SITE INFORMATION

Report Type: Deferral Request 1RP-4908 and 1RP-5777

General Site Information:						
Site:	EVGSAU CTB					
Company:	ConocoPhillips					
Section, Township and Range	Unit Letter A	Sec. 33	T 17S	R 35E		
Lease Number:	B016080000					
County:	Lea					
GPS:	32.796665°			-103.458354°		
Surface Owner:	State					
Mineral Owner:	State					
Directions:	Depart from Hobbs. Depart from Hobbs. Head toward S Morris St on E Marland Blvd (US-62/US-180) for 15 mi. Turn right onto NM-529 for 2.4 mi. Turn right onto State Highway 238 (NM-238) for 6 mi. Turn right. Travel 1.3 mi. Turn left. Travel 0.2 mi. Turn right. Travel 0.5 mi. Turn left. Travel 0.4 mi. Continue straight ahead. Travel 482 ft Turn right. Travel 0.4 mi.					

Release Data:		
Date Released:	1/1/2018	9/24/2019
Type Release:	Oil/Produced Water	Oil
Source of Contamination:	Line failure	Tank Bottom Seal Failure
Fluid Released:	36 bbls	625 bbls
Fluids Recovered:	35 bbls	327 bbls

Official Communication:			
Name:	Jenni Fortunato		Christian Llull
Company:	Conoco Phillips - RMR		Tetra Tech
Address:	935 N. Eldridge Pkwy.		8911 North Capital of Texas Hwy
	SP2-12-W084		Building 2, Suite 2310
City:	Houston, Texas 77079		Austin, Texas
Phone number:	(832) 486-2477		(512) 338-2861
Fax:			
Email:	jenni.fortunato@conocophillips.com		christian.llull@tetratech.com

Site Characterization	
Shallowest Depth to Groundwater:	*70' below surface*
Impact to groundwater or surface water:	*No*
Extents within 300 feet of a watercourse:	*No*
Extents within 200 feet of lakebed, sinkhole, or playa lake:	*No*
Extents within 300 feet of an occupied structure:	*No*
Extents within 500 horizontal feet of a private water well:	*No*
Extents within 1000 feet of any water well or spring:	*No*
Extents within incorporated municipal well field:	*No*
Extents within 300 feet of a wetland:	*No*
Extents overlying a subsurface mine:	*No*
Karst Potential:	*Low*
Extents within a 100-year floodplain:	*No*
Impact to areas not on a production site:	*No*

Recommended Remedial Action Levels (RRALs)				
Benzene	***Total BTEX***	***TPH (GRO+DRO)***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*1,000 mg/kg*	*2,500 mg/kg*	*10,000 mg/kg*
			Note: Chloride: 600 mg/kg in the top four feet.	

TETRA TECH

January 15, 2020

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

Re: Deferral Request
ConocoPhillips Company
EVGSAU Central Tank Battery
Unit Letter A, Section 33, Township 17 South, Range 35 East
Lea County, New Mexico
1RP-4908 and 1RP-5777

Mr. Rickman:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips Company (COP) to evaluate releases that occurred at the East Vacuum Grayburg San Andres Unit (EVGSAU) Central Tank Battery (CTB) located within Unit Letter A, Section 33, Township 17 South, Range 35 East, in Lea County, New Mexico (Site). The site coordinates are 32.796665°, -103.458354°. The Site location is shown on Figures 1 and 2.

BACKGROUND

From January 1, 2018 to September 24, 2019, two releases (1RP-4908 and 1RP-5777) occurred at the EVGSAU CTB. Each release is described below.

1RP-4908

According to the State of New Mexico C-141 Initial Report, the release occurred on January 1, 2018 at the EVGSAU CTB. The cause of the release was a failure of a bypass line which released a total of 36.47 barrels (bbl) of oil and produced water to the ground surface. The release was contained within the earthen berm (firewall) of the northern tank battery. The release extent is shown on Figure 3.

Immediate action was to de-pressurize the bypass line and install a temporary clamp. A vacuum truck was dispatched recovering 15 bbls of oil and 20 bbls of produced water. The release area associated with 1RP-4908 was encompassed by the subsequent release associated with 1RP-5777.

1RP-5777

According to the State of New Mexico C-141 Initial Report, the release occurred on September 24, 2019 at the EVGSAU CTB. The cause of the release was a failure of a seal at a tank bottom which released product to the ground surface. A total of 625 bbls (561 bbls of oil and 64 bbls of paraffin) were released and approximately 327 bbls (265 bbls of oil and 62 bbls of paraffin) were recovered. The release was initially contained within the firewall of the northern tank battery. The release eventually drained through drainage culverts to an overflow pit area as designed.

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A total of 200 bbls of oil and paraffin stayed within the firewall of the northern battery, with 187 bbls recovered. The heavily impacted surface area was scraped and removed as a part of the initial response. The remaining 425 bbls of oil and paraffin drained from the northern battery through culverts but were contained in the bermed areas, remaining in the southern overflow pit area. Vacuum trucks were dispatched to remove the freestanding fluids, recovering approximately 140 bbls of freestanding fluid from the overflow pit area. The release extent is shown on Figure 3. The initial C-141 Forms are included in Appendix A.

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. The site is in a low karst potential area.

Seven water wells are listed in Section 33 on the New Mexico Office of the State Engineer's (NMOSE) website, with an average depth to groundwater of 70 feet below ground surface (bgs). The groundwater data and karst potential map are shown in Appendix B.

REGULATORY FRAMEWORK

A risk-based evaluation was performed for the Site in accordance with the 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), total petroleum hydrocarbons (TPH), and chloride in soil.

Based upon the Site characterization, the proposed RRALs for soil are:

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

As this reported contamination is in areas immediately under or around production tanks and pipelines, remediation would cause a major facility deconstruction. Per 19.15.29.12(2) NMAC, a deferral for the remediation, restoration, and reclamation for this release is requested until the equipment is removed during other operations, or when the facility is retrofitted or abandoned, whichever comes first.

INITIAL SITE ASSESSMENT

On October 12, 2019, a test pit (SP-1) was installed in the southern overflow pit release area by ConocoPhilips to assess and define the extent of impacted soil (Figure 3) to a depth of 9 feet bgs. The uppermost samples collected were analyzed for TPH by EPA method 8015 modified, BTEX by EPA Method 8021 and chlorides by EPA method 4500Cl-B at Cardinal Laboratories in Hobbs, New Mexico. The deeper samples were analyzed for chlorides only. The results of the October 2019 sampling event are summarized in Table 1. Copies of analytical reports and chain-of-custody documentation are included in Appendix C.

The analytical results associated with the initial site assessment exceeded the specified RRAL for total TPH (GRO + DRO + ORO) and BTEX at the surface sample location, however, the vertical extent of contamination quickly decreased with depth. The analytical results associated with the 2-3 sample interval were below the specified RRAL for TPH, chlorides and BTEX. Deeper sample intervals indicated that chlorides were below RRALs down to total depth of 9 feet bgs.

ADDITIONAL SITE DELINEATION

Based on review of analytical results from the previous sampling event, vertical delineation of contamination in the southern overflow pit area was attained as part of the initial assessment at the Site. To define the horizontal extents of the releases, if any, and to further delineate release impact, Tetra Tech personnel were onsite to conduct a subsurface investigation in November 2019. On November 18, 19, and 21, 2019, a total of eight (8) soil borings (BH-1 through BH-8) were completed with an air rotary drilling rig. Additionally, one hand auger hole (AH-1) was installed in the release area. Boring logs are included in Appendix D. The EVGSAU CTB has numerous underground utilities and aboveground lines, in addition to piping and production equipment inside and outside the battery. The soil boring locations were chosen to avoid safety and access issues due to the subsurface infrastructure. Totals depths of the borings ranged from 1 to 20 feet bgs.

A total of 45 soil samples were collected from the nine boring locations from in and around the release area (Figure 3). Selected samples were field screened and submitted to an analytical laboratory to be analyzed for TPH by EPA method 8015 modified, BTEX by EPA Method 8260B and chlorides by EPA method 300.0 at Pace Analytical National Center for Testing and Innovation in Mt. Juliet, Tennessee. Copies of analytical reports and chain-of-custody documentation are included in Appendix C.

BH-4 and AH-1 were installed within the release footprint to clarify the vertical extents in the northern battery. AH-1 (0-1') was collected with a hand auger within the northern tank battery release area. Deeper samples could not be collected as hand auger refusal was encountered due to the shallow caliche cap rock in the subsurface. BH-4 was completed with the drilling rig to a depth of 10 feet bgs. Borings BH-1 through -3 and BH-5 through -8 were completed to achieve horizontal delineation per 19.15.29.11(A)(5)(b) NMAC.

The analytical results associated with the additional site assessment and delineation were below the RRALs for BTEX at eight of nine locations. AH-1 (0-1') exceeded the RRAL for total TPH (GRO + DRO + ORO) and BTEX. Results associated with BH-1 (2-3'), collected to the north of the northern tank battery, was slightly over the RRAL for chloride. Given that BH-1 is upgradient of the release location and the overlying sample (0-1') had a chloride level below the RRAL, the exceedance in BH-1 (2-3') is likely unrelated to the release events addressed in this report. The analytical results associated with all other samples collected around the release area were below the RRALs for total TPH (GRO + DRO + ORO), BTEX and/or chloride in all samples. The boring locations are shown on Figure 3. The analytical results of the November 2019 sampling event are summarized in Table 2.

Photographic documentation of the release area post-initial response is included as Appendix E.

CONCLUSION

The releases (1RP-4908 and 1RP-5777) were delineated horizontally and vertically, as detailed above, and do not cause an imminent risk to human health, the environment, or groundwater. Final remediation and reclamation shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the Site is no longer being used for oil and gas operations.

ConocoPhillips respectfully requests that NMOCD will consider delaying remediation activities at the Site until the end of life of the battery. At time of abandonment, retrofit, or inactivity, remediation will be completed in addition to reclamation. Based on the above, ConocoPhillips requests deferral for this impacted area. The completed C-141 forms are enclosed in Appendix A.

If you have any questions or comments concerning the assessment or remediation activities for this site, please call me at (512) 338-2861.

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 – Site Location Map
- Figure 2 – Site Location/Topographic Map
- Figure 3 – Release Assessment Map

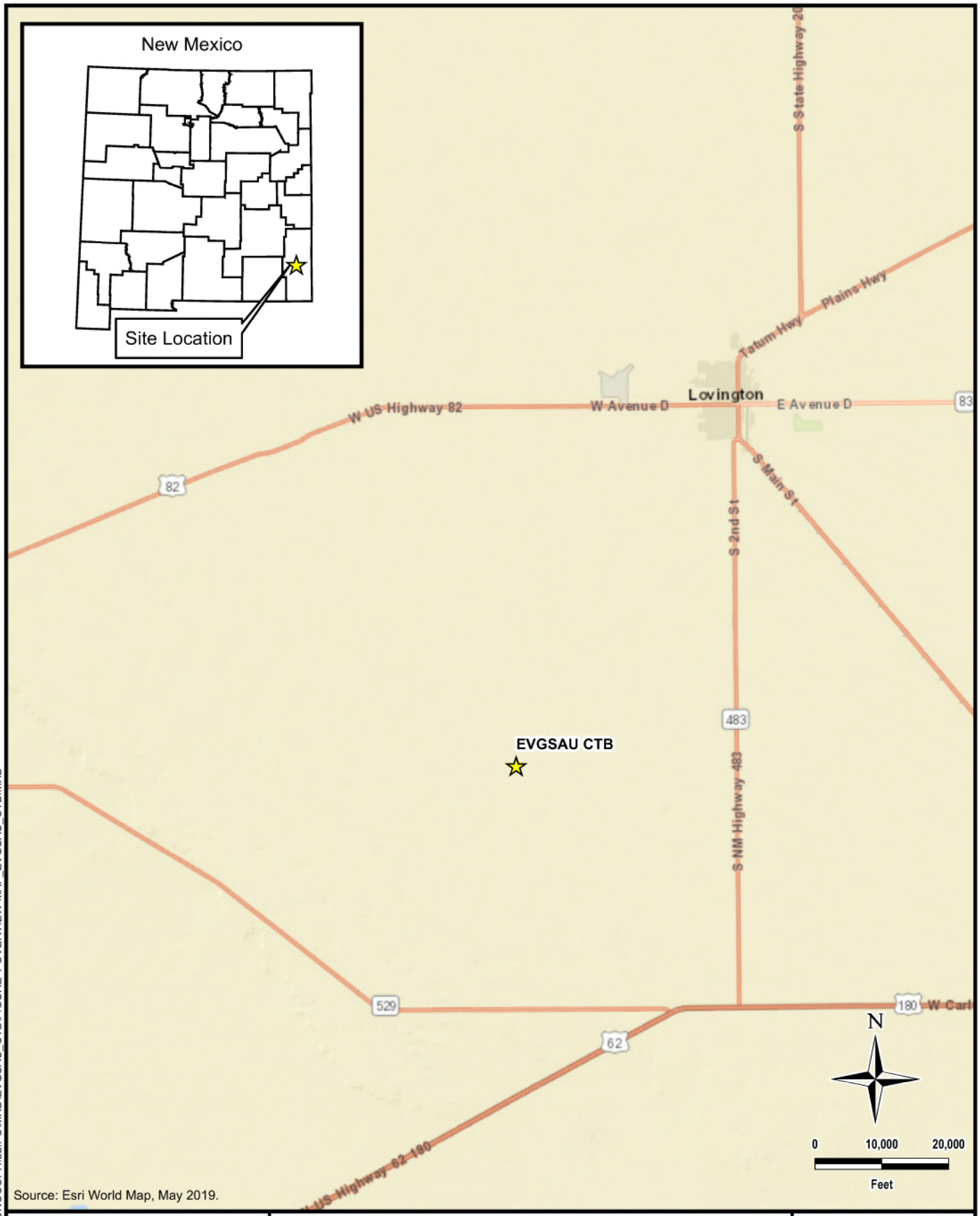
Tables:

- Table 1 – Summary of Analytical Results – Initial Soil Assessment
- Table 2 – Summary of Analytical Results – Soil Assessment

Appendices:

- Appendix A – C-141 Form
- Appendix B – Groundwater Data
- Appendix C – Laboratory Analytical Reports
- Appendix D – Boring Logs
- Appendix E – Photographic Documentation

FIGURES



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\EVGSAU_CTB\FIGURE 1 OVERVIEW MAP_EVGSAU_CTB.MXD

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CONOCOPHILLIPS

(32.796698°, -103.458389°)
LEA COUNTY, NEW MEXICO

EVGSAU CENTRAL TANK BATTERY RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-01987
DATE:	DECEMBER 09, 2019
DESIGNED BY:	AAM

Figure No.
1

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CONOCOPHILLIPS

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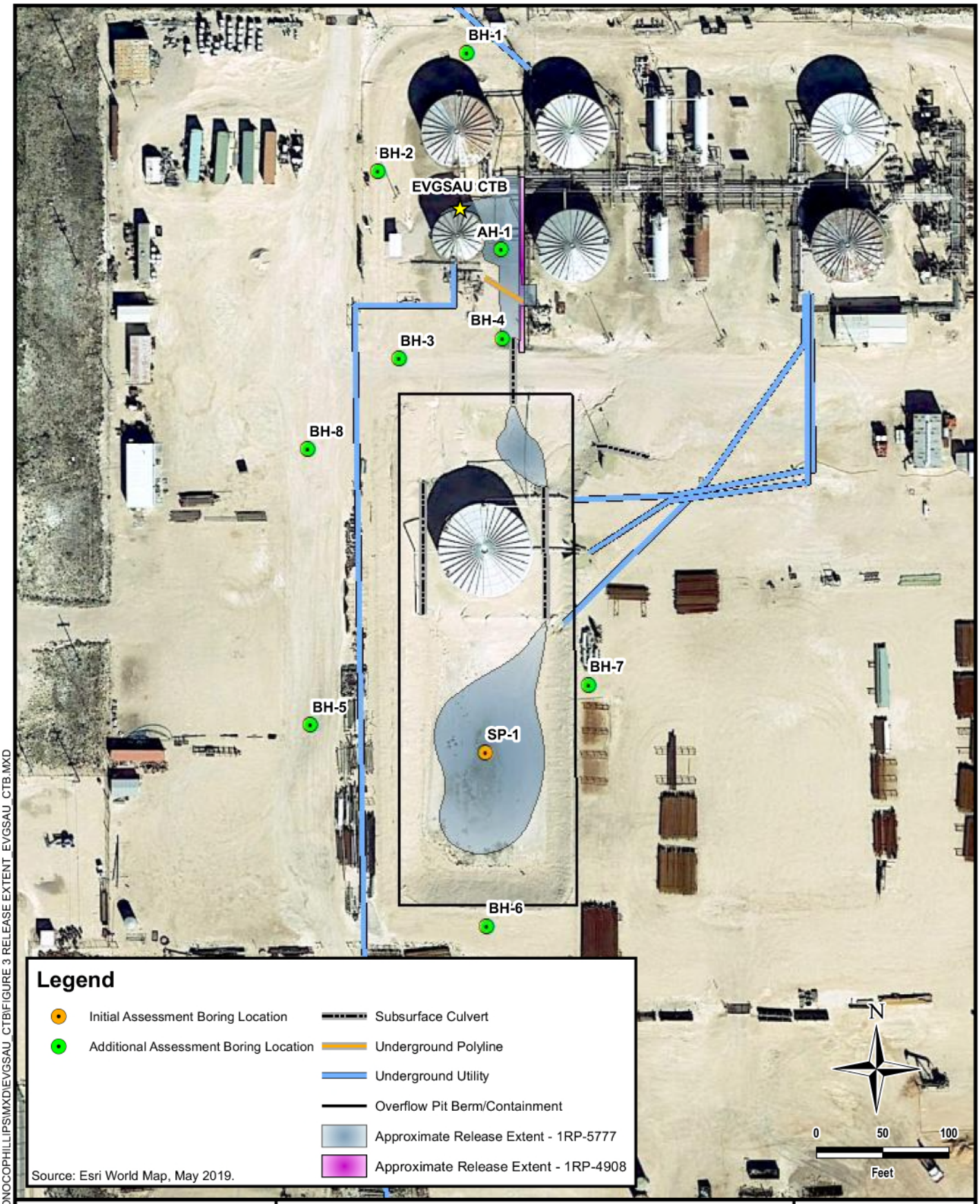
LEA COUNTY, NEW MEXICO

EVGSAU CENTRAL TANK BATTERY RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-01987
DATE:	DECEMBER 09, 2019
DESIGNED BY:	AAM

Figure No.
2



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\EVGSAU_CTB\FIGURE 3 RELEASE EXTENT_EVGSAU_CTB.MXD

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LEA COUNTY, NEW MEXICO

EVGSAU CENTRAL TANK BATTERY RELEASE
RELEASE ASSESSMENT MAP

PROJECT NO.:	212C-MD-01987
DATE:	DECEMBER 13, 2019
DESIGNED BY:	AAM

Figure No.
3

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
INITIAL SOIL ASSESSMENT
EVGSAU CTB RELEASES
1RP-4908 and 1RP-5777
LEA COUNTY, NM

Sample ID	Sample Date	Sample Interval	Chloride[1]		BTEX[2]										TPH[3]							
					Benzene		Toluene		Ethylbenzene		Xylene		Total BTEX		GRO (C_6 - C_{10})[4]		DRO (>C_{10} - C_{28})		ORO (>C_{28} - C_{36})		TPH (C_6 - C_{36})	
		ft bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
SP-1	10/22/19	SURFACE	96		1.48		19.2		18		66.7		**105**		3480		68200		14500		**86180**	
		2-3	160		< 0.050		0.099		2.15		3.05		5.3		90.9		497		80.5		668.4	
		4-5	96		NA		NA		NA		NA		--		NA		NA		NA		--	
		6-7	80		NA		NA		NA		NA		--		NA		NA		NA		--	
		8-9	112		NA		NA		NA		NA		--		NA		NA		NA		--	

NOTES:

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

Bold and italicized values indicate exceedance of RRALS.

