parts per million
mg/kg Milligrams per kilogram
TPH Total Petroleum Hydrocarbons
GRO Gasoline range organics
DRO Diesel range organics
ORO Oil range organics

Shaded rows indicate sample intervals proposed for excavation and remediation

Bold and italicized values indicate exceedance of proposed RRALs

1 EPA Method 300.0
2 EPA Method 8260B
3 EPA Method 8015
4 EPA Method 8015D/GRO

QUALIFIERS:

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

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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2003450092
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party ConocoPhillips Company	OGRID 217817
Contact Name Gustavo Fejervary	Contact Telephone 432/210-7037
Contact email g.fejervary@cop.com	Incident # *(assigned by OCD)*
Contact mailing address 5735 SW 7000 Andrews, TX 79714	

Location of Release Source

Latitude ~~32.8110619~~ 32.809362° cml Longitude ~~-103.8080673~~ -103.800769° cml

(NAD 83 in decimal degrees to 5 decimal places)

Site Name MCA UNIT 108	Site Type flowline
Date Release Discovered 1/18/17	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
A	30	17S	32E	Lea

Surface Owner: ☐ State ☑ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☑ Crude Oil	Volume Released (bbls) 2	Volume Recovered (bbls) 0
☑ Produced Water	Volume Released (bbls) 6.4	Volume Recovered (bbls) 0
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release flow line leak.

According to our records, we reported this back in 2017, however, we don't have proof of approval, or RP# assigned. due to the old date, we don't have records on how this spill volume was estimated.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM2003450092
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☑ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☑ The source of the release has been stopped.
☑ The impacted area has been secured to protect human health and the environment.
☑ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☑ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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: Gustavo Fejervary Title: Environmental Coordinator

Signature: Date: 12/19/19

email: g.fejervary@cop.com Telephone: 432/210-7037

C-141 application PO: JGPH3-191219-C-1410 REJECTED 2/3/2020. Resubmitted with Corrections 3/4/2020. cml.

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NRM2003450092
District RP	
Facility ID	
Application ID	

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?	82 (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	NRM2003450092
District RP	
Facility ID	
Application ID	

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 Management & Remediation

Signature: Date: 9/25/2020

email: marvin.soriwei@conocophillips.com Telephone: 8324862730

OCD Only

Received by: Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NRM2003450092
District RP	
Facility ID	
Application ID	

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.***

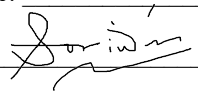
☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ 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 Management & Remediation

Signature:  Date: 9/25/2020

email: marvin.soriwei@conocophillips.com Telephone: 8324862730

OCD Only

Received by: _____ Date: _____

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

Signature: Bradford Billings Date: 02/15/2021

Variance request for maximum 500 sq.ft. for confirmation sampling is approved. as is request for possible variation in excavation neeeds, bt retrieve as much as possible.

APPENDIX B
Site Characterization Data

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

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 612271.743 **Northing (Y):** 3630789.223 **Radius:** 800

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	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 12721 POD1	RA	LE	3	2	3	28	17S	32E	614645	3630141	2459	125		
RA 10175	RA	LE		2	1	28	17S	32E	614814	3631005*	2551	158		
RA 12020 POD1	RA	LE	2	2	1	28	17S	32E	614828	3630954	2561	120	81	39
RA 12042 POD1	RA	LE	2	2	1	28	17S	32E	614891	3631181	2648	400		
RA 12522 POD1	RA	LE	3	3	4	21	17S	32E	614941	3631122	2689	100		
RA 12522 POD2	RA	LE	2	2	1	28	17S	32E	614949	3631098	2695	100		
RA 12522 POD3	RA	LE	4	4	3	28	17S	32E	614980	3631093	2725	100		
RA 12721 POD2	RA	LE	1	1	4	28	17S	32E	615055	3630407	2809	124	75	49
RA 12020 POD3	RA	LE	2	1	2	28	17S	32E	615152	3631019	2889	112	83	29
RA 12521 POD1	RA	LE	3	3	4	21	17S	32E	615127	3631271	2895	105	92	13
RA 12721 POD4	RA	LE	1	1	2	33	17S	32E	615055	3629589	3030	140		
RA 12721 POD7	RA	LE	1	3	2	33	17S	32E	615064	3629198	3213	130		

Average Depth to Water: **82 feet**

Minimum Depth: **75 feet**

Maximum Depth: **92 feet**

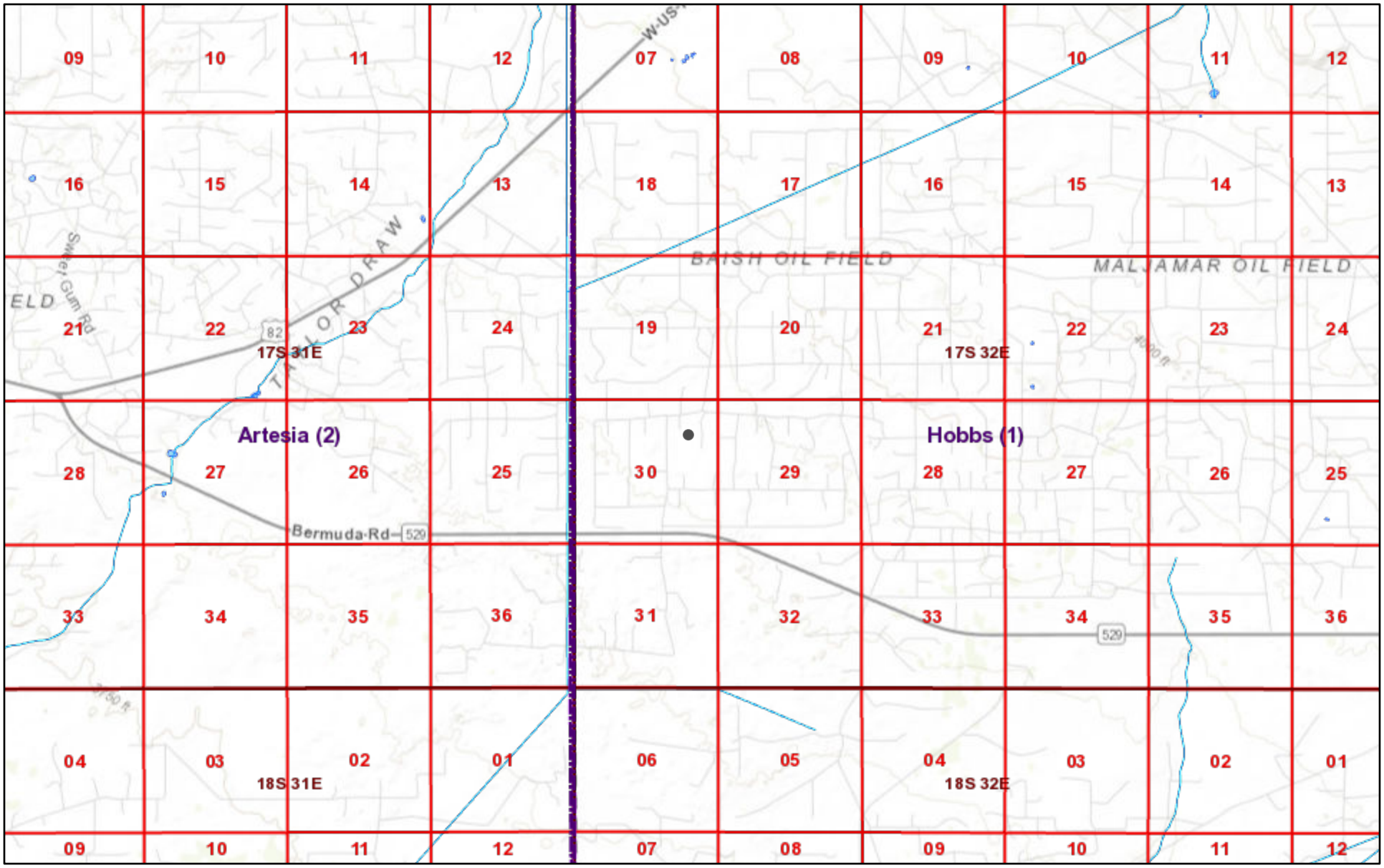
Record Count: 12

UTMNAD83 Radius Search (in meters):

Easting (X): 612271.743 **Northing (Y):** 3630789.223 **Radius:** 3219

***UTM location was derived from PLSS - see Help**

MCA 108 Water Bodies



1/15/2020, 6:54:48 PM

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

OCD Districts

OCD District Offices

PLSS First Division

PLSS Second Division

PLSS Townships

OSE Water-bodies

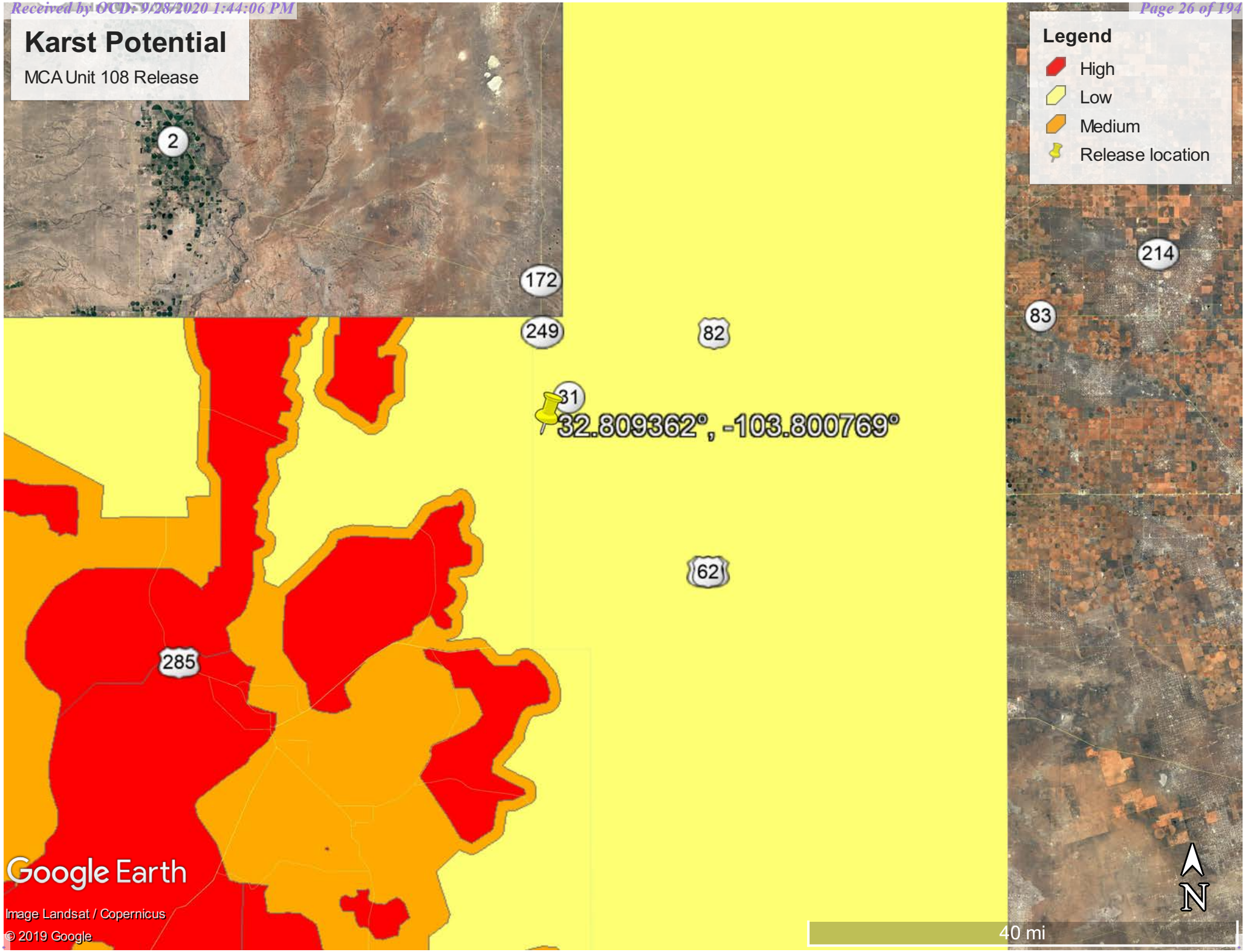
PLJV Probable Playas

OSE Streams

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

New Mexico Oil Conservation Division

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


Karst Potential
MCA Unit 108 Release
Legend
High
Low
Medium
Release location
2
172
249
82
31
32.809362°, -103.800769°
214
83
62
285
Google Earth
Image Landsat / Copernicus
© 2019 Google
N
40 mi

APPENDIX C
Laboratory Analytical Data

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

April 24, 2018

Greg Pope
TetraTech
4000 N. Big Spring St.
Ste 401
Midland, TX 79705

RE: Project: MCA-108
Pace Project No.: 7584780

Dear Greg Pope:
Enclosed are the analytical results for sample(s) received by the laboratory on March 31, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melissa McCullough
melissa.mccullough@pacelabs.com
(972)727-1123
Project Manager

Enclosures

cc: Kayla LovelyTaylor, TetraTech
Todd Wells, TetraTech

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

CERTIFICATIONS

Project: MCA-108
Pace Project No.: 7584780

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 17-016-0
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212018-1
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

Dallas Certification IDs:

400 West Bethany Dr Suite 190, Allen, TX 75013
EPA# TX00074
Florida Certification #: E871118
Texas Certification #: T104704232
Kansas Certification #: E-10388
Arkansas Certification #: 88-0647
Oklahoma Certification #: 8727
Louisiana Certification #: 30686
Iowa Certification #: 408

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

SAMPLE SUMMARY

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	Matrix	Date Collected	Date Received
7584780001	AH-1 (0-1)	Solid	03/29/18 11:15	03/31/18 08:55
7584780002	AH-1 (1-2)	Solid	03/29/18 11:15	03/31/18 08:55
7584780003	AH-1 (2-3)	Solid	03/29/18 11:15	03/31/18 08:55
7584780004	AH-1 (3-4)	Solid	03/29/18 11:15	03/31/18 08:55
7584780005	AH-1 (4-5)	Solid	03/29/18 11:15	03/31/18 08:55
7584780006	AH-2 (0-1)	Solid	03/29/18 11:30	03/31/18 08:55
7584780007	AH-2 (1-2)	Solid	03/29/18 11:30	03/31/18 08:55
7584780008	AH-2 (2-3)	Solid	03/29/18 11:30	03/31/18 08:55
7584780009	AH-2 (3-4)	Solid	03/29/18 11:30	03/31/18 08:55
7584780010	AH-2 (4-5)	Solid	03/29/18 11:30	03/31/18 08:55
7584780011	AH-2 (5-6)	Solid	03/29/18 11:30	03/31/18 08:55
7584780012	AH-3 (0-1)	Solid	03/29/18 12:15	03/31/18 08:55
7584780013	AH-3 (1-2)	Solid	03/29/18 11:30	03/31/18 08:55
7584780014	AH-3 (2-3)	Solid	03/29/18 11:30	03/31/18 08:55
7584780015	AH-3 (3-4)	Solid	03/29/18 11:30	03/31/18 08:55
7584780016	AH-3 (4-5)	Solid	03/29/18 11:30	03/31/18 08:55
7584780017	AH-4 (0-1)	Solid	03/29/18 13:05	03/31/18 08:55
7584780018	AH-4 (1-2)	Solid	03/29/18 13:05	03/31/18 08:55
7584780019	AH-4 (2-3)	Solid	03/29/18 13:05	03/31/18 08:55
7584780020	AH-4 (3-4)	Solid	03/29/18 13:05	03/31/18 08:55
7584780021	AH-4 (4-5)	Solid	03/29/18 13:05	03/31/18 08:55
7584780022	AH-4 (5-6)	Solid	03/29/18 13:05	03/31/18 08:55
7584780023	AH-5 (0-1)	Solid	03/29/18 13:30	03/31/18 08:55
7584780024	AH-5 (1-2)	Solid	03/29/18 13:30	03/31/18 08:55
7584780025	AH-5 (2-3)	Solid	03/29/18 13:30	03/31/18 08:55
7584780026	AH-5 (3-4)	Solid	03/29/18 13:30	03/31/18 08:55
7584780027	AH-5 (4-5)	Solid	03/29/18 13:30	03/31/18 08:55
7584780028	AH-5 (5-6)	Solid	03/29/18 13:30	03/31/18 08:55
7584780029	AH-5 (6-7)	Solid	03/29/18 13:30	03/31/18 08:55
7584780030	AH-5 (7-8)	Solid	03/29/18 13:30	03/31/18 08:55
7584780031	AH-5 (8-9)	Solid	03/29/18 13:30	03/31/18 08:55
7584780032	AH-5 (9-10)	Solid	03/29/18 13:30	03/31/18 08:55
7584780033	AH-6 (0-1)	Solid	03/29/18 14:20	03/31/18 08:55
7584780034	AH-6 (1-2)	Solid	03/29/18 14:20	03/31/18 08:55
7584780035	AH-6 (2-3)	Solid	03/29/18 14:20	03/31/18 08:55
7584780036	AH-6 (3-4)	Solid	03/29/18 14:20	03/31/18 08:55
7584780037	AH-6 (4-5)	Solid	03/29/18 14:20	03/31/18 08:55

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SAMPLE SUMMARY

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	Matrix	Date Collected	Date Received
7584780038	**AH-6 (5-6)**	Solid	03/29/18 14:20	03/31/18 08:55

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SAMPLE ANALYTE COUNT

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7584780001	**AH-1 (0-1)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780002	**AH-1 (1-2)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780003	**AH-1 (2-3)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780004	**AH-1 (3-4)**	ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780005	**AH-1 (4-5)**	ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780006	**AH-2 (0-1)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780007	**AH-2 (1-2)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780008	**AH-2 (2-3)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780009	**AH-2 (3-4)**	ASTM D2974-07	TMS	1	PASI-D

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SAMPLE ANALYTE COUNT

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	TMS	1	PASI-D
7584780010	**AH-2 (4-5)**	ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780011	**AH-2 (5-6)**	ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780012	**AH-3 (0-1)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780013	**AH-3 (1-2)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780014	**AH-3 (2-3)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780015	**AH-3 (3-4)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780016	**AH-3 (4-5)**	EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780017	**AH-4 (0-1)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780018	**AH-4 (1-2)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D

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SAMPLE ANALYTE COUNT

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780019	**AH-4 (2-3)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780020	**AH-4 (3-4)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780021	**AH-4 (4-5)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780022	**AH-4 (5-6)**	EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780023	**AH-5 (0-1)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780024	**AH-5 (1-2)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780025	**AH-5 (2-3)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D

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SAMPLE ANALYTE COUNT

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7584780026	**AH-5 (3-4)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780027	**AH-5 (4-5)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780028	**AH-5 (5-6)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780029	**AH-5 (6-7)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780030	**AH-5 (7-8)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780031	**AH-5 (8-9)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780032	**AH-5 (9-10)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780033	**AH-6 (0-1)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D

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SAMPLE ANALYTE COUNT

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8015B	JTK	2	PASI-K
		EPA 8260	ZST	7	PASI-D
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780034	**AH-6 (1-2)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780035	**AH-6 (2-3)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780036	**AH-6 (3-4)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780037	**AH-6 (4-5)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	LNF	1	PASI-D
		EPA 300.0	TMS	1	PASI-D
7584780038	**AH-6 (5-6)**	EPA 8015B	JS	2	PASI-D
		EPA 8015B Modified	JS	2	PASI-D
		EPA 8015B	JTK	2	PASI-K
		ASTM D2974-07	TMS	1	PASI-D
		EPA 300.0	TMS	1	PASI-D

