SITE INFORMATION

Report Type: Work Plan 2RP-4558

General Site Information:						
Site:	James A-1 Battery					
Company:	ConocoPhillips					
Section, Township and Range	Unit J	Sec. 2	T 22S	R 30E		
Lease Number:	Associated API No. 30-015-25699					
County:	Eddy					
GPS:	32.4184418			-103.8493423		
Surface Owner:	State					
Mineral Owner:	N/A					
Directions:	Depart from Loving. Head toward Amy Ave on N 8th St (US-285) for 0.4 mi. Turn right onto Carter Rd (CR-712) for 1.4 mi. Turn right onto Potash Mines Rd (NM-31) for 6.5 mi. Turn right onto Jal Hwy (NM-128) for 8.7 mi. Turn left onto Cimarron Rd (CR-796) for 2.6 mi. Turn slightly left onto Cimarron Rd (CR-796) for 3.9 mi. Turn right onto CR-796A for 1.9 mi. Arrive at locaiton. Site is on the right.					

Release Data:		
Date Released:	1/4/2018	
Type Release:	Produced Water/Oil	
Source of Contamination:	Tank	
Fluid Released:	420 bbl	
Fluids Recovered:	345 bbl	

Official Communication:			
Name:	Jenni Fortunato		Greg W. Pope
Company:	Conoco Phillips - RMR		Tetra Tech
Address:	935 N. Eldridge Pkwy.		901 West Wall Street
	SP2-12-W084		Suite 100
City:	Houston, Texas 77079		Midland, Texas
Phone number:	(832) 486-2477		(432) 687-8134
Fax:			
Email:	jenni.fortunato@conocophillips.com		Greg.Pope@tetratech.com

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	*20*	
50-99 ft	***10***	
>100 ft.	*0*	
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	***0***	
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	*10*	
>1,000 ft.	***0***	
Total Ranking Score:	***10***	

Site Characterization	
Depth to Groundwater:	*262' below surface*
Karst Potential:	*High*

Recommended Remedial Action Levels (RRALs)				
Benzene	***Total BTEX***	***TPH (GRO+DRO)***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*--*	*100 mg/kg*	*600 mg/kg*

POTIA-190904-C-1410

TETRA TECH

September 4, 2019

Mike Bratcher
District Supervisor
Oil Conservation Division, District 2
811 S. First St.
Artesia, NM 88210

Via email:
emnrd-ocd-district2spills@state.nm.us

Re: Release Characterization Work Plan
ConocoPhillips
James A-1 Battery
Unit J, Section 2, Township 22 South, Range 30 East
Eddy County, New Mexico
2RP-4558

Dear Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a release that occurred at the James A-1 Battery, Unit J, Section 22, Township 22 South, Range 30 East, in Eddy County, New Mexico (Site). The release site coordinates are 32.418561°, -103.849754°. The Site location is shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report, the release occurred on January 4, 2018, and due to an oil tank overflow approximately 250 barrels of oil and 170 barrels of produced water were released into a secondary containment. 35 barrels of fluid spilled outside of secondary containment (all oil). Vacuum trucks were used to remove the freestanding fluids, recovering approximately 224 barrels of oil and 121 barrels of produced water. 14 barrels of fluid were recovered outside of secondary containment (all oil). Initial emergency response procedures included excavation of accessible soil in the pasture. Additionally, all impacted pea gravel inside of the tank battery secondary containment was removed.

SITE CHARACTERIZATION

A site characterization was performed and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances. However, the site is in a high karst potential area. One water well is listed in Section 22 on the New Mexico Office of the State Engineer (NMOSE) database with groundwater documented at 262 feet below ground surface. The groundwater data and a karst map are included in Appendix B.

REGULATORY FRAMEWORK

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels

(RRAL) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. Based upon the site characterization, the proposed RRAL for benzene was determined to be 10 milligrams per kilogram (mg/kg) and the proposed RRAL for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene) was determined to be 50 mg/kg. Based upon the karst potential, the proposed RRAL for TPH (GRO + DRO + ORO) is 100 mg/kg. Additionally, based on the karst potential in the area, the proposed RRAL for chlorides is 600 mg/kg.

INITIAL SITE ASSESSMENT

Tetra Tech personnel were initially onsite to delineate and sample the release area in 2018. Six (6) borings (AH-1, AH-2, AH-3, AH-4, AH-5, and AH-6) were installed using a hand auger to a total depth of 3.0' below surface to evaluate the vertical extents of the release and the effectiveness of the immediate response action taken by Operations. A total of 14 soil samples were collected from six boring locations from the vicinity of the release area on September 13, 2018 (Figure 3). Selected samples were field screened, submitted to an analytical laboratory under chain-of-custody, and analyzed for TPH (Method 8015 modified), BTEX (Method 8260B), and chlorides (USEPA Method 300.0) analysis. Copies of analytical reports and chain-of-custody documentation are included in Appendix C.

ADDITIONAL SITE ASSESSMENT

In order to more fully characterize the horizontal extent of the release area, Tetra Tech personnel were onsite to further delineate and sample the release area in 2019. Five (5) borings (AH-7, AH-8, AH-9, AH-10, and AH-11) were installed using a hand auger to a total depth of 3.0' below surface to evaluate the horizontal extents of the release. A total of ten additional soil samples were collected in the vicinity of the release area (Figure 3), field screened, submitted to an analytical laboratory under chain-of-custody, and analyzed for TPH, BTEX and chlorides. These boring locations were located to provide general horizontal delineation north, west and south of the battery release point (Figure 3) and samples analyzed were comprised of soil from the 0 to 1-foot depth interval and the 2 to 3 foot depth interval.

SUMMARY OF SAMPLING RESULTS

The results of both the 2018 and 2019 sampling events are summarized in Table 1. The boring locations are shown on Figure 3. The analytical results associated with all the collected samples were below the established RRALs for BTEX and chlorides. However, analytical results associated with sample locations AH-2, AH-4 and AH-6 (2018) and locations AH-10 and AH-11 (2019) were above the RRAL of 100 mg/kg for TPH (Table 1).

REMEDIATION WORK PLAN

Based on the analytical results, ConocoPhillips proposes to remove the remaining impacted material as shown in Figure 4. Impacted soils (intervals shaded in Table 1) will be excavated until a representative sample from the walls and bottom of the excavation is below the RRAL. The data in Table 1 was evaluated for proposed excavation depths. The analytical data from borings AH-2, AH-3, and AH-5 indicates residual TPH impact in the surface soil. This area is proposed to be excavated to a depth of 1 foot below existing grade. The area of AH-4, AH-6, AH-10, and AH-11 indicates residual TPH impact in the surface and subsurface soil. This area is proposed to be excavated to a depth of 3 feet below existing grade. The estimated volume of material to be remediated is 950 cubic yards.

Excavated soils will be transported offsite and disposed of at an off-site 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.

REVEGETATION PLAN

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

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

CONCLUSION

ConocoPhillips proposes to complete remediation activities at the Site within 90 days of this submittal date. 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:
Ms. Jenni Fortunato, RMR – ConocoPhillips
Mr. Gustavo Fejervary-Morena, GPBU - ConocoPhillips

LIST OF ATTACHMENTS

Figures:

Figure 1 – Overview Map
Figure 2 – Site Location/Topographic Map
Figure 3 – Release Assessment Map
Figure 4 – Proposed Excavation Areas

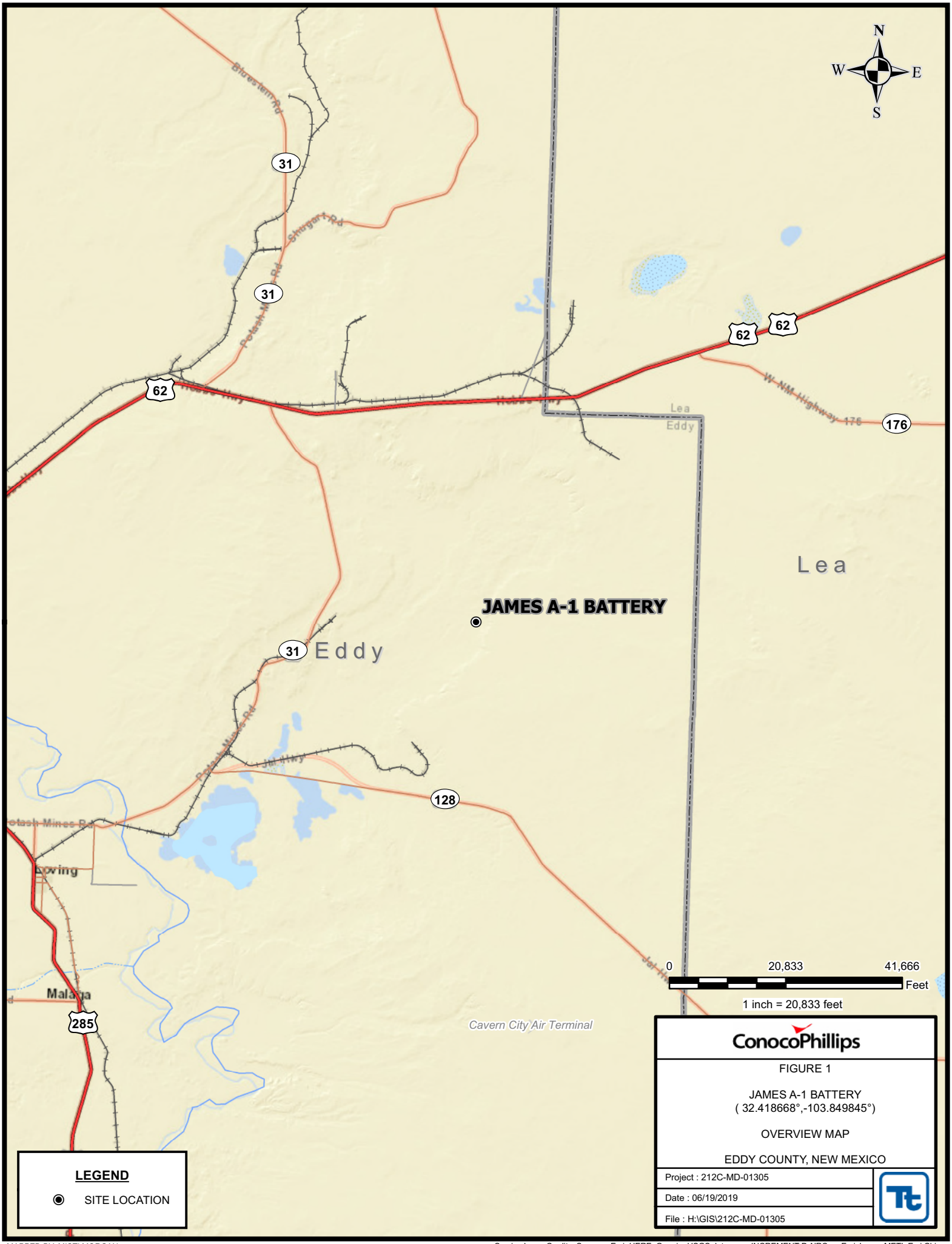
Tables:

Table 1 – Summary of Analytical Results – Soil Assessment

Appendices:

Appendix A – C-141 Form
Appendix B – NMOSE Groundwater Data/Karst Potential Map
Appendix C – Laboratory Analytical Data
Appendix D – NMSLO Seed Mixture Details