--	No value to report
1	Method 4500Cl-B
2	Method 8021B
3	Method 8015M

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT
EVGSAU CTB RELEASES
1RP-4908 and 1RP-5777
LEA COUNTY, NM

Sample ID	Sample Date	Sample Interval	Field Screening Results		Chloride[1]		BTEX[2]										TPH[3]							
							Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO (C_3 - C_{10})[4]		DRO (C_{10} - C_{28})		ORO (C_{28} - C_{40})		TPH (C_3 - C_{40})	
		ft bgs	Chloride	PID																				
			ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
AH-1	11/19/19	0-1	330	339	479		23.7		196		189		255		***663.7***		5830		15400		5940		***27170***	
BH -1	11/18/19	0-1	-	58.5	477		< 0.00105		< 0.00525		< 0.00263		< 0.00683		-		0.0355	B J	9.48		9.07		18.5855	
		2-3	1180	6.7	***734***		< 0.00107		< 0.00535		< 0.00267		< 0.00695		-		0.0420	B J	3.91	J	8.52		12.4720	
		4-5	-	8.8	220		< 0.00107		< 0.00536		< 0.00268		< 0.00696		-		0.0283	B J	5.11		8.59		13.7283	
		6-7	-	11.2	78.5		0.000445	J	< 0.00524		< 0.00262		< 0.00681		0.000445		0.0429	B J	6.35		13.3		19.6929	
		9-10	105	11.7	28.3		0.000641	J	< 0.00512		< 0.00256		< 0.00666		0.000641		0.0282	B J	< 4.10		1.13	J	1.15820	
BH -2	11/18/19	0-1	-	10.6	392		< 0.00106		< 0.00529		< 0.00265		< 0.00688		-		0.0253	B J	< 4.23		2.79	J	2.8153	
		2-3	323	12.2	125		< 0.00105		< 0.00523		< 0.00262		< 0.00680		-		< 0.105		2.08	J	6.53		8.61	
		4-5	-	6.9	153		< 0.00107		< 0.00537		< 0.00268		< 0.00698	J4	-		0.0291	B J	1.96	J	11.7		13.6891	
		6-7	-	12.9	22.4	B	< 0.00109		< 0.00543		< 0.00272		< 0.00706	J4	-		0.0284	B J	< 4.35		4.49		4.5184	
		9-10	100	4.7	25.1	B	< 0.00112		< 0.00559		< 0.00279		< 0.00727	J4	-		0.0389	B J	< 4.47		0.873	J	0.9119	
BH-3	11/18/19	0-1	-	8.9	102		< 0.00105		< 0.00523		< 0.00261		< 0.00680	J4	-		0.0288	B J	< 4.18		1.89	J	1.9188	
		2-3	73.3	10.6	53.8	B	< 0.00106		< 0.00532		< 0.00266		< 0.00692	J4	-		0.0262	B J	< 4.26		4.10	J	4.1262	
		4-5	-	15.5	9.46	B J	< 0.00104		< 0.00521		< 0.00261		< 0.00677	J4	-		0.0253	B J	< 4.17		1.02	J	1.0453	
		6-7	-	13.6	4.30	B J	< 0.00106		< 0.00531		< 0.00265		< 0.00690	J4	-		0.0345	B J	< 4.25		1.18	J	1.2145	
		9-10	46.6	11.4	3.34	B J	< 0.00104		< 0.00519		< 0.00260		< 0.00675	J4	-		0.0260	B J	< 4.15		< 4.15		0.0260	
BH-4	11/21/19	0-1	184	1.9	34.3	B	< 0.00107		< 0.00537		< 0.00269		< 0.00699		-		0.0693	B J	5.75		3.17	J	8.9893	
		2-3	-	3.2	30.0	B	< 0.00109		< 0.00546		< 0.00273		< 0.00710		-		0.0667	B J	< 4.37		0.363	J	0.4297	
		4-5	-	3.2	116		< 0.00112		< 0.00559		< 0.00279		< 0.00726		-		0.0663	B J	< 4.47		< 4.47		0.0663	
		6-7	301	4.4	22.3	B	< 0.00106		< 0.00530		< 0.00265		< 0.00689		-		0.0657	B J	1.72	J	1.11	J	2.8957	
		9-10	351	5.0	109		< 0.00109		< 0.00545		< 0.00273		< 0.00709		-		0.0625	B J	< 4.36		< 4.36		0.0625	
BH-5	11/21/19	0-1	-	3.0	24.0	B	< 0.00107		< 0.00536		< 0.00268		< 0.00697		-		0.0543	B J	< 4.29		1.09	J	1.1443	
		2-3	-	3.4	61.9		< 0.00107		< 0.00536		< 0.00268		< 0.00697		-		0.0582	B J	< 4.29		1.71	J	1.7682	
		4-5	-	3.9	45.4		< 0.00104		0.00156	J	< 0.00259		< 0.00674		0.00156		0.0552	B J	< 4.15		< 4.15		0.0552	
		6-7	-	4.0	HOLD		HOLD		HOLD		HOLD		HOLD		-		HOLD		HOLD		HOLD		-	
		9-10	-	4.0	46.8		< 0.00108		< 0.00539		< 0.00270		< 0.00701		-		0.0592	B J	< 4.31		< 4.31		0.0592	
		11-12	-	3.9	28.3	B	< 0.00103		< 0.00517		< 0.00258		< 0.00672		-		0.0313	B J	< 4.13		< 4.13		0.0313	
		14-15	91	0.8	16.6	B	< 0.00107		< 0.00537		< 0.00269		< 0.00699		-		0.0389	B J	< 4.30		< 4.30		0.0389	
BH-6	11/21/19	0-1	-	0.8	422		< 0.00105		0.00135	J	< 0.00263		< 0.00684		0.00135		0.0450	B J	29.8		50.4		80.2450	
		2-3	-	0.4	138		< 0.00105		< 0.00526		< 0.00263		< 0.00684		-		0.0359	B J	9.07		15.8		24.9059	
		4-5	-	1.0	65.0		< 0.00107		0.00143	J	< 0.00268		< 0.00697		0.00143		< 0.107		< 4.29		< 4.29		-	
		6-7	-	2.5	HOLD		HOLD		HOLD		HOLD		HOLD				HOLD		HOLD		HOLD			
		9-10	53.7	2.9	18.2	B	< 0.00101		0.00142	J	< 0.00253		< 0.00659		0.00142		< 0.101		< 4.05		< 4.05		-	
		13-14	-	2.8	15.0	B	< 0.00101		< 0.00505		< 0.00253		< 0.00657		-		< 0.101		< 4.04		< 4.04		-	
		16-17	-	3.1	22.3	B	< 0.00106		< 0.00528		< 0.00264		< 0.00687		-		0.0361	B J	< 4.23		< 4.23		0.0361	
		19-20	96.1	2.6	15.5	B	< 0.00105		< 0.00523		< 0.00261		< 0.00679		-		0.0342	B J	1.70	J	< 4.18		1.7342	

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT
EVGSAU CTB RELEASES
1RP-4908 and 1RP-5777
LEA COUNTY, NM

Sample ID	Sample Date	Sample Interval	Field Screening Results		Chloride[1]		BTEX[2]										TPH[3]							
							Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO (C_3 - C_{10})[4]		DRO (C_{10} - C_{28})		ORO (C_{28} - C_{40})		TPH (C_3 - C_{40})	
		ft bgs	Chloride	PID																				
			ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
BH-7	11/21/19	0-1	-	2.7	351		< 0.00107		< 0.00534		< 0.00267		< 0.00694		-		0.0309	B J	2.88	J	1.12	J	4.0309	
		2-3	-	3.6	286		< 0.00106		0.00159	J	< 0.00264		< 0.00688		0.00159		0.0300	B J	1.97	J	1.21	J	3.2100	
		4-5	-	3.7	45.3		< 0.00105		< 0.00524		< 0.00262		< 0.00681		-		0.0271	B J	< 4.19		< 4.19		0.0271	
		6-7	-	4.1	HOLD		HOLD		HOLD		HOLD		HOLD				HOLD		HOLD		HOLD			
		9-10	-	3.4	268		< 0.00109		< 0.00545		< 0.00272		< 0.00708		-		0.0327	B J	< 4.36		< 4..36		0.0327	
		11-12	128	0.6	242		< 0.00106		< 0.00530		< 0.00265		< 0.00689		-		0.0303	B J	< 4.24		< 4.24		0.0303	
		14-15	512	1.4	421		< 0.00109		< 0.00543		< 0.00271		< 0.00706		-		0.0279	B J	< 4.34		< 4.34		0.0279	
BH-8	11/19/19	0-1	154	0.1	18.6	B	< 0.00105		< 0.00527		< 0.00263		< 0.00685		-		0.0348	B J	< 4.22		2.99	J	3.0248	
		2-3	250	0.2	40.2	B	< 0.00109		< 0.00546		< 0.00273		< 0.00710		-		0.0384	B J	3.21	J	8.93		12.1784	

NOTES:

ft	Feet	***Bold and italicized values indicate exceedance of RRALS.***	
bgs	Below ground surface	--	No value to report
ppm	Parts per million	1	Method 300.0
mg/kg	Milligrams per kilogram	2	Method 8260B
NM	Not measured	3	Method 8015
TPH	Total Petroleum Hydrocarbons	4	Method 8015D/GRO
GRO	Gasoline range organics	B	The same analyte is found in the associated blank.
DRO	Diesel range organics	J	The identification of the analyte is acceptable; the reported value is an estimate.
ORO	Oil range organics	J4	The associated batch QC was outside the established quality control range for accuracy.

APPENDIX A
C-141 Forms

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

State of New Mexico
Energy Minerals and Natural Resources

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

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

OPERATOR

☒ Initial Report ☐ Final Report

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

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

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	33	17S	35E					**Lea**

Latitude 32°47'48.41"N **Longitude** 103°27'29.79"W

NATURE OF RELEASE

Type of Release: **Oil and Produced Water**	Volume of Release: 36.47 BBL	Volume Recovered: 35 BBL
Source of Release: Pipe failure	Date and Hour of Occurrence **1-1-2018 10:00AM**	Date and Hour of Discovery **1-1-2018 6:00 PM**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu	
By Whom? **Cullen Rosine**	Date and Hour: **1-2-2018 0915 hours via phone**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
By Olivia Yu at 7:45 am, Jan 03, 2018

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken. During normal operations, an inlet valve closed due to a high-level reading, causing fluid to be sent down a bypass line. The bypass line failed resulting in a 36.47 BBL spill. The line was depressurized and a temporary clamp installed. 15 BO and 20 BPW were recovered. Spill site will be remediated per NMOCD guidelines.

Describe Area Affected and Cleanup Action Taken. *
Area 1 – 132' x 12 x 1"

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*

Printed Name: Cullen Rosine

Title: HSE Specialist

E-mail Address: ***Cullen.J.Rosine@conocophillips.com***

Date: 1/2/2018 Phone:575-391-3133

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 1/3/2018 Expiration Date:

Conditions of Approval:

see attached directive

Attached ☒

* Attach Additional Sheets If Necessary

1RP-4908 nOY1800329215

fOY1800328995 pOY1800329179

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _1/2/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-4908__ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _2/3/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

State of New Mexico
Oil Conservation Division

Incident ID	nOY1800329215
District RP	1RP-4908
Facility ID	fOY1800328995
Application ID	pOY1800239179

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nOY1800329215
District RP	1RP-4908
Facility ID	fOY1800328995
Application ID	pOY1800239179

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@cop.com Title: Program Manager, Risk Management & Remediation

Signature: _____ Date: 1.13.20

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nOY1800329215
District RP	1RP-4908
Facility ID	fOY1800328995
Application ID	pOY1800239179

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 Management & Remediation

Signature: _____ Date: 1.13.20

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: Bradford Billings Date: 02/15/2021

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NRM1930848978
District RP	1RP-5777
Facility ID	fOY1800328995
Application ID	pRM1930849928

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.79661 Longitude -103.45809
(NAD 83 in decimal degrees to 5 decimal places)

Site Name EVGSAU CTB	Site Type Central Tank Battery
Date Release Discovered 9/24/19	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
A	33	17S	35E	Lea

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

Nature and Volume of Release

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

☑ Crude Oil	Volume Released (bbls) 561	Volume Recovered (bbls) 265
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☑ Other (describe)	Volume/Weight Released (provide units) Paraffin 64	Volume/Weight Recovered (provide units) 62
Cause of Release	Seal at tank bottom failed and started releasing to the ground. The spill occurred inside pad and drained to a lined contaiment as designed: - 425 bbls were contained in the lined contaiment, 140 were recovered. The lined contaiment has dirt and caliche on top. - 200 bbls of oil and paraffin stayed on the non-lined pad, with 187 recovered	

State of New Mexico
Oil Conservation Division

Incident ID	NRM1930848978
District RP	1RP-5777
Facility ID	fOY1800328995
Application ID	pRM1930849928

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? it exceeded the 25bbls defined by the Major release definition, volume release was estimated based on production rate. Spill was calculated based on production volumes and time when spill started.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Yes, email sent to Bradford Billings, District 1 spill reporting email address and Dylan Rose-Coss

Initial Response

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

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

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

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

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

Printed Name: Gustavo Fejervary Title: Environmental Coordinator

Signature: Date: 10/7/19

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

OCD Only

Received by: Ramona Marcus Date: 11/4/2019

State of New Mexico
Oil Conservation Division

Incident ID	nRM1930848978
District RP	1RP-5777
Facility ID	fOY1800328995
Application ID	pRM1930849928

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nRM1930848978
District RP	1RP-5777
Facility ID	fOY1800328995
Application ID	pRM1930849928

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: 1/13/2020

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

OCD Only

Received by: Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nRM1930848978
District RP	1RP-5777
Facility ID	fOY1800328995
Application ID	pRM1930849928

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 Management & Remediation

Signature: _____ Date: 1.13.20

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: Bradford Billings Date: 02/15/2021

APPENDIX B
Groundwater Data

APPENDIX C
Laboratory Analytical Reports

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

October 24, 2019

JUSTIN WRIGHT

Conoco Phillips - Hobbs

P. O. BOX 325

Hobbs, NM 88240

RE: EVGSAU CTB

Enclosed are the results of analyses for samples received by the laboratory on 10/23/19 16:31.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	10/23/2019	Sampling Date:	10/22/2019
Reported:	10/24/2019	Sampling Type:	Soil
Project Name:	EVGSAU CTB	Sampling Condition:	Cool & Intact
Project Number:	OVERFLOW PIT	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP # 1 - SURFACE (H903630-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**1.48**	0.500	10/24/2019	ND	1.93	96.4	2.00	0.401	
Toluene*	**19.2**	0.500	10/24/2019	ND	1.92	96.0	2.00	0.528	
Ethylbenzene*	**18.0**	0.500	10/24/2019	ND	1.95	97.4	2.00	0.150	
Total Xylenes*	**66.7**	1.50	10/24/2019	ND	5.85	97.5	6.00	0.0962	
Total BTEX	**105**	3.00	10/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	10/24/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**3480**	100	10/24/2019	ND	220	110	200	0.281	
DRO >C10-C28*	**68200**	100	10/24/2019	ND	228	114	200	3.81	
EXT DRO >C28-C36	**14500**	100	10/24/2019	ND					

Surrogate: 1-Chlorooctane *378 %* *41-142*

Surrogate: 1-Chlorooctadecane *1870 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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Received:	10/23/2019	Sampling Date:	10/22/2019
Reported:	10/24/2019	Sampling Type:	Soil
Project Name:	EVGSAU CTB	Sampling Condition:	Cool & Intact
Project Number:	OVERFLOW PIT	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP # 1 - 2' (H903630-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2019	ND	1.93	96.4	2.00	0.401	
Toluene*	**0.099**	0.050	10/24/2019	ND	1.92	96.0	2.00	0.528	
Ethylbenzene*	**2.15**	0.050	10/24/2019	ND	1.95	97.4	2.00	0.150	
Total Xylenes*	**3.05**	0.150	10/24/2019	ND	5.85	97.5	6.00	0.0962	
Total BTEX	**5.30**	0.300	10/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *128 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	10/24/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**90.9**	10.0	10/24/2019	ND	220	110	200	0.281	
DRO >C10-C28*	**497**	10.0	10/24/2019	ND	228	114	200	3.81	
EXT DRO >C28-C36	**80.5**	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane *108 %* *41-142*