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-1 (0-1) **Lab ID: 7584780001** Collected: 03/29/18 11:15 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**13400**	mg/kg	3470	200	04/02/18 17:30	04/04/18 14:10		
Surrogates								
a-Pinene (S)	112	%.	10-87	200	04/02/18 17:30	04/04/18 14:10		S2
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**10700**	mg/kg	3470	200	04/02/18 17:30	04/04/18 14:10		N2
Surrogates								
a-Pinene (S)	212	%.	10-107	200	04/02/18 17:30	04/04/18 14:10		S2
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**502**	mg/kg	58.3	5	04/04/18 00:00	04/04/18 15:27		M1,R1
Surrogates								
4-Bromofluorobenzene (S)	126	%	72-117	5	04/04/18 00:00	04/04/18 15:27	460-00-4	S2
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.012	5	04/02/18 13:00	04/03/18 10:46	71-43-2	
Ethylbenzene	**3.3**	mg/kg	0.12	50	04/02/18 13:00	04/03/18 12:20	100-41-4	
Toluene	**0.16**	mg/kg	0.012	5	04/02/18 13:00	04/03/18 10:46	108-88-3	
Xylene (Total)	**19.7**	mg/kg	0.35	50	04/02/18 13:00	04/03/18 12:20	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	70-130	5	04/02/18 13:00	04/03/18 10:46	17060-07-0	1t
4-Bromofluorobenzene (S)	81	%.	70-130	50	04/02/18 13:00	04/03/18 12:20	460-00-4	
Toluene-d8 (S)	81	%.	70-130	5	04/02/18 13:00	04/03/18 10:46	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**13.8**	%		1		04/02/18 20:11		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1720**	mg/kg	119	10	04/04/18 11:54	04/05/18 07:53	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-1 (1-2) **Lab ID: 7584780002** Collected: 03/29/18 11:15 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**1260**	mg/kg	925	50	04/05/18 15:30	04/07/18 07:42		
Surrogates								
a-Pinene (S)	76	%.	10-87	50	04/05/18 15:30	04/07/18 07:42		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**1320**	mg/kg	925	50	04/05/18 15:30	04/07/18 07:42		N2
Surrogates								
a-Pinene (S)	87	%.	10-107	50	04/05/18 15:30	04/07/18 07:42		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**40.9**	mg/kg	12.5	1	04/05/18 00:00	04/06/18 18:48		M1
Surrogates								
4-Bromofluorobenzene (S)	110	%	72-117	1	04/05/18 00:00	04/06/18 18:48	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**19.4**	%		1		04/02/18 20:11		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**962**	mg/kg	127	10	04/04/18 11:54	04/05/18 08:11	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-1 (2-3) **Lab ID: 7584780003** Collected: 03/29/18 11:15 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**164**	mg/kg	94.6	5	04/09/18 16:45	04/10/18 14:29		
Surrogates								
a-Pinene (S)	29	%.	10-87	5	04/09/18 16:45	04/10/18 14:29		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**281**	mg/kg	94.6	5	04/09/18 16:45	04/10/18 14:29		3t,N2
Surrogates								
a-Pinene (S)	55	%.	10-107	5	04/09/18 16:45	04/10/18 14:29		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	12.6	1	04/09/18 00:00	04/10/18 14:07		
Surrogates								
4-Bromofluorobenzene (S)	106	%	72-117	1	04/09/18 00:00	04/10/18 14:07	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**20.8**	%		1		04/02/18 20:11		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**2760**	mg/kg	1260	100	04/04/18 11:54	04/05/18 15:47	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-1 (3-4) **Lab ID: 7584780004** Collected: 03/29/18 11:15 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**30.4**	%		1		04/02/18 20:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1470**	mg/kg	146	10	04/04/18 11:54	04/05/18 08:46	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-1 (4-5) **Lab ID: 7584780005** Collected: 03/29/18 11:15 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**22.3**	%		1		04/02/18 20:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**365**	mg/kg	125	10	04/04/18 11:54	04/05/18 09:04	16887-00-6	

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-2 (0-1) **Lab ID: 7584780006** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**5940**	mg/kg	3620	200	04/02/18 17:30	04/04/18 13:43		
Surrogates								
a-Pinene (S)	69	%.	10-87	200	04/02/18 17:30	04/04/18 13:43		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**4640**	mg/kg	3620	200	04/02/18 17:30	04/04/18 13:43		N2
Surrogates								
a-Pinene (S)	75	%.	10-107	200	04/02/18 17:30	04/04/18 13:43		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**161**	mg/kg	12.1	1	04/04/18 00:00	04/04/18 16:14		
Surrogates								
4-Bromofluorobenzene (S)	115	%	72-117	1	04/04/18 00:00	04/04/18 16:14	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.012	5	04/02/18 13:00	04/02/18 21:02	71-43-2	
Ethylbenzene	ND	mg/kg	0.012	5	04/02/18 13:00	04/02/18 21:02	100-41-4	
Toluene	ND	mg/kg	0.012	5	04/02/18 13:00	04/02/18 21:02	108-88-3	
Xylene (Total)	**0.061**	mg/kg	0.036	5	04/02/18 13:00	04/02/18 21:02	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	95	%.	70-130	5	04/02/18 13:00	04/02/18 21:02	17060-07-0	1t,D3
4-Bromofluorobenzene (S)	64	%.	70-130	5	04/02/18 13:00	04/02/18 21:02	460-00-4	S5
Toluene-d8 (S)	82	%.	70-130	5	04/02/18 13:00	04/02/18 21:02	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**17.2**	%		1		04/02/18 20:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**22.3**	mg/kg	12.2	1	04/04/18 11:54	04/05/18 16:05	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-2 (1-2) **Lab ID: 7584780007** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**5480**	mg/kg	894	50	04/05/18 15:30	04/07/18 08:08		
Surrogates								
a-Pinene (S)	42	%.	10-87	50	04/05/18 15:30	04/07/18 08:08		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**4610**	mg/kg	894	50	04/05/18 15:30	04/07/18 08:08		N2
Surrogates								
a-Pinene (S)	89	%.	10-107	50	04/05/18 15:30	04/07/18 08:08		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**242**	mg/kg	60.7	5	04/05/18 00:00	04/06/18 19:35		
Surrogates								
4-Bromofluorobenzene (S)	117	%	72-117	5	04/05/18 00:00	04/06/18 19:35	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**17.5**	%		1		04/02/18 20:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**71.3**	mg/kg	12.3	1	04/04/18 11:54	04/05/18 16:58	16887-00-6	

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-2 (2-3) **Lab ID: 7584780008** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**227**	mg/kg	85.5	5	04/09/18 16:45	04/10/18 11:48		R1
Surrogates								
a-Pinene (S)	27	%.	10-87	5	04/09/18 16:45	04/10/18 11:48		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**200**	mg/kg	85.5	5	04/09/18 16:45	04/10/18 11:48		3t,N2
Surrogates								
a-Pinene (S)	52	%.	10-107	5	04/09/18 16:45	04/10/18 11:48		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	11.5	1	04/09/18 00:00	04/10/18 14:22		
Surrogates								
4-Bromofluorobenzene (S)	112	%	72-117	1	04/09/18 00:00	04/10/18 14:22	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**12.9**	%		1		04/02/18 20:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**198**	mg/kg	117	10	04/04/18 11:54	04/05/18 10:33	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-2 (3-4) **Lab ID: 7584780009** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**15.4**	%		1		04/02/18 20:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**369**	mg/kg	114	10	04/04/18 11:54	04/05/18 10:51	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-2 (4-5) **Lab ID: 7584780010** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**24.0**	%		1		04/02/18 20:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**849**	mg/kg	127	10	04/04/18 11:54	04/05/18 11:09	16887-00-6	

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-2 (5-6) **Lab ID: 7584780011** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**10.4**	%		1		04/02/18 20:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**688**	mg/kg	112	10	04/04/18 11:54	04/05/18 11:26	16887-00-6	

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-3 (0-1) **Lab ID: 7584780012** Collected: 03/29/18 12:15 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**6950**	mg/kg	3020	200	04/02/18 17:30	04/04/18 17:13		
Surrogates								
a-Pinene (S)	34	%.	10-87	200	04/02/18 17:30	04/04/18 17:13		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**5940**	mg/kg	3020	200	04/02/18 17:30	04/04/18 15:02		N2
Surrogates								
a-Pinene (S)	66	%.	10-107	200	04/02/18 17:30	04/04/18 15:02		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**106**	mg/kg	10.1	1	04/04/18 00:00	04/04/18 16:30		
Surrogates								
4-Bromofluorobenzene (S)	126	%	72-117	1	04/04/18 00:00	04/04/18 16:30	460-00-4	S2
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.010	5	04/02/18 13:00	04/02/18 21:26	71-43-2	
Ethylbenzene	**0.14**	mg/kg	0.010	5	04/02/18 13:00	04/02/18 21:26	100-41-4	
Toluene	ND	mg/kg	0.010	5	04/02/18 13:00	04/02/18 21:26	108-88-3	
Xylene (Total)	**1.4**	mg/kg	0.030	5	04/02/18 13:00	04/02/18 21:26	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	5	04/02/18 13:00	04/02/18 21:26	17060-07-0	1t,D3
4-Bromofluorobenzene (S)	85	%.	70-130	5	04/02/18 13:00	04/02/18 21:26	460-00-4	
Toluene-d8 (S)	84	%.	70-130	5	04/02/18 13:00	04/02/18 21:26	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**1.2**	%		1		04/02/18 20:14		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**621**	mg/kg	99.1	10	04/04/18 11:54	04/04/18 22:45	16887-00-6	M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-3 (1-2) **Lab ID: 7584780013** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**5160**	mg/kg	782	50	04/05/18 15:30	04/07/18 08:35		
Surrogates								
a-Pinene (S)	45	%.	10-87	50	04/05/18 15:30	04/07/18 08:35		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**4250**	mg/kg	782	50	04/05/18 15:30	04/07/18 08:35		N2
Surrogates								
a-Pinene (S)	88	%.	10-107	50	04/05/18 15:30	04/07/18 08:35		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**294**	mg/kg	53.3	5	04/05/18 00:00	04/06/18 19:50		
Surrogates								
4-Bromofluorobenzene (S)	127	%	72-117	5	04/05/18 00:00	04/06/18 19:50	460-00-4	S2
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**6.0**	%		1		04/02/18 20:14		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**581**	mg/kg	108	10	04/04/18 11:54	04/04/18 23:39	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-3 (2-3) **Lab ID: 7584780014** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**1750**	mg/kg	182	10	04/09/18 16:45	04/10/18 12:14		
Surrogates								
a-Pinene (S)	36	%.	10-87	10	04/09/18 16:45	04/10/18 12:14		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**1490**	mg/kg	182	10	04/09/18 16:45	04/10/18 12:14		3t,N2
Surrogates								
a-Pinene (S)	64	%.	10-107	10	04/09/18 16:45	04/10/18 12:14		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**116**	mg/kg	60.6	5	04/09/18 00:00	04/10/18 14:37		
Surrogates								
4-Bromofluorobenzene (S)	124	%	72-117	5	04/09/18 00:00	04/10/18 14:37	460-00-4	D3,S2
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**17.5**	%		1		04/02/18 20:14		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**366**	mg/kg	120	10	04/04/18 11:54	04/05/18 00:32	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-3 (3-4) **Lab ID: 7584780015** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**145**	mg/kg	35.8	2	04/12/18 13:33	04/13/18 03:30		
Surrogates								
a-Pinene (S)	17	%.	10-87	2	04/12/18 13:33	04/13/18 03:30		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**143**	mg/kg	35.8	2	04/12/18 13:33	04/13/18 03:30		M1,N2, R1
Surrogates								
a-Pinene (S)	32	%.	10-107	2	04/12/18 13:33	04/13/18 03:30		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	12.2	1	04/12/18 00:00	04/12/18 13:14		
Surrogates								
4-Bromofluorobenzene (S)	103	%	72-117	1	04/12/18 00:00	04/12/18 13:14	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**17.6**	%		1		04/02/18 20:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**192**	mg/kg	127	10	04/04/18 11:54	04/05/18 00:50	16887-00-6	