FIGURES



ConocoPhillips

FIGURE 1

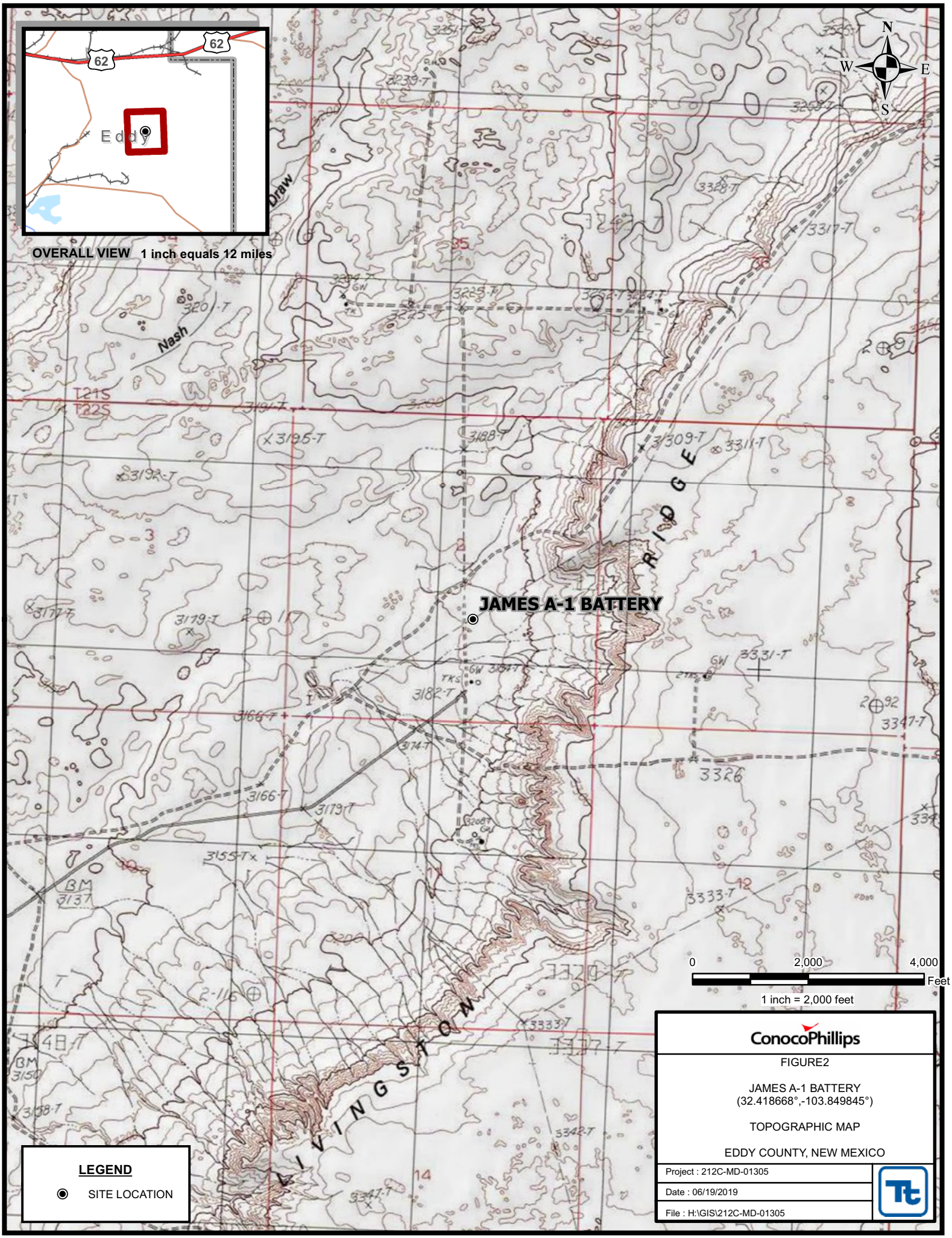
JAMES A-1 BATTERY
(32.418668°,-103.849845°)

OVERVIEW MAP

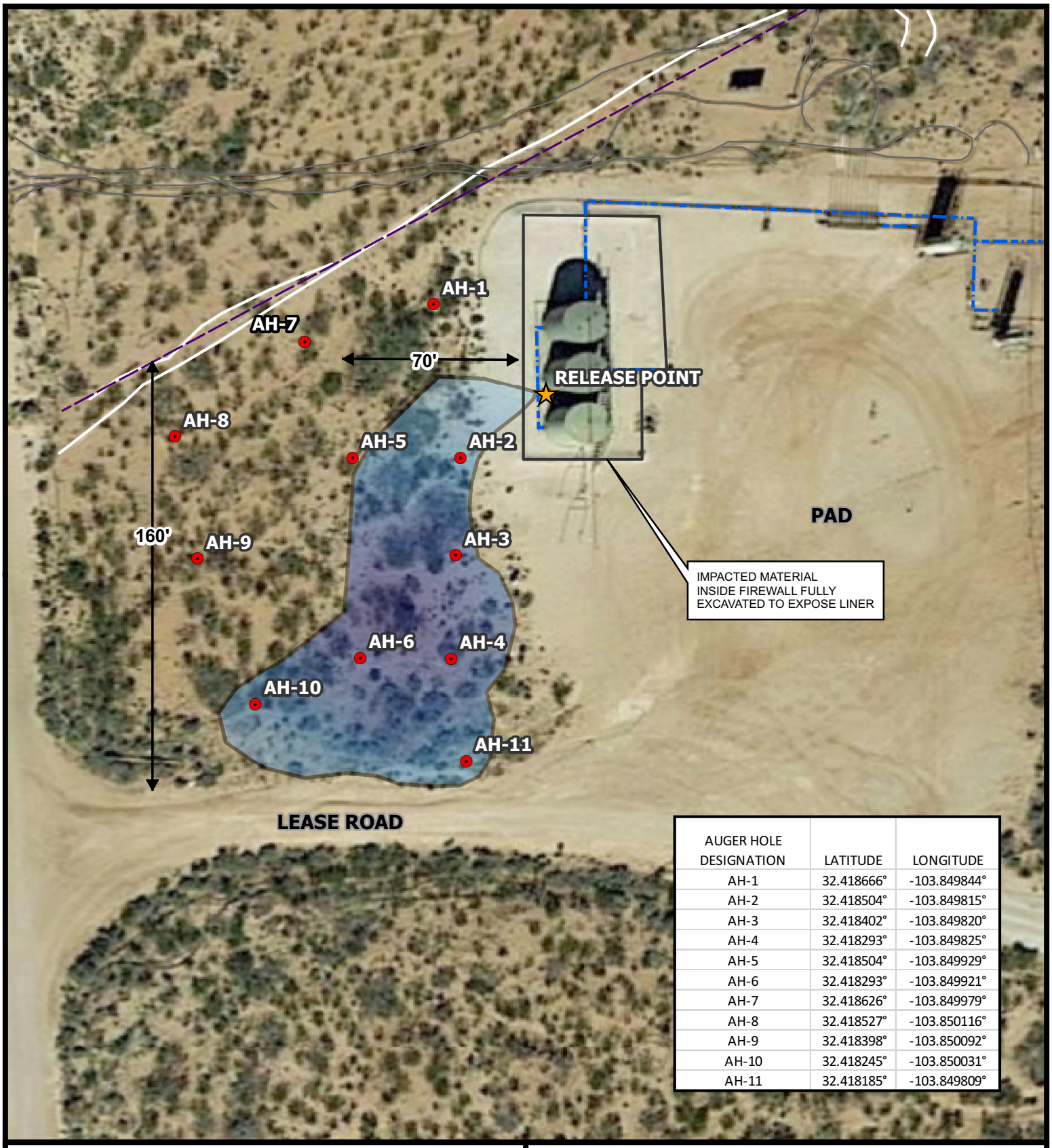
EDDY COUNTY, NEW MEXICO

Project : 212C-MD-01305	
Date : 06/19/2019	
File : H:\GIS\212C-MD-01305	

MAPPED BY: MISTI MORGAN



MAPPED BY: MISTI MORGAN



AUGER HOLE DESIGNATION	LATITUDE	LONGITUDE
AH-1	32.418666°	-103.849844°
AH-2	32.418504°	-103.849815°
AH-3	32.418402°	-103.849820°
AH-4	32.418293°	-103.849825°
AH-5	32.418504°	-103.849929°
AH-6	32.418293°	-103.849921°
AH-7	32.418626°	-103.849979°
AH-8	32.418527°	-103.850116°
AH-9	32.418398°	-103.850092°
AH-10	32.418245°	-103.850031°
AH-11	32.418185°	-103.849809°

EXPLANATION

- BORING LOCATION
- BURIED PIPELINE
- FLOWLINE
- ABOVE GROUND POLYPIPE FLOWLINE
- PROCESS PIPE
- FIREWALL
- RELEASE EXTENT

Source: "New Mexico". 32°25'6.86"N, 103°50'59.01"W. **Google Earth**. November 2017. August 07,2019

N
W E
S

0 25 50
Approximate Scale in Feet

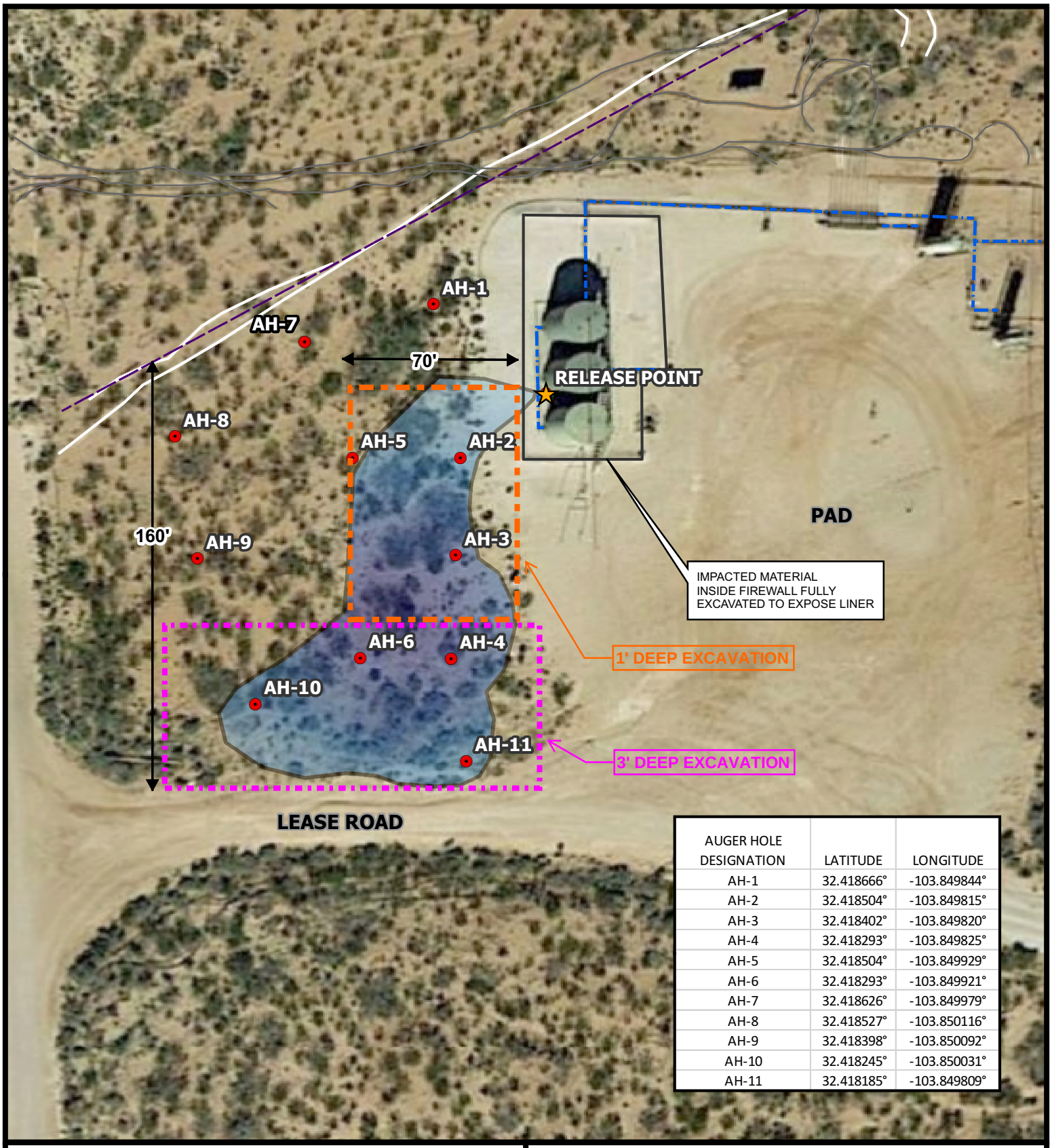
RELEASE ASSESSMENT MAP - 2RP-4558
JAMES A-1 BATTERY
PROPERTY LOCATED AT 32.418668°,-103.849845°
EDDY COUNTY, NEW MEXICO

ConocoPhillips

Project #:
212C-MD-01305

FIGURE
3

Date: 8/12/2019 Document Path: H:\GIS\CONOCO PHILLIPS\212C-MD-01305 JAMES A-1 BATTERY\MXD\212C-MD-01305 JAMES A-1 BATTERY FIG. 3.mxd



AUGER HOLE DESIGNATION	LATITUDE	LONGITUDE
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AH-8	32.418527°	-103.850116°
AH-9	32.418398°	-103.850092°
AH-10	32.418245°	-103.850031°
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EXPLANATION

- BORING LOCATION
- BURIED PIPELINE
- FLOWLINE
- ABOVE GROUND POLYPIPE FLOWLINE
- PROCESS PIPE
- FIREWALL
- RELEASE EXTENT

N
W E
S

0 25 50
Approximate Scale in Feet

Source: "New Mexico". 32°25'6.86"N, 103°50'59.01"W. **Google Earth**. November 2017. August 07,2019

PROPOSED EXCAVATION AREAS - 2RP-4558
JAMES A-1 BATTERY
PROPERTY LOCATED AT 32.418668°,-103.849845°
EDDY COUNTY, NEW MEXICO

ConocoPhillips

Project #:
212C-MD-01305

FIGURE
4

Date: 8/12/2019 Document Path: H:\GIS\CONOCO PHILLIPS\212C-MD-01305 JAMES A-1 BATTERY\MXD\212C-MD-01305 JAMES A-1 BATTERY FIG. 4.mxd