Surrogate: 1-Chlorooctadecane *108 %* *37.6-147*

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Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	10/23/2019	Sampling Date:	10/22/2019
Reported:	10/24/2019	Sampling Type:	Soil
Project Name:	EVGSAU CTB	Sampling Condition:	Cool & Intact
Project Number:	OVERFLOW PIT	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP # 1 - 4' (H903630-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	10/24/2019	ND	400	100	400	3.92	

Sample ID: SP # 1 - 6' (H903630-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	10/24/2019	ND	400	100	400	3.92	

Sample ID: SP # 1 - 8' (H903630-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	10/24/2019	ND	400	100	400	3.92	

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	ConocoPhillips	BILL TO	
Project Manager:	Justin Wright	P.O. #:	
Address:		Company:	ConocoPhillips
City:	Hobbs St NM Zip: #	Attn:	
Phone #:	575-631-9092 Fax #:	Address:	
Project #:	Project Owner: COPC	City:	
Project Name:	EVGSAU CTB Overflow Pit	State: Zip:	
Project Location:	Lea County, NM	Phone #:	
Sampler Name:	Justin Wright	Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH	BTEX	Chlorides
H903630																	
1	SP#1-Surface	G				✓					✓		10-22	1:15	✓	✓	✓
2	SP#1-2'	G				✓					✓		10-22	1:24	✓	✓	✓
3	SP#1-4'	G				✓					✓		10-22	1:35			✓
4	SP#1-6'	G				✓					✓		10-22	1:45			✓
5	SP#1-8'	G				✓					✓		10-22	1:58			✓

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Relinquished By:	Date: 10-23-19 Time: 4:31	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address:
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: FORM-006 R 3.0	Observed Temp. °C -5.9 Corrected Temp. °C -5.5	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)

Turnaround Time: Standard ☐ Rush ☑ Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C
Thermometer ID #97 Correction Factor + 0.4 °C Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 05, 2019

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1164150
Samples Received:	11/22/2019
Project Number:	212C-MD-01987
Description:	COP EVGSAU CTB

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

Entire Report Reviewed By:

Chris McCord
Project Manager

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

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BH-1 (0-1) L1164150-01 Solid

Collected by | Collected date/time 11/18/19 13:00 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388294	1	11/29/19 15:18	11/29/19 15:27	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387087	1	11/27/19 08:40	11/27/19 15:13	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 14:00	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1387924	1	11/26/19 08:28	11/27/19 16:47	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387778	1	11/27/19 08:28	11/27/19 23:43	JDG	Mt. Juliet, TN

BH-1 (2-3) L1164150-02 Solid

Collected by | Collected date/time 11/18/19 13:05 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388294	1	11/29/19 15:18	11/29/19 15:27	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387087	1	11/27/19 08:40	11/27/19 15:32	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1389650	1	12/02/19 11:26	12/02/19 11:52	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1387924	1	11/26/19 08:28	11/27/19 17:07	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/28/19 20:49	SHG	Mt. Juliet, TN

BH-1 (4-5) L1164150-03 Solid

Collected by | Collected date/time 11/18/19 13:10 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388294	1	11/29/19 15:18	11/29/19 15:27	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387087	1	11/27/19 08:40	11/27/19 15:42	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 14:41	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1387924	1	11/26/19 08:28	11/27/19 17:27	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/29/19 08:08	SHG	Mt. Juliet, TN

BH-1 (6-7) L1164150-04 Solid

Collected by | Collected date/time 11/18/19 13:20 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388294	1	11/29/19 15:18	11/29/19 15:27	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387087	1	11/27/19 08:40	11/27/19 15:51	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1389310	1	11/26/19 08:28	12/01/19 11:53	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389397	1	11/26/19 08:28	12/01/19 15:16	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/29/19 08:21	SHG	Mt. Juliet, TN

BH-1 (9-10) L1164150-05 Solid

Collected by | Collected date/time 11/18/19 13:25 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388294	1	11/29/19 15:18	11/29/19 15:27	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387087	1	11/27/19 08:40	11/27/19 16:01	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1.01	11/26/19 08:28	11/29/19 15:22	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1387955	1	11/26/19 08:28	11/27/19 19:08	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/29/19 08:34	SHG	Mt. Juliet, TN

BH-2 (0-1) L1164150-06 Solid

Collected by | Collected date/time 11/18/19 14:00 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 21:42	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 15:43	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1387955	1	11/26/19 08:28	11/27/19 19:27	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/29/19 08:47	SHG	Mt. Juliet, TN

BH-2 (2-3) L1164150-07 Solid

Collected by | Collected date/time 11/18/19 14:05 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 21:50	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 16:04	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1387955	1	11/26/19 08:28	11/27/19 19:46	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/29/19 09:53	SHG	Mt. Juliet, TN

BH-2 (4-5) L1164150-08 Solid

Collected by | Collected date/time 11/18/19 14:10 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 22:00	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 16:24	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388275	1	11/26/19 08:28	11/28/19 04:16	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/29/19 10:06	SHG	Mt. Juliet, TN

BH-2 (6-7) L1164150-09 Solid

Collected by | Collected date/time 11/18/19 14:15 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 22:10	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 16:45	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388275	1	11/26/19 08:28	11/28/19 04:36	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/29/19 10:19	SHG	Mt. Juliet, TN

BH-2 (9-10) L1164150-10 Solid

Collected by | Collected date/time 11/18/19 14:25 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 22:29	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1389310	1	11/26/19 08:28	12/01/19 12:41	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388275	1	11/26/19 08:28	11/28/19 04:56	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387733	1	11/27/19 08:57	11/29/19 10:33	SHG	Mt. Juliet, TN

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

BH-3 (0-1) L1164150-11 Solid

Collected by | Collected date/time 11/18/19 14:50 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 22:38	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 17:26	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388275	1	11/26/19 08:28	11/28/19 05:16	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387734	1	11/27/19 10:17	11/28/19 05:25	JDG	Mt. Juliet, TN

BH-3 (2-3) L1164150-12 Solid

Collected by | Collected date/time 11/18/19 14:55 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 22:48	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 17:47	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388275	1	11/26/19 08:28	11/28/19 05:36	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387734	1	11/27/19 10:17	11/28/19 05:38	JDG	Mt. Juliet, TN

BH-3 (4-5) L1164150-13 Solid

Collected by | Collected date/time 11/18/19 15:00 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 23:16	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 18:07	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388275	1	11/26/19 08:28	11/28/19 05:56	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387734	1	11/27/19 10:17	11/28/19 05:51	JDG	Mt. Juliet, TN

BH-3 (6-7) L1164150-14 Solid

Collected by | Collected date/time 11/18/19 15:10 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 23:26	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 18:28	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388275	1	11/26/19 08:28	11/28/19 06:16	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387734	1	11/27/19 10:17	11/28/19 06:04	JDG	Mt. Juliet, TN

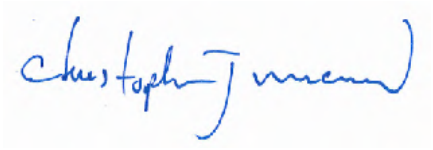
BH-3 (9-10) L1164150-15 Solid

Collected by | Collected date/time 11/18/19 15:20 | Received date/time 11/22/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388295	1	11/29/19 15:06	11/29/19 15:17	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1387581	1	12/01/19 18:10	12/01/19 23:54	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1388787	1	11/26/19 08:28	11/29/19 18:49	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388275	1	11/26/19 08:28	11/28/19 06:37	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387734	1	11/27/19 10:17	11/28/19 06:25	JDG	Mt. Juliet, TN

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

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



Chris McCord
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.2		1	11/29/2019 15:27	WG1388294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	477		0.835	10.5	1	11/27/2019 15:13	WG1387087

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0355	B J	0.0228	0.105	1	11/29/2019 14:00	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*95.9*			*77.0-120*		*11/29/2019 14:00*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000420	0.00105	1	11/27/2019 16:47	WG1387924
Toluene	U		0.00131	0.00525	1	11/27/2019 16:47	WG1387924
Ethylbenzene	U		0.000557	0.00263	1	11/27/2019 16:47	WG1387924
Total Xylenes	U		0.00502	0.00683	1	11/27/2019 16:47	WG1387924
(S) Toluene-d8	*101*			*75.0-131*		*11/27/2019 16:47*	WG1387924
(S) 4-Bromofluorobenzene	*87.6*			*67.0-138*		*11/27/2019 16:47*	WG1387924
(S) 1,2-Dichloroethane-d4	*91.6*			*70.0-130*		*11/27/2019 16:47*	WG1387924

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	9.48		1.69	4.20	1	11/27/2019 23:43	WG1387778
C28-C40 Oil Range	9.07		0.288	4.20	1	11/27/2019 23:43	WG1387778
(S) o-Terphenyl	*86.3*			*18.0-148*		*11/27/2019 23:43*	WG1387778

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.5		1	11/29/2019 15:27	WG1388294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	734		0.850	10.7	1	11/27/2019 15:32	WG1387087

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0420	B J	0.0232	0.107	1	12/02/2019 11:52	WG1389650
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*12/02/2019 11:52*	WG1389650

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000428	0.00107	1	11/27/2019 17:07	WG1387924
Toluene	U		0.00134	0.00535	1	11/27/2019 17:07	WG1387924
Ethylbenzene	U		0.000567	0.00267	1	11/27/2019 17:07	WG1387924
Total Xylenes	U		0.00511	0.00695	1	11/27/2019 17:07	WG1387924
(S) Toluene-d8	*98.8*			*75.0-131*		*11/27/2019 17:07*	WG1387924
(S) 4-Bromofluorobenzene	*89.4*			*67.0-138*		*11/27/2019 17:07*	WG1387924
(S) 1,2-Dichloroethane-d4	*94.0*			*70.0-130*		*11/27/2019 17:07*	WG1387924

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.91	J	1.72	4.28	1	11/28/2019 20:49	WG1387733
C28-C40 Oil Range	8.52		0.293	4.28	1	11/28/2019 20:49	WG1387733
(S) o-Terphenyl	*65.2*			*18.0-148*		*11/28/2019 20:49*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.4		1	11/29/2019 15:27	WG1388294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	220		0.852	10.7	1	11/27/2019 15:42	WG1387087

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0283	B J	0.0232	0.107	1	11/29/2019 14:41	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*77.0-120*		*11/29/2019 14:41*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000428	0.00107	1	11/27/2019 17:27	WG1387924
Toluene	U		0.00134	0.00536	1	11/27/2019 17:27	WG1387924
Ethylbenzene	U		0.000568	0.00268	1	11/27/2019 17:27	WG1387924
Total Xylenes	U		0.00512	0.00696	1	11/27/2019 17:27	WG1387924
(S) Toluene-d8	*101*			*75.0-131*		*11/27/2019 17:27*	WG1387924
(S) 4-Bromofluorobenzene	*87.8*			*67.0-138*		*11/27/2019 17:27*	WG1387924
(S) 1,2-Dichloroethane-d4	*95.1*			*70.0-130*		*11/27/2019 17:27*	WG1387924

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	5.11		1.72	4.28	1	11/29/2019 08:08	WG1387733
C28-C40 Oil Range	8.59		0.293	4.28	1	11/29/2019 08:08	WG1387733
(S) o-Terphenyl	*58.6*			*18.0-148*		*11/29/2019 08:08*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.5		1	11/29/2019 15:27	WG1388294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	78.5		0.833	10.5	1	11/27/2019 15:51	WG1387087

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0429	B J	0.0227	0.105	1	12/01/2019 11:53	WG1389310
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*12/01/2019 11:53*	WG1389310

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.000445	J	0.000419	0.00105	1	12/01/2019 15:16	WG1389397
Toluene	U		0.00131	0.00524	1	12/01/2019 15:16	WG1389397
Ethylbenzene	U		0.000555	0.00262	1	12/01/2019 15:16	WG1389397
Total Xylenes	U		0.00501	0.00681	1	12/01/2019 15:16	WG1389397
(S) Toluene-d8	*96.1*			*75.0-131*		*12/01/2019 15:16*	WG1389397
(S) 4-Bromofluorobenzene	*91.4*			*67.0-138*		*12/01/2019 15:16*	WG1389397
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*12/01/2019 15:16*	WG1389397

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	6.35		1.69	4.19	1	11/29/2019 08:21	WG1387733
C28-C40 Oil Range	13.3		0.287	4.19	1	11/29/2019 08:21	WG1387733
(S) o-Terphenyl	*60.6*			*18.0-148*		*11/29/2019 08:21*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.6		1	11/29/2019 15:27	WG1388294

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	28.3		0.815	10.2	1	11/27/2019 16:01	WG1387087

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0282	B J	0.0224	0.104	1.01	11/29/2019 15:22	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*95.2*			*77.0-120*		*11/29/2019 15:22*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.000641	J	0.000410	0.00102	1	11/27/2019 19:08	WG1387955
Toluene	U		0.00128	0.00512	1	11/27/2019 19:08	WG1387955
Ethylbenzene	U		0.000543	0.00256	1	11/27/2019 19:08	WG1387955
Total Xylenes	U		0.00490	0.00666	1	11/27/2019 19:08	WG1387955
(S) Toluene-d8	*99.5*			*75.0-131*		*11/27/2019 19:08*	WG1387955
(S) 4-Bromofluorobenzene	*89.9*			*67.0-138*		*11/27/2019 19:08*	WG1387955
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*11/27/2019 19:08*	WG1387955

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.65	4.10	1	11/29/2019 08:34	WG1387733
C28-C40 Oil Range	1.13	J	0.281	4.10	1	11/29/2019 08:34	WG1387733
(S) o-Terphenyl	*52.8*			*18.0-148*		*11/29/2019 08:34*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.5		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	392		0.841	10.6	1	12/01/2019 21:42	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0253	B J	0.0230	0.106	1	11/29/2019 15:43	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*95.3*			*77.0-120*		*11/29/2019 15:43*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000423	0.00106	1	11/27/2019 19:27	WG1387955
Toluene	U		0.00132	0.00529	1	11/27/2019 19:27	WG1387955
Ethylbenzene	U		0.000561	0.00265	1	11/27/2019 19:27	WG1387955
Total Xylenes	U		0.00506	0.00688	1	11/27/2019 19:27	WG1387955
(S) Toluene-d8	*101*			*75.0-131*		*11/27/2019 19:27*	WG1387955
(S) 4-Bromofluorobenzene	*89.4*			*67.0-138*		*11/27/2019 19:27*	WG1387955
(S) 1,2-Dichloroethane-d4	*97.4*			*70.0-130*		*11/27/2019 19:27*	WG1387955

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.70	4.23	1	11/29/2019 08:47	WG1387733
C28-C40 Oil Range	2.79	J	0.290	4.23	1	11/29/2019 08:47	WG1387733
(S) o-Terphenyl	*62.8*			*18.0-148*		*11/29/2019 08:47*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.6		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	125		0.832	10.5	1	12/01/2019 21:50	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0227	0.105	1	11/29/2019 16:04	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*77.0-120*		*11/29/2019 16:04*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000419	0.00105	1	11/27/2019 19:46	WG1387955
Toluene	U		0.00131	0.00523	1	11/27/2019 19:46	WG1387955
Ethylbenzene	U		0.000555	0.00262	1	11/27/2019 19:46	WG1387955
Total Xylenes	U		0.00500	0.00680	1	11/27/2019 19:46	WG1387955
(S) Toluene-d8	*99.9*			*75.0-131*		*11/27/2019 19:46*	WG1387955
(S) 4-Bromofluorobenzene	*96.1*			*67.0-138*		*11/27/2019 19:46*	WG1387955
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*11/27/2019 19:46*	WG1387955

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.08	J	1.68	4.19	1	11/29/2019 09:53	WG1387733
C28-C40 Oil Range	6.53		0.287	4.19	1	11/29/2019 09:53	WG1387733
(S) o-Terphenyl	*60.1*			*18.0-148*		*11/29/2019 09:53*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	153		0.853	10.7	1	12/01/2019 22:00	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0291	B J	0.0233	0.107	1	11/29/2019 16:24	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*95.0*			*77.0-120*		*11/29/2019 16:24*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000429	0.00107	1	11/28/2019 04:16	WG1388275
Toluene	U		0.00134	0.00537	1	11/28/2019 04:16	WG1388275
Ethylbenzene	U		0.000569	0.00268	1	11/28/2019 04:16	WG1388275
Total Xylenes	U	J4	0.00513	0.00698	1	11/28/2019 04:16	WG1388275
(S) Toluene-d8	*99.9*			*75.0-131*		*11/28/2019 04:16*	WG1388275
(S) 4-Bromofluorobenzene	*90.4*			*67.0-138*		*11/28/2019 04:16*	WG1388275
(S) 1,2-Dichloroethane-d4	*96.9*			*70.0-130*		*11/28/2019 04:16*	WG1388275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.96	J	1.73	4.29	1	11/29/2019 10:06	WG1387733
C28-C40 Oil Range	11.7		0.294	4.29	1	11/29/2019 10:06	WG1387733
(S) o-Terphenyl	*55.5*			*18.0-148*		*11/29/2019 10:06*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.1		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	22.4	B	0.864	10.9	1	12/01/2019 22:10	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0284	B J	0.0236	0.109	1	11/29/2019 16:45	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*77.0-120*		*11/29/2019 16:45*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000435	0.00109	1	11/28/2019 04:36	WG1388275
Toluene	U		0.00136	0.00543	1	11/28/2019 04:36	WG1388275
Ethylbenzene	U		0.000576	0.00272	1	11/28/2019 04:36	WG1388275
Total Xylenes	U	J4	0.00519	0.00706	1	11/28/2019 04:36	WG1388275
(S) Toluene-d8	*102*			*75.0-131*		*11/28/2019 04:36*	WG1388275
(S) 4-Bromofluorobenzene	*91.8*			*67.0-138*		*11/28/2019 04:36*	WG1388275
(S) 1,2-Dichloroethane-d4	*98.2*			*70.0-130*		*11/28/2019 04:36*	WG1388275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.75	4.35	1	11/29/2019 10:19	WG1387733
C28-C40 Oil Range	4.49		0.298	4.35	1	11/29/2019 10:19	WG1387733
(S) o-Terphenyl	*57.5*			*18.0-148*		*11/29/2019 10:19*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.5		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	25.1	B	0.889	11.2	1	12/01/2019 22:29	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0389	B J	0.0243	0.112	1	12/01/2019 12:41	WG1389310
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*12/01/2019 12:41*	WG1389310