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-3 (4-5) **Lab ID: 7584780016** Collected: 03/29/18 11:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	12.2	1	04/12/18 00:00	04/12/18 14:00		
Surrogates								
4-Bromofluorobenzene (S)	103	%	72-117	1	04/12/18 00:00	04/12/18 14:00	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**18.1**	%		1		04/03/18 18:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**102**	mg/kg	12.2	1	04/04/18 11:54	04/05/18 13:35	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-4 (0-1) **Lab ID: 7584780017** Collected: 03/29/18 13:05 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**6870**	mg/kg	3620	200	04/02/18 17:30	04/04/18 14:36		
Surrogates								
a-Pinene (S)	27	%.	10-87	200	04/02/18 17:30	04/04/18 14:36		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**6630**	mg/kg	3620	200	04/02/18 17:30	04/04/18 14:36		N2
Surrogates								
a-Pinene (S)	45	%.	10-107	200	04/02/18 17:30	04/04/18 14:36		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**66.6**	mg/kg	12.2	1	04/04/18 00:00	04/04/18 13:23		
Surrogates								
4-Bromofluorobenzene (S)	110	%	72-117	1	04/04/18 00:00	04/04/18 13:23	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.012	5	04/02/18 13:00	04/03/18 09:36	71-43-2	
Ethylbenzene	ND	mg/kg	0.012	5	04/02/18 13:00	04/03/18 09:36	100-41-4	
Toluene	ND	mg/kg	0.012	5	04/02/18 13:00	04/03/18 09:36	108-88-3	
Xylene (Total)	ND	mg/kg	0.037	5	04/02/18 13:00	04/03/18 09:36	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	70-130	5	04/02/18 13:00	04/03/18 09:36	17060-07-0	2t,D3
4-Bromofluorobenzene (S)	111	%.	70-130	5	04/02/18 13:00	04/03/18 09:36	460-00-4	
Toluene-d8 (S)	86	%.	70-130	5	04/02/18 13:00	04/03/18 09:36	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**18.2**	%		1		04/02/18 20:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**294**	mg/kg	127	10	04/04/18 11:54	04/05/18 02:01	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-4 (1-2) **Lab ID: 7584780018** Collected: 03/29/18 13:05 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**6620**	mg/kg	792	50	04/05/18 15:30	04/07/18 09:01		
Surrogates								
a-Pinene (S)	51	%.	10-87	50	04/05/18 15:30	04/07/18 09:01		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**5500**	mg/kg	792	50	04/05/18 15:30	04/07/18 09:01		N2
Surrogates								
a-Pinene (S)	93	%.	10-107	50	04/05/18 15:30	04/07/18 09:01		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**253**	mg/kg	52.9	5	04/05/18 00:00	04/06/18 20:06		
Surrogates								
4-Bromofluorobenzene (S)	125	%	72-117	5	04/05/18 00:00	04/06/18 20:06	460-00-4	S2
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**5.5**	%		1		04/03/18 18:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**332**	mg/kg	108	10	04/04/18 11:54	04/05/18 02:19	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-4 (2-3) **Lab ID: 7584780019** Collected: 03/29/18 13:05 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**5110**	mg/kg	784	50	04/09/18 16:45	04/10/18 13:07		
Surrogates								
a-Pinene (S)	48	%.	10-87	50	04/09/18 16:45	04/10/18 13:07		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**4200**	mg/kg	784	50	04/09/18 16:45	04/10/18 13:07		3t,N2
Surrogates								
a-Pinene (S)	91	%.	10-107	50	04/09/18 16:45	04/10/18 13:07		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**130**	mg/kg	52.8	5	04/09/18 00:00	04/10/18 01:00		
Surrogates								
4-Bromofluorobenzene (S)	114	%	72-117	5	04/09/18 00:00	04/10/18 01:00	460-00-4	D3
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**4.5**	%		1		04/03/18 18:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**303**	mg/kg	107	10	04/04/18 11:54	04/05/18 02:37	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-4 (3-4) **Lab ID: 7584780020** Collected: 03/29/18 13:05 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**594**	mg/kg	84.0	5	04/12/18 13:33	04/13/18 05:16		
Surrogates								
a-Pinene (S)	27	%.	10-87	5	04/12/18 13:33	04/13/18 05:16		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**546**	mg/kg	84.0	5	04/12/18 13:33	04/13/18 05:16		N2
Surrogates								
a-Pinene (S)	51	%.	10-107	5	04/12/18 13:33	04/13/18 05:16		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**15.3**	mg/kg	11.3	1	04/12/18 00:00	04/12/18 14:15		
Surrogates								
4-Bromofluorobenzene (S)	113	%	72-117	1	04/12/18 00:00	04/12/18 14:15	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**11.3**	%		1		04/03/18 18:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**67.4**	mg/kg	10.9	1	04/04/18 11:54	04/05/18 14:11	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-4 (4-5) **Lab ID: 7584780021** Collected: 03/29/18 13:05 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**236**	mg/kg	34.6	2	04/12/18 13:33	04/14/18 10:22		
Surrogates								
a-Pinene (S)	23	%.	10-87	2	04/12/18 13:33	04/14/18 10:22		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**224**	mg/kg	34.6	2	04/12/18 13:33	04/14/18 10:22		N2
Surrogates								
a-Pinene (S)	44	%.	10-107	2	04/12/18 13:33	04/14/18 10:22		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	11.7	1	04/12/18 00:00	04/12/18 18:07		
Surrogates								
4-Bromofluorobenzene (S)	106	%	72-117	1	04/12/18 00:00	04/12/18 18:07	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**13.8**	%		1		04/03/18 18:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**90.1**	mg/kg	11.4	1	04/04/18 11:54	04/05/18 14:46	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-4 (5-6) **Lab ID: 7584780022** Collected: 03/29/18 13:05 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	ND	mg/kg	11.6	1	04/12/18 00:00	04/12/18 14:46		
Surrogates								
4-Bromofluorobenzene (S)	106	%	72-117	1	04/12/18 00:00	04/12/18 14:46	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**13.6**	%		1		04/03/18 18:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**123**	mg/kg	113	10	04/04/18 11:54	04/05/18 03:31	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (0-1) **Lab ID: 7584780023** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**11900**	mg/kg	3390	200	04/02/18 17:30	04/04/18 15:54		
Surrogates								
a-Pinene (S)	24	%.	10-87	200	04/02/18 17:30	04/04/18 15:54		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**12400**	mg/kg	3390	200	04/02/18 17:30	04/04/18 15:54		N2
Surrogates								
a-Pinene (S)	53	%.	10-107	200	04/02/18 17:30	04/04/18 15:54		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**23.4**	mg/kg	11.4	1	04/04/18 00:00	04/04/18 16:46		
Surrogates								
4-Bromofluorobenzene (S)	123	%	72-117	1	04/04/18 00:00	04/04/18 16:46	460-00-4	S2
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.011	5	04/02/18 13:00	04/03/18 10:00	71-43-2	
Ethylbenzene	ND	mg/kg	0.011	5	04/02/18 13:00	04/03/18 10:00	100-41-4	
Toluene	ND	mg/kg	0.011	5	04/02/18 13:00	04/03/18 10:00	108-88-3	
Xylene (Total)	ND	mg/kg	0.034	5	04/02/18 13:00	04/03/18 10:00	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%.	70-130	5	04/02/18 13:00	04/03/18 10:00	17060-07-0	2t,D3
4-Bromofluorobenzene (S)	111	%.	70-130	5	04/02/18 13:00	04/03/18 10:00	460-00-4	
Toluene-d8 (S)	88	%.	70-130	5	04/02/18 13:00	04/03/18 10:00	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**12.3**	%		1		04/02/18 20:16		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**176**	mg/kg	117	10	04/04/18 11:54	04/05/18 03:49	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (1-2) **Lab ID: 7584780024** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**8510**	mg/kg	792	50	04/05/18 15:30	04/07/18 09:54		
Surrogates								
a-Pinene (S)	61	%.	10-87	50	04/05/18 15:30	04/07/18 09:54		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**7580**	mg/kg	792	50	04/05/18 15:30	04/07/18 09:54		N2
Surrogates								
a-Pinene (S)	80	%.	10-107	50	04/05/18 15:30	04/07/18 09:54		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**93.8**	mg/kg	10.6	1	04/05/18 00:00	04/06/18 20:22		
Surrogates								
4-Bromofluorobenzene (S)	104	%	72-117	1	04/05/18 00:00	04/06/18 20:22	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**5.9**	%		1		04/03/18 18:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**373**	mg/kg	108	10	04/04/18 11:54	04/05/18 04:06	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (2-3) **Lab ID: 7584780025** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**9550**	mg/kg	794	50	04/09/18 16:45	04/10/18 13:36		
Surrogates								
a-Pinene (S)	46	%.	10-87	50	04/09/18 16:45	04/10/18 13:36		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**7620**	mg/kg	794	50	04/09/18 16:45	04/10/18 13:36		3t,N2
Surrogates								
a-Pinene (S)	93	%.	10-107	50	04/09/18 16:45	04/10/18 13:36		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**480**	mg/kg	53.7	5	04/09/18 00:00	04/10/18 14:53		
Surrogates								
4-Bromofluorobenzene (S)	131	%	72-117	5	04/09/18 00:00	04/10/18 14:53	460-00-4	S2
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**6.9**	%		1		04/03/18 18:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**725**	mg/kg	110	10	04/04/18 11:54	04/05/18 04:24	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (3-4) **Lab ID: 7584780026** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**12200**	mg/kg	830	50	04/12/18 13:33	04/14/18 12:07		
Surrogates								
a-Pinene (S)	159	%.	10-87	50	04/12/18 13:33	04/14/18 12:07		S2
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**9390**	mg/kg	830	50	04/12/18 13:33	04/14/18 12:07		N2
Surrogates								
a-Pinene (S)	299	%.	10-107	50	04/12/18 13:33	04/14/18 12:07		S2
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**1100**	mg/kg	55.9	5	04/12/18 00:00	04/12/18 15:02		
Surrogates								
4-Bromofluorobenzene (S)	144	%	72-117	5	04/12/18 00:00	04/12/18 15:02	460-00-4	S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**10**	%		1		04/03/18 18:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1070**	mg/kg	109	10	04/04/18 11:54	04/05/18 05:18	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (4-5) **Lab ID: 7584780027** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**6200**	mg/kg	837	50	04/12/18 13:33	04/14/18 12:34		
Surrogates								
a-Pinene (S)	99	%.	10-87	50	04/12/18 13:33	04/14/18 12:34		S2
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**5150**	mg/kg	837	50	04/12/18 13:33	04/14/18 12:34		N2
Surrogates								
a-Pinene (S)	183	%.	10-107	50	04/12/18 13:33	04/14/18 12:34		S2
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**885**	mg/kg	56.4	5	04/12/18 00:00	04/12/18 15:48		
Surrogates								
4-Bromofluorobenzene (S)	136	%	72-117	5	04/12/18 00:00	04/12/18 15:48	460-00-4	S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**10.9**	%		1		04/03/18 18:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1400**	mg/kg	113	10	04/04/18 11:54	04/05/18 05:36	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (5-6) **Lab ID: 7584780028** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**7740**	mg/kg	832	50	04/12/18 15:50	04/14/18 13:00		
Surrogates								
a-Pinene (S)	115	%.	10-87	50	04/12/18 15:50	04/14/18 13:00		S2
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**6220**	mg/kg	832	50	04/12/18 15:50	04/14/18 13:00		N2
Surrogates								
a-Pinene (S)	236	%.	10-107	50	04/12/18 15:50	04/14/18 13:00		S2
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**791**	mg/kg	55.4	5	04/12/18 00:00	04/12/18 16:04		
Surrogates								
4-Bromofluorobenzene (S)	134	%	72-117	5	04/12/18 00:00	04/12/18 16:04	460-00-4	S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**10.2**	%		1		04/03/18 18:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1830**	mg/kg	1090	100	04/04/18 11:54	04/05/18 15:22	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (6-7) **Lab ID: 7584780029** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**6700**	mg/kg	803	50	04/12/18 15:50	04/14/18 13:27		
Surrogates								
a-Pinene (S)	112	%.	10-87	50	04/12/18 15:50	04/14/18 13:27		S2
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**5390**	mg/kg	803	50	04/12/18 15:50	04/14/18 13:27		N2
Surrogates								
a-Pinene (S)	221	%.	10-107	50	04/12/18 15:50	04/14/18 13:27		S2
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**676**	mg/kg	53.3	5	04/12/18 00:00	04/12/18 16:19		
Surrogates								
4-Bromofluorobenzene (S)	135	%	72-117	5	04/12/18 00:00	04/12/18 16:19	460-00-4	S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**6.7**	%		1		04/03/18 18:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**908**	mg/kg	105	10	04/04/18 11:54	04/05/18 06:11	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (7-8) **Lab ID: 7584780030** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**3680**	mg/kg	800	50	04/12/18 15:50	04/14/18 13:53		
Surrogates								
a-Pinene (S)	35	%.	10-87	50	04/12/18 15:50	04/14/18 13:53		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**3180**	mg/kg	800	50	04/12/18 15:50	04/14/18 13:53		N2
Surrogates								
a-Pinene (S)	68	%.	10-107	50	04/12/18 15:50	04/14/18 13:53		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**497**	mg/kg	53.4	5	04/12/18 00:00	04/12/18 16:34		
Surrogates								
4-Bromofluorobenzene (S)	130	%	72-117	5	04/12/18 00:00	04/12/18 16:34	460-00-4	S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**6.5**	%		1		04/03/18 18:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**790**	mg/kg	103	10	04/04/18 11:54	04/05/18 06:29	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (8-9) **Lab ID: 7584780031** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**1000**	mg/kg	162	10	04/12/18 15:50	04/14/18 15:12		
Surrogates								
a-Pinene (S)	33	%.	10-87	10	04/12/18 15:50	04/14/18 15:12		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**871**	mg/kg	162	10	04/12/18 15:50	04/14/18 15:12		N2
Surrogates								
a-Pinene (S)	62	%.	10-107	10	04/12/18 15:50	04/14/18 15:12		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**125**	mg/kg	54.3	5	04/12/18 00:00	04/12/18 16:50		
Surrogates								
4-Bromofluorobenzene (S)	128	%	72-117	5	04/12/18 00:00	04/12/18 16:50	460-00-4	D3,S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**7.7**	%		1		04/03/18 18:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1040**	mg/kg	108	10	04/04/18 11:54	04/05/18 06:47	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-5 (9-10) **Lab ID: 7584780032** Collected: 03/29/18 13:30 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**593**	mg/kg	161	10	04/12/18 15:50	04/14/18 16:04		
Surrogates								
a-Pinene (S)	28	%.	10-87	10	04/12/18 15:50	04/14/18 16:04		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**518**	mg/kg	161	10	04/12/18 15:50	04/14/18 16:04		N2
Surrogates								
a-Pinene (S)	52	%.	10-107	10	04/12/18 15:50	04/14/18 16:04		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**56.4**	mg/kg	53.8	5	04/12/18 00:00	04/12/18 17:05		
Surrogates								
4-Bromofluorobenzene (S)	111	%	72-117	5	04/12/18 00:00	04/12/18 17:05	460-00-4	D3
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**7.2**	%		1		04/03/18 18:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**1020**	mg/kg	105	10	04/04/18 11:54	04/05/18 08:34	16887-00-6	M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-6 (0-1) **Lab ID: 7584780033** Collected: 03/29/18 14:20 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**18000**	mg/kg	15500	100	04/02/18 17:30	04/04/18 17:39		
Surrogates								
a-Pinene (S)	56	%.	10-87	100	04/02/18 17:30	04/04/18 17:39		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**20200**	mg/kg	15500	100	04/02/18 17:30	04/04/18 17:39		N2
Surrogates								
a-Pinene (S)	94	%.	10-107	100	04/02/18 17:30	04/04/18 17:39		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**49.3**	mg/kg	10.4	1	04/04/18 00:00	04/04/18 13:54		
Surrogates								
4-Bromofluorobenzene (S)	101	%	72-117	1	04/04/18 00:00	04/04/18 13:54	460-00-4	
8260 MSV UST Soil Low Level	Analytical Method: EPA 8260 Preparation Method: EPA 5030 Low							
Benzene	ND	mg/kg	0.010	5	04/02/18 13:00	04/03/18 10:23	71-43-2	
Ethylbenzene	**0.011**	mg/kg	0.010	5	04/02/18 13:00	04/03/18 10:23	100-41-4	
Toluene	ND	mg/kg	0.010	5	04/02/18 13:00	04/03/18 10:23	108-88-3	
Xylene (Total)	**0.032**	mg/kg	0.031	5	04/02/18 13:00	04/03/18 10:23	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	5	04/02/18 13:00	04/03/18 10:23	17060-07-0	2t,D3
4-Bromofluorobenzene (S)	107	%.	70-130	5	04/02/18 13:00	04/03/18 10:23	460-00-4	
Toluene-d8 (S)	88	%.	70-130	5	04/02/18 13:00	04/03/18 10:23	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**3.5**	%		1		04/02/18 20:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**238**	mg/kg	108	10	04/04/18 11:54	04/05/18 09:28	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-6 (1-2) **Lab ID: 7584780034** Collected: 03/29/18 14:20 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**7690**	mg/kg	787	50	04/05/18 15:30	04/07/18 10:46		
Surrogates								
a-Pinene (S)	45	%.	10-87	50	04/05/18 15:30	04/07/18 10:46		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**6570**	mg/kg	787	50	04/05/18 15:30	04/07/18 10:46		N2
Surrogates								
a-Pinene (S)	83	%.	10-107	50	04/05/18 15:30	04/07/18 10:46		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**204**	mg/kg	52.8	5	04/05/18 00:00	04/06/18 20:38		
Surrogates								
4-Bromofluorobenzene (S)	114	%	72-117	5	04/05/18 00:00	04/06/18 20:38	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**5.0**	%		1		04/03/18 18:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**182**	mg/kg	108	10	04/04/18 11:54	04/05/18 09:46	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-6 (2-3) **Lab ID: 7584780035** Collected: 03/29/18 14:20 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**5110**	mg/kg	822	50	04/09/18 16:45	04/10/18 14:02		
Surrogates								
a-Pinene (S)	51	%.	10-87	50	04/09/18 16:45	04/10/18 14:02		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**4470**	mg/kg	822	50	04/09/18 16:45	04/10/18 14:02		3t,N2
Surrogates								
a-Pinene (S)	100	%.	10-107	50	04/09/18 16:45	04/10/18 14:02		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**674**	mg/kg	55.1	5	04/09/18 00:00	04/10/18 15:09		
Surrogates								
4-Bromofluorobenzene (S)	133	%	72-117	5	04/09/18 00:00	04/10/18 15:09	460-00-4	S2
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**9.1**	%		1		04/03/18 18:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**90.0**	mg/kg	11.1	1	04/04/18 11:54	04/05/18 16:34	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-6 (3-4) **Lab ID: 7584780036** Collected: 03/29/18 14:20 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**1380**	mg/kg	169	10	04/12/18 15:50	04/14/18 16:57		
Surrogates								
a-Pinene (S)	24	%.	10-87	10	04/12/18 15:50	04/14/18 16:57		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**1140**	mg/kg	169	10	04/12/18 15:50	04/14/18 16:57		N2
Surrogates								
a-Pinene (S)	47	%.	10-107	10	04/12/18 15:50	04/14/18 16:57		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**120**	mg/kg	11.3	1	04/12/18 00:00	04/12/18 17:21		
Surrogates								
4-Bromofluorobenzene (S)	131	%	72-117	1	04/12/18 00:00	04/12/18 17:21	460-00-4	S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**11.6**	%		1		04/03/18 18:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**76.7**	mg/kg	11.5	1	04/04/18 11:54	04/05/18 17:45	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-6 (4-5) **Lab ID: 7584780037** Collected: 03/29/18 14:20 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**4960**	mg/kg	833	50	04/12/18 15:50	04/14/18 14:19		
Surrogates								
a-Pinene (S)	46	%.	10-87	50	04/12/18 15:50	04/14/18 14:19		
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**4510**	mg/kg	833	50	04/12/18 15:50	04/14/18 14:19		N2
Surrogates								
a-Pinene (S)	88	%.	10-107	50	04/12/18 15:50	04/14/18 14:19		
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**135**	mg/kg	56.0	5	04/12/18 00:00	04/12/18 17:36		
Surrogates								
4-Bromofluorobenzene (S)	129	%	72-117	5	04/12/18 00:00	04/12/18 17:36	460-00-4	D3,S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**11.1**	%		1		04/03/18 18:38		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**103**	mg/kg	11.3	1	04/04/18 11:54	04/05/18 18:21	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA-108
Pace Project No.: 7584780

Sample: AH-6 (5-6) **Lab ID: 7584780038** Collected: 03/29/18 14:20 Received: 03/31/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
Diesel Range Organics	**7170**	mg/kg	838	50	04/12/18 15:50	04/14/18 14:45		
Surrogates								
a-Pinene (S)	118	%.	10-87	50	04/12/18 15:50	04/14/18 14:45		S2
8015M Oil Range Organics	Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546							
Oil Range Organics	**5730**	mg/kg	838	50	04/12/18 15:50	04/14/18 14:45		N2
Surrogates								
a-Pinene (S)	213	%.	10-107	50	04/12/18 15:50	04/14/18 14:45		S2
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
TPH-GRO	**440**	mg/kg	55.8	5	04/12/18 00:00	04/12/18 17:52		
Surrogates								
4-Bromofluorobenzene (S)	128	%	72-117	5	04/12/18 00:00	04/12/18 17:52	460-00-4	S5
Percent Moisture	Analytical Method: ASTM D2974-07							
Percent Moisture	**11.1**	%		1		04/03/18 18:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Chloride	**61.3**	mg/kg	11.6	1	04/04/18 11:54	04/05/18 13:17	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 520439 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 7584780001, 7584780006, 7584780012, 7584780017, 7584780023, 7584780033

METHOD BLANK: 2130117 Matrix: Solid
Associated Lab Samples: 7584780001, 7584780006, 7584780012, 7584780017, 7584780023, 7584780033

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	04/04/18 11:17	
4-Bromofluorobenzene (S)	%	105	72-117	04/04/18 11:17	

LABORATORY CONTROL SAMPLE: 2130118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	54.8	110	85-129	
4-Bromofluorobenzene (S)	%			161	72-117	S0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2130119 2130120

Parameter	Units	7584780001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	502	291	58.3	814	175	107	-561	81-127	129	10	M1,R1
4-Bromofluorobenzene (S)	%						118	139	72-117			S0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 520693 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 7584780002, 7584780007, 7584780013, 7584780018, 7584780024, 7584780034

METHOD BLANK: 2131167 Matrix: Solid
Associated Lab Samples: 7584780002, 7584780007, 7584780013, 7584780018, 7584780024, 7584780034

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	04/06/18 18:32	
4-Bromofluorobenzene (S)	%	95	72-117	04/06/18 18:32	

LABORATORY CONTROL SAMPLE: 2131168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	54.7	109	85-129	
4-Bromofluorobenzene (S)	%			103	72-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2131169 2131170

Parameter	Units	7584780002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	40.9	62.3	62.3	120	124	127	134	81-127	3	10	M1
4-Bromofluorobenzene (S)	%						107	104	72-117			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 521089 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 7584780003, 7584780008, 7584780014, 7584780019, 7584780025, 7584780035

METHOD BLANK: 2133039 Matrix: Solid
Associated Lab Samples: 7584780003, 7584780008, 7584780014, 7584780019, 7584780025, 7584780035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	04/09/18 16:20	
4-Bromofluorobenzene (S)	%	101	72-117	04/09/18 16:20	

METHOD BLANK: 2133634 Matrix: Solid
Associated Lab Samples: 7584780003, 7584780008, 7584780014, 7584780025, 7584780035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	04/10/18 13:24	
4-Bromofluorobenzene (S)	%	102	72-117	04/10/18 13:24	

LABORATORY CONTROL SAMPLE: 2133040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	54.7	109	85-129	
4-Bromofluorobenzene (S)	%			110	72-117	

LABORATORY CONTROL SAMPLE: 2133635

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	54.5	109	85-129	
4-Bromofluorobenzene (S)	%			107	72-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2133041 2133042

Parameter	Units	7584752003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	ND	50	50	58.9	55.5	116	110	81-127	6	10	
4-Bromofluorobenzene (S)	%						116	112	72-117			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 521514 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 7584780015, 7584780016, 7584780020, 7584780021, 7584780022, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031, 7584780032, 7584780036, 7584780037, 7584780038

METHOD BLANK: 2134770 Matrix: Solid
Associated Lab Samples: 7584780015, 7584780016, 7584780020, 7584780021, 7584780022, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031, 7584780032, 7584780036, 7584780037, 7584780038

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	04/12/18 12:49	
4-Bromofluorobenzene (S)	%	93	72-117	04/12/18 12:49	

LABORATORY CONTROL SAMPLE: 2134771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	51.2	102	85-129	
4-Bromofluorobenzene (S)	%			102	72-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2134772 2134773

Parameter	Units	7584780015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	ND	61	61	67.9	66.0	107	104	81-127	3	10	
4-Bromofluorobenzene (S)	%						107	117	72-117			

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95193 Analysis Method: EPA 8260
QC Batch Method: EPA 5030 Low Analysis Description: 8260 MSV Soil Low Level
Associated Lab Samples: 7584780001, 7584780006, 7584780012, 7584780017, 7584780023, 7584780033

METHOD BLANK: 423451 Matrix: Solid
Associated Lab Samples: 7584780001, 7584780006, 7584780012, 7584780017, 7584780023, 7584780033

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0020	04/02/18 14:03	
Ethylbenzene	mg/kg	ND	0.0020	04/02/18 14:03	
Toluene	mg/kg	ND	0.0020	04/02/18 14:03	
Xylene (Total)	mg/kg	ND	0.0060	04/02/18 14:03	
1,2-Dichloroethane-d4 (S)	%.	114	70-130	04/02/18 14:03	
4-Bromofluorobenzene (S)	%.	90	70-130	04/02/18 14:03	
Toluene-d8 (S)	%.	89	70-130	04/02/18 14:03	

LABORATORY CONTROL SAMPLE: 423452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.02	0.022	111	74-130	
Ethylbenzene	mg/kg	.02	0.020	101	77-127	
Toluene	mg/kg	.02	0.019	95	74-127	
Xylene (Total)	mg/kg	.06	0.060	100	74-128	
1,2-Dichloroethane-d4 (S)	%.			110	70-130	
4-Bromofluorobenzene (S)	%.			92	70-130	
Toluene-d8 (S)	%.			90	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 423453 423454

Parameter	Units	7584752001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	1.1	1.1	1.3	1.3	122	121	32-152	1	20	
Ethylbenzene	mg/kg	ND	1.1	1.1	1.3	1.2	119	113	18-166	6	20	
Toluene	mg/kg	ND	1.1	1.1	1.2	1.1	108	105	18-166	3	20	
Xylene (Total)	mg/kg	0.021	3.3	3.3	4.3	4.0	130	120	10-172	8	20	
1,2-Dichloroethane-d4 (S)	%.						99	101	70-130			
4-Bromofluorobenzene (S)	%.						97	100	70-130			
Toluene-d8 (S)	%.						91	91	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95252 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 7584780001, 7584780006, 7584780012, 7584780017, 7584780023, 7584780033

METHOD BLANK: 423609 Matrix: Solid
Associated Lab Samples: 7584780001, 7584780006, 7584780012, 7584780017, 7584780023, 7584780033

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	ND	10	04/04/18 07:20	
a-Pinene (S)	%.	19	10-87	04/04/18 07:20	

LABORATORY CONTROL SAMPLE: 423610

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range Organics	mg/kg	33.2	23.1	70	42-124	
a-Pinene (S)	%.			21	10-87	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 423611 423612

Parameter	Units	7584752001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Range Organics	mg/kg	3930	10900	11000	3620	3920	-3	0	10-172	8	20	M3
a-Pinene (S)	%.						28	23	10-87			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95438 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 7584780002, 7584780007, 7584780013, 7584780018, 7584780024, 7584780034

METHOD BLANK: 424534 Matrix: Solid
Associated Lab Samples: 7584780002, 7584780007, 7584780013, 7584780018, 7584780024, 7584780034

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	ND	10	04/07/18 01:33	
a-Pinene (S)	%.	24	10-87	04/07/18 01:33	

LABORATORY CONTROL SAMPLE: 424535

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range Organics	mg/kg	33.3	22.9	69	42-124	
a-Pinene (S)	%.			15	10-87	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 424536 424537

Parameter	Units	7584752007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Range Organics	mg/kg	1310	51.3	51.4	1460	1430	279	226	10-172	2	20	M3
a-Pinene (S)	%.						43	51	10-87			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95587 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 7584780003, 7584780008, 7584780014, 7584780019, 7584780025, 7584780035

METHOD BLANK: 425324 Matrix: Solid
Associated Lab Samples: 7584780003, 7584780008, 7584780014, 7584780019, 7584780025, 7584780035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	ND	9.9	04/10/18 16:14	
a-Pinene (S)	%.	23	10-87	04/10/18 16:14	

LABORATORY CONTROL SAMPLE: 425325

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range Organics	mg/kg	33.2	23.5	71	42-124	
a-Pinene (S)	%.			25	10-87	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425326 425327

Parameter	Units	7584780008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Range Organics	mg/kg	227	380	379	537	380	81	40	10-172	34	20	R1
a-Pinene (S)	%.						27	29	10-87			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95887 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 7584780015, 7584780016, 7584780020, 7584780021, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031, 7584780032, 7584780036, 7584780037, 7584780038

METHOD BLANK: 426760 Matrix: Solid
Associated Lab Samples: 7584780015, 7584780016, 7584780020, 7584780021, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031, 7584780032, 7584780036, 7584780037, 7584780038

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	ND	10	04/13/18 01:19	
a-Pinene (S)	%.	23	10-87	04/13/18 01:19	

LABORATORY CONTROL SAMPLE: 426761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range Organics	mg/kg	33.3	28.1	84	42-124	
a-Pinene (S)	%.			24	10-87	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426762 426763

Parameter	Units	7584780016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Range Organics	mg/kg	102	121	119	211	249	91	124	10-172	17	20	
a-Pinene (S)	%.						3	3	10-87			S0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95253 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 ORO
Associated Lab Samples: 7584780001, 7584780006, 7584780012, 7584780017, 7584780023, 7584780033