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT - 2RP-4558
CONOCOPHILLIPS
JAMES A-1 BATTERY
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Interval	FIELD SCREENING RESULTS		Chloride[1]		BTEX[2]										TPH[3]							
			PID*	Chlorides*			Benzene		Toluene		Ethylbenzene		Xylene		Total BTEX		GRO		DRO		ORO		Total TPH (C_6 - C_{40})
																	C_6 - C_{10}		C_{10} - C_{28}		C_{28} - C_{40}		
		ft. bgs	ppm	ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
AH-1	09/13/18	0-1	1	99	62.7		< 0.000420		< 0.00131		< 0.000557		< 0.00502		0		0.0473	J	<1.69		0.638	J	0.69
		1-2	0.7	102	62.7		< 0.000429		< 0.00134		< 0.000568		< 0.00513		0		0.0285	J	<1.73		3.06	J	3.09
		2-3	0.7	109	52.6		< 0.000418		< 0.00131		< 0.000554		< 0.00499		0		0.0264	J	<1.68		2.76	J	2.79
AH-2	09/13/18	0-1	2.3	51.2	51.8		< 0.000422		< 0.00132		< 0.000559		< 0.00504		0		0.0351	J	103	J5	201		**304.04**
		1-2	--	40.6	85.6		< 0.000509		< 0.00159		< 0.000674		< 0.00608		0		0.0453	J	2.99	J	3.03	J	6.07
AH-3	09/13/18	0-1	2.7	30.3	44.4		< 0.000452		< 0.00141		< 0.000599		< 0.00541		0		0.0309	J	25.9		47.1		73.03
		1-2	--	41.7	108		< 0.000491		< 0.00154		< 0.000651		< 0.00587		0		0.0629	J	4.42	J	5.43		9.91
AH-4	09/13/18	0-1	1.4	28.4	133		< 0.000426		< 0.00133		< 0.000564		< 0.00509		0		0.0521	J	240		349		**589.05**
		1-2	--	40.9	48.9	B	< 0.000493		< 0.00154		< 0.000653		< 0.00589		0		0.0582	J	7.15		7.74		14.95
AH-5	09/13/18	0-1	0.3	44.7	79		< 0.000479		< 0.00150		< 0.000634		< 0.00572		0		0.0521	J	29.7		47.5		77.25
		1-2	--	39.8	99.8		< 0.000447		< 0.00140		< 0.000593		< 0.00534		0		0.0473	J	28.6		51.2		79.85
AH-6	09/13/18	0-1	12.6	41.5	48.9	B	< 0.000487		< 0.00152		< 0.000645		< 0.00581		0		0.0555	J	64		49.4		**113.46**
		1-2	3.1	41.6	45.7	B	< 0.000463		< 0.00145		< 0.000613		< 0.00553		0		0.0449	J	99.6		67.5		**167.14**
		2-3	2.6	48.3	66		< 0.000435		< 0.00136		< 0.000577		< 0.00520		0		0.0492	J	3.33	J	3.19	J	6.57

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT - 2RP-4558
CONOCOPHILLIPS
JAMES A-1 BATTERY
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Interval	FIELD SCREENING RESULTS		Chloride[1]		BTEX[2]										TPH[3]							
			PID*	Chlorides*			Benzene		Toluene		Ethylbenzene		Xylene		Total BTEX		GRO		DRO		ORO		Total TPH (C_6 - C_{40})
																	C_6 - C_{10}		C_{10} - C_{28}		C_{28} - C_{40}		
		ft. bgs	ppm	ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
AH-7	07/19/19	0-1	3.2	46.1	2.22	BJ	< 0.000407		< 0.00127		< 0.000539		< 0.00486		0		0.0291	B J	2.6	J	3.94		6.57
		2-3	1.6	143	21.4		< 0.000421		< 0.00132		< 0.000558		< 0.00503		0		< 0.0226		2.13	J	8.68		10.81
AH-8	07/19/19	0-1	3.7	86	8.13	BJ	< 0.000407		< 0.00127		< 0.000539		< 0.00486		0		< 0.0221		4.56		15.3		19.86
		2-3	3.1	486	318		< 0.000418		< 0.00131		< 0.000554		< 0.00500		0		0.0245	J	1.79	J	5.31		7.12
AH-9	07/19/19	0-1	2.7	41.9	3.42	BJ	< 0.000417		< 0.00130		< 0.000552		< 0.00498		0		0.0252	J	4.64		13.4		18.07
		2-3	0.7	49.7	2.55	BJ	< 0.000412		< 0.00129		< 0.000546		< 0.00493		0		< 0.0224		< 1.66		3.2	J	3.20
AH-10	07/19/19	0-1	1.3	38.7	3.9	BJ	< 0.000435		< 0.00136		< 0.000576		< 0.00520		0		0.0291	J	291		253		**544.03**
		2-3	1.7	72.7	6.22	BJ	< 0.000418		< 0.00131		< 0.000554		< 0.00500		0		< 0.0227		111		120		**231.00**
AH-11	07/19/19	0-1	1.1	108	39.3		< 0.000416		< 0.00130		< 0.000551		< 0.00497		0		0.0334	J	34.1		100		**134.13**
		2-3	0.8	96	21.5		< 0.000411		< 0.00128		< 0.000544		< 0.00491		0		0.0238	J	11.3		28.8		40.12

NOTES:

ft. Feet
bgs Below ground surface
mg/kg Milligrams per kilogram
ppm Parts per million
TPH Total Petroleum Hydrocarbons
* Field screening measurement
1 Method 300.0
2 Method 8260B
3 Method 8015M
DRO Diesel Range Organics
GRO Gasoline Range Organics
ORO Oil Range Organics

Bold values exceed the proposed RRAL for the Site.

Shaded rows indicate depth intervals proposed for excavation and remediation.

B The same analyte is found in the associated blank.
J The identification of the analyte is acceptable; the reported value is an estimate.
J3 The associated batch QC was outside the established quality control range for precision.
J5 The sample matrix interfered with the ability to make accurate determination; spike value is high.
J6 The sample matrix interfered with the ability to make accurate determination; spike is low.
V The sample concentration is too high to evaluate accurate spike recoveries.
U Not detected at the Sample Detection Limit (SDL).

APPENDIX A

NM OIL CONSERVATION
ARTESIA DISTRICT
JAN 08 2018
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1800955828

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **ConocoPhillips** 217817	Contact: **Cullen Rosine**
Address: **29 Vacuum Complex Lane**	Telephone No. **575-391-3133**
Facility Name: James A1 Battery	Facility Type: Tank Battery

Surface Owner: State	Mineral Owner: N/A	API No. N/A 30-015-25699

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	2	22S	30E					**Eddy**

Latitude 32.4184418 **Longitude** -103.8493423

NATURE OF RELEASE 250bbls Oil/170bbls P/W 224bbls O./121 P/W

Type of Release: **Oil and Produced Water**	Volume of Release: 420 BBL	Volume Recovered: 345 BBL
Source of Release: Oil tank overflow	Date and Hour of Occurrence **1-4-2018 8:30 PM**	Date and Hour of Discovery **1-5-2018 10:00 AM**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher, Shelly Tucker, Crystal Weaver, Amber Groves via Email	
By Whom? **Cullen Rosine**	Date and Hour: **3-20-2017 1520 hours via phone**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken. MSO arrived on location and found the oil tank overflowing into secondary containment. The associated producing wells and the facility were shut down. Supervisor was contacted and immediate efforts were made to contain the release. Spill volumes are as follows: 420 barrels total fluid spilled = 250 barrels oil & 170 barrels produced water. 345 barrels of fluid recovered = 224 barrels oil & 121 barrels of produced water. 35 barrels of fluid spilled outside of secondary containment (all oil). 14 barrels of fluid recovered outside of secondary containment. Spill area will be remediated per NMOCD guidelines.

Describe Area Affected and Cleanup Action Taken. *
Area 1 – 11,200 square feet outside of dike
Area 2 – 4,500 square feet inside dike

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

Signature: *Cullen Rosine*	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Signed By	
Printed Name: Cullen Rosine		
Title: HSE Specialist	Approval Date: 1/9/18	Expiration Date: N/A
E-mail Address: **Cullen.J.Rosine@conocophillips.com**	Conditions of Approval: See attached	Attached ☐ 2RP-4558
Date: 1-8-2018 Phone:575-391-3133		

* Attach Additional Sheets If Necessary

1/9/18 AB

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4558
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? Greater than 25 bbls.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes. By Cullen Rosine. To Mike Bratcher, Shelly Tucker, Crystal Weaver, and Amber Groves via Email

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: Jenni Fortunato Title: Program Manager, Risk Management & Remediation

Signature: _____ Date: 9/3/19

email: Jenni.fortunato@conocophillips.com Telephone: 832-486-2477

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4558
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?	262 (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

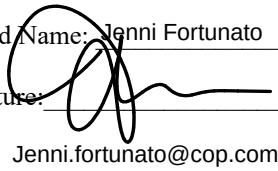
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, 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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4558
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: Jenni Fortunato Title: Program Manager, Risk MGMT & Remediation

Signature:  Date: 9/3/19

email: Jenni.fortunato@cop.com Telephone: 832-486-2477

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4558
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: Jenni Fortunato Title: Program Manager, Risk MGMT & Remediation

Signature:  Date: 9/3/19

email: Jenni.fortunato@cop.com Telephone: 832-486-2477

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

APPENDIX B

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	Depth Well	Depth Water	Water Column
C 03015	CUB	ED	1	4	3	22	22S	30E	606099	3582353*	1316	262	1054

Average Depth to Water: **262 feet**

Minimum Depth: **262 feet**

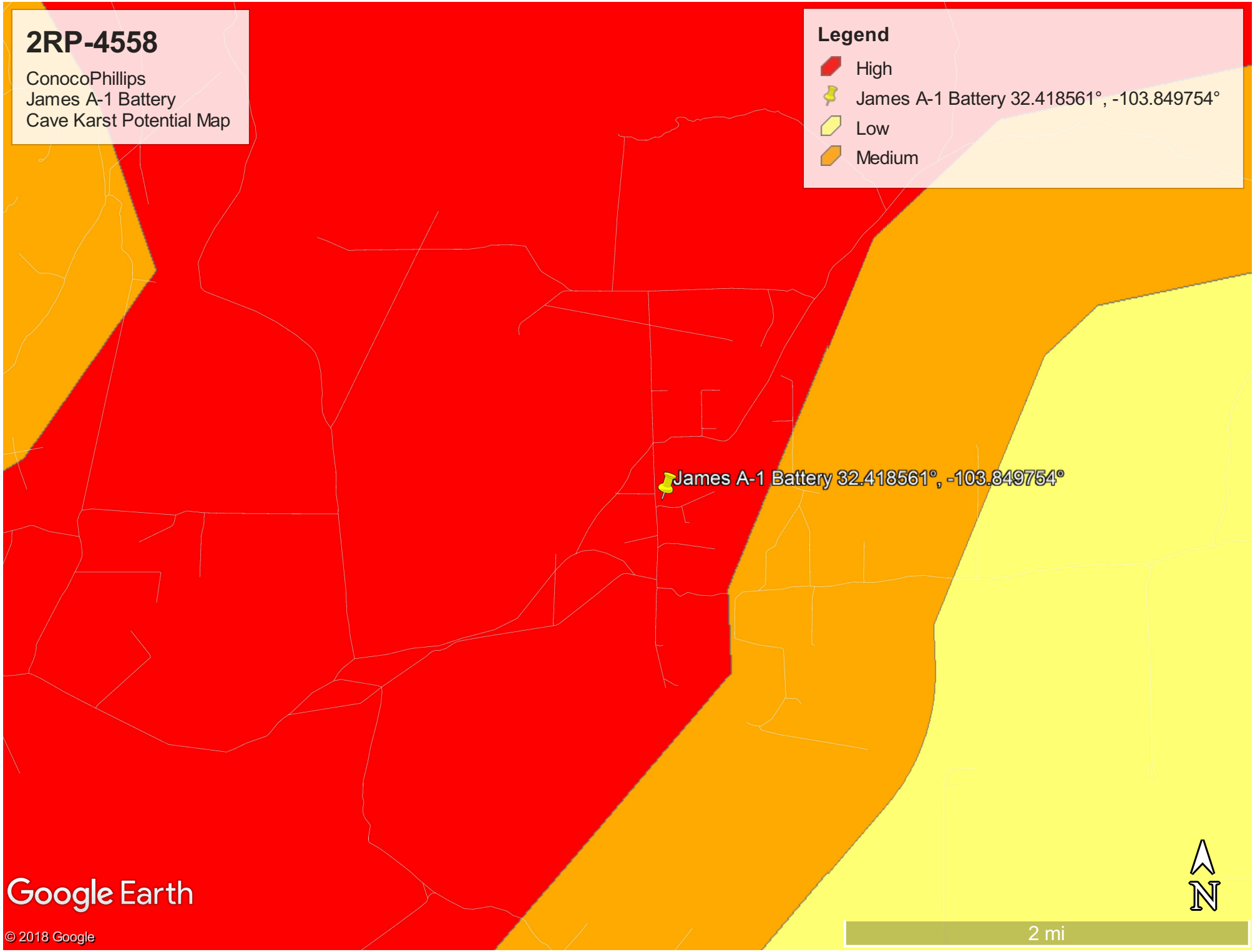
Maximum Depth: **262 feet**

Record Count: 1

PLSS Search:

Section(s): 22 **Township:** 22S **Range:** 30E

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


2RP-4558
ConocoPhillips
James A-1 Battery
Cave Karst Potential Map
Legend
High
James A-1 Battery 32.418561°, -103.849754°
Low
Medium
James A-1 Battery 32.418561°, -103.849754°
Google Earth
© 2018 Google
N
2 mi