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000447	0.00112	1	11/28/2019 04:56	WG1388275
Toluene	U		0.00140	0.00559	1	11/28/2019 04:56	WG1388275
Ethylbenzene	U		0.000592	0.00279	1	11/28/2019 04:56	WG1388275
Total Xylenes	U	J4	0.00534	0.00727	1	11/28/2019 04:56	WG1388275
(S) Toluene-d8	*104*			*75.0-131*		*11/28/2019 04:56*	WG1388275
(S) 4-Bromofluorobenzene	*84.7*			*67.0-138*		*11/28/2019 04:56*	WG1388275
(S) 1,2-Dichloroethane-d4	*97.6*			*70.0-130*		*11/28/2019 04:56*	WG1388275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.80	4.47	1	11/29/2019 10:33	WG1387733
C28-C40 Oil Range	0.873	J	0.306	4.47	1	11/29/2019 10:33	WG1387733
(S) o-Terphenyl	*132*			*18.0-148*		*11/29/2019 10:33*	WG1387733

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.6		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	102		0.831	10.5	1	12/01/2019 22:38	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0288	B J	0.0227	0.105	1	11/29/2019 17:26	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*95.6*			*77.0-120*		*11/29/2019 17:26*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000418	0.00105	1	11/28/2019 05:16	WG1388275
Toluene	U		0.00131	0.00523	1	11/28/2019 05:16	WG1388275
Ethylbenzene	U		0.000554	0.00261	1	11/28/2019 05:16	WG1388275
Total Xylenes	U	J4	0.00500	0.00680	1	11/28/2019 05:16	WG1388275
(S) Toluene-d8	*102*			*75.0-131*		*11/28/2019 05:16*	WG1388275
(S) 4-Bromofluorobenzene	*87.6*			*67.0-138*		*11/28/2019 05:16*	WG1388275
(S) 1,2-Dichloroethane-d4	*97.8*			*70.0-130*		*11/28/2019 05:16*	WG1388275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.68	4.18	1	11/28/2019 05:25	WG1387734
C28-C40 Oil Range	1.89	J	0.286	4.18	1	11/28/2019 05:25	WG1387734
(S) o-Terphenyl	*47.3*			*18.0-148*		*11/28/2019 05:25*	WG1387734

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.0		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	53.8	B	0.846	10.6	1	12/01/2019 22:48	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0262	B J	0.0231	0.106	1	11/29/2019 17:47	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*77.0-120*		*11/29/2019 17:47*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000426	0.00106	1	11/28/2019 05:36	WG1388275
Toluene	U		0.00133	0.00532	1	11/28/2019 05:36	WG1388275
Ethylbenzene	U		0.000564	0.00266	1	11/28/2019 05:36	WG1388275
Total Xylenes	U	J4	0.00509	0.00692	1	11/28/2019 05:36	WG1388275
(S) Toluene-d8	*102*			*75.0-131*		*11/28/2019 05:36*	WG1388275
(S) 4-Bromofluorobenzene	*88.5*			*67.0-138*		*11/28/2019 05:36*	WG1388275
(S) 1,2-Dichloroethane-d4	*99.3*			*70.0-130*		*11/28/2019 05:36*	WG1388275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.71	4.26	1	11/28/2019 05:38	WG1387734
C28-C40 Oil Range	4.10	J	0.292	4.26	1	11/28/2019 05:38	WG1387734
(S) o-Terphenyl	*43.4*			*18.0-148*		*11/28/2019 05:38*	WG1387734

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.0		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	9.46	B J	0.829	10.4	1	12/01/2019 23:16	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0253	B J	0.0226	0.104	1	11/29/2019 18:07	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*95.8*			*77.0-120*		*11/29/2019 18:07*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000417	0.00104	1	11/28/2019 05:56	WG1388275
Toluene	U		0.00130	0.00521	1	11/28/2019 05:56	WG1388275
Ethylbenzene	U		0.000552	0.00261	1	11/28/2019 05:56	WG1388275
Total Xylenes	U	J4	0.00498	0.00677	1	11/28/2019 05:56	WG1388275
(S) Toluene-d8	*101*			*75.0-131*		*11/28/2019 05:56*	WG1388275
(S) 4-Bromofluorobenzene	*86.8*			*67.0-138*		*11/28/2019 05:56*	WG1388275
(S) 1,2-Dichloroethane-d4	*98.8*			*70.0-130*		*11/28/2019 05:56*	WG1388275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.68	4.17	1	11/28/2019 05:51	WG1387734
C28-C40 Oil Range	1.02	J	0.286	4.17	1	11/28/2019 05:51	WG1387734
(S) o-Terphenyl	*45.6*			*18.0-148*		*11/28/2019 05:51*	WG1387734

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.2		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	4.30	B J	0.844	10.6	1	12/01/2019 23:26	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0345	B J	0.0230	0.106	1	11/29/2019 18:28	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*95.4*			*77.0-120*		*11/29/2019 18:28*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000425	0.00106	1	11/28/2019 06:16	WG1388275
Toluene	U		0.00133	0.00531	1	11/28/2019 06:16	WG1388275
Ethylbenzene	U		0.000563	0.00265	1	11/28/2019 06:16	WG1388275
Total Xylenes	U	J4	0.00508	0.00690	1	11/28/2019 06:16	WG1388275
(S) Toluene-d8	*101*			*75.0-131*		*11/28/2019 06:16*	WG1388275
(S) 4-Bromofluorobenzene	*90.1*			*67.0-138*		*11/28/2019 06:16*	WG1388275
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*11/28/2019 06:16*	WG1388275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.71	4.25	1	11/28/2019 06:04	WG1387734
C28-C40 Oil Range	1.18	J	0.291	4.25	1	11/28/2019 06:04	WG1387734
(S) o-Terphenyl	*51.1*			*18.0-148*		*11/28/2019 06:04*	WG1387734

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.3		1	11/29/2019 15:17	WG1388295

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	3.34	B J	0.825	10.4	1	12/01/2019 23:54	WG1387581

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0260	B J	0.0225	0.104	1	11/29/2019 18:49	WG1388787
(S) a,a,a-Trifluorotoluene(FID)	*95.7*			*77.0-120*		*11/29/2019 18:49*	WG1388787

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000415	0.00104	1	11/28/2019 06:37	WG1388275
Toluene	U		0.00130	0.00519	1	11/28/2019 06:37	WG1388275
Ethylbenzene	U		0.000550	0.00260	1	11/28/2019 06:37	WG1388275
Total Xylenes	U	J4	0.00496	0.00675	1	11/28/2019 06:37	WG1388275
(S) Toluene-d8	*102*			*75.0-131*		*11/28/2019 06:37*	WG1388275
(S) 4-Bromofluorobenzene	*87.3*			*67.0-138*		*11/28/2019 06:37*	WG1388275
(S) 1,2-Dichloroethane-d4	*99.1*			*70.0-130*		*11/28/2019 06:37*	WG1388275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.67	4.15	1	11/28/2019 06:25	WG1387734
C28-C40 Oil Range	U		0.284	4.15	1	11/28/2019 06:25	WG1387734
(S) o-Terphenyl	*48.8*			*18.0-148*		*11/28/2019 06:25*	WG1387734

Method Blank (MB)

(MB) R3477590-1 11/29/19 15:27

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

L1164149-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1164149-02 11/29/19 15:27 • (DUP) R3477590-3 11/29/19 15:27

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	80.9	79.7	1	1.57		10

Laboratory Control Sample (LCS)

(LCS) R3477590-2 11/29/19 15:27

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) R3477589-1 11/29/19 15:17

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

L1164150-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1164150-12 11/29/19 15:17 • (DUP) R3477589-3 11/29/19 15:17

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	94.0	94.7	1	0.772		10

Laboratory Control Sample (LCS)

(LCS) R3477589-2 11/29/19 15:17

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) R3477068-1 11/27/19 10:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.64	J	0.795	10.0

L1163490-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1163490-01 11/27/19 13:47 • (DUP) R3477068-5 11/27/19 13:57

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3110	3120	5	0.316		20

L1164150-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1164150-01 11/27/19 15:13 • (DUP) R3477068-6 11/27/19 15:23

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	477	453	1	5.25		20

Laboratory Control Sample (LCS)

(LCS) R3477068-2 11/27/19 10:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	199	99.5	90.0-110	

L1163000-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1163000-02 11/27/19 11:44 • (MS) R3477068-3 11/27/19 11:53 • (MSD) R3477068-4 11/27/19 12:03

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	500	141	648	638	101	99.4	1	80.0-120			1.62	20

Method Blank (MB)

(MB) R3477907-1 12/01/19 19:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	5.38	J	0.795	10.0

L1164150-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1164150-09 12/01/19 22:10 • (DUP) R3477907-3 12/01/19 22:19

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	22.4	21.6	1	3.32		20

L1164842-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1164842-05 12/02/19 00:42 • (DUP) R3477907-6 12/02/19 01:10

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	23.4	15.0	1	43.6	P1	20

Laboratory Control Sample (LCS)

(LCS) R3477907-2 12/01/19 19:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	212	106	90.0-110	

L1164150-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164150-14 12/01/19 23:26 • (MS) R3477907-4 12/01/19 23:35 • (MSD) R3477907-5 12/01/19 23:45

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	531	4.30	535	527	99.9	98.5	1	80.0-120			1.40	20

Method Blank (MB)

(MB) R3477674-3 11/29/19 12:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0365	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*98.9*			*77.0-120*

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

(LCS) R3477674-1 11/29/19 11:09 • (LCSD) R3477674-2 11/29/19 11:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.24	5.59	95.3	102	72.0-127			6.46	20
(S) a,a,a-Trifluorotoluene(FID)				*110*	*112*	*77.0-120*				

L1164519-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164519-03 11/29/19 19:09 • (MS) R3477674-4 11/29/19 20:52 • (MSD) R3477674-5 11/29/19 21:26

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	136	U	121	130	88.2	94.8	25	10.0-151			7.17	28
(S) a,a,a-Trifluorotoluene(FID)					*110*	*110*		*77.0-120*				

Method Blank (MB)

(MB) R3477967-2 12/01/19 10:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0371	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3477967-1 12/01/19 10:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.49	99.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*113*	*77.0-120*	

Method Blank (MB)

(MB) R3478135-2 12/02/19 10:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0410	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3478135-1 12/02/19 10:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.55	101	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*114*	*77.0-120*	

Method Blank (MB)

(MB) R3477017-2 11/27/19 08:17

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	*99.1*			*75.0-131*
(S) 4-Bromofluorobenzene	*92.7*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*

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

(LCS) R3477017-1 11/27/19 05:54 • (LCSD) R3477017-3 11/27/19 09:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.129	0.128	103	102	70.0-123			0.778	20
Ethylbenzene	0.125	0.147	0.142	118	114	74.0-126			3.46	20
Toluene	0.125	0.103	0.103	82.4	82.4	75.0-121			0.000	20
Xylenes, Total	0.375	0.478	0.456	127	122	72.0-127			4.71	20
(S) Toluene-d8				*101*	*99.5*	*75.0-131*				
(S) 4-Bromofluorobenzene				*105*	*106*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*97.4*	*99.9*	*70.0-130*				

Method Blank (MB)

(MB) R3477714-2 11/27/19 16:56

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	*103*			*75.0-131*
(S) 4-Bromofluorobenzene	*87.9*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*95.0*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3477714-1 11/27/19 15:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.134	107	70.0-123	
Ethylbenzene	0.125	0.103	82.4	74.0-126	
Toluene	0.125	0.116	92.8	75.0-121	
Xylenes, Total	0.375	0.302	80.5	72.0-127	
(S) Toluene-d8			*101*	*75.0-131*	
(S) 4-Bromofluorobenzene			*89.1*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*102*	*70.0-130*	

L1164077-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164077-21 11/27/19 20:05 • (MS) R3477714-3 11/27/19 23:31 • (MSD) R3477714-4 11/27/19 23:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	1.00	7.70	21.7	20.4	1400	1270	8	10.0-149	E V	E V	6.18	37
Ethylbenzene	1.00	3.04	7.74	6.73	470	369	8	10.0-160	J5	J5	14.0	38
Toluene	1.00	1.35	5.96	5.00	461	365	8	10.0-156	J5	J5	17.5	38
Xylenes, Total	3.00	5.13	15.4	12.5	342	246	8	10.0-160	J5	J5	20.8	38
(S) Toluene-d8					*100*	*99.2*		*75.0-131*				
(S) 4-Bromofluorobenzene					*91.0*	*88.9*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*100*	*97.2*		*70.0-130*				

Method Blank (MB)

(MB) R3477494-3 11/28/19 00:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*100*			*75.0-131*
(S) 4-Bromofluorobenzene	*91.3*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*92.9*			*70.0-130*

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

(LCS) R3477494-1 11/27/19 22:56 • (LCSD) R3477494-2 11/27/19 23:16

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 %
Benzene	0.125	0.130	0.132	104	106	70.0-123			1.53	20
Ethylbenzene	0.125	0.154	0.154	123	123	74.0-126			0.000	20
Toluene	0.125	0.103	0.105	82.4	84.0	75.0-121			1.92	20
Xylenes, Total	0.375	0.474	0.483	126	129	72.0-127		J4	1.88	20
(S) Toluene-d8				*98.8*	*101*	*75.0-131*				
(S) 4-Bromofluorobenzene				*102*	*102*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*95.1*	*94.8*	*70.0-130*				

Method Blank (MB)

(MB) R3477908-3 12/01/19 11:07

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	*98.4*			*75.0-131*
(S) 4-Bromofluorobenzene	*90.3*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*

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

(LCS) R3477908-1 12/01/19 09:50 • (LCSD) R3477908-2 12/01/19 10:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.132	0.146	106	117	70.0-123			10.1	20
Ethylbenzene	0.125	0.111	0.124	88.8	99.2	74.0-126			11.1	20
Toluene	0.125	0.106	0.116	84.8	92.8	75.0-121			9.01	20
Xylenes, Total	0.375	0.362	0.405	96.5	108	72.0-127			11.2	20
(S) Toluene-d8				*93.1*	*93.1*	*75.0-131*				
(S) 4-Bromofluorobenzene				*92.3*	*92.9*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*116*	*116*	*70.0-130*				

Method Blank (MB)

(MB) R3477219-1 11/27/19 22:48

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	*91.7*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3477219-2 11/27/19 23:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	49.4	98.8	50.0-150	
(S) o-Terphenyl			*94.9*	*18.0-148*	

L1164838-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164838-18 11/29/19 10:47 • (MS) R3477496-1 11/29/19 11:00 • (MSD) R3477496-2 11/29/19 11:13

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.8	U	37.7	37.6	75.7	75.5	1	50.0-150			0.266	20
(S) o-Terphenyl					*52.9*	*58.6*		*18.0-148*				

Method Blank (MB)

(MB) R3477356-1 11/28/19 04:59

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	*46.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3477356-2 11/28/19 05:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	30.5	61.0	50.0-150	
(S) o-Terphenyl			*61.7*	*18.0-148*	

L1164624-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164624-01 11/29/19 21:49 • (MS) R3477659-1 11/29/19 22:02 • (MSD) R3477659-2 11/29/19 22:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.7	ND	24.5	22.1	49.3	44.6	10	50.0-150	J6	J6	10.3	20
(S) o-Terphenyl					*70.7*	*72.9*		*18.0-148*				

Sample Narrative:

OS: Dilution due to matrix impact during extract concentration procedure

Method Blank (MB)

(MB) R3477220-1 11/27/19 23:15

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	*70.1*			*18.0-148*

Method Blank (MB)

(MB) R3477676-1 11/30/19 17:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*83.3*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3477220-2 11/27/19 23:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	53.0	106	50.0-150	
(S) o-Terphenyl			*96.2*	*18.0-148*	

L1164838-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164838-12 11/28/19 19:05 • (MS) R3477497-1 11/28/19 19:18 • (MSD) R3477497-2 11/28/19 19:31

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.8	U	29.3	36.8	58.8	73.6	1	50.0-150		J3	22.7	20
(S) o-Terphenyl					*42.8*	*56.5*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
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.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

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

State Accreditations

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

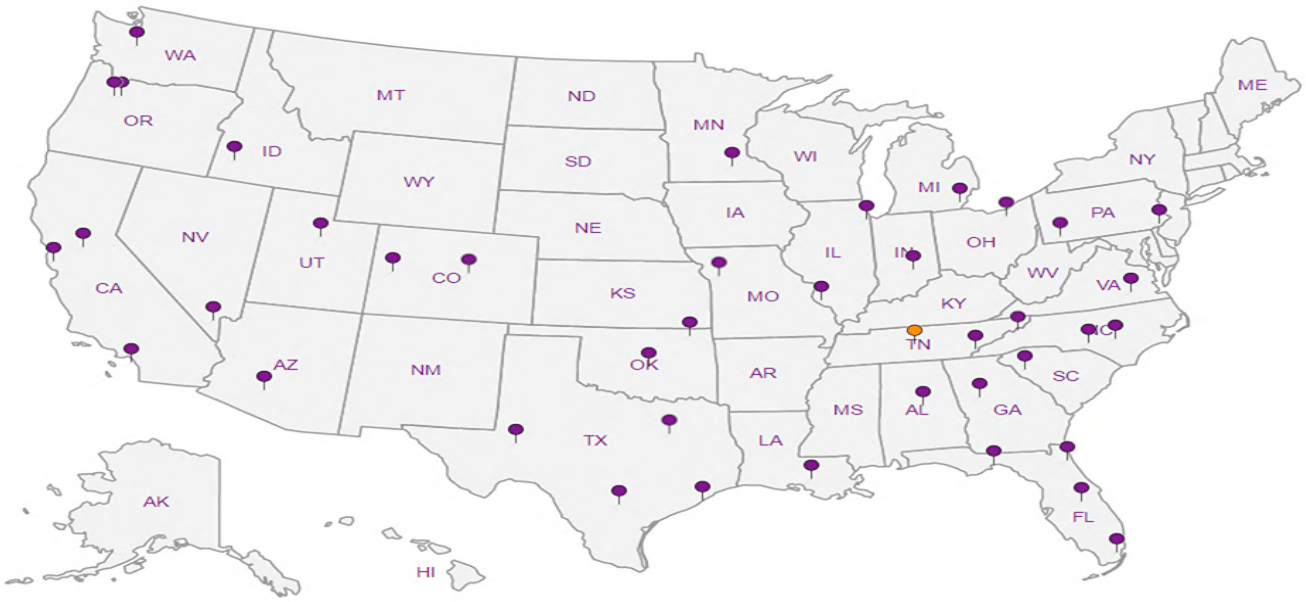
Third Party Federal Accreditations

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

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

Our Locations

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



Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

L164150

Client Name:	ConocoPhillips	Site Manager:	Christian Llull
Project Name:	COP EVGSAU CTB		
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-01987
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	# 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 / 824	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
	BH-1 (0-1)	11/18/2019	1300		X				X		1	N	X		X												X					-01
	BH-1 (2-3)	11/18/2019	1305		X				X		1	N	X		X												X					-02
	BH-1 (4-5)	11/18/2019	1310		X				X		1	N	X		X												X					-03
	BH-1 (6-7)	11/18/2019	1320		X				X		1	N	X		X												X					-04
	BH-1 (9-10)	11/18/2019	1325		X				X		1	N	X		X												X					-05
	BH-2 (0-1)	11/18/2019	1400		X				X		1	N	X		X												X					-06
	BH-2 (2-3)	11/18/2019	1405		X				X		1	N	X		X												X					-07
	BH-2 (4-5)	11/18/2019	1410		X				X		1	N	X		X												X					-08
	BH-2 (6-7)	11/18/2019	1415		X				X		1	N	X		X												X					-09
	BH-2 (9-10)	11/18/2019	1425		X				X		1	N	X		X												X					-10

Relinquished by:	Date: 11-20-2019	Time: 1615	Received by:
Relinquished by:	Date: 11-21-19	Time: 16:45	Received by: Scott
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 11-21-19 Time: (2:00)

Received by: Date: 11-21-19 Time: 16:45

Received by: Date: 11-21-19 Time: 16:45

LAB USE ONLY

Sample Temperature

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

0830

1.7-.1=1.6 uR/hr AZ

RAD SCREEN: <0.5 mR/hr

Analysis Request of Chain of Custody Record

Page : 2 of 2

Tetra Tech, Inc.