METHOD BLANK: 423614 Matrix: Solid
Associated Lab Samples: 7584780001, 7584780006, 7584780012, 7584780017, 7584780023, 7584780033

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil Range Organics	mg/kg	ND	10	04/04/18 06:54	4t,N2
a-Pinene (S)	%.	39	10-107	04/04/18 06:54	

LABORATORY CONTROL SAMPLE: 423615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil Range Organics	mg/kg	33.2	24.4	74	56-130	N2
a-Pinene (S)	%.			42	10-107	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 423616 423617

Parameter	Units	7584752006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Oil Range Organics	mg/kg	40600	10100	10100	32300	33200	-82	-73	10-159	3	40	4t,M3, N2
a-Pinene (S)	%.						891	864	10-107			S2

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95439 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 ORO
Associated Lab Samples: 7584780002, 7584780007, 7584780013, 7584780018, 7584780024, 7584780034

METHOD BLANK: 424538 Matrix: Solid
Associated Lab Samples: 7584780002, 7584780007, 7584780013, 7584780018, 7584780024, 7584780034

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil Range Organics	mg/kg	ND	10	04/07/18 01:33	N2
a-Pinene (S)	%.	45	10-107	04/07/18 01:33	

LABORATORY CONTROL SAMPLE: 424539

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil Range Organics	mg/kg	33.3	25.8	77	56-130	N2
a-Pinene (S)	%.			45	10-107	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 424540 424541

Parameter	Units	7584752002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Oil Range Organics	mg/kg	1270	51.6	51.5	1290	1340	54	147	10-159	4	40	N2
a-Pinene (S)	%.						101	83	10-107			

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95588 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 ORO
Associated Lab Samples: 7584780003, 7584780008, 7584780014, 7584780019, 7584780025, 7584780035

METHOD BLANK: 425328 Matrix: Solid
Associated Lab Samples: 7584780003, 7584780008, 7584780014, 7584780019, 7584780025, 7584780035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil Range Organics	mg/kg	ND	9.9	04/10/18 16:14	N2
a-Pinene (S)	%.	43	10-107	04/10/18 16:14	

LABORATORY CONTROL SAMPLE: 425329

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil Range Organics	mg/kg	33.1	11.5	35	56-130	3t,N2
a-Pinene (S)	%.			87	10-107	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425330 425331

Parameter	Units	7584780035 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Oil Range Organics	mg/kg	4470	5490	5470	5180	5410	13	17	10-159	4	40	3t,N2
a-Pinene (S)	%.						154	148	10-107			S2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95888 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 ORO
Associated Lab Samples: 7584780015, 7584780020, 7584780021, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031, 7584780032, 7584780036, 7584780037, 7584780038

METHOD BLANK: 426765 Matrix: Solid
Associated Lab Samples: 7584780015, 7584780020, 7584780021, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031, 7584780032, 7584780036, 7584780037, 7584780038

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil Range Organics	mg/kg	ND	10	04/13/18 01:19	N2
a-Pinene (S)	%.	44	10-107	04/13/18 01:19	

LABORATORY CONTROL SAMPLE: 426766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil Range Organics	mg/kg	33.3	25.5	77	56-130	N2
a-Pinene (S)	%.			32	10-107	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426767 426768

Parameter	Units	7584780015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Oil Range Organics	mg/kg	143	80.6	108	200	374	71	215	10-159	61	40	M1,N2, R1
a-Pinene (S)	%.						42	47	10-107			

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95201 Analysis Method: ASTM D2974-07
QC Batch Method: ASTM D2974-07 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 7584780001, 7584780002, 7584780003, 7584780004, 7584780005, 7584780006, 7584780007, 7584780008, 7584780009, 7584780010, 7584780011, 7584780012, 7584780013, 7584780014, 7584780015, 7584780017, 7584780023, 7584780033

SAMPLE DUPLICATE: 423468

Parameter	Units	7584752017 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.1	3.2	0	20	

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95222 Analysis Method: ASTM D2974-07
QC Batch Method: ASTM D2974-07 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 7584780016, 7584780018, 7584780019, 7584780020, 7584780021, 7584780022, 7584780024, 7584780025, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031, 7584780032, 7584780034, 7584780035, 7584780036, 7584780037

SAMPLE DUPLICATE: 423542

Parameter	Units	7584768001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	52.1	53.8	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95288
QC Batch Method: ASTM D2974-07
Analysis Method: ASTM D2974-07
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 7584780038

SAMPLE DUPLICATE: 423769

Parameter	Units	7584747002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.8	12.2	4	20	

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95310 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 7584780001, 7584780002, 7584780003, 7584780004, 7584780005, 7584780006, 7584780007, 7584780008, 7584780009, 7584780010, 7584780011

METHOD BLANK: 423885 Matrix: Solid
Associated Lab Samples: 7584780001, 7584780002, 7584780003, 7584780004, 7584780005, 7584780006, 7584780007, 7584780008, 7584780009, 7584780010, 7584780011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	10.0	04/05/18 02:49	

LABORATORY CONTROL SAMPLE: 423886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	50	46.7	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 423887 423888

Parameter	Units	7584752001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	140	567	567	661	664	92	92	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 423889 423890

Parameter	Units	7584752002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	74.8	51.8	51.8	122	121	92	89	90-110	1	20	M1

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95311 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 7584780012, 7584780013, 7584780014, 7584780015, 7584780016, 7584780017, 7584780018, 7584780019, 7584780020, 7584780021, 7584780022, 7584780023, 7584780024, 7584780025, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031

METHOD BLANK: 423891 Matrix: Solid
Associated Lab Samples: 7584780012, 7584780013, 7584780014, 7584780015, 7584780016, 7584780017, 7584780018, 7584780019, 7584780020, 7584780021, 7584780022, 7584780023, 7584780024, 7584780025, 7584780026, 7584780027, 7584780028, 7584780029, 7584780030, 7584780031

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	10.0	04/04/18 22:09	

LABORATORY CONTROL SAMPLE: 423892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	50	51.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 423893 423894

Parameter	Units	7584780012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	621	496	496	1040	1190	85	116	90-110	14	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 423895 423896

Parameter	Units	7584780013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	581	541	541	1110	1170	97	109	90-110	6	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCA-108
Pace Project No.: 7584780

QC Batch: 95314 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 7584780032, 7584780033, 7584780034, 7584780035, 7584780036, 7584780037, 7584780038

METHOD BLANK: 423905 Matrix: Solid
Associated Lab Samples: 7584780032, 7584780033, 7584780034, 7584780035, 7584780036, 7584780037, 7584780038

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	10.0	04/05/18 07:59	

LABORATORY CONTROL SAMPLE: 423906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	50	49.8	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 423907 423908

Parameter	Units	7584780032 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	1020	524	524	1610	1590	113	110	90-110	1	20	E,M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
400 West Bethany Drive - Suite 190
Allen, TX 75013
(972)727-1123

QUALIFIERS

Project: MCA-108
Pace Project No.: 7584780

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

LABORATORIES

PASI-D	Pace Analytical Services - Dallas
PASI-K	Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: 521274

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1t	Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.
2t	Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.
3t	The LCS was not spiked due to laboratory error. See case narrative for details.
4t	The ending continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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ANALYTE QUALIFIERS

S2	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7584780001	**AH-1 (0-1)**	EPA 3546	95252	EPA 8015B	95294
7584780002	**AH-1 (1-2)**	EPA 3546	95438	EPA 8015B	95560
7584780003	**AH-1 (2-3)**	EPA 3546	95587	EPA 8015B	95649
7584780006	**AH-2 (0-1)**	EPA 3546	95252	EPA 8015B	95294
7584780007	**AH-2 (1-2)**	EPA 3546	95438	EPA 8015B	95560
7584780008	**AH-2 (2-3)**	EPA 3546	95587	EPA 8015B	95649
7584780012	**AH-3 (0-1)**	EPA 3546	95252	EPA 8015B	95294
7584780013	**AH-3 (1-2)**	EPA 3546	95438	EPA 8015B	95560
7584780014	**AH-3 (2-3)**	EPA 3546	95587	EPA 8015B	95649
7584780015	**AH-3 (3-4)**	EPA 3546	95887	EPA 8015B	95909
7584780016	**AH-3 (4-5)**	EPA 3546	95887	EPA 8015B	95909
7584780017	**AH-4 (0-1)**	EPA 3546	95252	EPA 8015B	95294
7584780018	**AH-4 (1-2)**	EPA 3546	95438	EPA 8015B	95560
7584780019	**AH-4 (2-3)**	EPA 3546	95587	EPA 8015B	95649
7584780020	**AH-4 (3-4)**	EPA 3546	95887	EPA 8015B	95909
7584780021	**AH-4 (4-5)**	EPA 3546	95887	EPA 8015B	95909
7584780023	**AH-5 (0-1)**	EPA 3546	95252	EPA 8015B	95294
7584780024	**AH-5 (1-2)**	EPA 3546	95438	EPA 8015B	95560
7584780025	**AH-5 (2-3)**	EPA 3546	95587	EPA 8015B	95649
7584780026	**AH-5 (3-4)**	EPA 3546	95887	EPA 8015B	95909
7584780027	**AH-5 (4-5)**	EPA 3546	95887	EPA 8015B	95909
7584780028	**AH-5 (5-6)**	EPA 3546	95887	EPA 8015B	95909
7584780029	**AH-5 (6-7)**	EPA 3546	95887	EPA 8015B	95909
7584780030	**AH-5 (7-8)**	EPA 3546	95887	EPA 8015B	95909
7584780031	**AH-5 (8-9)**	EPA 3546	95887	EPA 8015B	95909
7584780032	**AH-5 (9-10)**	EPA 3546	95887	EPA 8015B	95909
7584780033	**AH-6 (0-1)**	EPA 3546	95252	EPA 8015B	95294
7584780034	**AH-6 (1-2)**	EPA 3546	95438	EPA 8015B	95560
7584780035	**AH-6 (2-3)**	EPA 3546	95587	EPA 8015B	95649
7584780036	**AH-6 (3-4)**	EPA 3546	95887	EPA 8015B	95909
7584780037	**AH-6 (4-5)**	EPA 3546	95887	EPA 8015B	95909
7584780038	**AH-6 (5-6)**	EPA 3546	95887	EPA 8015B	95909
7584780001	**AH-1 (0-1)**	EPA 3546	95253	EPA 8015B Modified	95295
7584780002	**AH-1 (1-2)**	EPA 3546	95439	EPA 8015B Modified	95561
7584780003	**AH-1 (2-3)**	EPA 3546	95588	EPA 8015B Modified	95650
7584780006	**AH-2 (0-1)**	EPA 3546	95253	EPA 8015B Modified	95295

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7584780007	**AH-2 (1-2)**	EPA 3546	95439	EPA 8015B Modified	95561
7584780008	**AH-2 (2-3)**	EPA 3546	95588	EPA 8015B Modified	95650
7584780012	**AH-3 (0-1)**	EPA 3546	95253	EPA 8015B Modified	95295
7584780013	**AH-3 (1-2)**	EPA 3546	95439	EPA 8015B Modified	95561
7584780014	**AH-3 (2-3)**	EPA 3546	95588	EPA 8015B Modified	95650
7584780015	**AH-3 (3-4)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780017	**AH-4 (0-1)**	EPA 3546	95253	EPA 8015B Modified	95295
7584780018	**AH-4 (1-2)**	EPA 3546	95439	EPA 8015B Modified	95561
7584780019	**AH-4 (2-3)**	EPA 3546	95588	EPA 8015B Modified	95650
7584780020	**AH-4 (3-4)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780021	**AH-4 (4-5)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780023	**AH-5 (0-1)**	EPA 3546	95253	EPA 8015B Modified	95295
7584780024	**AH-5 (1-2)**	EPA 3546	95439	EPA 8015B Modified	95561
7584780025	**AH-5 (2-3)**	EPA 3546	95588	EPA 8015B Modified	95650
7584780026	**AH-5 (3-4)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780027	**AH-5 (4-5)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780028	**AH-5 (5-6)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780029	**AH-5 (6-7)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780030	**AH-5 (7-8)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780031	**AH-5 (8-9)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780032	**AH-5 (9-10)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780033	**AH-6 (0-1)**	EPA 3546	95253	EPA 8015B Modified	95295
7584780034	**AH-6 (1-2)**	EPA 3546	95439	EPA 8015B Modified	95561
7584780035	**AH-6 (2-3)**	EPA 3546	95588	EPA 8015B Modified	95650
7584780036	**AH-6 (3-4)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780037	**AH-6 (4-5)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780038	**AH-6 (5-6)**	EPA 3546	95888	EPA 8015B Modified	95910
7584780001	**AH-1 (0-1)**	EPA 5035A/5030B	520439	EPA 8015B	520527
7584780002	**AH-1 (1-2)**	EPA 5035A/5030B	520693	EPA 8015B	521036
7584780003	**AH-1 (2-3)**	EPA 5035A/5030B	521089	EPA 8015B	521274
7584780006	**AH-2 (0-1)**	EPA 5035A/5030B	520439	EPA 8015B	520527
7584780007	**AH-2 (1-2)**	EPA 5035A/5030B	520693	EPA 8015B	521036
7584780008	**AH-2 (2-3)**	EPA 5035A/5030B	521089	EPA 8015B	521274
7584780012	**AH-3 (0-1)**	EPA 5035A/5030B	520439	EPA 8015B	520527
7584780013	**AH-3 (1-2)**	EPA 5035A/5030B	520693	EPA 8015B	521036
7584780014	**AH-3 (2-3)**	EPA 5035A/5030B	521089	EPA 8015B	521274

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7584780015	**AH-3 (3-4)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780016	**AH-3 (4-5)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780017	**AH-4 (0-1)**	EPA 5035A/5030B	520439	EPA 8015B	520527
7584780018	**AH-4 (1-2)**	EPA 5035A/5030B	520693	EPA 8015B	521036
7584780019	**AH-4 (2-3)**	EPA 5035A/5030B	521089	EPA 8015B	521233
7584780020	**AH-4 (3-4)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780021	**AH-4 (4-5)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780022	**AH-4 (5-6)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780023	**AH-5 (0-1)**	EPA 5035A/5030B	520439	EPA 8015B	520527
7584780024	**AH-5 (1-2)**	EPA 5035A/5030B	520693	EPA 8015B	521036
7584780025	**AH-5 (2-3)**	EPA 5035A/5030B	521089	EPA 8015B	521274
7584780026	**AH-5 (3-4)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780027	**AH-5 (4-5)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780028	**AH-5 (5-6)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780029	**AH-5 (6-7)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780030	**AH-5 (7-8)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780031	**AH-5 (8-9)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780032	**AH-5 (9-10)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780033	**AH-6 (0-1)**	EPA 5035A/5030B	520439	EPA 8015B	520527
7584780034	**AH-6 (1-2)**	EPA 5035A/5030B	520693	EPA 8015B	521036
7584780035	**AH-6 (2-3)**	EPA 5035A/5030B	521089	EPA 8015B	521274
7584780036	**AH-6 (3-4)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780037	**AH-6 (4-5)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780038	**AH-6 (5-6)**	EPA 5035A/5030B	521514	EPA 8015B	521659
7584780001	**AH-1 (0-1)**	EPA 5030 Low	95193	EPA 8260	95195
7584780006	**AH-2 (0-1)**	EPA 5030 Low	95193	EPA 8260	95195
7584780012	**AH-3 (0-1)**	EPA 5030 Low	95193	EPA 8260	95195
7584780017	**AH-4 (0-1)**	EPA 5030 Low	95193	EPA 8260	95195
7584780023	**AH-5 (0-1)**	EPA 5030 Low	95193	EPA 8260	95195
7584780033	**AH-6 (0-1)**	EPA 5030 Low	95193	EPA 8260	95195
7584780001	**AH-1 (0-1)**	ASTM D2974-07	95201		
7584780002	**AH-1 (1-2)**	ASTM D2974-07	95201		
7584780003	**AH-1 (2-3)**	ASTM D2974-07	95201		
7584780004	**AH-1 (3-4)**	ASTM D2974-07	95201		
7584780005	**AH-1 (4-5)**	ASTM D2974-07	95201		
7584780006	**AH-2 (0-1)**	ASTM D2974-07	95201		
7584780007	**AH-2 (1-2)**	ASTM D2974-07	95201		
7584780008	**AH-2 (2-3)**	ASTM D2974-07	95201		
7584780009	**AH-2 (3-4)**	ASTM D2974-07	95201		
7584780010	**AH-2 (4-5)**	ASTM D2974-07	95201		
7584780011	**AH-2 (5-6)**	ASTM D2974-07	95201		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7584780012	AH-3 (0-1)	ASTM D2974-07	95201		
7584780013	AH-3 (1-2)	ASTM D2974-07	95201		
7584780014	AH-3 (2-3)	ASTM D2974-07	95201		
7584780015	AH-3 (3-4)	ASTM D2974-07	95201		
7584780016	AH-3 (4-5)	ASTM D2974-07	95222		
7584780017	AH-4 (0-1)	ASTM D2974-07	95201		
7584780018	AH-4 (1-2)	ASTM D2974-07	95222		
7584780019	AH-4 (2-3)	ASTM D2974-07	95222		
7584780020	AH-4 (3-4)	ASTM D2974-07	95222		
7584780021	AH-4 (4-5)	ASTM D2974-07	95222		
7584780022	AH-4 (5-6)	ASTM D2974-07	95222		
7584780023	AH-5 (0-1)	ASTM D2974-07	95201		
7584780024	AH-5 (1-2)	ASTM D2974-07	95222		
7584780025	AH-5 (2-3)	ASTM D2974-07	95222		
7584780026	AH-5 (3-4)	ASTM D2974-07	95222		
7584780027	AH-5 (4-5)	ASTM D2974-07	95222		
7584780028	AH-5 (5-6)	ASTM D2974-07	95222		
7584780029	AH-5 (6-7)	ASTM D2974-07	95222		
7584780030	AH-5 (7-8)	ASTM D2974-07	95222		
7584780031	AH-5 (8-9)	ASTM D2974-07	95222		
7584780032	AH-5 (9-10)	ASTM D2974-07	95222		
7584780033	AH-6 (0-1)	ASTM D2974-07	95201		
7584780034	AH-6 (1-2)	ASTM D2974-07	95222		
7584780035	AH-6 (2-3)	ASTM D2974-07	95222		
7584780036	AH-6 (3-4)	ASTM D2974-07	95222		
7584780037	AH-6 (4-5)	ASTM D2974-07	95222		
7584780038	AH-6 (5-6)	ASTM D2974-07	95288		
7584780001	AH-1 (0-1)	EPA 300.0	95310	EPA 300.0	95380
7584780002	AH-1 (1-2)	EPA 300.0	95310	EPA 300.0	95380
7584780003	AH-1 (2-3)	EPA 300.0	95310	EPA 300.0	95380
7584780004	AH-1 (3-4)	EPA 300.0	95310	EPA 300.0	95380
7584780005	AH-1 (4-5)	EPA 300.0	95310	EPA 300.0	95380
7584780006	AH-2 (0-1)	EPA 300.0	95310	EPA 300.0	95380
7584780007	AH-2 (1-2)	EPA 300.0	95310	EPA 300.0	95380
7584780008	AH-2 (2-3)	EPA 300.0	95310	EPA 300.0	95380
7584780009	AH-2 (3-4)	EPA 300.0	95310	EPA 300.0	95380
7584780010	AH-2 (4-5)	EPA 300.0	95310	EPA 300.0	95380
7584780011	AH-2 (5-6)	EPA 300.0	95310	EPA 300.0	95380
7584780012	AH-3 (0-1)	EPA 300.0	95311	EPA 300.0	95381
7584780013	AH-3 (1-2)	EPA 300.0	95311	EPA 300.0	95381
7584780014	AH-3 (2-3)	EPA 300.0	95311	EPA 300.0	95381
7584780015	AH-3 (3-4)	EPA 300.0	95311	EPA 300.0	95381
7584780016	AH-3 (4-5)	EPA 300.0	95311	EPA 300.0	95381
7584780017	AH-4 (0-1)	EPA 300.0	95311	EPA 300.0	95381

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCA-108
Pace Project No.: 7584780