APPENDIX C

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 25, 2018

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1026302
Samples Received:	09/15/2018
Project Number:	212C-MD-0724
Description:	James A-1
Site:	A-1
Report To:	Kayla Taylor 4001 N. Big Spring St., Ste. 401 Midland, TX 79705

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 National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

AH-1 (0-1) L1026302-01 Solid

Collected by: Clint Merritt | Collected date/time: 09/13/18 12:00 | Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167853	1	09/19/18 15:11	09/19/18 15:21	JD
Wet Chemistry by Method 300.0	WG1167030	1	09/16/18 13:19	09/19/18 05:49	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168345	1	09/18/18 09:45	09/19/18 14:19	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/21/18 23:33	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 10:28	MTJ

AH-1 (1-2) L1026302-02 Solid

Collected by: Clint Merritt | Collected date/time: 09/13/18 12:05 | Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167030	1	09/16/18 13:19	09/19/18 05:58	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168345	1	09/18/18 09:45	09/19/18 14:40	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/21/18 23:57	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 10:41	MTJ

AH-1 (2-3) L1026302-03 Solid

Collected by: Clint Merritt | Collected date/time: 09/13/18 12:10 | Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 18:36	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168345	1	09/18/18 09:45	09/19/18 15:01	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 00:20	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 10:54	MTJ

AH-2 (0-1) L1026302-04 Solid

Collected by: Clint Merritt | Collected date/time: 09/13/18 12:15 | Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 18:44	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168345	1	09/18/18 09:45	09/19/18 15:22	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 00:44	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	10	09/23/18 14:40	09/24/18 13:26	MTJ

AH-2 (1-2) L1026302-05 Solid

Collected by: Clint Merritt | Collected date/time: 09/13/18 12:20 | Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 19:02	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168345	1	09/18/18 09:45	09/19/18 15:43	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 01:08	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 11:06	MTJ

AH-3 (0-1) L1026302-06 Solid

Collected by	Collected date/time	Received date/time
Clint Merritt	09/13/18 12:30	09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 19:11	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168345	1	09/18/18 09:45	09/19/18 16:04	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 01:31	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/25/18 01:20	MG

AH-3 (1-2) L1026302-07 Solid

Collected by	Collected date/time	Received date/time
Clint Merritt	09/13/18 12:35	09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 19:19	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168607	1	09/18/18 09:45	09/19/18 23:24	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 01:55	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 11:19	MTJ

AH-4 (0-1) L1026302-08 Solid

Collected by	Collected date/time	Received date/time
Clint Merritt	09/13/18 12:40	09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 19:46	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168607	1	09/18/18 09:45	09/19/18 23:46	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 02:18	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	20	09/23/18 14:40	09/24/18 14:17	MTJ

AH-4 (1-2) L1026302-09 Solid

Collected by	Collected date/time	Received date/time
Clint Merritt	09/13/18 12:45	09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 19:55	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168607	1	09/18/18 09:45	09/20/18 00:07	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 02:42	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 11:32	MTJ

AH-5 (0-1) L1026302-10 Solid

Collected by	Collected date/time	Received date/time
Clint Merritt	09/13/18 12:50	09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 20:03	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168607	1	09/18/18 09:45	09/20/18 00:28	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 03:05	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 11:57	MTJ

AH-5 (1-2) L1026302-11 Solid

Collected by: Clint Merritt
Collected date/time: 09/13/18 12:55
Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167855	1	09/19/18 14:57	09/19/18 15:09	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 20:12	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168607	1	09/18/18 09:45	09/20/18 00:49	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 03:29	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 12:10	MTJ

AH-6 (0-1) L1026302-12 Solid

Collected by: Clint Merritt
Collected date/time: 09/13/18 13:00
Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167856	1	09/19/18 12:44	09/19/18 12:54	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 20:38	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168607	1	09/18/18 09:45	09/20/18 01:11	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 03:52	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 12:22	MTJ

AH-6 (1-2) L1026302-13 Solid

Collected by: Clint Merritt
Collected date/time: 09/13/18 13:05
Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167856	1	09/19/18 12:44	09/19/18 12:54	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 20:47	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168607	1	09/18/18 09:45	09/20/18 01:32	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 04:16	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 13:13	MTJ

AH-6 (2-3) L1026302-14 Solid

Collected by: Clint Merritt
Collected date/time: 09/13/18 13:10
Received date/time: 09/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1167856	1	09/19/18 12:44	09/19/18 12:54	JD
Wet Chemistry by Method 300.0	WG1167031	1	09/16/18 12:21	09/18/18 20:56	MAJ
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1168607	1	09/18/18 09:45	09/20/18 01:53	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1169818	1	09/18/18 09:45	09/22/18 04:39	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1169103	1	09/23/18 14:40	09/24/18 11:44	MTJ

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

Chris McCord
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.2		1	09/19/2018 15:21	WG1167853

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	62.7		0.835	10.0	10.5	1	09/19/2018 05:49	WG1167030

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0473	J	0.0228	0.100	0.105	1	09/19/2018 14:19	WG1168345
(S) a,a,a-Trifluorotoluene(FID)	*96.0*				*77.0-120*		*09/19/2018 14:19*	WG1168345

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000420	0.00100	0.00105	1	09/21/2018 23:33	WG1169818
Toluene	U		0.00131	0.00500	0.00525	1	09/21/2018 23:33	WG1169818
Ethylbenzene	U		0.000557	0.00250	0.00263	1	09/21/2018 23:33	WG1169818
Total Xylenes	U		0.00502	0.00650	0.00683	1	09/21/2018 23:33	WG1169818
(S) Toluene-d8	*109*				*75.0-131*		*09/21/2018 23:33*	WG1169818
(S) Dibromofluoromethane	*96.2*				*65.0-129*		*09/21/2018 23:33*	WG1169818
(S) a,a,a-Trifluorotoluene	*108*				*80.0-120*		*09/21/2018 23:33*	WG1169818
(S) 4-Bromofluorobenzene	*97.8*				*67.0-138*		*09/21/2018 23:33*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.69	4.00	4.20	1	09/24/2018 10:28	WG1169103
C28-C40 Oil Range	0.638	J	0.288	4.00	4.20	1	09/24/2018 10:28	WG1169103
(S) o-Terphenyl	*70.7*				*18.0-148*		*09/24/2018 10:28*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.3		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	62.7		0.853	10.0	10.7	1	09/19/2018 05:58	WG1167030

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0285	J	0.0233	0.100	0.107	1	09/19/2018 14:40	WG1168345
(S) a,a,a-Trifluorotoluene(FID)	*95.2*				*77.0-120*		*09/19/2018 14:40*	WG1168345

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000429	0.00100	0.00107	1	09/21/2018 23:57	WG1169818
Toluene	U		0.00134	0.00500	0.00536	1	09/21/2018 23:57	WG1169818
Ethylbenzene	U		0.000568	0.00250	0.00268	1	09/21/2018 23:57	WG1169818
Total Xylenes	U		0.00513	0.00650	0.00697	1	09/21/2018 23:57	WG1169818
(S) Toluene-d8	*111*				*75.0-131*		*09/21/2018 23:57*	WG1169818
(S) Dibromofluoromethane	*97.6*				*65.0-129*		*09/21/2018 23:57*	WG1169818
(S) a,a,a-Trifluorotoluene	*108*				*80.0-120*		*09/21/2018 23:57*	WG1169818
(S) 4-Bromofluorobenzene	*98.9*				*67.0-138*		*09/21/2018 23:57*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.73	4.00	4.29	1	09/24/2018 10:41	WG1169103
C28-C40 Oil Range	3.06	J	0.294	4.00	4.29	1	09/24/2018 10:41	WG1169103
(S) o-Terphenyl	*68.5*				*18.0-148*		*09/24/2018 10:41*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.7		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	52.6		0.831	10.0	10.4	1	09/18/2018 18:36	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0264	J	0.0227	0.100	0.104	1	09/19/2018 15:01	WG1168345
(S) a,a,a-Trifluorotoluene(FID)	*95.5*				*77.0-120*		*09/19/2018 15:01*	WG1168345

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000418	0.00100	0.00104	1	09/22/2018 00:20	WG1169818
Toluene	U		0.00131	0.00500	0.00522	1	09/22/2018 00:20	WG1169818
Ethylbenzene	U		0.000554	0.00250	0.00261	1	09/22/2018 00:20	WG1169818
Total Xylenes	U		0.00499	0.00650	0.00679	1	09/22/2018 00:20	WG1169818
(S) Toluene-d8	*111*				*75.0-131*		*09/22/2018 00:20*	WG1169818
(S) Dibromofluoromethane	*96.3*				*65.0-129*		*09/22/2018 00:20*	WG1169818
(S) a,a,a-Trifluorotoluene	*109*				*80.0-120*		*09/22/2018 00:20*	WG1169818
(S) 4-Bromofluorobenzene	*97.9*				*67.0-138*		*09/22/2018 00:20*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.68	4.00	4.18	1	09/24/2018 10:54	WG1169103
C28-C40 Oil Range	2.76	J	0.286	4.00	4.18	1	09/24/2018 10:54	WG1169103
(S) o-Terphenyl	*67.8*				*18.0-148*		*09/24/2018 10:54*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.8		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	51.8	J3	0.838	10.0	10.5	1	09/18/2018 18:44	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0351	J	0.0229	0.100	0.105	1	09/19/2018 15:22	WG1168345
(S) a,a,a-Trifluorotoluene(FID)	*94.7*				*77.0-120*		*09/19/2018 15:22*	WG1168345

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000422	0.00100	0.00105	1	09/22/2018 00:44	WG1169818
Toluene	U		0.00132	0.00500	0.00527	1	09/22/2018 00:44	WG1169818
Ethylbenzene	U		0.000559	0.00250	0.00264	1	09/22/2018 00:44	WG1169818
Total Xylenes	U		0.00504	0.00650	0.00685	1	09/22/2018 00:44	WG1169818
(S) Toluene-d8	*107*				*75.0-131*		*09/22/2018 00:44*	WG1169818
(S) Dibromofluoromethane	*97.5*				*65.0-129*		*09/22/2018 00:44*	WG1169818
(S) a,a,a-Trifluorotoluene	*108*				*80.0-120*		*09/22/2018 00:44*	WG1169818
(S) 4-Bromofluorobenzene	*97.7*				*67.0-138*		*09/22/2018 00:44*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	103	J5	17.0	4.00	42.2	10	09/24/2018 13:26	WG1169103
C28-C40 Oil Range	201		2.89	4.00	42.2	10	09/24/2018 13:26	WG1169103
(S) o-Terphenyl	*60.7*				*18.0-148*		*09/24/2018 13:26*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.6		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	85.6		1.01	10.0	12.7	1	09/18/2018 19:02	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0453	J	0.0276	0.100	0.127	1	09/19/2018 15:43	WG1168345
(S) a,a,a-Trifluorotoluene(FID)	*95.1*				*77.0-120*		*09/19/2018 15:43*	WG1168345

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000509	0.00100	0.00127	1	09/22/2018 01:08	WG1169818
Toluene	U		0.00159	0.00500	0.00636	1	09/22/2018 01:08	WG1169818
Ethylbenzene	U		0.000674	0.00250	0.00318	1	09/22/2018 01:08	WG1169818
Total Xylenes	U		0.00608	0.00650	0.00827	1	09/22/2018 01:08	WG1169818
(S) Toluene-d8	*111*				*75.0-131*		*09/22/2018 01:08*	WG1169818
(S) Dibromofluoromethane	*97.0*				*65.0-129*		*09/22/2018 01:08*	WG1169818
(S) a,a,a-Trifluorotoluene	*110*				*80.0-120*		*09/22/2018 01:08*	WG1169818
(S) 4-Bromofluorobenzene	*99.4*				*67.0-138*		*09/22/2018 01:08*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.99	J	2.05	4.00	5.09	1	09/24/2018 11:06	WG1169103
C28-C40 Oil Range	3.03	J	0.349	4.00	5.09	1	09/24/2018 11:06	WG1169103
(S) o-Terphenyl	*50.8*				*18.0-148*		*09/24/2018 11:06*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.4		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	44.4	B	0.899	10.0	11.3	1	09/18/2018 19:11	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0309	J	0.0245	0.100	0.113	1	09/19/2018 16:04	WG1168345
(S) a,a,a-Trifluorotoluene(FID)	*94.4*				*77.0-120*		*09/19/2018 16:04*	WG1168345

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000452	0.00100	0.00113	1	09/22/2018 01:31	WG1169818
Toluene	U		0.00141	0.00500	0.00566	1	09/22/2018 01:31	WG1169818
Ethylbenzene	U		0.000599	0.00250	0.00283	1	09/22/2018 01:31	WG1169818
Total Xylenes	U		0.00541	0.00650	0.00735	1	09/22/2018 01:31	WG1169818
(S) Toluene-d8	*109*				*75.0-131*		*09/22/2018 01:31*	WG1169818
(S) Dibromofluoromethane	*96.6*				*65.0-129*		*09/22/2018 01:31*	WG1169818
(S) a,a,a-Trifluorotoluene	*111*				*80.0-120*		*09/22/2018 01:31*	WG1169818
(S) 4-Bromofluorobenzene	*98.4*				*67.0-138*		*09/22/2018 01:31*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	25.9		1.82	4.00	4.52	1	09/25/2018 01:20	WG1169103
C28-C40 Oil Range	47.1		0.310	4.00	4.52	1	09/25/2018 01:20	WG1169103
(S) o-Terphenyl	*62.7*				*18.0-148*		*09/25/2018 01:20*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.4		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	108		0.977	10.0	12.3	1	09/18/2018 19:19	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0629	J	0.0267	0.100	0.123	1	09/19/2018 23:24	WG1168607
(S) a,a,a-Trifluorotoluene(FID)	*103*				*77.0-120*		*09/19/2018 23:24*	WG1168607