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

L1164150

Client Name:	ConocoPhillips	Site Manager:	Christian Llull
Project Name:	COP EVGSAU CTB		
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-01987
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	BH-3 (0-1)	11/18/2019	1450		X				X			1	N	X		X												X						-11
	BH-3 (2-3)	11/18/2019	1455		X				X			1	N	X		X												X						-12
	BH-3 (4-5)	11/18/2019	1500		X				X			1	N	X		X												X						-13
	BH-3 (6-7)	11/18/2019	1510		X				X			1	N	X		X												X						-14
	BH-3 (9-10)	11/18/2019	1520		X				X			1	N	X		X												X						-15

Relinquished by: Bill D. Smith	Date: 11-20-2019	Time: 1015	Received by:	Date: 11-21-19	Time: 12:00
Relinquished by:	Date: 11-21-19	Time: 16:45	Received by: SwA	Date: 11-21-19	Time: 16:45
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

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

DK

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

1.7-.1=1.6 MM A2

RAD SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: COPTETRA	L1164350	
Cooler Received/Opened On: 11/22/19 Temperature: 1.6		
Received By: Tanner Windham		
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?			

Andy Vann

From: Chris McCord
Sent: Monday, November 25, 2019 2:09 PM
To: Troy Dunlap; Project Service
Subject: RE: COCs EVGSAU CTB *COPTETRA*

Please add all tests back to L1164150-01 thru -15.

Thanks,
Christopher McCord
Project Manager

Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
615.773.3281 | Cell 615.504.3183
cmccord@pacenational.com| www.pacenational.com

ESC Lab Sciences is now Pace Analytical National Center for Testing & Innovation! Please make note of my new email address and website.

From: Troy Dunlap
Sent: Friday, November 22, 2019 9:32 PM
To: Chris McCord; Project Service
Subject: RE: COCs EVGSAU CTB *COPTETRA*

This was logged to L1164150 and sent to the labs.. Removed all analysis.

From: Chris McCord <CMcCord@pacenational.com>
Sent: Thursday, November 21, 2019 9:34 AM
To: Project Service <ProjServ@pacenational.com>
Subject: FW: COCs EVGSAU CTB *COPTETRA*
Importance: High

We will receive the attached samples today and tomorrow. Please place all samples on hold until further notice.

Thanks,
Christopher McCord
Project Manager

Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122

615.773.3281 | Cell 615.504.3183
cmccord@pacenational.com | pacenational.com

ESC Lab Sciences is now Pace Analytical National Center for Testing & Innovation! Please make note of my new email address and website.

From: Llull, Christian [mailto:Christian.Llull@tetratech.com]
Sent: Wednesday, November 20, 2019 5:36 PM
To: Chris McCord
Subject: Fwd: COCs EVGSAU CTB

Chris.

You will receive these samples in the next couple days.

Project 212C-MD-01998 EVGSAU CTB

Please hold all these samples until further notice.

I apologize for the inconvenience. There was an error in the field crew following scope.

We may do some analysis but I need to evaluate.

Christian

From: Merritt, Clint

Sent: Wednesday, November 20, 2019 2:02 PM

To: Llull, Christian <Christian.Llull@tetratech.com>

Subject: COCs EVGSAU CTB

Take a look at these COC's real quick and make sure that they are correct

Thanks Christian!

Clinton Merritt | Staff Scientist I

Cell:**432.553.6375** Office: **432.687.8124**

clint.merritt@tetratech.com

Tetra Tech OGA | Complex World, Clear Solutions™
901 W. Wall Street., Suite 100 | Midland, TX 79701 | www.tetratech.com

TETRA TECH

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 05, 2019

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1164452
Samples Received:	11/23/2019
Project Number:	212C-MD-01987
Description:	COP EVGSAU CTB

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

Entire Report Reviewed By:

Chris McCord
Project Manager

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

BH-4 (0-1') L1164452-01 Solid

Collected by | Collected date/time 11/21/19 10:10 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 21:35	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 16:59	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388748	1	11/26/19 10:58	11/30/19 01:48	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 03:39	KME	Mt. Juliet, TN

BH-4 (2-3') L1164452-02 Solid

Collected by | Collected date/time 11/21/19 10:15 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 21:44	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 17:21	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388748	1	11/26/19 10:58	11/30/19 02:08	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 03:51	KME	Mt. Juliet, TN

BH-4 (4-5') L1164452-03 Solid

Collected by | Collected date/time 11/21/19 10:20 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 21:54	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 18:32	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388748	1	11/26/19 10:58	11/30/19 02:28	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 04:04	KME	Mt. Juliet, TN

BH-4 (6-7') L1164452-04 Solid

Collected by | Collected date/time 11/21/19 10:25 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 22:13	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 18:55	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388748	1	11/26/19 10:58	11/30/19 02:48	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 04:16	KME	Mt. Juliet, TN

BH-4 (9-10') L1164452-05 Solid

Collected by | Collected date/time 11/21/19 10:30 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 22:22	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 19:17	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388748	1	11/26/19 10:58	11/30/19 03:07	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 06:15	KME	Mt. Juliet, TN

BH-5 (0-1') L1164452-06 Solid

Collected by | Collected date/time 11/21/19 11:00 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 22:32	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 19:39	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388748	1	11/26/19 10:58	11/30/19 03:27	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 06:28	KME	Mt. Juliet, TN

BH-5 (2-3') L1164452-07 Solid

Collected by | Collected date/time 11/21/19 11:05 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 22:41	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 20:02	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388748	1	11/26/19 10:58	11/30/19 03:48	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 06:41	KME	Mt. Juliet, TN

BH-5 (4-5') L1164452-08 Solid

Collected by | Collected date/time 11/21/19 11:10 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 23:10	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 20:24	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 02:43	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 06:53	KME	Mt. Juliet, TN

BH-5 (9-10') L1164452-09 Solid

Collected by | Collected date/time 11/21/19 11:20 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 23:19	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390223	1	11/26/19 10:58	12/03/19 20:46	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 03:03	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 07:06	KME	Mt. Juliet, TN

BH-5 (11-12') L1164452-10 Solid

Collected by | Collected date/time 11/21/19 11:30 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388955	1	11/30/19 20:49	11/30/19 21:18	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389848	1	12/02/19 19:00	12/02/19 23:29	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1391592	1	11/26/19 10:58	12/05/19 13:08	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 03:23	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 07:19	KME	Mt. Juliet, TN

BH-5 (14-15') L1164452-11 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 11:40	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/02/19 23:02	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1391592	1	11/26/19 10:58	12/05/19 13:29	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 03:44	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 07:31	KME	Mt. Juliet, TN

BH-6 (0-1') L1164452-12 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 12:00	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/02/19 23:32	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1391592	1	11/26/19 10:58	12/05/19 13:49	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 04:04	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/28/19 04:46	KME	Mt. Juliet, TN

BH-6 (2-3') L1164452-13 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 12:05	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/02/19 23:47	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1391592	1	11/26/19 10:58	12/05/19 14:09	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 04:25	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	12/02/19 17:49	KME	Mt. Juliet, TN

BH-6 (4-5') L1164452-14 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 12:10	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 00:02	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1391127	1	11/26/19 10:58	12/05/19 12:58	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 04:45	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 07:44	KME	Mt. Juliet, TN

BH-6 (9-10') L1164452-15 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 12:20	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 00:47	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1391127	1	11/26/19 10:58	12/05/19 13:22	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 05:06	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 07:57	KME	Mt. Juliet, TN

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

BH-6 (13-14') L1164452-16 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 12:25	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 01:32	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1391127	1	11/26/19 10:58	12/05/19 13:46	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 05:26	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 08:10	KME	Mt. Juliet, TN

BH-6 (16-17') L1164452-17 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 12:30	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 01:47	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390277	1	11/26/19 10:58	12/04/19 03:38	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 05:47	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 08:22	KME	Mt. Juliet, TN

BH-6 (19-20') L1164452-18 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 12:40	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 02:01	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390277	1	11/26/19 10:58	12/04/19 03:58	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 06:08	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 08:35	KME	Mt. Juliet, TN

BH-7 (0-1') L1164452-19 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 13:30	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 02:16	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390277	1	11/26/19 10:58	12/04/19 04:19	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 06:28	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 08:47	KME	Mt. Juliet, TN

BH-7 (2-3') L1164452-20 Solid

			Collected by	Collected date/time	Received date/time	
				11/21/19 13:35	11/23/19 08:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388957	1	11/30/19 20:27	11/30/19 20:44	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 02:31	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390277	1	11/26/19 10:58	12/04/19 04:40	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 06:49	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387426	1	11/26/19 18:00	11/27/19 09:00	KME	Mt. Juliet, TN

BH-7 (4-5') L1164452-21 Solid

Collected by | Collected date/time 11/21/19 13:40 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388958	1	11/30/19 18:47	11/30/19 19:03	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 02:46	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390277	1	11/26/19 10:58	12/04/19 05:00	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 07:09	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387427	1	11/26/19 17:01	11/26/19 22:22	JDG	Mt. Juliet, TN

BH-7 (9-10') L1164452-22 Solid

Collected by | Collected date/time 11/21/19 13:50 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388958	1	11/30/19 18:47	11/30/19 19:03	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 03:01	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390277	1	11/26/19 10:58	12/04/19 05:21	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389006	1	11/26/19 10:58	12/01/19 07:30	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387427	1	11/26/19 17:01	11/26/19 22:58	JDG	Mt. Juliet, TN

BH-7 (11-12') L1164452-23 Solid

Collected by | Collected date/time 11/21/19 13:55 | Received date/time 11/23/19 08:30

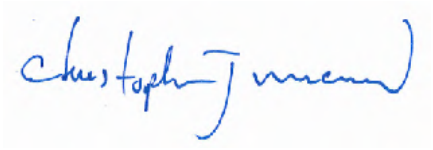
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388958	1	11/30/19 18:47	11/30/19 19:03	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 03:16	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390277	1	11/26/19 10:58	12/04/19 05:42	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389012	1	11/26/19 10:58	11/30/19 00:28	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387427	1	11/26/19 17:01	11/26/19 23:12	JDG	Mt. Juliet, TN

BH-7 (14-15') L1164452-24 Solid

Collected by | Collected date/time 11/21/19 14:00 | Received date/time 11/23/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1388958	1	11/30/19 18:47	11/30/19 19:03	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 03:31	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390277	1	11/26/19 10:58	12/04/19 06:02	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389012	1	11/26/19 10:58	11/30/19 00:47	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1387427	1	11/26/19 17:01	11/26/19 23:27	JDG	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	93.0		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	34.3	B	0.855	10.7	1	12/02/2019 21:35	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0693	B J	0.0233	0.107	1	12/03/2019 16:59	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*12/03/2019 16:59*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000430	0.00107	1	11/30/2019 01:48	WG1388748
Toluene	U		0.00134	0.00537	1	11/30/2019 01:48	WG1388748
Ethylbenzene	U		0.000570	0.00269	1	11/30/2019 01:48	WG1388748
Total Xylenes	U		0.00514	0.00699	1	11/30/2019 01:48	WG1388748
(S) Toluene-d8	*103*			*75.0-131*		*11/30/2019 01:48*	WG1388748
(S) 4-Bromofluorobenzene	*78.4*			*67.0-138*		*11/30/2019 01:48*	WG1388748
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*11/30/2019 01:48*	WG1388748

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	5.75		1.73	4.30	1	11/27/2019 03:39	WG1387426
C28-C40 Oil Range	3.17	J	0.295	4.30	1	11/27/2019 03:39	WG1387426
(S) o-Terphenyl	*68.7*			*18.0-148*		*11/27/2019 03:39*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.5		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	30.0	B	0.869	10.9	1	12/02/2019 21:44	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0667	B J	0.0237	0.109	1	12/03/2019 17:21	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*12/03/2019 17:21*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000437	0.00109	1	11/30/2019 02:08	WG1388748
Toluene	U		0.00137	0.00546	1	11/30/2019 02:08	WG1388748
Ethylbenzene	U		0.000579	0.00273	1	11/30/2019 02:08	WG1388748
Total Xylenes	U		0.00522	0.00710	1	11/30/2019 02:08	WG1388748
(S) Toluene-d8	*102*			*75.0-131*		*11/30/2019 02:08*	WG1388748
(S) 4-Bromofluorobenzene	*82.6*			*67.0-138*		*11/30/2019 02:08*	WG1388748
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*11/30/2019 02:08*	WG1388748

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.76	4.37	1	11/27/2019 03:51	WG1387426
C28-C40 Oil Range	0.363	J	0.299	4.37	1	11/27/2019 03:51	WG1387426
(S) o-Terphenyl	*54.1*			*18.0-148*		*11/27/2019 03:51*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.5		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	116		0.888	11.2	1	12/02/2019 21:54	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0663	B J	0.0242	0.112	1	12/03/2019 18:32	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*99.8*			*77.0-120*		*12/03/2019 18:32*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000447	0.00112	1	11/30/2019 02:28	WG1388748
Toluene	U		0.00140	0.00559	1	11/30/2019 02:28	WG1388748
Ethylbenzene	U		0.000592	0.00279	1	11/30/2019 02:28	WG1388748
Total Xylenes	U		0.00534	0.00726	1	11/30/2019 02:28	WG1388748
(S) Toluene-d8	*103*			*75.0-131*		*11/30/2019 02:28*	WG1388748
(S) 4-Bromofluorobenzene	*81.6*			*67.0-138*		*11/30/2019 02:28*	WG1388748
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*11/30/2019 02:28*	WG1388748

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.80	4.47	1	11/27/2019 04:04	WG1387426
C28-C40 Oil Range	U		0.306	4.47	1	11/27/2019 04:04	WG1387426
(S) o-Terphenyl	*77.2*			*18.0-148*		*11/27/2019 04:04*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.3		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	22.3	B	0.843	10.6	1	12/02/2019 22:13	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0657	B J	0.0230	0.106	1	12/03/2019 18:55	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*		*12/03/2019 18:55*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000424	0.00106	1	11/30/2019 02:48	WG1388748
Toluene	U		0.00133	0.00530	1	11/30/2019 02:48	WG1388748
Ethylbenzene	U		0.000562	0.00265	1	11/30/2019 02:48	WG1388748
Total Xylenes	U		0.00507	0.00689	1	11/30/2019 02:48	WG1388748
(S) Toluene-d8	*100*			*75.0-131*		*11/30/2019 02:48*	WG1388748
(S) 4-Bromofluorobenzene	*81.6*			*67.0-138*		*11/30/2019 02:48*	WG1388748
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*11/30/2019 02:48*	WG1388748

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.72	J	1.71	4.24	1	11/27/2019 04:16	WG1387426
C28-C40 Oil Range	1.11	J	0.291	4.24	1	11/27/2019 04:16	WG1387426
(S) o-Terphenyl	*63.8*			*18.0-148*		*11/27/2019 04:16*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.7		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	109		0.867	10.9	1	12/02/2019 22:22	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0625	B J	0.0237	0.109	1	12/03/2019 19:17	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*		*12/03/2019 19:17*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000436	0.00109	1	11/30/2019 03:07	WG1388748
Toluene	U		0.00136	0.00545	1	11/30/2019 03:07	WG1388748
Ethylbenzene	U		0.000578	0.00273	1	11/30/2019 03:07	WG1388748
Total Xylenes	U		0.00521	0.00709	1	11/30/2019 03:07	WG1388748
(S) Toluene-d8	*101*			*75.0-131*		*11/30/2019 03:07*	WG1388748
(S) 4-Bromofluorobenzene	*80.6*			*67.0-138*		*11/30/2019 03:07*	WG1388748
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*11/30/2019 03:07*	WG1388748