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7584780018	**AH-4 (1-2)**	EPA 300.0	95311	EPA 300.0	95381
7584780019	**AH-4 (2-3)**	EPA 300.0	95311	EPA 300.0	95381
7584780020	**AH-4 (3-4)**	EPA 300.0	95311	EPA 300.0	95381
7584780021	**AH-4 (4-5)**	EPA 300.0	95311	EPA 300.0	95381
7584780022	**AH-4 (5-6)**	EPA 300.0	95311	EPA 300.0	95381
7584780023	**AH-5 (0-1)**	EPA 300.0	95311	EPA 300.0	95381
7584780024	**AH-5 (1-2)**	EPA 300.0	95311	EPA 300.0	95381
7584780025	**AH-5 (2-3)**	EPA 300.0	95311	EPA 300.0	95381
7584780026	**AH-5 (3-4)**	EPA 300.0	95311	EPA 300.0	95381
7584780027	**AH-5 (4-5)**	EPA 300.0	95311	EPA 300.0	95381
7584780028	**AH-5 (5-6)**	EPA 300.0	95311	EPA 300.0	95381
7584780029	**AH-5 (6-7)**	EPA 300.0	95311	EPA 300.0	95381
7584780030	**AH-5 (7-8)**	EPA 300.0	95311	EPA 300.0	95381
7584780031	**AH-5 (8-9)**	EPA 300.0	95311	EPA 300.0	95381
7584780032	**AH-5 (9-10)**	EPA 300.0	95314	EPA 300.0	95382
7584780033	**AH-6 (0-1)**	EPA 300.0	95314	EPA 300.0	95382
7584780034	**AH-6 (1-2)**	EPA 300.0	95314	EPA 300.0	95382
7584780035	**AH-6 (2-3)**	EPA 300.0	95314	EPA 300.0	95382
7584780036	**AH-6 (3-4)**	EPA 300.0	95314	EPA 300.0	95382
7584780037	**AH-6 (4-5)**	EPA 300.0	95314	EPA 300.0	95382
7584780038	**AH-6 (5-6)**	EPA 300.0	95314	EPA 300.0	95382

Pace Analytical®	Document Name: Sample Condition Upon Receipt	Document Revised: 2/28/18 Page 1 of 1
	Document No.: F-DAL-C-001-rev.08	Issuing Authority: Pace Dallas Quality Office

Sample Condition Upon Receipt

☑Dallas ☐Ft Worth

WO# : 7584780

7584780

Client Name: Tetra Tech Project Work order: _

Courier: FedEX ☒ UPS ☐ USPS ☐ Client ☐ LSO ☐ PACE ☐ Other: _____

Tracking #: 425670108321

Custody Seal on Cooler/Box: Yes ☒ No ☐ **Seals Intact:** Yes ☒ No ☐ NA ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☑ None ☐ Other ☐

Thermometer Used: 104 Type of Ice: Wet ☒ Blue ☐ None ☐ Sample Received on ice, cooling process has begun ☒

Cooler Temp °C: 2.4 (Recorded) 0 (Correction Factor) 2.4 (Actual) ☐ (Thermal preservation not required)

Temp should be above freezing to 6°C

Chain of Custody Present	Yes ☑ No ☐	1
Chain of Custody filled out	Yes ☑ No ☐	2
Chain of Custody relinquished	Yes ☑ No ☒	3 2 coc's not relinquished
Sampler name & signature on COC	Yes ☑ No ☐	4
Sample received within HT	Yes ☑ No ☐	5
Short HT analyses (<72 hrs)	Yes ☐ No ☑	6
Rush TAT requested	Yes ☐ No ☑	7
Sufficient Volume received	Yes ☑ No ☐	8
Correct Container used Pace Container used	Yes ☑ No ☐ Yes ☑ No ☐	9
Container Intact	Yes ☑ No ☐	10
Unpreserved 5035A soil frozen within 48 hrs	Yes ☑ No ☐ NA ☐	11
Filtered volume received for Dissolved tests	Yes ☐ No ☐ NA ☑	12
Sample labels match COC Include date/time/ID/analyses Matrix: Solid	Yes ☐ No ☒	13
All containers needing preservation have been checked All found to be in Compliance with EPA recommendation (includes residual chlorine checks) **Exception:** VOA, coliform, O&G	Yes ☐ No ☐ NA ☑ Yes ☐ No ☐ NA ☑ Yes ☐ No ☑	14a. pH Strip Lot #: _____ Original pH: pH<2 ☐ pH>9 ☐ pH>12 ☐ Neutral ☐ Lot# of Iodine strip: _____ Lot# of Lead Acetate strip: _____
Do containers require preservation at the lab	Yes ☐ No ☑	14b. Preservation: Lot# and adjusted pH: pH<2 ☐ pH>9 ☐ pH>12 ☐
Are soil samples (volatiles) received in Bulk ☑ Terracore ☐ EnCore ☐ NA ☐		15. 4.2 mm
Trip Blank present Trip Blank Custody Seals Intact Pace Trip Blank Lot# (if purchased):	Yes ☐ No ☐ NA ☑ mm 4.2 Yes ☐ No ☐ NA ☑	16.
Headspace in VOA (>6mm)	Yes ☐ No ☐ NA ☑	17.
Project sampled in USDA Regulated Area:	Yes ☐ No ☑	18. List State NM

Triage Person: DVP **Date:** 3/31/18 **Login Person:** mm **Date:** ~~3.31.18~~ mm 4.2.18 4.2.18 **Labeling Person:** mm **Date:** 4.2.18

Client Notification/Resolution/Comments:

Person Contacted: _____ Date: _____

Comments/Resolution: _____

Project Manager Review: mm

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 4

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	TetraTech	Report To:	Greg Pope	Attention:	
Address:	4000 N. Big Spring St.	Copy To:		Company Name:	
Midland, TX 79705				Address:	
Email:	greg.pope@tetratech.com	Purchase Order #:		Pace Quote:	
Phone:	432-682-4559 Fax	Project Name:	MCAs108n	Pace Project Manager:	melissa.mccullough@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	6442

Regulatory Agency

State / Location: ~~TX~~ NM mm 4-2-18

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N)	Analyses Test: BTEX/GRO	TPH DRO/ORO; Cl	Chlorides	Hold TPH	Residual Chlorine (Y/N)	7584780
1	AH-1 (0-1)					3/29	11:15		1										X	X	X			001
2	AH-1 ~~(0-1)~~ (1-2)								1												X			002
3	AH-1 ~~(0-1)~~ (2-3)								1												X			003
4	AH-1 ~~(0-1)~~ (3-4)								1												X	X		004
5	AH-1 ~~(0-1)~~ (4-5)						↓		1												X	X		005
6	AH-2 (0-1)						11:30		1										X	X	X			006
7	AH-2 (1-2)								1												X			007
8	AH-2 (2-3)								1												X			008
9	AH-2 (3-4)								1												X			009
10	AH-2 (4-5)								1												X	X		010
11	AH-2 (5-6)					↓	↓		1												X	X		011
12																								mm 4-2-18	~~012~~

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
~~Run deeper Samples if TPH exceeds 5000 mg/kg & total BTEX exceeds 50 mg/kg~~	Clint	10:30	3/29	Daniel Palma Pace	3/31/18	0855	2.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Clint Merritt

SIGNATURE of SAMPLER: [signature] DATE Signed: 3/30/18

Run deeper samples if TPH exceeds 5000 PPM. Run deeper Samples if benzene exceeds 10 mg/kg & total BTEX exceeds 50 mg/kg

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 2 Of 4

Section A — Required Client Information:
Company: TetraTech
Address: 4000 N. Big Spring St.
Midland, TX 79705
Email: greg.pope@tetratech.com
Phone: 432-682-4559 Fax:
Requested Due Date:

Section B — Required Project Information:
Report To: Greg Pope
Copy To:
Purchase Order #:
Project Name:
Project #:

Section C — Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: melissa.mccullough@pacelabs.com,
Pace Profile #: 6442

Regulatory Agency:
State / Location: NM mm 4-2-18

Requested Analysis Filtered (Y/N)

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID: One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Start DATE	Start TIME	End DATE	End TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BTEX/GRO	TPH DRO/ORO; Cl	Chlorides	Hold TPH	Residual Chlorine (Y/N)	7584780
1	AH-3 (0-1)					3/29	12:15		1										X	X	X			012
2	AH-3 (1-2)								1												X			013
3	AH-3 (2-3)								1												X			014
4	AH-3 (3-4)								1												X	X		015
5	AH-3 (4-5)								1												X	X		016
6	AH-4 (0-1)						13:05		1										X	X	X			017
7	AH-4 (1-2)								1												X			018
8	AH-4 (2-3)								1												X			019
9	AH-4 (3-4)								1												X	X		020
10	AH-4 (4-5)				12:15				1												X	X		021
11	AH-5 (0-1)				13:30		*1330		1										X	X	X			023
12	AH-5 (1-2)				13:30		*1340		1												X			024

*Times per JC mm 4-2-18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
~~Run deeper Samples if TPH exceeds 500mg/Kg & total BTEX exceeds 50mg/Kg~~				Daniel Palm Pace	3/31/18	0855	2.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER:
DATE Signed: 3/30/18

Run Deeper Samples if TPH exceeds 500 PPM. Run deeper Samples if benzene exceeds 10 mg/kg & Total BTEX exceeds 50 mg/kg

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 3 Of 4

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: TetraTech	Report To: Greg Pope	Attention:
Address: 4000 N Big Spring St	Copy To:	Company Name:
Midland, TX 79705		Address:
Email: greg.pope@tetratech.com	Purchase Order #:	Pace Quote:
Phone: 432-682-4559	Project Name: MCA 106	Pace Project Manager: melissa.mccullough@pacelabs.com
Requested Due Date:	Project #:	Pace Profile #: 6442

Regulatory Agency

State / Location: ~~TX~~ NM 4-2-18 mm

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BTEX/GRO	TPH DRO/ORO; Cl	Cl bottles	Hold TPH	Residual Chlorine (Y/N)	7584780
1	AH-5 (2-3)					3/29	13:30														X				
2	AH-5 (3-4)																				X			X	
3	AH-5 (4-5)																				X			X	
4	AH-5 (5-6)																				X			X	
5	AH-5 (6-7)																				X			X	
6	AH-5 (7-8)																				X			X	
7	AH-5 (8-9)																				X			X	
8	AH-5 (9-10)																				X			X	
9	AH-6 (0-1)						14:20												X	X	X				
10	AH-6 (1-2)																				X				
11	AH-6 (2-3)																				X				
12	AH-6 (3-4)																				X			X	

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
~~Run deeper samples if TPH exceeds 1000 mg/kg & total BTEX exceeds 50 mg/kg~~				Daniel Palmer Pace	3/31/18	0855	2.4	4	4	4

Run deeper samples if TPH exceeds 500PPM. Run deeper samples if benzene exceeds 10mg/kg & total BTEX exceeds 50 mg/kg

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Clint Merritt

SIGNATURE of SAMPLER:

DATE Signed: 3/30/18

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Analysis Request of Chain of Custody Record

Page 4 of 4

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

1584840

Client Name: Conoco Phillips

Site Manager: Greg Pope

Project Name: MCA-108

Project Location: (county, state) Lea Co NM

Project #: 212C-MD-

Invoice to:

Receiving Laboratory: Pace

Sampler Signature:

Comments: Run deeper Samples if TPH exceeds 500 ppm. Run deeper Samples if benzene exceeds 10 mg/kg & total BTEX exceeds 50 mg/kg

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:	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	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance			Hold TPH
	AH-6 (4-5)	3/29	14:20																									X					X
	AH-~~6~~ (5-6) per Kayla mm 4-2-18	↓	↓																									X					X
022	AH-4 (5-6)	3/29	1305																									X					X

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	3/30	10:30	Daniel Pelham Pace	3/31/18	0855
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 2.4°

REMARKS:

☐ 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

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60267244

60267244

Client Name: PASI - Dallas

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ☐

Thermometer Used: 266 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 0.3 **Corr. Factor** +0.2 **Corrected** 0.5

Date and initials of person examining contents: JM 4/3/18

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☑Yes ☐No ☐N/A	'ASAP'
Sufficient volume:	☑Yes ☐No ☐N/A	received samples 001 - 038
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: SL	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No ☑N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State: NM	☐Yes ☑No ☐N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: HWK Date: 4/3/2018

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

Pace Analytical
www.pacelabs.com

ASAP

Workorder: 7584780 **Workorder Name:** MCA-108 **Owner Received Date:** 3/31/2018 **Results Requested By:** ~~4/9/2018~~

Report To	Subcontract To
Melissa McCullough Pace Analytical Dallas 400 West Bethany Drive Suite 190 Allen, TX 75013 Phone (972)727-1123	Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: TPH GRO 8015	LAB USE ONLY
1	AH-1 (0-1)	PS	3/29/2018 11:15	7584780001	Solid	1	X	W62U
2	AH-2 (0-1)	PS	3/29/2018 11:30	7584780006	Solid	1	X	
3	AH-3 (0-1)	PS	3/29/2018 12:15	7584780012	Solid	1	X	
4	AH-4 (0-1)	PS	3/29/2018 13:05	7584780017	Solid	1	X	
5	AH-5 (0-1)	PS	3/29/2018 13:30	7584780023	Solid	1	X	
6	AH-6 (0-1)	PS	3/29/2018 14:20	7584780033	Solid	1	X	

60267244

Transfers	Released By	Date/Time	Received By	Date/Time
1	Melissa McCullough Pace	4-2-18 1700	PACE	4/3/18 0850
2				
3				

Comments

Cooler Temperature on Receipt 0.5 °C **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

May 22, 2020

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1218741
Samples Received:	05/14/2020
Project Number:	212C-MD-02175
Description:	COP MCA 108

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

AH-1 (0-1') L1218741-01 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 10:00 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 03:26	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/19/20 21:04	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 21:16	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478084	1	05/19/20 06:41	05/19/20 19:36	KME	Mt. Juliet, TN

AH-1 (2-3') L1218741-02 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 10:10 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 03:45	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/19/20 21:25	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 21:35	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478084	1	05/19/20 06:41	05/19/20 18:48	KME	Mt. Juliet, TN

AH-1 (4-5') L1218741-03 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 10:20 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 03:54	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/19/20 21:45	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 21:54	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478084	1	05/19/20 06:41	05/19/20 19:04	KME	Mt. Juliet, TN

AH-2 (0-1') L1218741-04 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 10:30 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 04:04	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1479724	1	05/19/20 08:52	05/21/20 00:34	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 22:14	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478084	1	05/19/20 06:41	05/19/20 20:20	KME	Mt. Juliet, TN

AH-2 (2-3') L1218741-05 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 10:40 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	.9328358	05/18/20 23:34	05/19/20 04:13	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/19/20 22:27	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 22:33	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478084	1	05/19/20 06:41	05/19/20 19:20	KME	Mt. Juliet, TN

AH-2 (4-5') L1218741-06 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 10:50 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 04:23	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/19/20 22:47	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 22:52	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478084	1	05/19/20 06:41	05/19/20 20:36	KME	Mt. Juliet, TN

AH-3 (0-1') L1218741-07 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 11:00 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 04:32	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/20/20 08:01	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 23:11	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 23:09	KME	Mt. Juliet, TN

AH-3 (2-3') L1218741-08 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 11:10 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 05:01	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/20/20 08:21	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 23:30	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 21:50	KME	Mt. Juliet, TN

AH-3 (4-5') L1218741-09 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 11:20 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 05:11	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/20/20 08:42	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/19/20 23:49	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 21:37	KME	Mt. Juliet, TN

AH-4 (0-1') L1218741-10 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 11:30 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479815	1	05/20/20 22:52	05/20/20 22:59	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 05:20	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/20/20 09:03	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/20/20 00:08	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 22:56	KME	Mt. Juliet, TN

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

AH-4 (2-3') L1218741-11 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 11:40 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	5	05/18/20 23:34	05/19/20 05:30	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1479724	1	05/19/20 08:52	05/21/20 02:02	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/20/20 00:27	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 22:17	KME	Mt. Juliet, TN

AH-4 (4-5') L1218741-12 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 11:50 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 05:39	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/20/20 09:54	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/20/20 00:46	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 22:43	KME	Mt. Juliet, TN

AH-5 (0-1') L1218741-13 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 12:00 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 05:49	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/20/20 10:14	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/20/20 01:05	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 23:36	KME	Mt. Juliet, TN

AH-5 (2-3') L1218741-14 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 12:10 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 06:17	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/20/20 10:35	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/20/20 01:24	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 22:03	KME	Mt. Juliet, TN

AH-5 (4-5') L1218741-15 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 12:20 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 06:27	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478772	1	05/19/20 08:52	05/20/20 10:56	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/20/20 01:43	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 23:23	KME	Mt. Juliet, TN

AH-6 (0-1') L1218741-16 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 13:00 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 06:55	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 08:52	05/19/20 21:49	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/20/20 02:02	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/20/20 00:29	KME	Mt. Juliet, TN

AH-6 (2-3') L1218741-17 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 13:10 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 07:14	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 08:52	05/19/20 22:09	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 08:52	05/20/20 02:21	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 22:30	KME	Mt. Juliet, TN

AH-6 (4-5') L1218741-18 Solid

Collected by: Joe Tyler | Collected date/time: 05/07/20 13:30 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	5	05/18/20 23:34	05/19/20 07:24	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/19/20 22:30	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 09:03	05/20/20 02:40	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 23:49	KME	Mt. Juliet, TN

AH-7 (0-1') L1218741-19 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 10:00 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 07:33	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/19/20 22:51	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 09:03	05/20/20 03:00	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 20:57	KME	Mt. Juliet, TN

AH-7 (2-3') L1218741-20 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 10:10 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479816	1	05/20/20 23:00	05/20/20 23:05	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478254	1	05/18/20 23:34	05/19/20 07:43	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/19/20 23:11	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1478879	1	05/19/20 09:03	05/20/20 03:58	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 21:24	KME	Mt. Juliet, TN

AH-7 (4-5') L1218741-21 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 10:20 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 06:21	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/19/20 23:32	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 08:39	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478603	1	05/19/20 11:15	05/19/20 21:11	KME	Mt. Juliet, TN

AH-8 (0-1') L1218741-22 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 10:30 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 06:39	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/19/20 23:52	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 08:58	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	1	05/20/20 11:58	05/21/20 10:35	KME	Mt. Juliet, TN

AH-8 (2-3') L1218741-23 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 10:40 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 06:57	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 00:13	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 09:17	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	1	05/20/20 11:58	05/21/20 10:48	KME	Mt. Juliet, TN

AH-8 (4-5') L1218741-24 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 10:50 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 07:15	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 00:33	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 09:36	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	1	05/20/20 11:58	05/21/20 11:01	KME	Mt. Juliet, TN

T-1 (0-1') L1218741-25 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 12:00 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 07:33	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1479659	25	05/19/20 09:03	05/21/20 02:22	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479555	1	05/19/20 09:03	05/20/20 18:47	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	100	05/20/20 11:58	05/21/20 13:00	KME	Mt. Juliet, TN

T-1 (2-3') L1218741-26 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 12:10 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 07:51	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	100	05/19/20 09:03	05/20/20 03:38	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	8	05/19/20 09:03	05/20/20 11:09	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	20	05/20/20 11:58	05/21/20 12:07	KME	Mt. Juliet, TN

T-1 (4-5') L1218741-27 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 12:20 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 08:08	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 00:54	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 11:28	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	5	05/20/20 11:58	05/21/20 12:47	KME	Mt. Juliet, TN

T-1 (6-7') L1218741-28 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 12:30 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	5	05/18/20 23:00	05/19/20 08:26	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 01:14	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 11:47	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	1	05/20/20 11:58	05/21/20 12:34	KME	Mt. Juliet, TN

T-1 (9-10') L1218741-29 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 12:40 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 09:20	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 01:35	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 12:06	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	1	05/20/20 11:58	05/21/20 11:14	KME	Mt. Juliet, TN

T-1 (12-13') L1218741-30 Solid

Collected by: Joe Tyler | Collected date/time: 05/08/20 12:50 | Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479817	1	05/20/20 23:09	05/20/20 23:13	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	1	05/18/20 23:00	05/19/20 09:38	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 01:55	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 12:25	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	2	05/20/20 11:58	05/21/20 12:21	KME	Mt. Juliet, TN

T-1 (14-15') L1218741-31 Solid

Collected by: Joe Tyler
Collected date/time: 05/08/20 13:20
Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479819	1	05/20/20 23:17	05/20/20 23:22	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	5	05/18/20 23:00	05/19/20 09:56	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 02:16	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 12:44	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	1	05/20/20 11:58	05/21/20 11:41	KME	Mt. Juliet, TN

T-1 (17-18') L1218741-32 Solid

Collected by: Joe Tyler
Collected date/time: 05/08/20 14:00
Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479819	1	05/20/20 23:17	05/20/20 23:22	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	5	05/18/20 23:00	05/19/20 10:14	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 02:36	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 13:22	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	2	05/20/20 11:58	05/21/20 11:54	KME	Mt. Juliet, TN

T-1 (19-20') L1218741-33 Solid

Collected by: Joe Tyler
Collected date/time: 05/08/20 15:00
Received date/time: 05/14/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1479819	1	05/20/20 23:17	05/20/20 23:22	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1478252	5	05/18/20 23:00	05/19/20 10:32	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1478903	1	05/19/20 09:03	05/20/20 02:57	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1479044	1	05/19/20 09:03	05/20/20 13:41	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1478788	1	05/20/20 11:58	05/21/20 11:27	KME	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.