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000491	0.00100	0.00123	1	09/22/2018 01:55	WG1169818
Toluene	U		0.00154	0.00500	0.00614	1	09/22/2018 01:55	WG1169818
Ethylbenzene	U		0.000651	0.00250	0.00307	1	09/22/2018 01:55	WG1169818
Total Xylenes	U		0.00587	0.00650	0.00798	1	09/22/2018 01:55	WG1169818
(S) Toluene-d8	*109*				*75.0-131*		*09/22/2018 01:55*	WG1169818
(S) Dibromofluoromethane	*98.4*				*65.0-129*		*09/22/2018 01:55*	WG1169818
(S) a,a,a-Trifluorotoluene	*110*				*80.0-120*		*09/22/2018 01:55*	WG1169818
(S) 4-Bromofluorobenzene	*97.4*				*67.0-138*		*09/22/2018 01:55*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	4.42	J	1.98	4.00	4.91	1	09/24/2018 11:19	WG1169103
C28-C40 Oil Range	5.43		0.337	4.00	4.91	1	09/24/2018 11:19	WG1169103
(S) o-Terphenyl	*45.7*				*18.0-148*		*09/24/2018 11:19*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.9		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	133		0.847	10.0	10.7	1	09/18/2018 19:46	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0521	J	0.0231	0.100	0.107	1	09/19/2018 23:46	WG1168607
(S) a,a,a-Trifluorotoluene(FID)	*97.2*				*77.0-120*		*09/19/2018 23:46*	WG1168607

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000426	0.00100	0.00107	1	09/22/2018 02:18	WG1169818
Toluene	U		0.00133	0.00500	0.00533	1	09/22/2018 02:18	WG1169818
Ethylbenzene	U		0.000564	0.00250	0.00266	1	09/22/2018 02:18	WG1169818
Total Xylenes	U		0.00509	0.00650	0.00692	1	09/22/2018 02:18	WG1169818
(S) Toluene-d8	*109*				*75.0-131*		*09/22/2018 02:18*	WG1169818
(S) Dibromofluoromethane	*97.9*				*65.0-129*		*09/22/2018 02:18*	WG1169818
(S) a,a,a-Trifluorotoluene	*110*				*80.0-120*		*09/22/2018 02:18*	WG1169818
(S) 4-Bromofluorobenzene	*98.2*				*67.0-138*		*09/22/2018 02:18*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	240		34.3	4.00	85.2	20	09/24/2018 14:17	WG1169103
C28-C40 Oil Range	349		5.84	4.00	85.2	20	09/24/2018 14:17	WG1169103
(S) o-Terphenyl	*88.1*	J7			*18.0-148*		*09/24/2018 14:17*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.2		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	48.9	B	0.980	10.0	12.3	1	09/18/2018 19:55	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0582	J	0.0267	0.100	0.123	1	09/20/2018 00:07	WG1168607
(S) a,a,a-Trifluorotoluene(FID)	*104*				*77.0-120*		*09/20/2018 00:07*	WG1168607

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000493	0.00100	0.00123	1	09/22/2018 02:42	WG1169818
Toluene	U		0.00154	0.00500	0.00616	1	09/22/2018 02:42	WG1169818
Ethylbenzene	U		0.000653	0.00250	0.00308	1	09/22/2018 02:42	WG1169818
Total Xylenes	U		0.00589	0.00650	0.00801	1	09/22/2018 02:42	WG1169818
(S) Toluene-d8	*110*				*75.0-131*		*09/22/2018 02:42*	WG1169818
(S) Dibromofluoromethane	*96.6*				*65.0-129*		*09/22/2018 02:42*	WG1169818
(S) a,a,a-Trifluorotoluene	*111*				*80.0-120*		*09/22/2018 02:42*	WG1169818
(S) 4-Bromofluorobenzene	*97.1*				*67.0-138*		*09/22/2018 02:42*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	7.15		1.98	4.00	4.93	1	09/24/2018 11:32	WG1169103
C28-C40 Oil Range	7.74		0.338	4.00	4.93	1	09/24/2018 11:32	WG1169103
(S) o-Terphenyl	*46.2*				*18.0-148*		*09/24/2018 11:32*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.5		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	79.0		0.952	10.0	12.0	1	09/18/2018 20:03	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0521	J	0.0260	0.100	0.120	1	09/20/2018 00:28	WG1168607
(S) a,a,a-Trifluorotoluene(FID)	*103*				*77.0-120*		*09/20/2018 00:28*	WG1168607

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000479	0.00100	0.00120	1	09/22/2018 03:05	WG1169818
Toluene	U		0.00150	0.00500	0.00599	1	09/22/2018 03:05	WG1169818
Ethylbenzene	U		0.000634	0.00250	0.00299	1	09/22/2018 03:05	WG1169818
Total Xylenes	U		0.00572	0.00650	0.00778	1	09/22/2018 03:05	WG1169818
(S) Toluene-d8	*111*				*75.0-131*		*09/22/2018 03:05*	WG1169818
(S) Dibromofluoromethane	*94.7*				*65.0-129*		*09/22/2018 03:05*	WG1169818
(S) a,a,a-Trifluorotoluene	*110*				*80.0-120*		*09/22/2018 03:05*	WG1169818
(S) 4-Bromofluorobenzene	*97.5*				*67.0-138*		*09/22/2018 03:05*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	29.7		1.93	4.00	4.79	1	09/24/2018 11:57	WG1169103
C28-C40 Oil Range	47.5		0.328	4.00	4.79	1	09/24/2018 11:57	WG1169103
(S) o-Terphenyl	*30.5*				*18.0-148*		*09/24/2018 11:57*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.4		1	09/19/2018 15:09	WG1167855

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	99.8		0.889	10.0	11.2	1	09/18/2018 20:12	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0473	J	0.0243	0.100	0.112	1	09/20/2018 00:49	WG1168607
(S) a,a,a-Trifluorotoluene(FID)	*104*				*77.0-120*		*09/20/2018 00:49*	WG1168607

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000447	0.00100	0.00112	1	09/22/2018 03:29	WG1169818
Toluene	U		0.00140	0.00500	0.00559	1	09/22/2018 03:29	WG1169818
Ethylbenzene	U		0.000593	0.00250	0.00279	1	09/22/2018 03:29	WG1169818
Total Xylenes	U		0.00534	0.00650	0.00727	1	09/22/2018 03:29	WG1169818
(S) Toluene-d8	*110*				*75.0-131*		*09/22/2018 03:29*	WG1169818
(S) Dibromofluoromethane	*96.1*				*65.0-129*		*09/22/2018 03:29*	WG1169818
(S) a,a,a-Trifluorotoluene	*110*				*80.0-120*		*09/22/2018 03:29*	WG1169818
(S) 4-Bromofluorobenzene	*97.1*				*67.0-138*		*09/22/2018 03:29*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	28.6		1.80	4.00	4.47	1	09/24/2018 12:10	WG1169103
C28-C40 Oil Range	51.2		0.306	4.00	4.47	1	09/24/2018 12:10	WG1169103
(S) o-Terphenyl	*56.0*				*18.0-148*		*09/24/2018 12:10*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.2		1	09/19/2018 12:54	WG1167856

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	48.9	B	0.967	10.0	12.2	1	09/18/2018 20:38	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0555	J	0.0264	0.100	0.122	1	09/20/2018 01:11	WG1168607
(S) a,a,a-Trifluorotoluene(FID)	*101*				*77.0-120*		*09/20/2018 01:11*	WG1168607

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000487	0.00100	0.00122	1	09/22/2018 03:52	WG1169818
Toluene	U		0.00152	0.00500	0.00608	1	09/22/2018 03:52	WG1169818
Ethylbenzene	U		0.000645	0.00250	0.00304	1	09/22/2018 03:52	WG1169818
Total Xylenes	U		0.00581	0.00650	0.00791	1	09/22/2018 03:52	WG1169818
(S) Toluene-d8	*109*				*75.0-131*		*09/22/2018 03:52*	WG1169818
(S) Dibromofluoromethane	*97.5*				*65.0-129*		*09/22/2018 03:52*	WG1169818
(S) a,a,a-Trifluorotoluene	*111*				*80.0-120*		*09/22/2018 03:52*	WG1169818
(S) 4-Bromofluorobenzene	*96.6*				*67.0-138*		*09/22/2018 03:52*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	64.0		1.96	4.00	4.87	1	09/24/2018 12:22	WG1169103
C28-C40 Oil Range	49.4		0.333	4.00	4.87	1	09/24/2018 12:22	WG1169103
(S) o-Terphenyl	*43.1*				*18.0-148*		*09/24/2018 12:22*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.4		1	09/19/2018 12:54	WG1167856

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	45.7	B	0.920	10.0	11.6	1	09/18/2018 20:47	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0449	J	0.0251	0.100	0.116	1	09/20/2018 01:32	WG1168607
(S) a,a,a-Trifluorotoluene(FID)	*104*				*77.0-120*		*09/20/2018 01:32*	WG1168607

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000463	0.00100	0.00116	1	09/22/2018 04:16	WG1169818
Toluene	U		0.00145	0.00500	0.00579	1	09/22/2018 04:16	WG1169818
Ethylbenzene	U		0.000613	0.00250	0.00289	1	09/22/2018 04:16	WG1169818
Total Xylenes	U		0.00553	0.00650	0.00752	1	09/22/2018 04:16	WG1169818
(S) Toluene-d8	*113*				*75.0-131*		*09/22/2018 04:16*	WG1169818
(S) Dibromofluoromethane	*96.4*				*65.0-129*		*09/22/2018 04:16*	WG1169818
(S) a,a,a-Trifluorotoluene	*108*				*80.0-120*		*09/22/2018 04:16*	WG1169818
(S) 4-Bromofluorobenzene	*96.1*				*67.0-138*		*09/22/2018 04:16*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	99.6		1.86	4.00	4.63	1	09/24/2018 13:13	WG1169103
C28-C40 Oil Range	67.5		0.317	4.00	4.63	1	09/24/2018 13:13	WG1169103
(S) o-Terphenyl	*54.4*				*18.0-148*		*09/24/2018 13:13*	WG1169103

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.9		1	09/19/2018 12:54	WG1167856

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	66.0		0.865	10.0	10.9	1	09/18/2018 20:56	WG1167031

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0492	J	0.0236	0.100	0.109	1	09/20/2018 01:53	WG1168607
(S) a,a,a-Trifluorotoluene(FID)	*105*				*77.0-120*		*09/20/2018 01:53*	WG1168607

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000435	0.00100	0.00109	1	09/22/2018 04:39	WG1169818
Toluene	U		0.00136	0.00500	0.00544	1	09/22/2018 04:39	WG1169818
Ethylbenzene	U		0.000577	0.00250	0.00272	1	09/22/2018 04:39	WG1169818
Total Xylenes	U		0.00520	0.00650	0.00707	1	09/22/2018 04:39	WG1169818
(S) Toluene-d8	*113*				*75.0-131*		*09/22/2018 04:39*	WG1169818
(S) Dibromofluoromethane	*93.9*				*65.0-129*		*09/22/2018 04:39*	WG1169818
(S) a,a,a-Trifluorotoluene	*108*				*80.0-120*		*09/22/2018 04:39*	WG1169818
(S) 4-Bromofluorobenzene	*97.2*				*67.0-138*		*09/22/2018 04:39*	WG1169818

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.33	J	1.75	4.00	4.35	1	09/24/2018 11:44	WG1169103
C28-C40 Oil Range	3.19	J	0.298	4.00	4.35	1	09/24/2018 11:44	WG1169103
(S) o-Terphenyl	*61.3*				*18.0-148*		*09/24/2018 11:44*	WG1169103

Method Blank (MB)

(MB) R3343396-1 09/19/18 15:21

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

L1026292-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1026292-01 09/19/18 15:21 • (DUP) R3343396-3 09/19/18 15:21

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	94.6	94.4	1	0.181		10

Laboratory Control Sample (LCS)

(LCS) R3343396-2 09/19/18 15:21

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) R3343391-1 09/19/18 15:09

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

L1026302-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1026302-06 09/19/18 15:09 • (DUP) R3343391-3 09/19/18 15:09

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	88.4	87.9	1	0.604		10

Laboratory Control Sample (LCS)

(LCS) R3343391-2 09/19/18 15:09

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) R3343417-1 09/19/18 12:54

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

L1026317-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1026317-02 09/19/18 12:54 • (DUP) R3343417-3 09/19/18 12:54

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	81.6	81.1	1	0.586		10

Laboratory Control Sample (LCS)

(LCS) R3343417-2 09/19/18 12:54

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) R3343195-1 09/19/18 00:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.36	J	0.795	10.0

L1026258-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1026258-01 09/19/18 02:01 • (DUP) R3343195-5 09/19/18 02:10