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.76	4.36	1	11/27/2019 06:15	WG1387426
C28-C40 Oil Range	U		0.299	4.36	1	11/27/2019 06:15	WG1387426
(S) o-Terphenyl	*72.7*			*18.0-148*		*11/27/2019 06:15*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	24.0	B	0.853	10.7	1	12/02/2019 22:32	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0543	B J	0.0233	0.107	1	12/03/2019 19:39	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*12/03/2019 19:39*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000429	0.00107	1	11/30/2019 03:27	WG1388748
Toluene	U		0.00134	0.00536	1	11/30/2019 03:27	WG1388748
Ethylbenzene	U		0.000569	0.00268	1	11/30/2019 03:27	WG1388748
Total Xylenes	U		0.00513	0.00697	1	11/30/2019 03:27	WG1388748
(S) Toluene-d8	*103*			*75.0-131*		*11/30/2019 03:27*	WG1388748
(S) 4-Bromofluorobenzene	*77.9*			*67.0-138*		*11/30/2019 03:27*	WG1388748
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*11/30/2019 03:27*	WG1388748

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.73	4.29	1	11/27/2019 06:28	WG1387426
C28-C40 Oil Range	1.09	J	0.294	4.29	1	11/27/2019 06:28	WG1387426
(S) o-Terphenyl	*77.0*			*18.0-148*		*11/27/2019 06:28*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	61.9		0.853	10.7	1	12/02/2019 22:41	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0582	B J	0.0233	0.107	1	12/03/2019 20:02	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*12/03/2019 20:02*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000429	0.00107	1	11/30/2019 03:48	WG1388748
Toluene	U		0.00134	0.00536	1	11/30/2019 03:48	WG1388748
Ethylbenzene	U		0.000568	0.00268	1	11/30/2019 03:48	WG1388748
Total Xylenes	U		0.00513	0.00697	1	11/30/2019 03:48	WG1388748
(S) Toluene-d8	*100*			*75.0-131*		*11/30/2019 03:48*	WG1388748
(S) 4-Bromofluorobenzene	*82.9*			*67.0-138*		*11/30/2019 03:48*	WG1388748
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*		*11/30/2019 03:48*	WG1388748

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.73	4.29	1	11/27/2019 06:41	WG1387426
C28-C40 Oil Range	1.71	J	0.294	4.29	1	11/27/2019 06:41	WG1387426
(S) o-Terphenyl	*69.4*			*18.0-148*		*11/27/2019 06:41*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.4		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	45.4		0.824	10.4	1	12/02/2019 23:10	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0552	B J	0.0225	0.104	1	12/03/2019 20:24	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*12/03/2019 20:24*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000415	0.00104	1	12/01/2019 02:43	WG1389006
Toluene	0.00156	J	0.00130	0.00519	1	12/01/2019 02:43	WG1389006
Ethylbenzene	U		0.000550	0.00259	1	12/01/2019 02:43	WG1389006
Total Xylenes	U		0.00496	0.00674	1	12/01/2019 02:43	WG1389006
(S) Toluene-d8	*104*			*75.0-131*		*12/01/2019 02:43*	WG1389006
(S) 4-Bromofluorobenzene	*98.8*			*67.0-138*		*12/01/2019 02:43*	WG1389006
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*12/01/2019 02:43*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.67	4.15	1	11/27/2019 06:53	WG1387426
C28-C40 Oil Range	U		0.284	4.15	1	11/27/2019 06:53	WG1387426
(S) o-Terphenyl	*66.6*			*18.0-148*		*11/27/2019 06:53*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.7		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	46.8		0.858	10.8	1	12/02/2019 23:19	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0592	B J	0.0234	0.108	1	12/03/2019 20:46	WG1390223
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*		*12/03/2019 20:46*	WG1390223

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000431	0.00108	1	12/01/2019 03:03	WG1389006
Toluene	U		0.00135	0.00539	1	12/01/2019 03:03	WG1389006
Ethylbenzene	U		0.000572	0.00270	1	12/01/2019 03:03	WG1389006
Total Xylenes	U		0.00516	0.00701	1	12/01/2019 03:03	WG1389006
(S) Toluene-d8	*105*			*75.0-131*		*12/01/2019 03:03*	WG1389006
(S) 4-Bromofluorobenzene	*104*			*67.0-138*		*12/01/2019 03:03*	WG1389006
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*12/01/2019 03:03*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.74	4.31	1	11/27/2019 07:06	WG1387426
C28-C40 Oil Range	U		0.296	4.31	1	11/27/2019 07:06	WG1387426
(S) o-Terphenyl	*69.4*			*18.0-148*		*11/27/2019 07:06*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.7		1	11/30/2019 21:18	WG1388955

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	28.3	B	0.822	10.3	1	12/02/2019 23:29	WG1389848

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0313	B J	0.0224	0.103	1	12/05/2019 13:08	WG1391592
(S) a,a,a-Trifluorotoluene(FID)	*98.3*			*77.0-120*		*12/05/2019 13:08*	WG1391592

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000413	0.00103	1	12/01/2019 03:23	WG1389006
Toluene	U		0.00129	0.00517	1	12/01/2019 03:23	WG1389006
Ethylbenzene	U		0.000548	0.00258	1	12/01/2019 03:23	WG1389006
Total Xylenes	U		0.00494	0.00672	1	12/01/2019 03:23	WG1389006
(S) Toluene-d8	*103*			*75.0-131*		*12/01/2019 03:23*	WG1389006
(S) 4-Bromofluorobenzene	*96.9*			*67.0-138*		*12/01/2019 03:23*	WG1389006
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*12/01/2019 03:23*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.66	4.13	1	11/27/2019 07:19	WG1387426
C28-C40 Oil Range	U		0.283	4.13	1	11/27/2019 07:19	WG1387426
(S) o-Terphenyl	*79.1*			*18.0-148*		*11/27/2019 07:19*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.0		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	16.6	B	0.854	10.7	1	12/02/2019 23:02	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0389	B J	0.0233	0.107	1	12/05/2019 13:29	WG1391592
(S) a,a,a-Trifluorotoluene(FID)	*97.6*			*77.0-120*		*12/05/2019 13:29*	WG1391592

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000430	0.00107	1	12/01/2019 03:44	WG1389006
Toluene	U		0.00134	0.00537	1	12/01/2019 03:44	WG1389006
Ethylbenzene	U		0.000570	0.00269	1	12/01/2019 03:44	WG1389006
Total Xylenes	U		0.00514	0.00699	1	12/01/2019 03:44	WG1389006
(S) Toluene-d8	*104*			*75.0-131*		*12/01/2019 03:44*	WG1389006
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*12/01/2019 03:44*	WG1389006
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*12/01/2019 03:44*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.73	4.30	1	11/27/2019 07:31	WG1387426
C28-C40 Oil Range	U		0.294	4.30	1	11/27/2019 07:31	WG1387426
(S) o-Terphenyl	*80.9*			*18.0-148*		*11/27/2019 07:31*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.0		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	422		0.837	10.5	1	12/02/2019 23:32	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0450	B J	0.0228	0.105	1	12/05/2019 13:49	WG1391592
(S) a,a,a-Trifluorotoluene(FID)	*97.6*			*77.0-120*		*12/05/2019 13:49*	WG1391592

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000421	0.00105	1	12/01/2019 04:04	WG1389006
Toluene	0.00135	J	0.00132	0.00526	1	12/01/2019 04:04	WG1389006
Ethylbenzene	U		0.000558	0.00263	1	12/01/2019 04:04	WG1389006
Total Xylenes	U		0.00503	0.00684	1	12/01/2019 04:04	WG1389006
(S) Toluene-d8	*104*			*75.0-131*		*12/01/2019 04:04*	WG1389006
(S) 4-Bromofluorobenzene	*96.0*			*67.0-138*		*12/01/2019 04:04*	WG1389006
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*12/01/2019 04:04*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	29.8		1.70	4.21	1	11/28/2019 04:46	WG1387426
C28-C40 Oil Range	50.4		0.289	4.21	1	11/28/2019 04:46	WG1387426
(S) o-Terphenyl	*52.1*			*18.0-148*		*11/28/2019 04:46*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.0		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	138		0.837	10.5	1	12/02/2019 23:47	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0359	B J	0.0228	0.105	1	12/05/2019 14:09	WG1391592
(S) a,a,a-Trifluorotoluene(FID)	*98.6*			*77.0-120*		*12/05/2019 14:09*	WG1391592

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000421	0.00105	1	12/01/2019 04:25	WG1389006
Toluene	U		0.00132	0.00526	1	12/01/2019 04:25	WG1389006
Ethylbenzene	U		0.000558	0.00263	1	12/01/2019 04:25	WG1389006
Total Xylenes	U		0.00503	0.00684	1	12/01/2019 04:25	WG1389006
(S) Toluene-d8	*104*			*75.0-131*		*12/01/2019 04:25*	WG1389006
(S) 4-Bromofluorobenzene	*99.1*			*67.0-138*		*12/01/2019 04:25*	WG1389006
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*		*12/01/2019 04:25*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	9.07		1.69	4.21	1	12/02/2019 17:49	WG1387426
C28-C40 Oil Range	15.8		0.288	4.21	1	12/02/2019 17:49	WG1387426
(S) o-Terphenyl	*70.1*			*18.0-148*		*12/02/2019 17:49*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.3		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	65.0		0.852	10.7	1	12/03/2019 00:02	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0233	0.107	1	12/05/2019 12:58	WG1391127
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*77.0-120*		*12/05/2019 12:58*	WG1391127

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000429	0.00107	1	12/01/2019 04:45	WG1389006
Toluene	0.00143	J	0.00134	0.00536	1	12/01/2019 04:45	WG1389006
Ethylbenzene	U		0.000568	0.00268	1	12/01/2019 04:45	WG1389006
Total Xylenes	U		0.00512	0.00697	1	12/01/2019 04:45	WG1389006
(S) Toluene-d8	*105*			*75.0-131*		*12/01/2019 04:45*	WG1389006
(S) 4-Bromofluorobenzene	*98.4*			*67.0-138*		*12/01/2019 04:45*	WG1389006
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*12/01/2019 04:45*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.73	4.29	1	11/27/2019 07:44	WG1387426
C28-C40 Oil Range	U		0.294	4.29	1	11/27/2019 07:44	WG1387426
(S) o-Terphenyl	*79.0*			*18.0-148*		*11/27/2019 07:44*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.7		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	18.2	B	0.806	10.1	1	12/03/2019 00:47	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0220	0.101	1	12/05/2019 13:22	WG1391127
(S) a,a,a-Trifluorotoluene(FID)	*96.8*			*77.0-120*		*12/05/2019 13:22*	WG1391127

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000405	0.00101	1	12/01/2019 05:06	WG1389006
Toluene	0.00142	J	0.00127	0.00507	1	12/01/2019 05:06	WG1389006
Ethylbenzene	U		0.000537	0.00253	1	12/01/2019 05:06	WG1389006
Total Xylenes	U		0.00484	0.00659	1	12/01/2019 05:06	WG1389006
(S) Toluene-d8	*105*			*75.0-131*		*12/01/2019 05:06*	WG1389006
(S) 4-Bromofluorobenzene	*102*			*67.0-138*		*12/01/2019 05:06*	WG1389006
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*12/01/2019 05:06*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.63	4.05	1	11/27/2019 07:57	WG1387426
C28-C40 Oil Range	U		0.278	4.05	1	11/27/2019 07:57	WG1387426
(S) o-Terphenyl	*68.5*			*18.0-148*		*11/27/2019 07:57*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.0		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	15.0	B	0.803	10.1	1	12/03/2019 01:32	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0219	0.101	1	12/05/2019 13:46	WG1391127
(S) a,a,a-Trifluorotoluene(FID)	*95.9*			*77.0-120*		*12/05/2019 13:46*	WG1391127

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000404	0.00101	1	12/01/2019 05:26	WG1389006
Toluene	U		0.00126	0.00505	1	12/01/2019 05:26	WG1389006
Ethylbenzene	U		0.000535	0.00253	1	12/01/2019 05:26	WG1389006
Total Xylenes	U		0.00483	0.00657	1	12/01/2019 05:26	WG1389006
(S) Toluene-d8	*103*			*75.0-131*		*12/01/2019 05:26*	WG1389006
(S) 4-Bromofluorobenzene	*98.6*			*67.0-138*		*12/01/2019 05:26*	WG1389006
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*		*12/01/2019 05:26*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.63	4.04	1	11/27/2019 08:10	WG1387426
C28-C40 Oil Range	U		0.277	4.04	1	11/27/2019 08:10	WG1387426
(S) o-Terphenyl	*80.6*			*18.0-148*		*11/27/2019 08:10*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.6		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	22.3	B	0.840	10.6	1	12/03/2019 01:47	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0361	B J	0.0229	0.106	1	12/04/2019 03:38	WG1390277
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*77.0-120*		*12/04/2019 03:38*	WG1390277

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000423	0.00106	1	12/01/2019 05:47	WG1389006
Toluene	U		0.00132	0.00528	1	12/01/2019 05:47	WG1389006
Ethylbenzene	U		0.000560	0.00264	1	12/01/2019 05:47	WG1389006
Total Xylenes	U		0.00505	0.00687	1	12/01/2019 05:47	WG1389006
(S) Toluene-d8	*101*			*75.0-131*		*12/01/2019 05:47*	WG1389006
(S) 4-Bromofluorobenzene	*98.9*			*67.0-138*		*12/01/2019 05:47*	WG1389006
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*12/01/2019 05:47*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.70	4.23	1	11/27/2019 08:22	WG1387426
C28-C40 Oil Range	U		0.290	4.23	1	11/27/2019 08:22	WG1387426
(S) o-Terphenyl	*73.1*			*18.0-148*		*11/27/2019 08:22*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.7		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	15.5	B	0.831	10.5	1	12/03/2019 02:01	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0342	B J	0.0227	0.105	1	12/04/2019 03:58	WG1390277
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*77.0-120*		*12/04/2019 03:58*	WG1390277

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000418	0.00105	1	12/01/2019 06:08	WG1389006
Toluene	U		0.00131	0.00523	1	12/01/2019 06:08	WG1389006
Ethylbenzene	U		0.000554	0.00261	1	12/01/2019 06:08	WG1389006
Total Xylenes	U		0.00500	0.00679	1	12/01/2019 06:08	WG1389006
(S) Toluene-d8	*105*			*75.0-131*		*12/01/2019 06:08*	WG1389006
(S) 4-Bromofluorobenzene	*97.5*			*67.0-138*		*12/01/2019 06:08*	WG1389006
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*12/01/2019 06:08*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.70	J	1.68	4.18	1	11/27/2019 08:35	WG1387426
C28-C40 Oil Range	U		0.286	4.18	1	11/27/2019 08:35	WG1387426
(S) o-Terphenyl	*73.3*			*18.0-148*		*11/27/2019 08:35*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.6		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	351		0.849	10.7	1	12/03/2019 02:16	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0309	B J	0.0232	0.107	1	12/04/2019 04:19	WG1390277
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*77.0-120*		*12/04/2019 04:19*	WG1390277

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000427	0.00107	1	12/01/2019 06:28	WG1389006
Toluene	U		0.00134	0.00534	1	12/01/2019 06:28	WG1389006
Ethylbenzene	U		0.000566	0.00267	1	12/01/2019 06:28	WG1389006
Total Xylenes	U		0.00511	0.00694	1	12/01/2019 06:28	WG1389006
(S) Toluene-d8	*104*			*75.0-131*		*12/01/2019 06:28*	WG1389006
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*12/01/2019 06:28*	WG1389006
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*12/01/2019 06:28*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.88	J	1.72	4.27	1	11/27/2019 08:47	WG1387426
C28-C40 Oil Range	1.12	J	0.293	4.27	1	11/27/2019 08:47	WG1387426
(S) o-Terphenyl	*70.7*			*18.0-148*		*11/27/2019 08:47*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.5		1	11/30/2019 20:44	WG1388957

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	286		0.841	10.6	1	12/03/2019 02:31	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0300	B J	0.0230	0.106	1	12/04/2019 04:40	WG1390277
(S) a,a,a-Trifluorotoluene(FID)	*93.6*			*77.0-120*		*12/04/2019 04:40*	WG1390277

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000423	0.00106	1	12/01/2019 06:49	WG1389006
Toluene	0.00159	J	0.00132	0.00529	1	12/01/2019 06:49	WG1389006
Ethylbenzene	U		0.000561	0.00264	1	12/01/2019 06:49	WG1389006
Total Xylenes	U		0.00506	0.00688	1	12/01/2019 06:49	WG1389006
(S) Toluene-d8	*103*			*75.0-131*		*12/01/2019 06:49*	WG1389006
(S) 4-Bromofluorobenzene	*96.6*			*67.0-138*		*12/01/2019 06:49*	WG1389006
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*12/01/2019 06:49*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.97	J	1.70	4.23	1	11/27/2019 09:00	WG1387426
C28-C40 Oil Range	1.21	J	0.290	4.23	1	11/27/2019 09:00	WG1387426
(S) o-Terphenyl	*71.3*			*18.0-148*		*11/27/2019 09:00*	WG1387426

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.5		1	11/30/2019 19:03	WG1388958

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	45.3		0.833	10.5	1	12/03/2019 02:46	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0271	B J	0.0227	0.105	1	12/04/2019 05:00	WG1390277
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*77.0-120*		*12/04/2019 05:00*	WG1390277

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000419	0.00105	1	12/01/2019 07:09	WG1389006
Toluene	U		0.00131	0.00524	1	12/01/2019 07:09	WG1389006
Ethylbenzene	U		0.000555	0.00262	1	12/01/2019 07:09	WG1389006
Total Xylenes	U		0.00501	0.00681	1	12/01/2019 07:09	WG1389006
(S) Toluene-d8	*104*			*75.0-131*		*12/01/2019 07:09*	WG1389006
(S) 4-Bromofluorobenzene	*97.9*			*67.0-138*		*12/01/2019 07:09*	WG1389006
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*12/01/2019 07:09*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.69	4.19	1	11/26/2019 22:22	WG1387427
C28-C40 Oil Range	U		0.287	4.19	1	11/26/2019 22:22	WG1387427
(S) o-Terphenyl	*75.1*			*18.0-148*		*11/26/2019 22:22*	WG1387427

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.8		1	11/30/2019 19:03	WG1388958