Chris McCord
Project Manager

AH-1 (0-1')
Collected date/time: 05/07/20 10:00

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.3		1	05/20/2020 22:59	WG1479815

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	U		9.26	20.1	1	05/19/2020 03:26	WG1478254

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		0.0218	0.101	1	05/19/2020 21:04	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*05/19/2020 21:04*	WG1478772

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		0.000470	0.00101	1	05/19/2020 21:16	WG1478879
Toluene	U		0.00131	0.00503	1	05/19/2020 21:16	WG1478879
Ethylbenzene	U		0.000742	0.00252	1	05/19/2020 21:16	WG1478879
Total Xylenes	U		0.000886	0.00654	1	05/19/2020 21:16	WG1478879
(S) Toluene-d8	*96.9*			*75.0-131*		*05/19/2020 21:16*	WG1478879
(S) 4-Bromofluorobenzene	*96.1*			*67.0-138*		*05/19/2020 21:16*	WG1478879
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*05/19/2020 21:16*	WG1478879

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		1.62	4.03	1	05/19/2020 19:36	WG1478084
C28-C40 Oil Range	8.34		0.276	4.03	1	05/19/2020 19:36	WG1478084
(S) o-Terphenyl	*102*			*18.0-148*		*05/19/2020 19:36*	WG1478084

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.7		1	05/20/2020 22:59	WG1479815

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	33.0		9.82	21.3	1	05/19/2020 03:45	WG1478254

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	05/19/2020 21:25	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*05/19/2020 21:25*	WG1478772

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		0.000498	0.00107	1	05/19/2020 21:35	WG1478879
Toluene	U		0.00139	0.00534	1	05/19/2020 21:35	WG1478879
Ethylbenzene	U		0.000787	0.00267	1	05/19/2020 21:35	WG1478879
Total Xylenes	U		0.000939	0.00694	1	05/19/2020 21:35	WG1478879
(S) Toluene-d8	*102*			*75.0-131*		*05/19/2020 21:35*	WG1478879
(S) 4-Bromofluorobenzene	*97.1*			*67.0-138*		*05/19/2020 21:35*	WG1478879
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*		*05/19/2020 21:35*	WG1478879

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	4.24	J	1.72	4.27	1	05/19/2020 18:48	WG1478084
C28-C40 Oil Range	5.87		0.292	4.27	1	05/19/2020 18:48	WG1478084
(S) o-Terphenyl	*71.9*			*18.0-148*		*05/19/2020 18:48*	WG1478084

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.4		1	05/20/2020 22:59	WG1479815

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	U		9.54	20.7	1	05/19/2020 03:54	WG1478254

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		0.0225	0.104	1	05/19/2020 21:45	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*05/19/2020 21:45*	WG1478772

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		0.000484	0.00104	1	05/19/2020 21:54	WG1478879
Toluene	U		0.00135	0.00519	1	05/19/2020 21:54	WG1478879
Ethylbenzene	U		0.000765	0.00259	1	05/19/2020 21:54	WG1478879
Total Xylenes	U		0.000913	0.00674	1	05/19/2020 21:54	WG1478879
(S) Toluene-d8	*100*			*75.0-131*		*05/19/2020 21:54*	WG1478879
(S) 4-Bromofluorobenzene	*97.6*			*67.0-138*		*05/19/2020 21:54*	WG1478879
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*05/19/2020 21:54*	WG1478879

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	4.15	1	05/19/2020 19:04	WG1478084
C28-C40 Oil Range	0.559	J	0.284	4.15	1	05/19/2020 19:04	WG1478084
(S) o-Terphenyl	*64.3*			*18.0-148*		*05/19/2020 19:04*	WG1478084

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.5		1	05/20/2020 22:59	WG1479815

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	U		9.53	20.7	1	05/19/2020 04:04	WG1478254

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		0.0225	0.104	1	05/21/2020 00:34	WG1479724
(S) a,a,a-Trifluorotoluene(FID)	*88.5*			*77.0-120*		*05/21/2020 00:34*	WG1479724

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		0.000484	0.00104	1	05/19/2020 22:14	WG1478879
Toluene	U		0.00135	0.00518	1	05/19/2020 22:14	WG1478879
Ethylbenzene	U		0.000764	0.00259	1	05/19/2020 22:14	WG1478879
Total Xylenes	U		0.000912	0.00673	1	05/19/2020 22:14	WG1478879
(S) Toluene-d8	*98.7*			*75.0-131*		*05/19/2020 22:14*	WG1478879
(S) 4-Bromofluorobenzene	*97.9*			*67.0-138*		*05/19/2020 22:14*	WG1478879
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*05/19/2020 22:14*	WG1478879

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	1.67	4.14	1	05/19/2020 20:20	WG1478084
C28-C40 Oil Range	11.7		0.284	4.14	1	05/19/2020 20:20	WG1478084
(S) o-Terphenyl	*83.3*			*18.0-148*		*05/19/2020 20:20*	WG1478084

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.9		1	05/20/2020 22:59	WG1479815

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	U		8.95	19.5	.9328358	05/19/2020 04:13	WG1478254

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	05/19/2020 22:27	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*99.7*			*77.0-120*		*05/19/2020 22:27*	WG1478772

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		0.000487	0.00104	1	05/19/2020 22:33	WG1478879
Toluene	U		0.00136	0.00521	1	05/19/2020 22:33	WG1478879
Ethylbenzene	U		0.000769	0.00261	1	05/19/2020 22:33	WG1478879
Total Xylenes	U		0.000918	0.00678	1	05/19/2020 22:33	WG1478879
(S) Toluene-d8	*99.9*			*75.0-131*		*05/19/2020 22:33*	WG1478879
(S) 4-Bromofluorobenzene	*97.5*			*67.0-138*		*05/19/2020 22:33*	WG1478879
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*05/19/2020 22:33*	WG1478879

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	4.17	1	05/19/2020 19:20	WG1478084
C28-C40 Oil Range	5.03		0.286	4.17	1	05/19/2020 19:20	WG1478084
(S) o-Terphenyl	*81.4*			*18.0-148*		*05/19/2020 19:20*	WG1478084

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.7		1	05/20/2020 22:59	WG1479815

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	141		9.81	21.3	1	05/19/2020 04:23	WG1478254

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	05/19/2020 22:47	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*05/19/2020 22:47*	WG1478772

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		0.000498	0.00107	1	05/19/2020 22:52	WG1478879
Toluene	U		0.00139	0.00533	1	05/19/2020 22:52	WG1478879
Ethylbenzene	U		0.000786	0.00267	1	05/19/2020 22:52	WG1478879
Total Xylenes	U		0.000939	0.00693	1	05/19/2020 22:52	WG1478879
(S) Toluene-d8	*97.9*			*75.0-131*		*05/19/2020 22:52*	WG1478879
(S) 4-Bromofluorobenzene	*99.5*			*67.0-138*		*05/19/2020 22:52*	WG1478879
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*05/19/2020 22:52*	WG1478879

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	2.83	J	1.72	4.27	1	05/19/2020 20:36	WG1478084
C28-C40 Oil Range	17.9		0.292	4.27	1	05/19/2020 20:36	WG1478084
(S) o-Terphenyl	*68.0*			*18.0-148*		*05/19/2020 20:36*	WG1478084

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.4		1	05/20/2020 22:59	WG1479815

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	U		9.25	20.1	1	05/19/2020 04:32	WG1478254

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		0.0218	0.101	1	05/20/2020 08:01	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*05/20/2020 08:01*	WG1478772

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		0.000470	0.00101	1	05/19/2020 23:11	WG1478879
Toluene	U		0.00131	0.00503	1	05/19/2020 23:11	WG1478879
Ethylbenzene	U		0.000741	0.00251	1	05/19/2020 23:11	WG1478879
Total Xylenes	U		0.000885	0.00654	1	05/19/2020 23:11	WG1478879
(S) Toluene-d8	*102*			*75.0-131*		*05/19/2020 23:11*	WG1478879
(S) 4-Bromofluorobenzene	*97.8*			*67.0-138*		*05/19/2020 23:11*	WG1478879
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*05/19/2020 23:11*	WG1478879

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	5.90		1.62	4.02	1	05/19/2020 23:09	WG1478603
C28-C40 Oil Range	16.0		0.276	4.02	1	05/19/2020 23:09	WG1478603
(S) o-Terphenyl	*89.2*			*18.0-148*		*05/19/2020 23:09*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.0		1	05/20/2020 22:59	WG1479815

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	121		9.59	20.8	1	05/19/2020 05:01	WG1478254

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	05/20/2020 08:21	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*05/20/2020 08:21*	WG1478772

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		0.000487	0.00104	1	05/19/2020 23:30	WG1478879
Toluene	U		0.00135	0.00521	1	05/19/2020 23:30	WG1478879
Ethylbenzene	U		0.000768	0.00261	1	05/19/2020 23:30	WG1478879
Total Xylenes	U		0.000917	0.00677	1	05/19/2020 23:30	WG1478879
(S) Toluene-d8	*100*			*75.0-131*		*05/19/2020 23:30*	WG1478879
(S) 4-Bromofluorobenzene	*97.9*			*67.0-138*		*05/19/2020 23:30*	WG1478879
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*05/19/2020 23:30*	WG1478879

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	2.29	J	1.68	4.17	1	05/19/2020 21:50	WG1478603
C28-C40 Oil Range	6.13		0.286	4.17	1	05/19/2020 21:50	WG1478603
(S) o-Terphenyl	*68.4*			*18.0-148*		*05/19/2020 21:50*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.9		1	05/20/2020 22:59	WG1479815

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	167		9.69	21.1	1	05/19/2020 05:11	WG1478254

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		0.0229	0.105	1	05/20/2020 08:42	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*05/20/2020 08:42*	WG1478772

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		0.000492	0.00105	1	05/19/2020 23:49	WG1478879
Toluene	U		0.00137	0.00527	1	05/19/2020 23:49	WG1478879
Ethylbenzene	U		0.000776	0.00263	1	05/19/2020 23:49	WG1478879
Total Xylenes	U		0.000927	0.00685	1	05/19/2020 23:49	WG1478879
(S) Toluene-d8	*102*			*75.0-131*		*05/19/2020 23:49*	WG1478879
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*05/19/2020 23:49*	WG1478879
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*05/19/2020 23:49*	WG1478879

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	1.96	J	1.70	4.21	1	05/19/2020 21:37	WG1478603
C28-C40 Oil Range	8.10		0.289	4.21	1	05/19/2020 21:37	WG1478603
(S) o-Terphenyl	*65.4*			*18.0-148*		*05/19/2020 21:37*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.3		1	05/20/2020 22:59	WG1479815

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	U		9.27	20.1	1	05/19/2020 05:20	WG1478254

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		0.0219	0.101	1	05/20/2020 09:03	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*05/20/2020 09:03*	WG1478772

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		0.000471	0.00101	1	05/20/2020 00:08	WG1478879
Toluene	U		0.00131	0.00504	1	05/20/2020 00:08	WG1478879
Ethylbenzene	U		0.000743	0.00252	1	05/20/2020 00:08	WG1478879
Total Xylenes	U		0.000887	0.00655	1	05/20/2020 00:08	WG1478879
(S) Toluene-d8	*102*			*75.0-131*		*05/20/2020 00:08*	WG1478879
(S) 4-Bromofluorobenzene	*99.6*			*67.0-138*		*05/20/2020 00:08*	WG1478879
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*05/20/2020 00:08*	WG1478879

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		1.62	4.03	1	05/19/2020 22:56	WG1478603
C28-C40 Oil Range	3.78	J	0.276	4.03	1	05/19/2020 22:56	WG1478603
(S) o-Terphenyl	*87.8*			*18.0-148*		*05/19/2020 22:56*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.2		1	05/20/2020 23:05	WG1479816

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	U		51.6	112	5	05/19/2020 05:30	WG1478254

Sample Narrative:

L1218741-11 WG1478254: Diluted due to matrix

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		0.0243	0.112	1	05/21/2020 02:02	WG1479724
(S) a,a,a-Trifluorotoluene(FID)	*88.8*			*77.0-120*		*05/21/2020 02:02*	WG1479724

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		0.000523	0.00112	1	05/20/2020 00:27	WG1478879
Toluene	U		0.00146	0.00560	1	05/20/2020 00:27	WG1478879
Ethylbenzene	U		0.000826	0.00280	1	05/20/2020 00:27	WG1478879
Total Xylenes	U		0.000986	0.00729	1	05/20/2020 00:27	WG1478879
(S) Toluene-d8	*99.5*			*75.0-131*		*05/20/2020 00:27*	WG1478879
(S) 4-Bromofluorobenzene	*96.9*			*67.0-138*		*05/20/2020 00:27*	WG1478879
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*05/20/2020 00:27*	WG1478879

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	6.58		1.80	4.48	1	05/19/2020 22:17	WG1478603
C28-C40 Oil Range	2.63	B J	0.307	4.48	1	05/19/2020 22:17	WG1478603
(S) o-Terphenyl	*75.3*			*18.0-148*		*05/19/2020 22:17*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.3		1	05/20/2020 23:05	WG1479816

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	U		9.76	21.2	1	05/19/2020 05:39	WG1478254

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		0.0230	0.106	1	05/20/2020 09:54	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*		*05/20/2020 09:54*	WG1478772

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		0.000495	0.00106	1	05/20/2020 00:46	WG1478879
Toluene	U		0.00138	0.00530	1	05/20/2020 00:46	WG1478879
Ethylbenzene	U		0.000782	0.00265	1	05/20/2020 00:46	WG1478879
Total Xylenes	U		0.000933	0.00689	1	05/20/2020 00:46	WG1478879
(S) Toluene-d8	*101*			*75.0-131*		*05/20/2020 00:46*	WG1478879
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*05/20/2020 00:46*	WG1478879
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*		*05/20/2020 00:46*	WG1478879

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	2.06	J	1.71	4.24	1	05/19/2020 22:43	WG1478603
C28-C40 Oil Range	3.39	J	0.291	4.24	1	05/19/2020 22:43	WG1478603
(S) o-Terphenyl	*78.6*			*18.0-148*		*05/19/2020 22:43*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.3		1	05/20/2020 23:05	WG1479816

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	U		9.27	20.1	1	05/19/2020 05:49	WG1478254

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		0.0219	0.101	1	05/20/2020 10:14	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*05/20/2020 10:14*	WG1478772

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		0.000470	0.00101	1	05/20/2020 01:05	WG1478879
Toluene	U		0.00131	0.00504	1	05/20/2020 01:05	WG1478879
Ethylbenzene	U		0.000742	0.00252	1	05/20/2020 01:05	WG1478879
Total Xylenes	U		0.000887	0.00655	1	05/20/2020 01:05	WG1478879
(S) Toluene-d8	*102*			*75.0-131*		*05/20/2020 01:05*	WG1478879
(S) 4-Bromofluorobenzene	*98.3*			*67.0-138*		*05/20/2020 01:05*	WG1478879
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*05/20/2020 01:05*	WG1478879

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	13.7		1.62	4.03	1	05/19/2020 23:36	WG1478603
C28-C40 Oil Range	25.6		0.276	4.03	1	05/19/2020 23:36	WG1478603
(S) o-Terphenyl	*86.3*			*18.0-148*		*05/19/2020 23:36*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.3		1	05/20/2020 23:05	WG1479816

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	U		9.36	20.4	1	05/19/2020 06:17	WG1478254

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		0.0221	0.102	1	05/20/2020 10:35	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*05/20/2020 10:35*	WG1478772

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		0.000475	0.00102	1	05/20/2020 01:24	WG1478879
Toluene	U		0.00132	0.00509	1	05/20/2020 01:24	WG1478879
Ethylbenzene	U		0.000750	0.00254	1	05/20/2020 01:24	WG1478879
Total Xylenes	U		0.000896	0.00662	1	05/20/2020 01:24	WG1478879
(S) Toluene-d8	*102*			*75.0-131*		*05/20/2020 01:24*	WG1478879
(S) 4-Bromofluorobenzene	*102*			*67.0-138*		*05/20/2020 01:24*	WG1478879
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*05/20/2020 01:24*	WG1478879

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	2.03	J	1.64	4.07	1	05/19/2020 22:03	WG1478603
C28-C40 Oil Range	3.35	J	0.279	4.07	1	05/19/2020 22:03	WG1478603
(S) o-Terphenyl	*70.3*			*18.0-148*		*05/19/2020 22:03*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.1		1	05/20/2020 23:05	WG1479816

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	U		9.38	20.4	1	05/19/2020 06:27	WG1478254

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		0.0221	0.102	1	05/20/2020 10:56	WG1478772
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*05/20/2020 10:56*	WG1478772

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		0.000476	0.00102	1	05/20/2020 01:43	WG1478879
Toluene	U		0.00133	0.00510	1	05/20/2020 01:43	WG1478879
Ethylbenzene	U		0.000751	0.00255	1	05/20/2020 01:43	WG1478879
Total Xylenes	U		0.000897	0.00663	1	05/20/2020 01:43	WG1478879
(S) Toluene-d8	*98.6*			*75.0-131*		*05/20/2020 01:43*	WG1478879
(S) 4-Bromofluorobenzene	*99.2*			*67.0-138*		*05/20/2020 01:43*	WG1478879
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*05/20/2020 01:43*	WG1478879

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	11.1		1.64	4.08	1	05/19/2020 23:23	WG1478603
C28-C40 Oil Range	19.0		0.279	4.08	1	05/19/2020 23:23	WG1478603
(S) o-Terphenyl	*83.2*			*18.0-148*		*05/19/2020 23:23*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.0		1	05/20/2020 23:05	WG1479816

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	U		9.29	20.2	1	05/19/2020 06:55	WG1478254

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	0.0240	J	0.0219	0.101	1	05/19/2020 21:49	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.3*			*77.0-120*		*05/19/2020 21:49*	WG1478903

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		0.000472	0.00101	1	05/20/2020 02:02	WG1478879
Toluene	U		0.00131	0.00505	1	05/20/2020 02:02	WG1478879
Ethylbenzene	U		0.000744	0.00252	1	05/20/2020 02:02	WG1478879
Total Xylenes	U		0.000889	0.00656	1	05/20/2020 02:02	WG1478879
(S) Toluene-d8	*99.4*			*75.0-131*		*05/20/2020 02:02*	WG1478879
(S) 4-Bromofluorobenzene	*97.9*			*67.0-138*		*05/20/2020 02:02*	WG1478879
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*		*05/20/2020 02:02*	WG1478879

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	21.6		1.63	4.04	1	05/20/2020 00:29	WG1478603
C28-C40 Oil Range	58.1		0.277	4.04	1	05/20/2020 00:29	WG1478603
(S) o-Terphenyl	*94.3*			*18.0-148*		*05/20/2020 00:29*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.8		1	05/20/2020 23:05	WG1479816

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	U		11.1	24.1	1	05/19/2020 07:14	WG1478254

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	J	0.0262	0.121	1	05/19/2020 22:09	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.8*			*77.0-120*		*05/19/2020 22:09*	WG1478903

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		0.000564	0.00121	1	05/20/2020 02:21	WG1478879
Toluene	U		0.00157	0.00604	1	05/20/2020 02:21	WG1478879
Ethylbenzene	U		0.000890	0.00302	1	05/20/2020 02:21	WG1478879
Total Xylenes	U		0.00106	0.00785	1	05/20/2020 02:21	WG1478879
(S) Toluene-d8	*102*			*75.0-131*		*05/20/2020 02:21*	WG1478879
(S) 4-Bromofluorobenzene	*100*			*67.0-138*		*05/20/2020 02:21*	WG1478879
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*05/20/2020 02:21*	WG1478879

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		1.94	4.83	1	05/19/2020 22:30	WG1478603
C28-C40 Oil Range	2.84	B J	0.331	4.83	1	05/19/2020 22:30	WG1478603
(S) o-Terphenyl	*32.1*			*18.0-148*		*05/19/2020 22:30*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.3		1	05/20/2020 23:05	WG1479816

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	U		48.8	106	5	05/19/2020 07:24	WG1478254

Sample Narrative:

L1218741-18 WG1478254: Diluted due to matrix

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		0.0230	0.106	1	05/19/2020 22:30	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.4*			*77.0-120*		*05/19/2020 22:30*	WG1478903