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	17900	18000	50	0.559		20

L1026302-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1026302-02 09/19/18 05:58 • (DUP) R3343195-8 09/19/18 06:07

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	62.7	67.5	1	7.29		20

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

(LCS) R3343195-2 09/19/18 00:53 • (LCSD) R3343195-4 09/19/18 01:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	200	213	211	107	106	90.0-110			0.956	20

L1026292-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1026292-01 09/19/18 03:47 • (MS) R3343195-6 09/19/18 03:55 • (MSD) R3343195-7 09/19/18 04:04

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	529	10600	11600	11300	176	133	1	80.0-120	E V	E V	2.02	20

Method Blank (MB)

(MB) R3342988-1 09/18/18 15:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	4.26	J	0.795	10.0

L1026302-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1026302-04 09/18/18 18:44 • (DUP) R3342988-4 09/18/18 18:53

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	51.8	76.8	1	38.9	J3	20

L1026325-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1026325-02 09/18/18 21:31 • (DUP) R3342988-7 09/18/18 21:40

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3020	2410	5	22.6	J3	20

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

(LCS) R3342988-2 09/18/18 15:52 • (LCSD) R3342988-3 09/18/18 16:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	200	204	202	102	101	90.0-110			0.586	20

L1026302-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1026302-11 09/18/18 20:12 • (MS) R3342988-5 09/18/18 20:21 • (MSD) R3342988-6 09/18/18 20:30

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	559	99.8	669	653	102	98.9	1	80.0-120			2.40	20

Method Blank (MB)

(MB) R3343545-3 09/19/18 10:37

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)	*96.6*			*77.0-120*

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

(LCS) R3343545-1 09/19/18 09:34 • (LCSD) R3343545-2 09/19/18 09:56

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	5.86	5.84	106	106	72.0-127			0.330	20
(S) a,a,a-Trifluorotoluene(FID)				*109*	*109*	*77.0-120*				

Method Blank (MB)

(MB) R3343377-3 09/19/18 22:21

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)	*105*			*77.0-120*

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

(LCS) R3343377-1 09/19/18 21:18 • (LCSD) R3343377-2 09/19/18 21:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.60	5.64	102	103	72.0-127			0.876	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*100*	*77.0-120*				

L1026443-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1026443-02 09/20/18 03:40 • (MS) R3343377-4 09/20/18 05:05 • (MSD) R3343377-5 09/20/18 05:26

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.40	49.0	529	560	75.0	79.8	100	10.0-151			5.61	28
(S) a,a,a-Trifluorotoluene(FID)					*105*	*106*		*77.0-120*				

Method Blank (MB)

(MB) R3344502-2 09/21/18 23:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*110*			*75.0-131*
(S) Dibromofluoromethane	*95.9*			*65.0-129*
(S) a,a,a-Trifluorotoluene	*108*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.9*			*67.0-138*

Laboratory Control Sample (LCS)

(LCS) R3344502-1 09/21/18 21:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.0995	79.6	70.0-123	
Ethylbenzene	0.125	0.0929	74.3	74.0-126	
Toluene	0.125	0.106	84.6	75.0-121	
Xylenes, Total	0.375	0.272	72.5	72.0-127	
(S) Toluene-d8			*103*	*75.0-131*	
(S) Dibromofluoromethane			*92.8*	*65.0-129*	
(S) a,a,a-Trifluorotoluene			*105*	*80.0-120*	
(S) 4-Bromofluorobenzene			*100*	*67.0-138*	

L1026335-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1026335-02 09/22/18 07:00 • (MS) R3344502-3 09/22/18 07:24 • (MSD) R3344502-4 09/22/18 07:47

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	0.155	U	0.123	0.124	79.0	79.6	1	10.0-149			0.668	37
Ethylbenzene	0.155	U	0.125	0.127	80.4	81.9	1	10.0-160			1.87	38
Toluene	0.155	U	0.138	0.143	88.7	92.3	1	10.0-156			3.91	38
Xylenes, Total	0.466	U	0.357	0.372	76.5	79.7	1	10.0-160			4.10	38
(S) Toluene-d8					*110*	*111*		*75.0-131*				
(S) Dibromofluoromethane					*91.0*	*87.9*		*65.0-129*				
(S) a,a,a-Trifluorotoluene					*102*	*102*		*80.0-120*				
(S) 4-Bromofluorobenzene					*101*	*102*		*67.0-138*				

Method Blank (MB)

(MB) R3344630-1 09/24/18 09:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*74.2*			*18.0-148*

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

(LCS) R3344630-2 09/24/18 10:03 • (LCSD) R3344630-3 09/24/18 10:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	31.4	33.2	62.8	66.4	50.0-150			5.57	20
(S) o-Terphenyl				*71.5*	*71.3*	*18.0-148*				

L1026302-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1026302-04 09/24/18 13:26 • (MS) R3344630-4 09/24/18 13:38 • (MSD) R3344630-5 09/24/18 13:51

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	52.7	103	234	210	249	203	10	50.0-150	J5	J5	10.9	20
(S) o-Terphenyl					*58.4*	*67.6*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(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 Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
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.
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.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

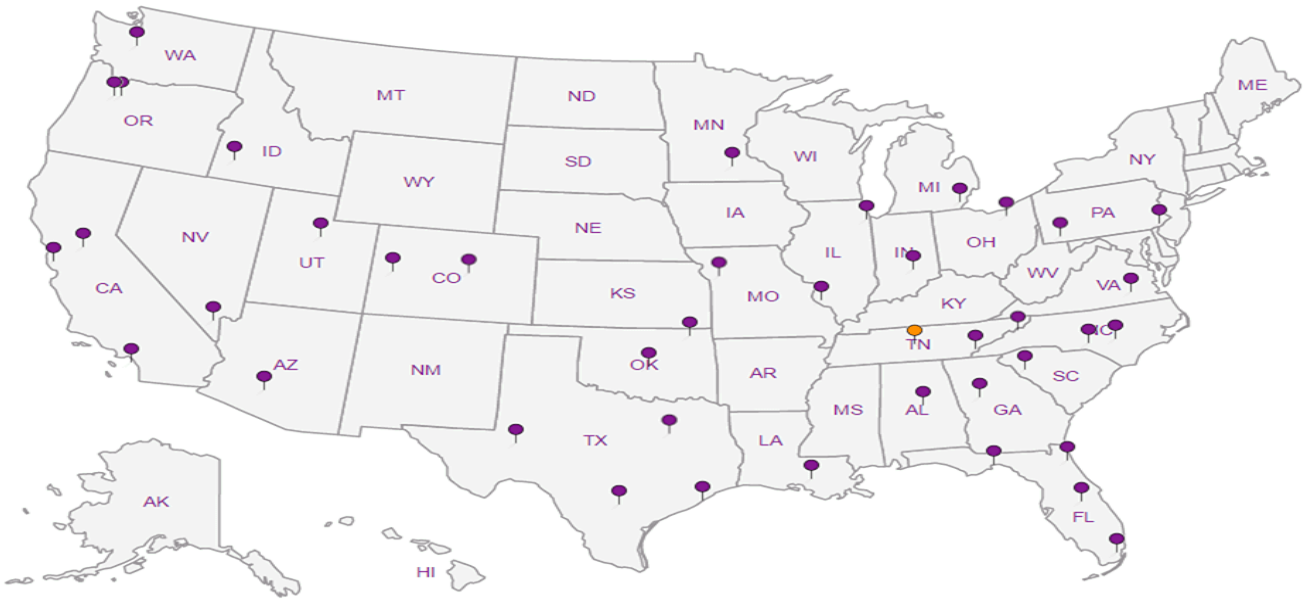
Third Party Federal Accreditations

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

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

Our Locations

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.



ConocoPhillips - Tetra Tech

4001 N. Big Spring St., Ste. 401
Midland, TX 79705

Billing Information:
Accounts Payable
4001 N. Big Spring St., Ste. 401
Midland, TX 79705

Pres Chk

Report to: Kayla Taylor

Email To: Kayla Taylor

Project Description: James A-1

City/State Collected: Eddy Co NM

Phone: 432-687-8137
Fax:

Client Project # 712c-20-0724

Lab Project #

Collected by (print): Clint Merritt

Site/Facility ID # A-1

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX	TPH	Cl-	Remarks	Sample # (lab only)
AH-1(0-1)		SS		9/13	12:00	1	X	X	X		01
AH-1(1-2)					12:05	1	X	X	X		02
AH-1(2-3)					12:10	1	X	X	X		03
AH-2(0-1)					12:15	1	X	X	X		04
AH-2(1-2)					12:20	1	X	X	X		05
AH-3(0-1)					12:30	1	X	X	X		06
AH-3(1-2)					12:35	1	X	X	X		07
AH-4(0-1)					12:40	1	X	X	X		08
AH-4(1-2)					12:45	1	X	X	X		09
AH-5(0-1)		↓		↓	12:50	1	X	X	X		10

Chain of Custody Page 1 of 1

ESC LABORATORIES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1026302
B015

Acctnum: COPTETRA
Template:
Prelogin:
TSR: 526 - Chris McCord
PB:
Shipped Via:

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

Remarks:
Email clint.merritt@tetratech.com

RAD SCREEN: <0.5 mR/Hr pH ____ Temp ____ Flow ____ Other ____

Samples returned via:
__ UPS ✓ FedEx __ Courier __

Tracking # 4430 3429 3564

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9/14	17:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Tess

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.6 °C Bottles Received: 14

Date: 9/15/18 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ConocoPhillips - Tetra Tech

4001 N. Big Spring St., Ste. 401
Midland, TX 79705

Billing Information:
Accounts Payable
4001 N. Big Spring St., Ste. 401
Midland, TX 79705

Pres Chk

Report to: Kayla Taylor

Email To: Kayla Taylor

Project Description: James A-1

City/State Collected: Eddy Co, NM

Phone: 432-687-8137
Fax:

Client Project # 212C-MD-00724

Lab Project #

Collected by (print): Clint Averitt

Site/Facility ID # A-1

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX	TPH	Cl-	Remarks	Sample # (lab only)
AH-5 (1-2)		SS		9/13	12:55	1	X	X	X		-11
AH-6 (0-1)		↓		↓	13:00	1	X	X	X		-12
AH-6 (1-2)					13:05	1	X	X	X		-13
AH-6 (2-3)					12:10	1	X	X	X		-14

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

ESC LABORATORIES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1026302

Table #

Acctnum: COPTETRA

Template:

Prelogin:

TSR: 526 - Chris McCord

PB:

Shipped Via:

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

Remarks:

RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4430 3429 3564

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9/14	17:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Bill Faiss

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.6 °C Bottles Received: 14

Date: 9/15/18 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 31, 2019

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1121841
Samples Received:	07/24/2019
Project Number:	212C-MD-01305
Description:	James A-1

Report To: Clint Merritt
901 West Wall
Suite 100
Midland, TX 79701

Entire Report Reviewed By:

Chris McCord
Project Manager

AH-7 (0-1') L1121841-01 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319294	1	07/30/19 14:09	07/30/19 14:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 00:41	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1319268	1	07/28/19 18:33	07/29/19 18:26	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 15:47	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 06:21	KME	Mt. Juliet, TN

AH-7 (2'-3') L1121841-02 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319294	1	07/30/19 14:09	07/30/19 14:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 00:50	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320197	1	07/28/19 18:33	07/31/19 02:43	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1.01	07/28/19 18:33	07/29/19 16:06	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 06:35	KME	Mt. Juliet, TN

AH-8 (0-1') L1121841-03 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319294	1	07/30/19 14:09	07/30/19 14:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 00:58	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320197	1	07/28/19 18:33	07/31/19 03:04	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 16:25	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 09:58	KME	Mt. Juliet, TN

AH-8 (2'-3') L1121841-04 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319294	1	07/30/19 14:09	07/30/19 14:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 01:07	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320197	1	07/28/19 18:33	07/31/19 03:24	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 16:44	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 07:48	KME	Mt. Juliet, TN

AH-9 (0-1') L1121841-05 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319294	1	07/30/19 14:09	07/30/19 14:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 01:15	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320197	1	07/28/19 18:33	07/31/19 03:45	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 17:03	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 09:28	KME	Mt. Juliet, TN

AH-9 (2'-3') L1121841-06 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319294	1	07/30/19 14:09	07/30/19 14:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 01:58	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320197	1	07/28/19 18:33	07/31/19 04:05	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 17:22	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 08:02	KME	Mt. Juliet, TN

AH-10 (0-1') L1121841-07 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319294	1	07/30/19 14:09	07/30/19 14:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 02:06	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320197	1	07/28/19 18:33	07/31/19 04:26	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 17:41	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 09:43	KME	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	5	07/29/19 07:59	07/30/19 14:31	KME	Mt. Juliet, TN

AH-10 (2'-3') L1121841-08 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319294	1	07/30/19 14:09	07/30/19 14:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 02:15	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320511	1	07/28/19 18:33	07/31/19 13:59	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 18:00	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 08:58	KME	Mt. Juliet, TN

AH-11 (0-1') L1121841-09 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319296	1	07/30/19 13:46	07/30/19 14:04	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 02:23	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320197	1	07/28/19 18:33	07/31/19 05:07	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 18:18	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 10:14	KME	Mt. Juliet, TN