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	268		0.866	10.9	1	12/03/2019 03:01	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0327	B J	0.0236	0.109	1	12/04/2019 05:21	WG1390277
(S) a,a,a-Trifluorotoluene(FID)	*93.7*			*77.0-120*		*12/04/2019 05:21*	WG1390277

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000436	0.00109	1	12/01/2019 07:30	WG1389006
Toluene	U		0.00136	0.00545	1	12/01/2019 07:30	WG1389006
Ethylbenzene	U		0.000577	0.00272	1	12/01/2019 07:30	WG1389006
Total Xylenes	U		0.00521	0.00708	1	12/01/2019 07:30	WG1389006
(S) Toluene-d8	*104*			*75.0-131*		*12/01/2019 07:30*	WG1389006
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*12/01/2019 07:30*	WG1389006
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*12/01/2019 07:30*	WG1389006

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.75	4.36	1	11/26/2019 22:58	WG1387427
C28-C40 Oil Range	U		0.299	4.36	1	11/26/2019 22:58	WG1387427
(S) o-Terphenyl	*82.6*			*18.0-148*		*11/26/2019 22:58*	WG1387427

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.4		1	11/30/2019 19:03	WG1388958

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	242		0.842	10.6	1	12/03/2019 03:16	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0303	B J	0.0230	0.106	1	12/04/2019 05:42	WG1390277
(S) a,a,a-Trifluorotoluene(FID)	*94.0*			*77.0-120*		*12/04/2019 05:42*	WG1390277

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000424	0.00106	1	11/30/2019 00:28	WG1389012
Toluene	U		0.00132	0.00530	1	11/30/2019 00:28	WG1389012
Ethylbenzene	U		0.000562	0.00265	1	11/30/2019 00:28	WG1389012
Total Xylenes	U		0.00506	0.00689	1	11/30/2019 00:28	WG1389012
(S) Toluene-d8	*102*			*75.0-131*		*11/30/2019 00:28*	WG1389012
(S) 4-Bromofluorobenzene	*90.9*			*67.0-138*		*11/30/2019 00:28*	WG1389012
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*11/30/2019 00:28*	WG1389012

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.71	4.24	1	11/26/2019 23:12	WG1387427
C28-C40 Oil Range	U		0.290	4.24	1	11/26/2019 23:12	WG1387427
(S) o-Terphenyl	*80.8*			*18.0-148*		*11/26/2019 23:12*	WG1387427

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.1		1	11/30/2019 19:03	WG1388958

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	421		0.863	10.9	1	12/03/2019 03:31	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0279	B J	0.0236	0.109	1	12/04/2019 06:02	WG1390277
(S) a,a,a-Trifluorotoluene(FID)	*93.4*			*77.0-120*		*12/04/2019 06:02*	WG1390277

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000434	0.00109	1	11/30/2019 00:47	WG1389012
Toluene	U		0.00136	0.00543	1	11/30/2019 00:47	WG1389012
Ethylbenzene	U		0.000575	0.00271	1	11/30/2019 00:47	WG1389012
Total Xylenes	U		0.00519	0.00706	1	11/30/2019 00:47	WG1389012
(S) Toluene-d8	*102*			*75.0-131*		*11/30/2019 00:47*	WG1389012
(S) 4-Bromofluorobenzene	*87.1*			*67.0-138*		*11/30/2019 00:47*	WG1389012
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*11/30/2019 00:47*	WG1389012

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.75	4.34	1	11/26/2019 23:27	WG1387427
C28-C40 Oil Range	U		0.298	4.34	1	11/26/2019 23:27	WG1387427
(S) o-Terphenyl	*84.7*			*18.0-148*		*11/26/2019 23:27*	WG1387427

Method Blank (MB)

(MB) R3478064-1 11/30/19 21:18

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00200			

L1164452-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1164452-01 11/30/19 21:18 • (DUP) R3478064-3 11/30/19 21:18

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.0	91.6	1	1.51		10

Laboratory Control Sample (LCS)

(LCS) R3478064-2 11/30/19 21:18

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

Method Blank (MB)

(MB) R3478061-1 11/30/19 20:44

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00200			

L1164452-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1164452-12 11/30/19 20:44 • (DUP) R3478061-3 11/30/19 20:44

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	95.0	94.4	1	0.604		10

Laboratory Control Sample (LCS)

(LCS) R3478061-2 11/30/19 20:44

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

Method Blank (MB)

(MB) R3478060-1 11/30/19 19:03

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

L1164453-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1164453-03 11/30/19 19:03 • (DUP) R3478060-3 11/30/19 19:03

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.2	93.0	1	0.197		10

Laboratory Control Sample (LCS)

(LCS) R3478060-2 11/30/19 19:03

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.2	100	85.0-115	

Method Blank (MB)

(MB) R3478358-1 12/02/19 20:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.53	J	0.795	10.0

L1164452-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1164452-03 12/02/19 21:54 • (DUP) R3478358-3 12/02/19 22:03

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	116	119	1	2.88		20

L1165381-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1165381-10 12/03/19 01:42 • (DUP) R3478358-6 12/03/19 01:52

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	24.6	21.6	1	12.9		20

Laboratory Control Sample (LCS)

(LCS) R3478358-2 12/02/19 20:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	207	103	90.0-110	

L1165381-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1165381-01 12/02/19 23:39 • (MS) R3478358-4 12/02/19 23:48 • (MSD) R3478358-5 12/02/19 23:58

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	517	20.4	535	526	99.5	97.8	1	80.0-120			1.68	20

Method Blank (MB)

(MB) R3478363-1 12/02/19 22:17

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	4.28	J	0.795	10.0

L1164452-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1164452-11 12/02/19 23:02 • (DUP) R3478363-3 12/02/19 23:17

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	16.6	15.7	1	5.86		20

L1164838-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1164838-03 12/03/19 05:31 • (DUP) R3478363-6 12/03/19 05:45

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6300	6330	20	0.341		20

Laboratory Control Sample (LCS)

(LCS) R3478363-2 12/02/19 22:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	208	104	90.0-110	

L1164452-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164452-14 12/03/19 00:02 • (MS) R3478363-4 12/03/19 00:17 • (MSD) R3478363-5 12/03/19 00:32

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	536	65.0	627	623	105	104	1	80.0-120			0.546	20

Method Blank (MB)

(MB) R3479355-3 12/03/19 11:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0557	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3479355-2 12/03/19 10:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.33	96.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*77.0-120*	

Method Blank (MB)

(MB) R3479341-2 12/03/19 22:53

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0273	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*99.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3479341-1 12/03/19 21:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.79	105	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*77.0-120*	

L1164452-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164452-22 12/04/19 05:21 • (MS) R3479341-3 12/04/19 06:44 • (MSD) R3479341-4 12/04/19 07:04

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.99	0.0327	3.61	3.97	59.6	65.6	1	10.0-151			9.50	28
(S) a,a,a-Trifluorotoluene(FID)					*98.2*	*102*		*77.0-120*				

Method Blank (MB)

(MB) R3479507-3 12/05/19 07:45

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)	*97.5*			*77.0-120*

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

(LCS) R3479507-1 12/05/19 06:32 • (LCSD) R3479507-2 12/05/19 06:56

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	5.43	5.50	98.7	100	72.0-127			1.28	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*105*	*77.0-120*				

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

Method Blank (MB)

(MB) R3479517-4 12/05/19 05:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0260	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*77.0-120*

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

(LCS) R3479517-2 12/05/19 04:36 • (LCSD) R3479517-3 12/05/19 04:56

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	4.98	5.49	90.5	99.8	72.0-127			9.74	20
(S) a,a,a-Trifluorotoluene(FID)				*108*	*110*	*77.0-120*				

Method Blank (MB)

(MB) R3477985-2 11/29/19 20:54

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	*101*			*75.0-131*
(S) 4-Bromofluorobenzene	*83.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3477985-1 11/29/19 19:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.127	102	70.0-123	
Ethylbenzene	0.125	0.134	107	74.0-126	
Toluene	0.125	0.102	81.6	75.0-121	
Xylenes, Total	0.375	0.449	120	72.0-127	
(S) Toluene-d8			*101*	*75.0-131*	
(S) 4-Bromofluorobenzene			*105*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*98.5*	*70.0-130*	

L1164432-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164432-14 11/30/19 01:28 • (MS) R3477985-3 11/30/19 04:08 • (MSD) R3477985-4 11/30/19 04:28

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.144	0.117	115	93.6	1	10.0-149			20.7	37
Ethylbenzene	0.125	ND	0.147	0.120	118	96.0	1	10.0-160			20.2	38
Toluene	0.125	ND	0.112	0.0936	89.6	74.9	1	10.0-156			17.9	38
Xylenes, Total	0.375	ND	0.486	0.391	130	104	1	10.0-160			21.7	38
(S) Toluene-d8					*99.4*	*103*		*75.0-131*				
(S) 4-Bromofluorobenzene					*103*	*100*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*96.5*	*99.1*		*70.0-130*				

Method Blank (MB)

(MB) R3479511-2 12/01/19 00:41

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	*101*			*75.0-131*
(S) 4-Bromofluorobenzene	*96.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3479511-1 11/30/19 23:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.126	101	70.0-123	
Ethylbenzene	0.125	0.114	91.2	74.0-126	
Toluene	0.125	0.111	88.8	75.0-121	
Xylenes, Total	0.375	0.319	85.1	72.0-127	
(S) Toluene-d8			*102*	*75.0-131*	
(S) 4-Bromofluorobenzene			*99.0*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*109*	*70.0-130*	

L1164393-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164393-06 12/01/19 01:01 • (MS) R3479511-3 12/01/19 07:51 • (MSD) R3479511-4 12/01/19 08:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	1.00	ND	0.612	0.599	61.2	59.9	8	10.0-149			2.15	37
Ethylbenzene	1.00	ND	0.413	0.354	41.3	35.4	8	10.0-160			15.4	38
Toluene	1.00	ND	0.464	0.446	46.4	44.6	8	10.0-156			3.96	38
Xylenes, Total	3.00	ND	1.11	1.11	37.0	37.0	8	10.0-160			0.000	38
(S) Toluene-d8					*104*	*103*		*75.0-131*				
(S) 4-Bromofluorobenzene					*101*	*103*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*112*	*112*		*70.0-130*				

Method Blank (MB)

(MB) R3478511-2 11/29/19 23:56

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	*104*			*75.0-131*
(S) 4-Bromofluorobenzene	*88.2*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*93.8*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3478511-1 11/29/19 21:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.127	102	70.0-123	
Ethylbenzene	0.125	0.0949	75.9	74.0-126	
Toluene	0.125	0.108	86.4	75.0-121	
Xylenes, Total	0.375	0.291	77.6	72.0-127	
(S) Toluene-d8			*101*	*75.0-131*	
(S) 4-Bromofluorobenzene			*89.8*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*102*	*70.0-130*	

Method Blank (MB)

(MB) R3476759-1 11/27/19 03:13

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	*79.1*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3476759-2 11/27/19 03:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	45.6	91.2	50.0-150	
(S) o-Terphenyl			*95.8*	*18.0-148*	

L1164452-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164452-04 11/27/19 04:16 • (MS) R3476759-3 11/27/19 04:29 • (MSD) R3476759-4 11/27/19 05:56

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	53.0	1.72	43.3	44.8	78.4	81.2	1	50.0-150			3.37	20
(S) o-Terphenyl					*81.7*	*92.0*		*18.0-148*				

Method Blank (MB)

(MB) R3476698-1 11/26/19 21:23

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	*80.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3476698-2 11/26/19 21:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	45.2	90.4	50.0-150	
(S) o-Terphenyl			*83.0*	*18.0-148*	

L1164481-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164481-03 11/27/19 12:09 • (MS) R3476698-3 11/27/19 12:23 • (MSD) R3476698-4 11/27/19 12:37

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.3	16.4	44.2	44.5	55.3	56.8	1	50.0-150			0.676	20
(S) o-Terphenyl					*67.5*	*68.6*		*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.

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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

State Accreditations

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

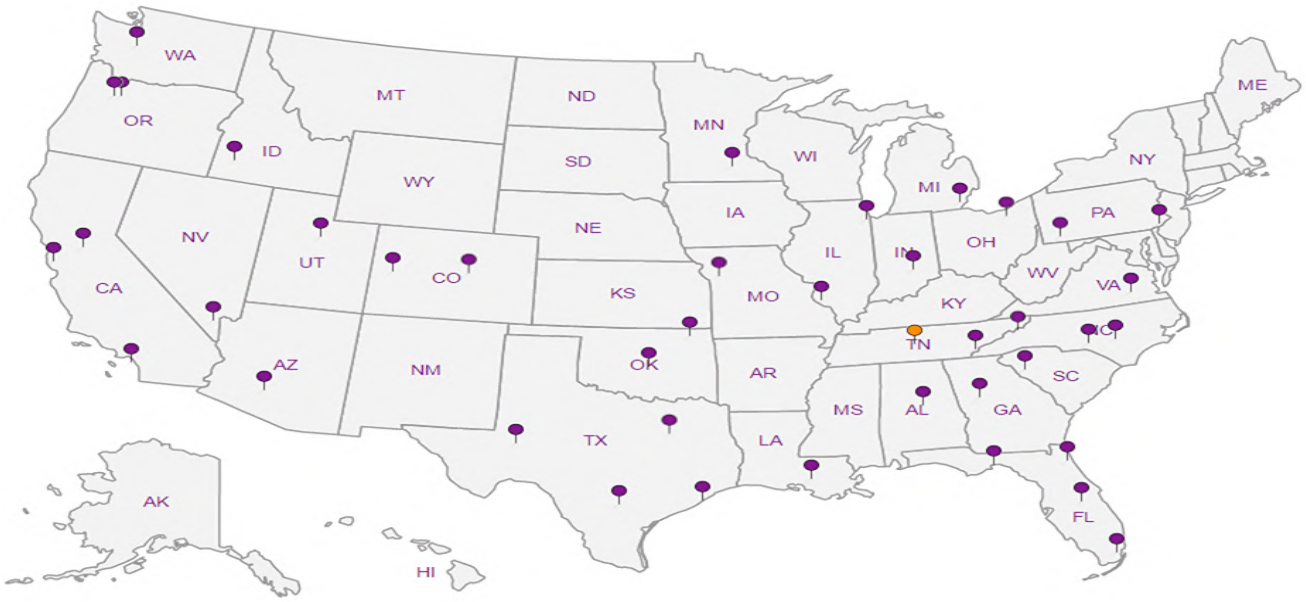
Third Party Federal Accreditations

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

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

Our Locations

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



1164452

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

G227

Client Name:	ConocoPhillips
Site Manager:	Christian Llull
Project Name:	COP EVGSAU CTB
Project Location: (county, state)	Lea County, New Mexico
Project #:	212C-MD-01987
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701
Receiving Laboratory:	Pace Analytical
Sampler Signature:	[signature]
Comments:	COPTETRA Acctnum

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	TIME	MATRIX WATER	SOIL	PRESERVATIVE METHOD HCL	HNO_3	ICE	NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
01	BH-4 (0'-1')	11/21/2019	1010		X			X		1	N	X		X												X						
02	BH-4 (2'-3')	11/21/2019	1015		X			X		1	N	X		X												X						
03	BH-4 (4'-5')	11/21/2019	1020		X			X		1	N	X		X												X						
04	BH-4 (6'-7')	11/21/2019	1025		X			X		1	N	X		X												X						
05	BH-4 (9'-10')	11/21/2019	1030		X			X		1	N	X		X												X						
06	BH-5 (0'-1')	11/21/2019	1100		X			X		1	N	X		X												X						
07	BH-5 (2'-3')	11/21/2019	1105		X			X		1	N	X		X												X						
08	BH-5 (4'-5')	11/21/2019	1110		X			X		1	N	X		X												X						
	BH-5 (6'-7')	11/21/2019	1115		X			X		1	N																					X
09	BH-5 (9'-10')	11/21/2019	1120		X			X		1	N	X		X												X						

Relinquished by: [signature]	Date: 11/22	Time: 16:00	Received by: [signature]	Date: 11/22/19	Time: 16:00
Relinquished by: [signature]	Date: 11/22/19	Time: 17:00	Received by: SWA	Date: 11/22/19	Time: 17:00
Relinquished by:	Date:	Time:	Received by: [signature]	Date: 11/23/19	Time: 0830

LAB USE ONLY

Sample Temperature

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: ____________

tot= 27 4oz

11-177

ORIGINAL COPY

RAD SCREEN: <0.5 mR/hr

a8t,k=0.9 ASA

116452

Page : 2 of 3

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name: ConocoPhillips	Site Manager: Christian Llull
Project Name: COP EVGSAU CTB	
Project Location: (county, state) Lea County, New Mexico	Project #: 212C-MD-01987
Invoice to: Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701	
Receiving Laboratory: Pace Analytical	Sampler Signature:
Comments: COPTETRA Acctnum	

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2019)	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0 Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
10	BH-5 (11'-12')	11/21/2019	1130		X			X		1	N	X		X												X				
11	BH-5 (14'-15')	11/21/2019	1140		X			X		1	N	X		X												X				
12	BH-6 (0'-1')	11/21/2019	1200		X			X		1	N	X		X												X				
13	BH-6 (2'-3')	11/21/2019	1205		X			X		1	N	X		X												X				
14	BH-6 (4'-5')	11/21/2019	1210		X			X		1	N	X		X												X				
	BH-6 (6'-7')	11/21/2019	1215		X			X		1	N																			X
15	BH-6 (9'-10')	11/21/2019	1220		X			X		1	N	X		X												X				
16	BH-6 (13'-14')	11/21/2019	1225		X			X		1	N	X		X												X				
17	BH-6 (16'-17')	11/21/2019	1230		X			X		1	N	X		X												X				
18	BH-6 (19'-20')	11/21/2019	1240		X			X		1	N	X		X												X				

	Date:	Time:		Date:	Time:
Relinquished by:	11/22	16:00	Received by:	11/22/19	16:00
Relinquished by:	11/22/19	17:00	Received by:	11/22	17:00
Relinquished by:			Received by:	11/23/19	0830

LAB USE ONLY

Sample Temperature

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

RAD SCREEN: <0.5 mR/hr

tot=27

0871=0.9 AS

Analysis Request of Chain of Custody Record

Page : 3 of 3

Tetra Tech, Inc.