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		0.000495	0.00106	1	05/20/2020 02:40	WG1478879
Toluene	U		0.00138	0.00530	1	05/20/2020 02:40	WG1478879
Ethylbenzene	U		0.000781	0.00265	1	05/20/2020 02:40	WG1478879
Total Xylenes	U		0.000933	0.00689	1	05/20/2020 02:40	WG1478879
(S) Toluene-d8	*102*			*75.0-131*		*05/20/2020 02:40*	WG1478879
(S) 4-Bromofluorobenzene	*98.9*			*67.0-138*		*05/20/2020 02:40*	WG1478879
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*05/20/2020 02:40*	WG1478879

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	6.30		1.71	4.24	1	05/19/2020 23:49	WG1478603
C28-C40 Oil Range	17.3		0.290	4.24	1	05/19/2020 23:49	WG1478603
(S) o-Terphenyl	*84.2*			*18.0-148*		*05/19/2020 23:49*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.7		1	05/20/2020 23:05	WG1479816

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	U		11.1	24.2	1	05/19/2020 07:33	WG1478254

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	05/19/2020 22:51	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*89.2*			*77.0-120*		*05/19/2020 22:51*	WG1478903

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		0.000565	0.00121	1	05/20/2020 03:00	WG1478879
Toluene	U		0.00157	0.00605	1	05/20/2020 03:00	WG1478879
Ethylbenzene	U		0.000891	0.00302	1	05/20/2020 03:00	WG1478879
Total Xylenes	U		0.00106	0.00786	1	05/20/2020 03:00	WG1478879
(S) Toluene-d8	*100*			*75.0-131*		*05/20/2020 03:00*	WG1478879
(S) 4-Bromofluorobenzene	*96.6*			*67.0-138*		*05/20/2020 03:00*	WG1478879
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*05/20/2020 03:00*	WG1478879

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		1.95	4.84	1	05/19/2020 20:57	WG1478603
C28-C40 Oil Range	1.52	B J	0.331	4.84	1	05/19/2020 20:57	WG1478603
(S) o-Terphenyl	*49.7*			*18.0-148*		*05/19/2020 20:57*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.7		1	05/20/2020 23:05	WG1479816

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	U		10.4	22.5	1	05/19/2020 07:43	WG1478254

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		0.0245	0.113	1	05/19/2020 23:11	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.5*			*77.0-120*		*05/19/2020 23:11*	WG1478903

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		0.000526	0.00113	1	05/20/2020 03:58	WG1478879
Toluene	U		0.00146	0.00563	1	05/20/2020 03:58	WG1478879
Ethylbenzene	U		0.000830	0.00282	1	05/20/2020 03:58	WG1478879
Total Xylenes	U		0.000992	0.00732	1	05/20/2020 03:58	WG1478879
(S) Toluene-d8	*97.7*			*75.0-131*		*05/20/2020 03:58*	WG1478879
(S) 4-Bromofluorobenzene	*99.6*			*67.0-138*		*05/20/2020 03:58*	WG1478879
(S) 1,2-Dichloroethane-d4	*123*			*70.0-130*		*05/20/2020 03:58*	WG1478879

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	4.51	1	05/19/2020 21:24	WG1478603
C28-C40 Oil Range	2.20	B J	0.309	4.51	1	05/19/2020 21:24	WG1478603
(S) o-Terphenyl	*65.8*			*18.0-148*		*05/19/2020 21:24*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.6		1	05/20/2020 23:13	WG1479817

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	U		9.42	20.5	1	05/19/2020 06:21	WG1478252

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		0.0222	0.102	1	05/19/2020 23:32	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.3*			*77.0-120*		*05/19/2020 23:32*	WG1478903

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		0.000478	0.00102	1	05/20/2020 08:39	WG1479044
Toluene	U		0.00133	0.00512	1	05/20/2020 08:39	WG1479044
Ethylbenzene	U		0.000755	0.00256	1	05/20/2020 08:39	WG1479044
Total Xylenes	U		0.000901	0.00666	1	05/20/2020 08:39	WG1479044
(S) Toluene-d8	*100*			*75.0-131*		*05/20/2020 08:39*	WG1479044
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*05/20/2020 08:39*	WG1479044
(S) 1,2-Dichloroethane-d4	*127*			*70.0-130*		*05/20/2020 08:39*	WG1479044

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	05/19/2020 21:11	WG1478603
C28-C40 Oil Range	1.65	B J	0.281	4.10	1	05/19/2020 21:11	WG1478603
(S) o-Terphenyl	*83.6*			*18.0-148*		*05/19/2020 21:11*	WG1478603

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.7		1	05/20/2020 23:13	WG1479817

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	U		9.32	20.3	1	05/19/2020 06:39	WG1478252

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		0.0220	0.101	1	05/19/2020 23:52	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.2*			*77.0-120*		*05/19/2020 23:52*	WG1478903

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		0.000473	0.00101	1	05/20/2020 08:58	WG1479044
Toluene	U		0.00132	0.00506	1	05/20/2020 08:58	WG1479044
Ethylbenzene	U		0.000746	0.00253	1	05/20/2020 08:58	WG1479044
Total Xylenes	U		0.000891	0.00658	1	05/20/2020 08:58	WG1479044
(S) Toluene-d8	*102*			*75.0-131*		*05/20/2020 08:58*	WG1479044
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*05/20/2020 08:58*	WG1479044
(S) 1,2-Dichloroethane-d4	*118*			*70.0-130*		*05/20/2020 08:58*	WG1479044

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	1.85	J	1.63	4.05	1	05/21/2020 10:35	WG1478788
C28-C40 Oil Range	4.73		0.278	4.05	1	05/21/2020 10:35	WG1478788
(S) o-Terphenyl	*87.3*			*18.0-148*		*05/21/2020 10:35*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.5		1	05/20/2020 23:13	WG1479817

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	U		9.24	20.1	1	05/19/2020 06:57	WG1478252

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		0.0218	0.100	1	05/20/2020 00:13	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.8*			*77.0-120*		*05/20/2020 00:13*	WG1478903

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		0.000469	0.00100	1	05/20/2020 09:17	WG1479044
Toluene	U		0.00131	0.00502	1	05/20/2020 09:17	WG1479044
Ethylbenzene	U		0.000741	0.00251	1	05/20/2020 09:17	WG1479044
Total Xylenes	U		0.000884	0.00653	1	05/20/2020 09:17	WG1479044
(S) Toluene-d8	*98.2*			*75.0-131*		*05/20/2020 09:17*	WG1479044
(S) 4-Bromofluorobenzene	*95.9*			*67.0-138*		*05/20/2020 09:17*	WG1479044
(S) 1,2-Dichloroethane-d4	*121*			*70.0-130*		*05/20/2020 09:17*	WG1479044

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	1.78	J	1.62	4.02	1	05/21/2020 10:48	WG1478788
C28-C40 Oil Range	5.43		0.275	4.02	1	05/21/2020 10:48	WG1478788
(S) o-Terphenyl	*90.0*			*18.0-148*		*05/21/2020 10:48*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.8		1	05/20/2020 23:13	WG1479817

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	U		9.50	20.7	1	05/19/2020 07:15	WG1478252

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	05/20/2020 00:33	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.2*			*77.0-120*		*05/20/2020 00:33*	WG1478903

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		0.000482	0.00103	1	05/20/2020 09:36	WG1479044
Toluene	U		0.00134	0.00516	1	05/20/2020 09:36	WG1479044
Ethylbenzene	U		0.000761	0.00258	1	05/20/2020 09:36	WG1479044
Total Xylenes	U		0.000909	0.00671	1	05/20/2020 09:36	WG1479044
(S) Toluene-d8	*100*			*75.0-131*		*05/20/2020 09:36*	WG1479044
(S) 4-Bromofluorobenzene	*97.1*			*67.0-138*		*05/20/2020 09:36*	WG1479044
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*05/20/2020 09:36*	WG1479044

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	05/21/2020 11:01	WG1478788
C28-C40 Oil Range	3.72	B J	0.283	4.13	1	05/21/2020 11:01	WG1478788
(S) o-Terphenyl	*82.8*			*18.0-148*		*05/21/2020 11:01*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.1		1	05/20/2020 23:13	WG1479817

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		9.28	20.2	1	05/19/2020 07:33	WG1478252

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	8.55		0.548	2.52	25	05/21/2020 02:22	WG1479659
(S) a,a,a-Trifluorotoluene(FID)	*91.8*			*77.0-120*		*05/21/2020 02:22*	WG1479659

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		0.000471	0.00101	1	05/20/2020 18:47	WG1479555
Toluene	0.00430	J	0.00131	0.00504	1	05/20/2020 18:47	WG1479555
Ethylbenzene	0.00472		0.000743	0.00252	1	05/20/2020 18:47	WG1479555
Total Xylenes	0.183		0.000888	0.00656	1	05/20/2020 18:47	WG1479555
(S) Toluene-d8	*114*			*75.0-131*		*05/20/2020 18:47*	WG1479555
(S) 4-Bromofluorobenzene	*134*			*67.0-138*		*05/20/2020 18:47*	WG1479555
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*05/20/2020 18:47*	WG1479555

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	11000		162	403	100	05/21/2020 13:00	WG1478788
C28-C40 Oil Range	11700		27.6	403	100	05/21/2020 13:00	WG1478788
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*05/21/2020 13:00*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.2		1	05/20/2020 23:13	WG1479817

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	144		11.2	24.3	1	05/19/2020 07:51	WG1478252

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	46.6		2.64	12.2	100	05/20/2020 03:38	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*90.7*			*77.0-120*		*05/20/2020 03:38*	WG1478903

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		0.00455	0.00973	8	05/20/2020 11:09	WG1479044
Toluene	U		0.0126	0.0487	8	05/20/2020 11:09	WG1479044
Ethylbenzene	U		0.00718	0.0243	8	05/20/2020 11:09	WG1479044
Total Xylenes	0.444		0.00856	0.0632	8	05/20/2020 11:09	WG1479044
(S) Toluene-d8	*96.4*			*75.0-131*		*05/20/2020 11:09*	WG1479044
(S) 4-Bromofluorobenzene	*106*			*67.0-138*		*05/20/2020 11:09*	WG1479044
(S) 1,2-Dichloroethane-d4	*131*	J1		*70.0-130*		*05/20/2020 11:09*	WG1479044

Sample Narrative:

L1218741-26 WG1479044: Non-target compounds too high to run at a lower dilution.

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	3040		39.2	97.3	20	05/21/2020 12:07	WG1478788
C28-C40 Oil Range	1950		6.67	97.3	20	05/21/2020 12:07	WG1478788
(S) o-Terphenyl	*439*	J7		*18.0-148*		*05/21/2020 12:07*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.6		1	05/20/2020 23:13	WG1479817

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	679		10.0	21.8	1	05/19/2020 08:08	WG1478252

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	0.449		0.0237	0.109	1	05/20/2020 00:54	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*87.9*			*77.0-120*		*05/20/2020 00:54*	WG1478903

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		0.000510	0.00109	1	05/20/2020 11:28	WG1479044
Toluene	U		0.00142	0.00546	1	05/20/2020 11:28	WG1479044
Ethylbenzene	U		0.000805	0.00273	1	05/20/2020 11:28	WG1479044
Total Xylenes	U		0.000961	0.00710	1	05/20/2020 11:28	WG1479044
(S) Toluene-d8	*98.9*			*75.0-131*		*05/20/2020 11:28*	WG1479044
(S) 4-Bromofluorobenzene	*102*			*67.0-138*		*05/20/2020 11:28*	WG1479044
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*05/20/2020 11:28*	WG1479044

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	724		8.79	21.8	5	05/21/2020 12:47	WG1478788
C28-C40 Oil Range	569		1.50	21.8	5	05/21/2020 12:47	WG1478788
(S) o-Terphenyl	*139*			*18.0-148*		*05/21/2020 12:47*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.6		1	05/20/2020 23:13	WG1479817

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	1590		51.4	112	5	05/19/2020 08:26	WG1478252

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	0.0357	J	0.0242	0.112	1	05/20/2020 01:14	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.7*			*77.0-120*		*05/20/2020 01:14*	WG1478903

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		0.000521	0.00112	1	05/20/2020 11:47	WG1479044
Toluene	U		0.00145	0.00558	1	05/20/2020 11:47	WG1479044
Ethylbenzene	U		0.000823	0.00279	1	05/20/2020 11:47	WG1479044
Total Xylenes	U		0.000983	0.00726	1	05/20/2020 11:47	WG1479044
(S) Toluene-d8	*99.2*			*75.0-131*		*05/20/2020 11:47*	WG1479044
(S) 4-Bromofluorobenzene	*98.9*			*67.0-138*		*05/20/2020 11:47*	WG1479044
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*05/20/2020 11:47*	WG1479044

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	77.7		1.80	4.47	1	05/21/2020 12:34	WG1478788
C28-C40 Oil Range	121		0.306	4.47	1	05/21/2020 12:34	WG1478788
(S) o-Terphenyl	*65.9*			*18.0-148*		*05/21/2020 12:34*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.0		1	05/20/2020 23:13	WG1479817

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	1020		10.5	22.7	1	05/19/2020 09:20	WG1478252

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		0.0247	0.114	1	05/20/2020 01:35	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.3*			*77.0-120*		*05/20/2020 01:35*	WG1478903

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		0.000531	0.00114	1	05/20/2020 12:06	WG1479044
Toluene	U		0.00148	0.00568	1	05/20/2020 12:06	WG1479044
Ethylbenzene	U		0.000837	0.00284	1	05/20/2020 12:06	WG1479044
Total Xylenes	U		0.00100	0.00738	1	05/20/2020 12:06	WG1479044
(S) Toluene-d8	*99.7*			*75.0-131*		*05/20/2020 12:06*	WG1479044
(S) 4-Bromofluorobenzene	*98.1*			*67.0-138*		*05/20/2020 12:06*	WG1479044
(S) 1,2-Dichloroethane-d4	*120*			*70.0-130*		*05/20/2020 12:06*	WG1479044

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	3.73	J	1.83	4.54	1	05/21/2020 11:14	WG1478788
C28-C40 Oil Range	4.37	B J	0.311	4.54	1	05/21/2020 11:14	WG1478788
(S) o-Terphenyl	*79.8*			*18.0-148*		*05/21/2020 11:14*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.7		1	05/20/2020 23:13	WG1479817

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	644		10.3	22.3	1	05/19/2020 09:38	WG1478252

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	0.0246	J	0.0242	0.111	1	05/20/2020 01:55	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.6*			*77.0-120*		*05/20/2020 01:55*	WG1478903

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		0.000520	0.00111	1	05/20/2020 12:25	WG1479044
Toluene	U		0.00145	0.00557	1	05/20/2020 12:25	WG1479044
Ethylbenzene	U		0.000821	0.00279	1	05/20/2020 12:25	WG1479044
Total Xylenes	U		0.000981	0.00724	1	05/20/2020 12:25	WG1479044
(S) Toluene-d8	*97.9*			*75.0-131*		*05/20/2020 12:25*	WG1479044
(S) 4-Bromofluorobenzene	*97.2*			*67.0-138*		*05/20/2020 12:25*	WG1479044
(S) 1,2-Dichloroethane-d4	*118*			*70.0-130*		*05/20/2020 12:25*	WG1479044

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	164		3.59	8.91	2	05/21/2020 12:21	WG1478788
C28-C40 Oil Range	189		0.611	8.91	2	05/21/2020 12:21	WG1478788
(S) o-Terphenyl	*65.2*			*18.0-148*		*05/21/2020 12:21*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.9		1	05/20/2020 23:22	WG1479819

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	793		51.2	111	5	05/19/2020 09:56	WG1478252

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		0.0241	0.111	1	05/20/2020 02:16	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*88.4*			*77.0-120*		*05/20/2020 02:16*	WG1478903

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		0.000519	0.00111	1	05/20/2020 12:44	WG1479044
Toluene	U		0.00145	0.00556	1	05/20/2020 12:44	WG1479044
Ethylbenzene	U		0.000820	0.00278	1	05/20/2020 12:44	WG1479044
Total Xylenes	U		0.000979	0.00723	1	05/20/2020 12:44	WG1479044
(S) Toluene-d8	*96.2*			*75.0-131*		*05/20/2020 12:44*	WG1479044
(S) 4-Bromofluorobenzene	*96.1*			*67.0-138*		*05/20/2020 12:44*	WG1479044
(S) 1,2-Dichloroethane-d4	*118*			*70.0-130*		*05/20/2020 12:44*	WG1479044

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	35.5		1.79	4.45	1	05/21/2020 11:41	WG1478788
C28-C40 Oil Range	49.8		0.305	4.45	1	05/21/2020 11:41	WG1478788
(S) o-Terphenyl	*67.2*			*18.0-148*		*05/21/2020 11:41*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.5		1	05/20/2020 23:22	WG1479819

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	764		49.2	107	5	05/19/2020 10:14	WG1478252

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	05/20/2020 02:36	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*89.0*			*77.0-120*		*05/20/2020 02:36*	WG1478903

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		0.000499	0.00107	1	05/20/2020 13:22	WG1479044
Toluene	U		0.00139	0.00535	1	05/20/2020 13:22	WG1479044
Ethylbenzene	U		0.000788	0.00267	1	05/20/2020 13:22	WG1479044
Total Xylenes	U		0.000941	0.00695	1	05/20/2020 13:22	WG1479044
(S) Toluene-d8	*101*			*75.0-131*		*05/20/2020 13:22*	WG1479044
(S) 4-Bromofluorobenzene	*97.3*			*67.0-138*		*05/20/2020 13:22*	WG1479044
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*05/20/2020 13:22*	WG1479044

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	112		3.44	8.56	2	05/21/2020 11:54	WG1478788
C28-C40 Oil Range	144		0.586	8.56	2	05/21/2020 11:54	WG1478788
(S) o-Terphenyl	*73.6*			*18.0-148*		*05/21/2020 11:54*	WG1478788

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.5		1	05/20/2020 23:22	WG1479819

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	858		49.2	107	5	05/19/2020 10:32	WG1478252

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	J	0.0232	0.107	1	05/20/2020 02:57	WG1478903
(S) a,a,a-Trifluorotoluene(FID)	*87.9*			*77.0-120*		*05/20/2020 02:57*	WG1478903

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		0.000499	0.00107	1	05/20/2020 13:41	WG1479044
Toluene	U		0.00139	0.00535	1	05/20/2020 13:41	WG1479044
Ethylbenzene	U		0.000788	0.00267	1	05/20/2020 13:41	WG1479044
Total Xylenes	U		0.000941	0.00695	1	05/20/2020 13:41	WG1479044
(S) Toluene-d8	*98.8*			*75.0-131*		*05/20/2020 13:41*	WG1479044
(S) 4-Bromofluorobenzene	*96.2*			*67.0-138*		*05/20/2020 13:41*	WG1479044
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*05/20/2020 13:41*	WG1479044

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	32.0		1.72	4.28	1	05/21/2020 11:27	WG1478788
C28-C40 Oil Range	42.6		0.293	4.28	1	05/21/2020 11:27	WG1478788
(S) o-Terphenyl	*64.9*			*18.0-148*		*05/21/2020 11:27*	WG1478788

Method Blank (MB)

(MB) R3530356-1 05/20/20 22:59

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

L1218741-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1218741-02 05/20/20 22:59 • (DUP) R3530356-3 05/20/20 22:59

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.7	93.4	1	0.280		10

Laboratory Control Sample (LCS)

(LCS) R3530356-2 05/20/20 22:59

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) R3530359-1 05/20/20 23:05

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

L1218741-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1218741-12 05/20/20 23:05 • (DUP) R3530359-3 05/20/20 23:05

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	94.3	93.1	1	1.20		10

Laboratory Control Sample (LCS)

(LCS) R3530359-2 05/20/20 23:05

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.9	99.9	85.0-115	

Method Blank (MB)

(MB) R3530360-1 05/20/20 23:13

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

L1218741-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1218741-24 05/20/20 23:13 • (DUP) R3530360-3 05/20/20 23:13

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	96.8	96.6	1	0.270		10

Laboratory Control Sample (LCS)

(LCS) R3530360-2 05/20/20 23:13

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) R3530365-1 05/20/20 23:22

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

Laboratory Control Sample (LCS)

(LCS) R3530365-2 05/20/20 23:22

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) R3529462-1 05/19/20 01:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1218741-33 Original Sample (OS) • Duplicate (DUP)

(OS) L1218741-33 05/19/20 10:32 • (DUP) R3529462-6 05/19/20 10:50

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	858	757	5	12.4		20

Laboratory Control Sample (LCS)

(LCS) R3529462-2 05/19/20 01:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	204	102	90.0-110	

Method Blank (MB)

(MB) R3529379-1 05/19/20 02:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1218741-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1218741-01 05/19/20 03:26 • (DUP) R3529379-3 05/19/20 03:35