AH-11 (2'-3') L1121841-10 Solid

Collected by: Devin Dominguez | Collected date/time: 07/19/19 00:00 | Received date/time: 07/24/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1319296	1	07/30/19 13:46	07/30/19 14:04	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1317425	1	07/25/19 21:15	07/26/19 02:32	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1320197	1	07/28/19 18:33	07/31/19 05:28	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1319340	1	07/28/19 18:33	07/29/19 18:37	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1319048	1	07/29/19 07:59	07/30/19 08:44	KME	Mt. Juliet, TN

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

Chris McCord
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.3		1	07/30/2019 14:18	WG1319294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	2.22	B J	0.809	10.0	10.2	1	07/26/2019 00:41	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0291	B J	0.0221	0.100	0.102	1	07/29/2019 18:26	WG1319268
(S) a,a,a-Trifluorotoluene(FID)	*103*				*77.0-120*		*07/29/2019 18:26*	WG1319268

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000407	0.00100	0.00102	1	07/29/2019 15:47	WG1319340
Toluene	U		0.00127	0.00500	0.00508	1	07/29/2019 15:47	WG1319340
Ethylbenzene	U		0.000539	0.00250	0.00254	1	07/29/2019 15:47	WG1319340
Total Xylenes	U		0.00486	0.00650	0.00661	1	07/29/2019 15:47	WG1319340
(S) Toluene-d8	*98.6*				*75.0-131*		*07/29/2019 15:47*	WG1319340
(S) 4-Bromofluorobenzene	*93.9*				*67.0-138*		*07/29/2019 15:47*	WG1319340
(S) 1,2-Dichloroethane-d4	*122*				*70.0-130*		*07/29/2019 15:47*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.60	J	1.64	4.00	4.07	1	07/30/2019 06:21	WG1319048
C28-C40 Oil Range	3.94	J	0.279	4.00	4.07	1	07/30/2019 06:21	WG1319048
(S) o-Terphenyl	*88.9*				*18.0-148*		*07/30/2019 06:21*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.0		1	07/30/2019 14:18	WG1319294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	21.4		0.829	10.0	10.4	1	07/26/2019 00:50	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0226	0.100	0.104	1	07/31/2019 02:43	WG1320197
(S) a,a,a-Trifluorotoluene(FID)	*105*				*77.0-120*		*07/31/2019 02:43*	WG1320197

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000421	0.00100	0.00105	1.01	07/29/2019 16:06	WG1319340
Toluene	U		0.00132	0.00500	0.00526	1.01	07/29/2019 16:06	WG1319340
Ethylbenzene	U		0.000558	0.00250	0.00263	1.01	07/29/2019 16:06	WG1319340
Total Xylenes	U		0.00503	0.00650	0.00684	1.01	07/29/2019 16:06	WG1319340
(S) Toluene-d8	*99.9*				*75.0-131*		*07/29/2019 16:06*	WG1319340
(S) 4-Bromofluorobenzene	*92.3*				*67.0-138*		*07/29/2019 16:06*	WG1319340
(S) 1,2-Dichloroethane-d4	*124*				*70.0-130*		*07/29/2019 16:06*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.13	J	1.68	4.00	4.17	1	07/30/2019 06:35	WG1319048
C28-C40 Oil Range	8.68		0.286	4.00	4.17	1	07/30/2019 06:35	WG1319048
(S) o-Terphenyl	*92.9*				*18.0-148*		*07/30/2019 06:35*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.3		1	07/30/2019 14:18	WG1319294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	8.13	B J	0.809	10.0	10.2	1	07/26/2019 00:58	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0221	0.100	0.102	1	07/31/2019 03:04	WG1320197
(S) a,a,a-Trifluorotoluene(FID)	*106*				*77.0-120*		*07/31/2019 03:04*	WG1320197

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000407	0.00100	0.00102	1	07/29/2019 16:25	WG1319340
Toluene	U		0.00127	0.00500	0.00509	1	07/29/2019 16:25	WG1319340
Ethylbenzene	U		0.000539	0.00250	0.00254	1	07/29/2019 16:25	WG1319340
Total Xylenes	U		0.00486	0.00650	0.00661	1	07/29/2019 16:25	WG1319340
(S) Toluene-d8	*98.4*				*75.0-131*		*07/29/2019 16:25*	WG1319340
(S) 4-Bromofluorobenzene	*90.1*				*67.0-138*		*07/29/2019 16:25*	WG1319340
(S) 1,2-Dichloroethane-d4	*125*				*70.0-130*		*07/29/2019 16:25*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	4.56		1.64	4.00	4.07	1	07/30/2019 09:58	WG1319048
C28-C40 Oil Range	15.3		0.279	4.00	4.07	1	07/30/2019 09:58	WG1319048
(S) o-Terphenyl	*83.2*				*18.0-148*		*07/30/2019 09:58*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.7		1	07/30/2019 14:18	WG1319294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	318		0.831	10.0	10.5	1	07/26/2019 01:07	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0245	J	0.0227	0.100	0.105	1	07/31/2019 03:24	WG1320197
(S) a,a,a-Trifluorotoluene(FID)	*105*				*77.0-120*		*07/31/2019 03:24*	WG1320197

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000418	0.00100	0.00105	1	07/29/2019 16:44	WG1319340
Toluene	U		0.00131	0.00500	0.00523	1	07/29/2019 16:44	WG1319340
Ethylbenzene	U		0.000554	0.00250	0.00261	1	07/29/2019 16:44	WG1319340
Total Xylenes	U		0.00500	0.00650	0.00679	1	07/29/2019 16:44	WG1319340
(S) Toluene-d8	*101*				*75.0-131*		*07/29/2019 16:44*	WG1319340
(S) 4-Bromofluorobenzene	*91.1*				*67.0-138*		*07/29/2019 16:44*	WG1319340
(S) 1,2-Dichloroethane-d4	*119*				*70.0-130*		*07/29/2019 16:44*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.79	J	1.68	4.00	4.18	1	07/30/2019 07:48	WG1319048
C28-C40 Oil Range	5.31		0.286	4.00	4.18	1	07/30/2019 07:48	WG1319048
(S) o-Terphenyl	*71.4*				*18.0-148*		*07/30/2019 07:48*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.9		1	07/30/2019 14:18	WG1319294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	3.42	B J	0.829	10.0	10.4	1	07/26/2019 01:15	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0252	J	0.0226	0.100	0.104	1	07/31/2019 03:45	WG1320197
(S) a,a,a-Trifluorotoluene(FID)	*104*				*77.0-120*		*07/31/2019 03:45*	WG1320197

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000417	0.00100	0.00104	1	07/29/2019 17:03	WG1319340
Toluene	U		0.00130	0.00500	0.00521	1	07/29/2019 17:03	WG1319340
Ethylbenzene	U		0.000552	0.00250	0.00261	1	07/29/2019 17:03	WG1319340
Total Xylenes	U		0.00498	0.00650	0.00678	1	07/29/2019 17:03	WG1319340
(S) Toluene-d8	*97.9*				*75.0-131*		*07/29/2019 17:03*	WG1319340
(S) 4-Bromofluorobenzene	*91.4*				*67.0-138*		*07/29/2019 17:03*	WG1319340
(S) 1,2-Dichloroethane-d4	*127*				*70.0-130*		*07/29/2019 17:03*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	4.64		1.68	4.00	4.17	1	07/30/2019 09:28	WG1319048
C28-C40 Oil Range	13.4		0.286	4.00	4.17	1	07/30/2019 09:28	WG1319048
(S) o-Terphenyl	*95.5*				*18.0-148*		*07/30/2019 09:28*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.0		1	07/30/2019 14:18	WG1319294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	2.55	B J	0.820	10.0	10.3	1	07/26/2019 01:58	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0224	0.100	0.103	1	07/31/2019 04:05	WG1320197
(S) a,a,a-Trifluorotoluene(FID)	*106*				*77.0-120*		*07/31/2019 04:05*	WG1320197

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000412	0.00100	0.00103	1	07/29/2019 17:22	WG1319340
Toluene	U		0.00129	0.00500	0.00516	1	07/29/2019 17:22	WG1319340
Ethylbenzene	U		0.000546	0.00250	0.00258	1	07/29/2019 17:22	WG1319340
Total Xylenes	U		0.00493	0.00650	0.00670	1	07/29/2019 17:22	WG1319340
(S) Toluene-d8	*98.7*				*75.0-131*		*07/29/2019 17:22*	WG1319340
(S) 4-Bromofluorobenzene	*90.8*				*67.0-138*		*07/29/2019 17:22*	WG1319340
(S) 1,2-Dichloroethane-d4	*122*				*70.0-130*		*07/29/2019 17:22*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.66	4.00	4.12	1	07/30/2019 08:02	WG1319048
C28-C40 Oil Range	3.20	J	0.283	4.00	4.12	1	07/30/2019 08:02	WG1319048
(S) o-Terphenyl	*68.3*				*18.0-148*		*07/30/2019 08:02*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.0		1	07/30/2019 14:18	WG1319294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	3.90	B J	0.864	10.0	10.9	1	07/26/2019 02:06	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0291	J	0.0236	0.100	0.109	1	07/31/2019 04:26	WG1320197
(S) a,a,a-Trifluorotoluene(FID)	*103*				*77.0-120*		*07/31/2019 04:26*	WG1320197

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000435	0.00100	0.00109	1	07/29/2019 17:41	WG1319340
Toluene	U		0.00136	0.00500	0.00543	1	07/29/2019 17:41	WG1319340
Ethylbenzene	U		0.000576	0.00250	0.00272	1	07/29/2019 17:41	WG1319340
Total Xylenes	U		0.00520	0.00650	0.00707	1	07/29/2019 17:41	WG1319340
(S) Toluene-d8	*99.4*				*75.0-131*		*07/29/2019 17:41*	WG1319340
(S) 4-Bromofluorobenzene	*94.2*				*67.0-138*		*07/29/2019 17:41*	WG1319340
(S) 1,2-Dichloroethane-d4	*118*				*70.0-130*		*07/29/2019 17:41*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	291		1.75	4.00	4.35	1	07/30/2019 09:43	WG1319048
C28-C40 Oil Range	253		1.49	4.00	21.7	5	07/30/2019 14:31	WG1319048
(S) o-Terphenyl	*110*				*18.0-148*		*07/30/2019 14:31*	WG1319048
(S) o-Terphenyl	*107*				*18.0-148*		*07/30/2019 09:43*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.6		1	07/30/2019 14:18	WG1319294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	6.22	B J	0.832	10.0	10.5	1	07/26/2019 02:15	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0227	0.100	0.105	1	07/31/2019 13:59	WG1320511
(S) a,a,a-Trifluorotoluene(FID)	*98.5*				*77.0-120*		*07/31/2019 13:59*	WG1320511

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000418	0.00100	0.00105	1	07/29/2019 18:00	WG1319340
Toluene	U		0.00131	0.00500	0.00523	1	07/29/2019 18:00	WG1319340
Ethylbenzene	U		0.000554	0.00250	0.00262	1	07/29/2019 18:00	WG1319340
Total Xylenes	U		0.00500	0.00650	0.00680	1	07/29/2019 18:00	WG1319340
(S) Toluene-d8	*97.3*				*75.0-131*		*07/29/2019 18:00*	WG1319340
(S) 4-Bromofluorobenzene	*90.5*				*67.0-138*		*07/29/2019 18:00*	WG1319340
(S) 1,2-Dichloroethane-d4	*125*				*70.0-130*		*07/29/2019 18:00*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	111		1.68	4.00	4.18	1	07/30/2019 08:58	WG1319048
C28-C40 Oil Range	120		0.287	4.00	4.18	1	07/30/2019 08:58	WG1319048
(S) o-Terphenyl	*88.3*				*18.0-148*		*07/30/2019 08:58*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.1		1	07/30/2019 14:04	WG1319296

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	39.3		0.827	10.0	10.4	1	07/26/2019 02:23	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0334	J	0.0226	0.100	0.104	1	07/31/2019 05:07	WG1320197
(S) a,a,a-Trifluorotoluene(FID)	*105*				*77.0-120*		*07/31/2019 05:07*	WG1320197

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000416	0.00100	0.00104	1	07/29/2019 18:18	WG1319340
Toluene	U		0.00130	0.00500	0.00520	1	07/29/2019 18:18	WG1319340
Ethylbenzene	U		0.000551	0.00250	0.00260	1	07/29/2019 18:18	WG1319340
Total Xylenes	U		0.00497	0.00650	0.00676	1	07/29/2019 18:18	WG1319340
(S) Toluene-d8	*98.3*				*75.0-131*		*07/29/2019 18:18*	WG1319340
(S) 4-Bromofluorobenzene	*92.5*				*67.0-138*		*07/29/2019 18:18*	WG1319340
(S) 1,2-Dichloroethane-d4	*123*				*70.0-130*		*07/29/2019 18:18*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	34.1		1.67	4.00	4.16	1	07/30/2019 10:14	WG1319048
C28-C40 Oil Range	100		0.285	4.00	4.16	1	07/30/2019 10:14	WG1319048
(S) o-Terphenyl	*70.8*				*18.0-148*		*07/30/2019 10:14*	WG1319048

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.4		1	07/30/2019 14:04	WG1319296

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	21.5		0.816	10.0	10.3	1	07/26/2019 02:32	WG1317425

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0238	J	0.0223	0.100	0.103	1	07/31/2019 05:28	WG1320197
(S) a,a,a-Trifluorotoluene(FID)	*106*				*77.0-120*		*07/31/2019 05:28*	WG1320197

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000411	0.00100	0.00103	1	07/29/2019 18:37	WG1319340
Toluene	U		0.00128	0.00500	0.00513	1	07/29/2019 18:37	WG1319340
Ethylbenzene	U		0.000544	0.00250	0.00257	1	07/29/2019 18:37	WG1319340
Total Xylenes	U		0.00491	0.00650	0.00667	1	07/29/2019 18:37	WG1319340
(S) Toluene-d8	*101*				*75.0-131*		*07/29/2019 18:37*	WG1319340
(S) 4-Bromofluorobenzene	*92.9*				*67.0-138*		*07/29/2019 18:37*	WG1319340
(S) 1,2-Dichloroethane-d4	*131*	J1			*70.0-130*		*07/29/2019 18:37*	WG1319340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	11.3		1.65	4.00	4.11	1	07/30/2019 08:44	WG1319048
C28-C40 Oil Range	28.8		0.281	4.00	4.11	1	07/30/2019 08:44	WG1319048
(S) o-Terphenyl	*93.4*				*18.0-148*		*07/30/2019 08:44*	WG1319048

Method Blank (MB)

(MB) R3435916-1 07/30/19 14:18

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

L1121833-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1121833-12 07/30/19 14:18 • (DUP) R3435916-3 07/30/19 14:18

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	83.3	83.8	1	0.506		10

Laboratory Control Sample (LCS)

(LCS) R3435916-2 07/30/19 14:18

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) R3435913-1 07/30/19 14:04

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

L1121865-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1121865-03 07/30/19 14:04 • (DUP) R3435913-3 07/30/19 14:04

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	86.8	88.1	1	1.42		10

Laboratory Control Sample (LCS)

(LCS) R3435913-2 07/30/19 14:04

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) R3434492-1 07/25/19 23:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	1.67	J	0.795	10.0

L1120870-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1120870-06 07/26/19 00:25 • (DUP) R3434492-3 07/26/19 00:32

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	2.38	3.43	1	36.3	J P1	20

L1122133-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1122133-02 07/26/19 03:49 • (DUP) R3434492-6 07/26/19 03:57

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	84.9	82.0	1	3.49		20

Laboratory Control Sample (LCS)

(LCS) R3434492-2 07/25/19 23:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	193	96.6	90.0-110	

L1121841-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1121841-05 07/26/19 01:15 • (MS) R3434492-4 07/26/19 01:24 • (MSD) R3434492-5 07/26/19 01:49

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	521	3.42	557	551	106	105	1	80.0-120			0.961	20

Method Blank (MB)

(MB) R3435301-2 07/29/19 10:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0248	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3435301-1 07/29/19 10:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.03	91.4	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*96.5*	*77.0-120*	

L1121833-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1121833-12 07/29/19 18:05 • (MS) R3435301-3 07/29/19 18:46 • (MSD) R3435301-4 07/29/19 19:06

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.60	14.7	84.3	85.1	34.6	35.0	30.5	10.0-151			0.874	28
(S) a,a,a-Trifluorotoluene(FID)					*104*	*104*		*77.0-120*				

Method Blank (MB)

(MB) R3435940-2 07/31/19 01:21

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)	*108*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3435940-1 07/31/19 00:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.41	98.4	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*96.5*	*77.0-120*	

Method Blank (MB)

(MB) R3436056-2 07/31/19 11:24

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

Laboratory Control Sample (LCS)

(LCS) R3436056-1 07/31/19 10:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.75	123	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*110*	*77.0-120*	

Method Blank (MB)

(MB) R3435444-2 07/29/19 11:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*97.8*			*75.0-131*
(S) 4-Bromofluorobenzene	*89.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3435444-1 07/29/19 10:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.115	91.9	70.0-123	
Ethylbenzene	0.125	0.120	96.3	74.0-126	
Toluene	0.125	0.114	91.1	75.0-121	
Xylenes, Total	0.375	0.311	82.9	72.0-127	
(S) Toluene-d8			*96.3*	*75.0-131*	
(S) 4-Bromofluorobenzene			*95.7*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*118*	*70.0-130*	

L1121841-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1121841-10 07/29/19 18:37 • (MS) R3435444-3 07/29/19 19:53 • (MSD) R3435444-4 07/29/19 20:11

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.128	U	0.0863	0.0720	67.2	56.1	1	10.0-149			18.0	37
Ethylbenzene	0.128	U	0.0920	0.0752	71.7	58.6	1	10.0-160			20.2	38
Toluene	0.128	U	0.0889	0.0720	69.3	56.1	1	10.0-156			21.0	38
Xylenes, Total	0.385	U	0.229	0.191	59.4	49.6	1	10.0-160			18.0	38
(S) Toluene-d8					*98.2*	*99.5*		*75.0-131*				
(S) 4-Bromofluorobenzene					*90.6*	*91.7*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*127*	*129*		*70.0-130*				

Method Blank (MB)

(MB) R3435480-1 07/30/19 00:00

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	*78.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3435480-2 07/30/19 00:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	41.6	83.2	50.0-150	
(S) o-Terphenyl			*108*	*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.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(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 Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
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.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

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

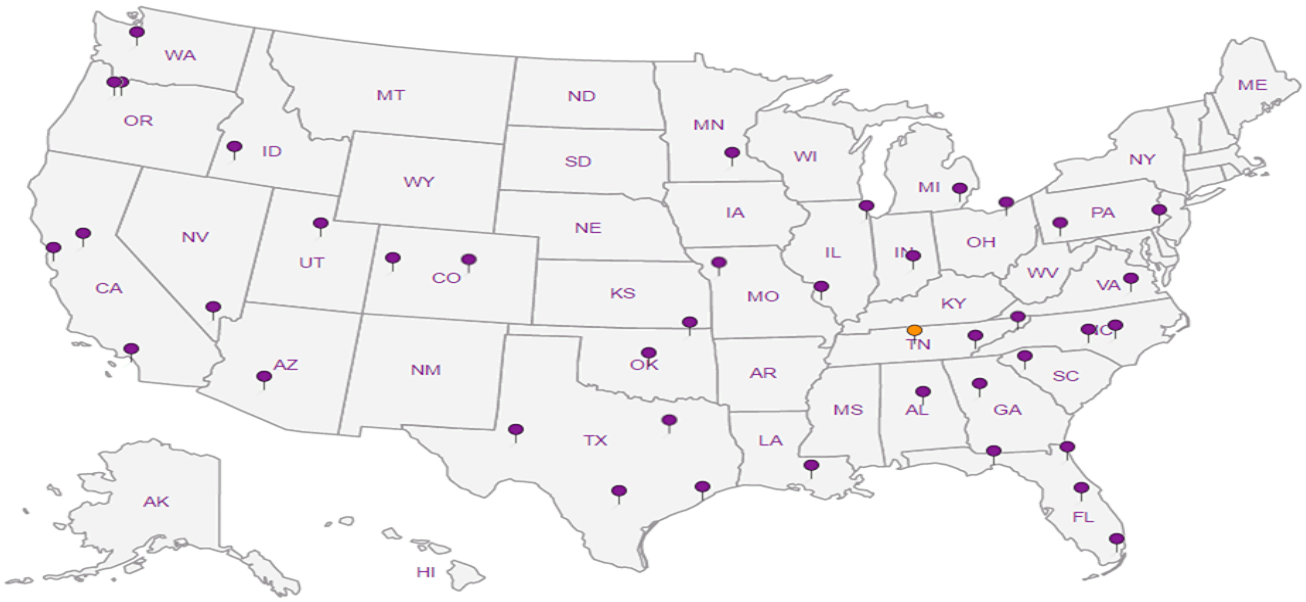
Third Party Federal Accreditations

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.



D224

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

L1121841

Client Name:	ConocoPhillips COPTETRA	**Site Manager:**	Clint Merritt
Project Name:	James A-1		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01305
Invoice to:			
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	Devin Dominguez
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None		# 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	TPH 8015R			Hold
	AH-7 (0-1')	7/19/2019			X				X			1	N	X		X												X							
	AH-7 (1'-2')	7/19/2019			X				X			1	N																						X
	AH-7 (2'-3')	7/19/2019			X				X			1	N	X		X												X							
	AH-8 (0-1')	7/19/2019			X				X			1	N	X		X												X							
	AH-8 (1'-2')	7/19/2019			X				X			1	N																						X
	AH-8 (2'-3')	7/19/2019			X				X			1	N	X		X												X							
	AH-9 (0-1')	7/19/2019			X				X			1	N	X		X												X							
	AH-9 (1'-2')	7/19/2019			X				X			1	N																						X
	AH-9 (2'-3')	7/19/2019			X				X			1	N	X		X												X							
	AH-10 (0-1')	7/19/2019			X				X			1	N	X		X												X							

Relinquished by:	Date: 7/23	Time: 11:15	Received by: Date: 7.23 Time: 11:15
Relinquished by:	Date: 7.23.19	Time: 15:30	Received by: SOA Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: 7/24/19 Time: 0800

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

QK

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

210-2

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

L1121841

Client Name:	ConocoPhillips	Site Manager:	Clint Merritt
Project Name:	James A-1		
Project Location: (county, state)	Eddy County, New Mexico	Project #:	212C-MD-01305
Invoice to:			
Receiving Laboratory:	Pace Analytical	Sampler Signature:	Devin Dominguez
Comments:			

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)
	AH-10 (1'-2')				X				X		1	N
	AH-10 (2'-3')				X				X		1	N
	AH-11 (0-1')				X				X		1	N
	AH-11 (1'-2')				X				X		1	N
	AH-11 (2'-3')				X				X		1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB #	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	TPH 8015R			Hold
																						X
	X		X												X							
	X		X												X							
																						X
	X		X												X							

	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
1		7/23	11:15		7.23.	11:15
2		7.23.19	15:30			
3					7/24/19	0800

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

OK

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

2+0=2 ✓

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: COPTETRA		SDG#:	L1121841
Cooler Received/Opened On: 7/24/19		Temperature:	2.0
Received By: Jonathan Rochelle			
Signature:			

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

APPENDIX D

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 Eddy Area, New Mexico

August 13, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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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: 1:530 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

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: Eddy Area, New Mexico
Survey Area Data: Version 14, Sep 12, 2018

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PD	Pajarito-Dune land complex, 0 to 3 percent slopes	1.5	100.0%
Totals for Area of Interest		**1.5**	**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.

Eddy Area, New Mexico

PD—Pajarito-Dune land complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w55
Elevation: 3,000 to 5,000 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

Dune land: 45 percent
Pajarito and similar soils: 45 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dune Land

Setting

Landform: Dune fields
Landform position (two-dimensional): Footslope, shoulder, backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 60 inches: sandy loam

Interpretive groups

Land capability classification (irrigated): None specified
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Description of Pajarito

Setting

Landform: Interdunes, dunes, plains
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 36 inches: fine sandy loam
H3 - 36 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low

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 in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Minor Components

Largo

Percent of map unit:
Ecological site: Loamy (R042XC007NM)
Hydric soil rating: No

Rock outcrop

Percent of map unit:
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

2017 Zone 5 Seed List: Southern Desertic Basins, Plains, and Mountains

Common Name	Botanical Name	Lbs of PLS*/Acre
Annual quick-cover grasses		
Oats	*Avena sativa*	0.50
Sterile triticale	*Triticum aestivum X Secale cereale'Quickguard'*	0.50
Cool-season grasses		
Bottlebrush squirreltail	*Elymus elymoides*	1.75
New Mexico feathergrass	*Hesperostipa neomexicana*	1.00
Western wheatgrass	*Agropyron smithii*	1.75
Warm-season grasses		
Alkali sacaton	*Sporobolus airoides*	0.20
Black grama	*Bouteloua eriopoda*	0.20
Little bluestem	*Schizachyrium scoparium*	0.50
Needle grama	*Bouteloua aristidoides*	0.30
Sand dropseed	*Sporobolus cryptandrus*	0.08
Sideoats grama	*Bouteloua curtipendula var. Vaughn***	0.75
Wildflowers		
Blanket flower	*Gaillardia pulchella*	0.30
Desert marigold	*Baileya multiradiata*	0.10
Desert zinnia	*Zinnia acerosa*	0.20
Hairy golden aster	*Heterotheca villosa*	0.20
Lewis flax	*Linum lewisii*	0.20
Prairie aster	*Machaeranthera tanacetifolia*	0.20
Wild four o'clock	*Mirabilis multiflora*	0.30
White prairie clover	*Dalea candida*	0.30
Scarlet globemallow	*Sphaeralcea coccinea*	0.30

Woody Shrubs

Four-wing saltbush	*Atriplex canescens*	0.40
Sand sage	*Artemisia filifolia*	0.05
Winterfat	*Krascheninnikovia lanata*	0.20

***PURE LIVE SEED/ACRE TOTAL**	**10.28**

**** Local, wild-sourced genotypes preferred. Provide specified registered variety only if wild-sourced seed is unavailable.**