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	U	U	1	0.000		20

L1218741-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1218741-16 05/19/20 06:55 • (DUP) R3529379-6 05/19/20 07:05

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3529379-2 05/19/20 03:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	195	97.5	90.0-110	

L1218741-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1218741-13 05/19/20 05:49 • (MS) R3529379-4 05/19/20 05:58 • (MSD) R3529379-5 05/19/20 06:08

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	504	U	478	474	94.9	94.1	1	80.0-120			0.872	20

Method Blank (MB)

(MB) R3529780-3 05/19/20 18:39

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)	*107*			*77.0-120*

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

(LCS) R3529780-1 05/19/20 17:37 • (LCSD) R3529780-2 05/19/20 17:58

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	5.67	5.44	103	98.9	72.0-127			4.14	20
(S) a,a,a-Trifluorotoluene(FID)				*94.4*	*92.8*	*77.0-120*				

Method Blank (MB)

(MB) R3530054-3 05/19/20 20:40

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)	*92.6*			*77.0-120*

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

(LCS) R3530054-1 05/19/20 19:38 • (LCSD) R3530054-2 05/19/20 19:59

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	4.84	5.01	88.0	91.1	72.0-127			3.45	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*106*	*77.0-120*				

L1218741-26 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1218741-26 05/20/20 03:38 • (MS) R3530054-4 05/20/20 03:59 • (MSD) R3530054-5 05/20/20 04:19

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	656	46.6	618	626	87.1	88.4	100	10.0-151			1.37	28
(S) a,a,a-Trifluorotoluene(FID)					*106*	*106*		*77.0-120*				

Method Blank (MB)

(MB) R3530331-3 05/20/20 23:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0220	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*92.9*			*77.0-120*

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

(LCS) R3530331-1 05/20/20 21:57 • (LCSD) R3530331-2 05/20/20 22:51

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	5.38	5.49	97.8	99.8	72.0-127			2.02	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*105*	*77.0-120*				

Method Blank (MB)

(MB) R3530332-3 05/20/20 23:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0220	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*92.9*			*77.0-120*

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

(LCS) R3530332-1 05/20/20 21:57 • (LCSD) R3530332-2 05/20/20 22:51

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	5.38	5.49	97.8	99.8	72.0-127			2.02	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*105*	*77.0-120*				

Method Blank (MB)

(MB) R3530065-2 05/19/20 20:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*99.8*			*75.0-131*
(S) 4-Bromofluorobenzene	*99.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3530065-1 05/19/20 18:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.128	102	70.0-123	
Ethylbenzene	0.125	0.115	92.0	74.0-126	
Toluene	0.125	0.110	88.0	75.0-121	
Xylenes, Total	0.375	0.349	93.1	72.0-127	
(S) Toluene-d8			*96.1*	*75.0-131*	
(S) 4-Bromofluorobenzene			*98.9*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*124*	*70.0-130*	

L1218741-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1218741-01 05/19/20 21:16 • (MS) R3530065-3 05/20/20 04:17 • (MSD) R3530065-4 05/20/20 04:36

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	0.126	U	0.108	0.108	85.6	85.6	1	10.0-149			0.000	37
Ethylbenzene	0.126	U	0.106	0.105	84.0	83.2	1	10.0-160			0.957	38
Toluene	0.126	U	0.0963	0.0939	76.6	74.6	1	10.0-156			2.54	38
Xylenes, Total	0.377	U	0.319	0.306	84.5	81.1	1	10.0-160			4.19	38
(S) Toluene-d8					*99.9*	*97.8*		*75.0-131*				
(S) 4-Bromofluorobenzene					*99.2*	*98.3*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*117*	*116*		*70.0-130*				

Method Blank (MB)

(MB) R3529960-3 05/20/20 07:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*99.0*			*75.0-131*
(S) 4-Bromofluorobenzene	*99.2*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*

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

(LCS) R3529960-1 05/20/20 06:40 • (LCSD) R3529960-2 05/20/20 06:59

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	0.132	0.129	106	103	70.0-123			2.30	20
Ethylbenzene	0.125	0.122	0.127	97.6	102	74.0-126			4.02	20
Toluene	0.125	0.112	0.112	89.6	89.6	75.0-121			0.000	20
Xylenes, Total	0.375	0.370	0.379	98.7	101	72.0-127			2.40	20
(S) Toluene-d8				*98.1*	*98.4*	*75.0-131*				
(S) 4-Bromofluorobenzene				*99.1*	*102*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*127*	*127*	*70.0-130*				

Method Blank (MB)

(MB) R3530285-2 05/20/20 18:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*102*			*75.0-131*
(S) 4-Bromofluorobenzene	*98.9*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*118*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3530285-1 05/20/20 17:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.130	104	70.0-123	
Ethylbenzene	0.125	0.123	98.4	74.0-126	
Toluene	0.125	0.113	90.4	75.0-121	
Xylenes, Total	0.375	0.378	101	72.0-127	
(S) Toluene-d8			*96.4*	*75.0-131*	
(S) 4-Bromofluorobenzene			*96.8*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*126*	*70.0-130*	

Method Blank (MB)

(MB) R3529788-1 05/19/20 16:24

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	*83.8*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3529788-2 05/19/20 16:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	42.8	85.6	50.0-150	
(S) o-Terphenyl			*89.6*	*18.0-148*	

Method Blank (MB)

(MB) R3529602-1 05/19/20 13:35

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	0.318	J	0.274	4.00
(S) o-Terphenyl	*71.8*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3529602-2 05/19/20 13:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	38.4	76.8	50.0-150	
(S) o-Terphenyl			*105*	*18.0-148*	

L1218741-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1218741-18 05/19/20 23:49 • (MS) R3529602-3 05/20/20 00:02 • (MSD) R3529602-4 05/20/20 00:15

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 %
C10-C28 Diesel Range	51.1	6.30	43.1	42.7	72.1	71.9	1	50.0-150			0.988	20
(S) o-Terphenyl					*97.2*	*100*		*18.0-148*				

Method Blank (MB)

(MB) R3530060-1 05/20/20 16:07

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	0.433	J	0.274	4.00
(S) o-Terphenyl	*74.5*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3530060-2 05/20/20 16:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	41.0	82.0	50.0-150	
(S) o-Terphenyl			*118*	*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.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

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

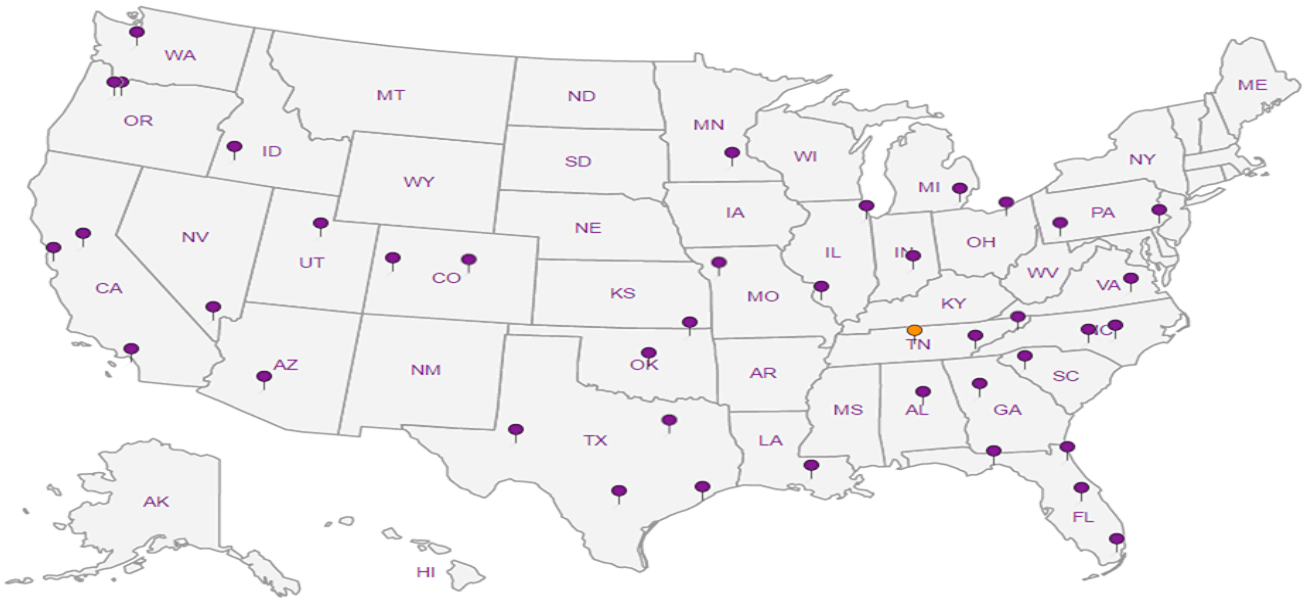
Third Party Federal Accreditations

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.



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

D226

Client Name:	Conoco Phillips	**Site Manager:**	Christian Llull
Project Name:	COP MCA 108	**Contact Info:**	Email: christian.llull@tetratech.com Phone: (512) 338-1667
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02175
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	Joe Tyler
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	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
L1218741																																	
-01	AH-1 (0'-1')	05/07/20	1000		X				X			1	N	X		X												X						
02	AH-1 (2'-3')	05/07/20	1010		X				X			1	N	X		X												X						
03	AH-1 (4'-5')	05/07/20	1020		X				X			1	N	X		X												X						
04	AH-2 (0'-1')	05/07/20	1030		X				X			1	N	X		X												X						
05	AH-2 (2'-3')	05/07/20	1040		X				X			1	N	X		X												X						
06	AH-2 (4'-5')	05/07/20	1050		X				X			1	N	X		X												X						
07	AH-3 (0'-1')	05/07/20	1100		X				X			1	N	X		X												X						
08	AH-3 (2'-3')	05/07/20	1110		X				X			1	N	X		X												X						
09	AH-3 (4'-5')	05/07/20	1120		X				X			1	N	X		X												X						
10	AH-4 (0'-1')	05/07/20	1130		X				X			1	N	X		X												X						

Relinquished by:	Date: 5-13-20	Time: 15:00	Received by: Date: 5-13-20 Time: 15:00
Relinquished by:	Date: 5-13-20	Time: 17:45	Received by: FedEX Date: 5-13-20 Time: 17:45
Relinquished by:	Date:	Time:	Received by: Date: 5.14.20 Time: 0845

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 #:

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17.3=.4 NM AT

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

Client Name:	Conoco Phillips	**Site Manager:**	Christian Llull
Project Name:	COP MCA 108	**Contact Info:**	Email: christian.llull@tetratech.com Phone: (512) 338-1667
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02175
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	Joe Tyler
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2020 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
L128741																																		
21	AH-7 (4'-5')	05/08/20	1020		X				X			1	N	X		X												X						
22	AH-8 (0'-1')	05/08/20	1030		X				X			1	N	X		X												X						
23	AH-8 (2'-3')	05/08/20	1040		X				X			1	N	X		X												X						
24	AH-8 (4'-5')	05/08/20	1050		X				X			1	N	X		X												X						
25	T-1 (0'-1')	05/08/20	1200		X				X			1	N	X		X												X						
26	T-1 (2'-3')	05/08/20	1210		X				X			1	N	X		X												X						
27	T-1 (4'-5')	05/08/20	1220		X				X			1	N	X		X												X						
28	T-1 (6'-7')	05/08/20	1230		X				X			1	N	X		X												X						
29	T-1 (9'-10')	05/08/20	1240		X				X			1	N	X		X												X						
30	T-1 (12'-13')	05/08/20	1250		X				X			1	N	X		X												X						

	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
1	Zell D. Smith	5-13-20	15:00		5-13-20	15:00
2		5-13-20	17:45	FedEx	5-13-20	17:45
3					5-14-20	0845

ORIGINAL COPY

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 #: _____

.7-.3=.4 MM AT

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

Client Name:	Conoco Phillips	**Site Manager:**	Christian Llull
Project Name:	COP MCA 108	**Contact Info:**	Email: christian.llull@tetratech.com Phone: (512) 338-1667
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02175
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	Joe Tyler
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
L12B74		YEAR: 2020																															
31	T-1 (14'-15')	05/08/20	1320		X				X		1	N	X		X											X							
32	T-1 (17'-18')	05/08/20	1400		X				X		1	N	X		X											X							
33	T-1 (19'-20')	05/08/20	1500		X				X		1	N	X		X											X							

Relinquished by:	Date:	Time:	Received by:	Date: Time:
[signature]	5-13-20	13:00	[signature]	5-13-20 13:00
Relinquished by:	Date:	Time:	Received by:	Date: Time:
[signature]	5-13-20	17:45	FedEX	5-13-20 17:49
Relinquished by:	Date:	Time:	Received by:	Date: Time:
			[signature]	5-14-20 0845

ORIGINAL COPY

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 #: _____

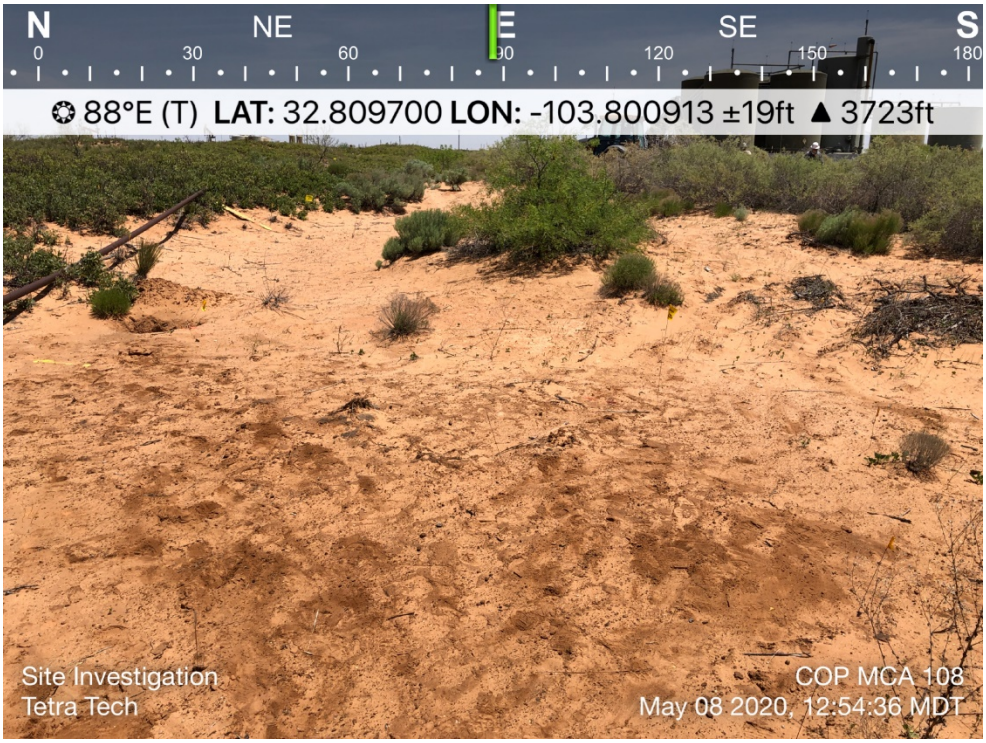
.7-.3=.4 uM AT

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: COPTETRA	1218741	
Cooler Received/Opened On: 5/14/20 Temperature:	0.4	
Received By: Monte Smith		
Signature: Monte Smith		

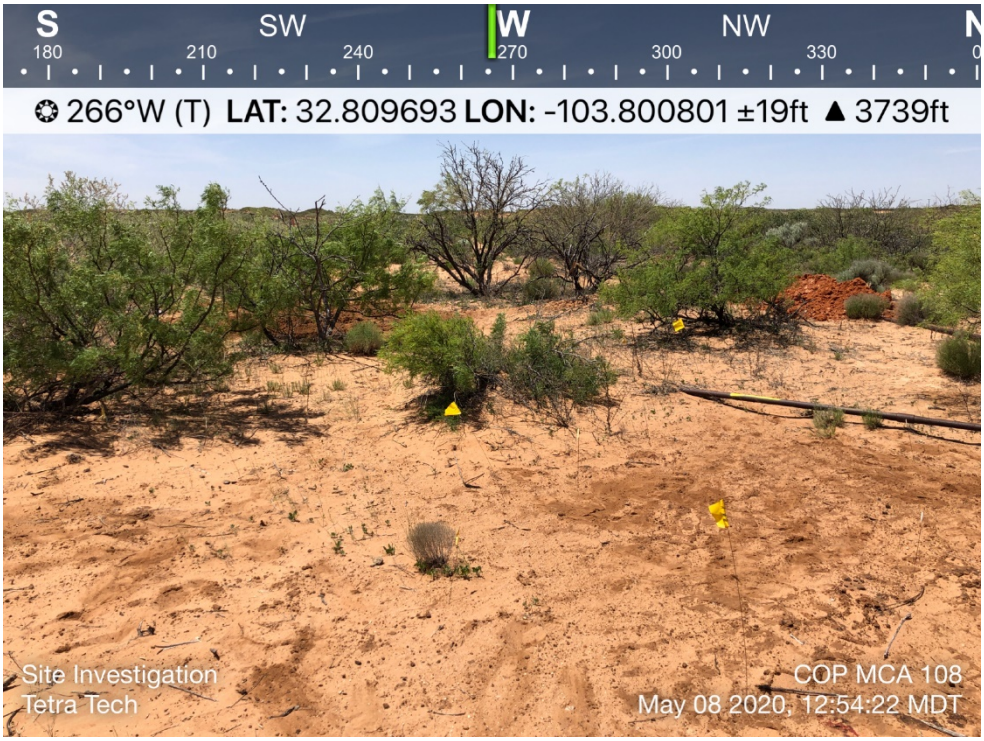
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

APPENDIX D
Photographic Documentation



TETRA TECH, INC. PROJECT NO. 212C-MD-02175	DESCRIPTION	View east of release extent. Site Coordinates: 32.809362°, -103.800769°	1
	SITE NAME	MCA 108 Flowline Release	5/8/2020

TETRA TECH, INC. PROJECT NO. 212C-MD-02175	DESCRIPTION	View west over release extent. Flowlines and mini-excavator visible.	2
	SITE NAME	MCA 108 Flowline Release	5/8/2020



TETRA TECH, INC. PROJECT NO. 212C-MD-02175	DESCRIPTION	View west over release extent. Flowlines and underground utility markings visible.	3
	SITE NAME	MCA 108 Flowline Release	5/8/2020

TETRA TECH, INC. PROJECT NO. 212C-MD-02175	DESCRIPTION	View of trench installed near the release point (T-1).	4
	SITE NAME	MCA 108 Flowline Release	5/8/2020

APPENDIX E
NMSLO Seed Mixture

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

MCA 108 Flowline Release

August 21, 2020

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.

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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: 1:686 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 30 60 120 180

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

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 17, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

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
PY	Pyote soils and Dune land	2.1	100.0%
Totals for Area of Interest		**2.1**	**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

PY—Pyote soils and Dune land

Map Unit Setting

National map unit symbol: dmqr
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 190 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Pyote and similar soils: 46 percent
Dune land: 44 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pyote

Setting

Landform: Depressions
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 30 inches: fine sand
Bt - 30 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Description of Dune Land

Setting

Landform: Dunes
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex

Typical profile

A - 0 to 6 inches: fine sand
C - 6 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 5 percent
Ecological site: R042XC022NM - Sandhills
Hydric soil rating: No

Maljamar, fine sand

Percent of map unit: 3 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Wink

Percent of map unit: 2 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

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NMSLO Seed Mix Sandy Loam (SL)

SANDY LOAM (SL) SITES SEED MIXTURE:

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Galleta grass	Viva, VNS, So.	2.5	F
Little bluestem	Cimmaron, Pastura	2.5	F
Blue grama	Hachita, Lovington	2.0	D
Sideoats grama	Vaughn, El Reno	2.0	F
Sand dropseed	VNS, Southern	1.0	S
Forbs:			
Indian blanketflower	VNS, Southern	1.0	D
Parry penstemon	VNS, Southern	1.0	D
Blue flax	Appar	1.0	D
Desert globemallow	VNS, Southern	1.0	D
Shrubs:			
Fourwing saltbush	VNS, Southern	2.0	D
Common winterfat	VNS, Southern	1.0	F
Apache plume	VNS, Southern	0.75	F
	Total PLS/acre	17.75	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box

- VNS, Southern – No Variety Stated, seed should be from a southern latitude collection of this species.
- Double above seed rates for broadcast or hydroseeding.
- If Parry penstemon is not available, substitute firecracker penstemon.
- If desert globemallow is not available, substitute scarlet globemallow or Nelson globemallow.
- If a species is not available, provide a suggested substitute to the New Mexico Land Office for approval. Increasing all other species proportionately may be acceptable.