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

1164452

Client Name:	ConocoPhillips	Site Manager:	Christian Llull
Project Name:	COP EVGSAU CTB		
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-01987
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	HNO3	ICE	NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
19	BH-7 (0'-1')	11/21/2019	1330		X				X		1	N	X		X												X						
20	BH-7 (2'-3')	11/21/2019	1335		X				X		1	N	X		X												X						
21	BH-7 (4'-5')	11/21/2019	1340		X				X		1	N	X		X												X						
22 21	BH-7 (6'-7')	11/21/2019	1345		X				X		1	N																					X
22	BH-7 (9'-10')	11/21/2019	1350		X				X		1	N	X		X												X						
23	BH-7 (11'-12')	11/21/2019	1355		X				X		1	N	X		X												X						
24	BH-7 (14'-15')	11/21/2019	1400		X				X		1	N	X		X												X						

Relinquished by:	Date: 11/22	Time: 16:00	Received by:	Date: 11/22/19	Time: 16:00
Relinquished by:	Date: 11/22/19	Time: 17:00	Received by: SOA	Date: 11/22/19	Time: 17:00
Relinquished by:	Date:	Time:	Received by:	Date: 11/23/19	Time: 0830

LAB USE ONLY

Sample Temperature

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

tot: 27

ORIGINAL COPY

RAD SCREEN: <0.5 mR/hr

0.8+1=0.9 ASA

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	Coltetra	SGD:	116452
Cooler Received/Opened On: 11 / 23/19		Temperature:	0,9
Received By: Kelsey Stephenson			
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?			

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 05, 2019

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1164665
Samples Received:	11/21/2019
Project Number:	212C-MD-01987
Description:	COP EVGSAU CTB

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

Entire Report Reviewed By:

Chris McCord
Project Manager

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

TABLE OF CONTENTS

BH-8 (0-1) L1164665-01 Solid

Collected by: Clint Meritt
Collected date/time: 11/19/19 11:50
Received date/time: 11/21/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1389060	1	11/30/19 15:13	11/30/19 15:28	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 03:46	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1389121	1	11/26/19 12:39	12/03/19 13:11	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388741	1	11/26/19 12:39	11/29/19 13:08	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1389942	1	12/03/19 07:35	12/04/19 12:23	KME	Mt. Juliet, TN

BH-8 (2-3) L1164665-02 Solid

Collected by: Clint Meritt
Collected date/time: 11/19/19 11:55
Received date/time: 11/21/19 08:00

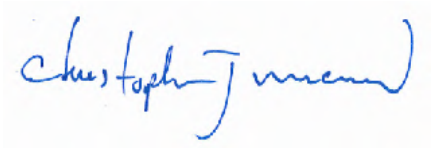
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1389060	1	11/30/19 15:13	11/30/19 15:28	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	1	12/02/19 20:10	12/03/19 04:31	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1389121	1	11/26/19 12:39	12/03/19 13:32	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1388741	1	11/26/19 12:39	11/29/19 13:28	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1389942	1	12/03/19 07:35	12/04/19 12:35	KME	Mt. Juliet, TN

AH-1 (0-1) L1164665-03 Solid

Collected by: Clint Meritt
Collected date/time: 11/19/19 12:00
Received date/time: 11/21/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1389060	1	11/30/19 15:13	11/30/19 15:28	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1389887	5	12/02/19 20:10	12/03/19 04:46	MCG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1390431	2500	11/26/19 12:39	12/03/19 17:59	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1389414	200	11/26/19 12:39	12/01/19 13:42	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1389942	100	12/03/19 07:35	12/04/19 12:48	KME	Mt. Juliet, TN

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



Chris McCord
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.9		1	11/30/2019 15:28	WG1389060

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	18.6	B	0.838	10.5	1	12/03/2019 03:46	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0348	B J	0.0229	0.105	1	12/03/2019 13:11	WG1389121
(S) a,a,a-Trifluorotoluene(FID)	*94.3*			*77.0-120*		*12/03/2019 13:11*	WG1389121

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000422	0.00105	1	11/29/2019 13:08	WG1388741
Toluene	U		0.00132	0.00527	1	11/29/2019 13:08	WG1388741
Ethylbenzene	U		0.000559	0.00263	1	11/29/2019 13:08	WG1388741
Total Xylenes	U		0.00504	0.00685	1	11/29/2019 13:08	WG1388741
(S) Toluene-d8	*99.5*			*75.0-131*		*11/29/2019 13:08*	WG1388741
(S) 4-Bromofluorobenzene	*91.4*			*67.0-138*		*11/29/2019 13:08*	WG1388741
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*11/29/2019 13:08*	WG1388741

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.70	4.22	1	12/04/2019 12:23	WG1389942
C28-C40 Oil Range	2.99	J	0.289	4.22	1	12/04/2019 12:23	WG1389942
(S) o-Terphenyl	*70.9*			*18.0-148*		*12/04/2019 12:23*	WG1389942

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.6		1	11/30/2019 15:28	WG1389060

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	40.2	B	0.868	10.9	1	12/03/2019 04:31	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0384	B J	0.0237	0.109	1	12/03/2019 13:32	WG1389121
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*77.0-120*		*12/03/2019 13:32*	WG1389121

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.000437	0.00109	1	11/29/2019 13:28	WG1388741
Toluene	U		0.00136	0.00546	1	11/29/2019 13:28	WG1388741
Ethylbenzene	U		0.000579	0.00273	1	11/29/2019 13:28	WG1388741
Total Xylenes	U		0.00522	0.00710	1	11/29/2019 13:28	WG1388741
(S) Toluene-d8	*100*			*75.0-131*		*11/29/2019 13:28*	WG1388741
(S) 4-Bromofluorobenzene	*89.7*			*67.0-138*		*11/29/2019 13:28*	WG1388741
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*11/29/2019 13:28*	WG1388741

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.21	J	1.76	4.37	1	12/04/2019 12:35	WG1389942
C28-C40 Oil Range	8.93		0.299	4.37	1	12/04/2019 12:35	WG1389942
(S) o-Terphenyl	*64.8*			*18.0-148*		*12/04/2019 12:35*	WG1389942

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.3		1	11/30/2019 15:28	WG1389060

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	479		4.51	56.6	5	12/03/2019 04:46	WG1389887

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	5830		61.5	283	2500	12/03/2019 17:59	WG1390431
(S) a,a,a-Trifluorotoluene(FID)	*96.8*			*77.0-120*		*12/03/2019 17:59*	WG1390431

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	23.7		0.0906	0.226	200	12/01/2019 13:42	WG1389414
Toluene	196		0.283	1.13	200	12/01/2019 13:42	WG1389414
Ethylbenzene	189		0.120	0.566	200	12/01/2019 13:42	WG1389414
Total Xylenes	255		1.08	1.47	200	12/01/2019 13:42	WG1389414
(S) Toluene-d8	*96.6*			*75.0-131*		*12/01/2019 13:42*	WG1389414
(S) 4-Bromofluorobenzene	*91.9*			*67.0-138*		*12/01/2019 13:42*	WG1389414
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*12/01/2019 13:42*	WG1389414

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	15400		182	453	100	12/04/2019 12:48	WG1389942
C28-C40 Oil Range	5940		31.0	453	100	12/04/2019 12:48	WG1389942
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*12/04/2019 12:48*	WG1389942

Method Blank (MB)

(MB) R3478033-1 11/30/19 15:28

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

L1165733-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1165733-01 11/30/19 15:28 • (DUP) R3478033-3 11/30/19 15:28

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	83.1	83.4	1	0.317		10

Laboratory Control Sample (LCS)

(LCS) R3478033-2 11/30/19 15:28

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.7	99.4	85.0-115	

Method Blank (MB)

(MB) R3478363-1 12/02/19 22:17

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	4.28	J	0.795	10.0

L1164452-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1164452-11 12/02/19 23:02 • (DUP) R3478363-3 12/02/19 23:17

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	16.6	15.7	1	5.86		20

L1164838-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1164838-03 12/03/19 05:31 • (DUP) R3478363-6 12/03/19 05:45

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5690	5710	20	0.341		20

Laboratory Control Sample (LCS)

(LCS) R3478363-2 12/02/19 22:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	208	104	90.0-110	

L1164452-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1164452-14 12/03/19 00:02 • (MS) R3478363-4 12/03/19 00:17 • (MSD) R3478363-5 12/03/19 00:32

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	536	65.0	627	623	105	104	1	80.0-120			0.546	20

Method Blank (MB)

(MB) R3478579-2 12/03/19 09:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0567	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.6*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3478579-1 12/03/19 08:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.23	95.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*107*	*77.0-120*	

Method Blank (MB)

(MB) R3478699-2 12/03/19 09:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0567	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.6*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3478699-1 12/03/19 08:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.23	95.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*107*	*77.0-120*	

Method Blank (MB)

(MB) R3477734-3 11/29/19 10:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000525	J	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	*101*			*75.0-131*
(S) 4-Bromofluorobenzene	*90.1*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*99.6*			*70.0-130*

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

(LCS) R3477734-1 11/29/19 09:18 • (LCSD) R3477734-2 11/29/19 09:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.119	0.120	95.2	96.0	70.0-123			0.837	20
Ethylbenzene	0.125	0.131	0.129	105	103	74.0-126			1.54	20
Toluene	0.125	0.0974	0.0956	77.9	76.5	75.0-121			1.87	20
Xylenes, Total	0.375	0.435	0.424	116	113	72.0-127			2.56	20
(S) Toluene-d8				*102*	*100*	*75.0-131*				
(S) 4-Bromofluorobenzene				*101*	*109*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*97.8*	*98.4*	*70.0-130*				

L1163722-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1163722-05 11/29/19 11:07 • (MS) R3477734-4 11/29/19 17:29 • (MSD) R3477734-5 11/29/19 17:49

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.129	ND	0.123	0.141	95.3	109	1.03	10.0-149			13.6	37
Ethylbenzene	0.129	ND	0.126	0.142	97.7	110	1.03	10.0-160			11.9	38
Toluene	0.129	0.0122	0.102	0.114	69.6	78.9	1.03	10.0-156			11.1	38
Xylenes, Total	0.387	0.00689	0.407	0.454	103	116	1.03	10.0-160			10.9	38
(S) Toluene-d8					*101*	*101*		*75.0-131*				
(S) 4-Bromofluorobenzene					*102*	*98.3*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*97.4*	*97.0*		*70.0-130*				

L1163779-37 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1163779-37 11/29/19 11:27 • (MS) R3477734-6 11/29/19 18:09 • (MSD) R3477734-7 11/29/19 18:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.102	ND	0.0948	0.0927	92.9	90.9	1	10.0-149			2.24	37
Ethylbenzene	0.102	ND	0.0998	0.0933	97.8	91.5	1	10.0-160			6.73	38
Toluene	0.102	ND	0.0807	0.0752	79.1	73.7	1	10.0-156			7.06	38
Xylenes, Total	0.305	ND	0.321	0.302	105	99.0	1	10.0-160			6.10	38
(S) Toluene-d8					*103*	*101*		*75.0-131*				
(S) 4-Bromofluorobenzene					*98.4*	*101*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*95.8*	*98.9*		*70.0-130*				

Method Blank (MB)

(MB) R3477909-3 12/01/19 11:07

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	*98.4*			*75.0-131*
(S) 4-Bromofluorobenzene	*90.3*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*

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

(LCS) R3477909-1 12/01/19 09:50 • (LCSD) R3477909-2 12/01/19 10:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.132	0.146	106	117	70.0-123			10.1	20
Ethylbenzene	0.125	0.111	0.124	88.8	99.2	74.0-126			11.1	20
Toluene	0.125	0.106	0.116	84.8	92.8	75.0-121			9.01	20
Xylenes, Total	0.375	0.362	0.405	96.5	108	72.0-127			11.2	20
(S) Toluene-d8				*93.1*	*93.1*	*75.0-131*				
(S) 4-Bromofluorobenzene				*92.3*	*92.9*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*116*	*116*	*70.0-130*				

Method Blank (MB)

(MB) R3478638-1 12/03/19 15:50

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	*73.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3478638-2 12/03/19 16:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	41.7	83.4	50.0-150	
(S) o-Terphenyl			*86.8*	*18.0-148*	

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

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

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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

State Accreditations

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

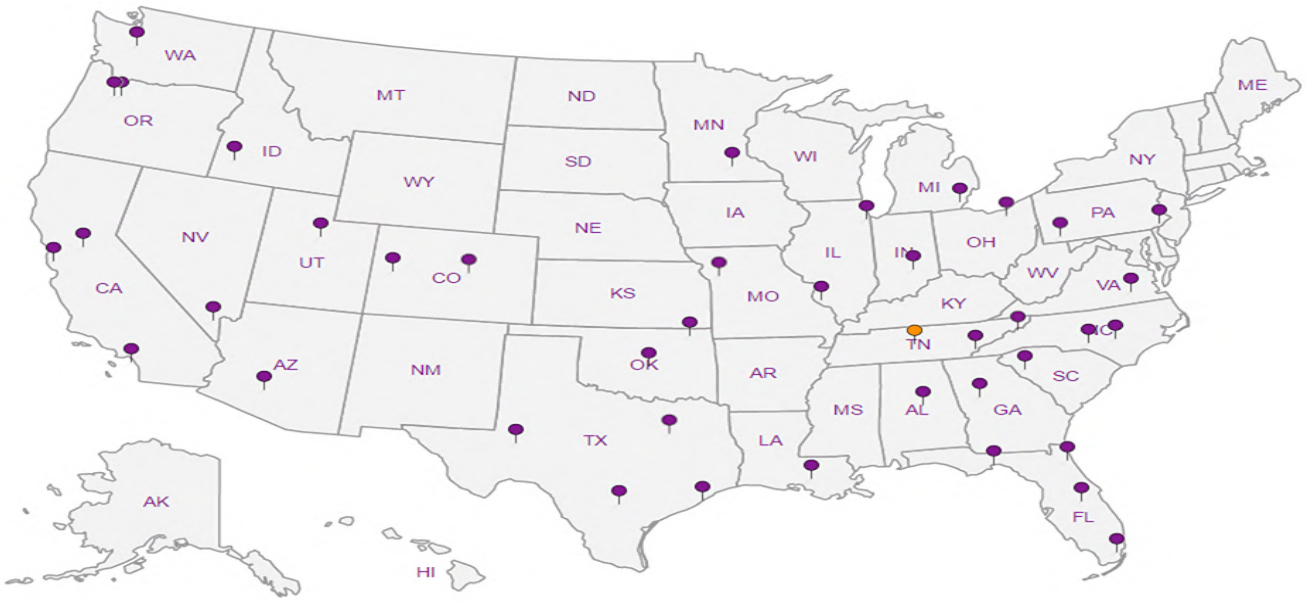
Third Party Federal Accreditations

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

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

Our Locations

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



G023

Page 1 of 2

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

L116665

Client Name:	COP	Site Manager:	Christian Llull
Project Name:	EVGSAU CTB		
Project Location: (county, state)	Lea Co NM	Project #:	212C-MD-01987
Invoice to:	Accounts Payable 901 West Wall St. Suite 100, Midland TX 79701		
Receiving Laboratory:	Pace	Sampler Signature:	Clint Merritt
Comments:	Samples in Page 1 of COC Held per PM		

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)
	BH-4 (0-1)	11/19/2019	11:00		X			X	1	
	BH-4 (2-3)	11/19/2019	11:05		X			X	1	
	BH-4 (4-5)	11/19/2019	11:10		X			X	1	
	BH-5 (0-1)	11/19/2019	11:15		X			X	1	
	BH-5 (2-3)	11/19/2019	11:20		X			X	1	
	BH-5 (4-5)	11/19/2019	11:25		X			X	1	
	BH-6 (15-16)	11/19/2019	11:30		X			X	1	
	BH-6 (19-20)	11/19/2019	11:35		X			X	1	
	BH-7 (0-1)	11/19/2019	11:40		X			X	1	
	BH-7 (2-3)	11/19/2019	11:45		X			X	1	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B / 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	TOX	Hold
X	X	X												X					X
X	X	X												X					X
X	X	X												X					X
X	X	X												X					X
X	X	X												X					X
X	X	X												X					X
X	X	X												X					X
X	X	X												X					X
X	X	X												X					X
X	X	X												X					X

Relinquished by:	Date: 11/20/19	Time: 2:35	Received by:	Date: 11/20/19 Time:
Relinquished by:	Date: 11/20/19	Time: 17:45	Received by: SOA	Date: 11/20/19 Time:
Relinquished by:	Date:	Time:	Received by:	Date: 11/21/19 Time: 800

LAB USE ONLY

Sample Temperature

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Containers Received 13

RAD [illegible] hr

0.7+0.5=1.2

MM A3

Page 2 of 2

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

L1164665

Client Name:	COP	Site Manager:	Christian Llull
Project Name:	EVGSAU CTB		
Project Location: (county, state)	Lea Co NM	Project #:	212C-MD-01987
Invoice to:	Accounts Payable 901 West Wall St. Suite 100, Midland TX 79701		
Receiving Laboratory:	Pace	Sampler Signature:	Clint Merritt
Comments:	COPTetra AcctNum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	HNO3	ICE	# 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	TOX		Hold
	BH-8 (0-1)	11/19/2019	11:50		X			X	1		X		X												X						
	BH-8 (2-3)	11/19/2019	11:55		X			X	1		X		X												X						
	AH-1 (0-1)	11/19/2019	12:00		X			X	1		X		X												X						

01
02
03

Relinquished by:	Date: 11/20/19	Time: 2:35	Received by:	Date: 11/20/19 Time: 14:35
Relinquished by:	Date: 11/20/19	Time: 17:45	Received by:	Date: 11/20/19 Time: 17:45
Relinquished by:	Date:	Time:	Received by:	Date: 11/21/19 Time: 800

LAB USE ONLY
Sample Temperature

REMARKS:
- RUSH: Same Day 24 hr 48 hr 72 hr
- Rush Charges Authorized
- Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

0.7+0.5=1.2

RAD SCREEN: <0.5 mR/hr

AM A3

Andy Vann

From: Chris McCord
Sent: Monday, November 25, 2019 2:17 PM
To: Project Service
Subject: FW: *COPTETRA* log from hold 11-156
Attachments: HOLD COC rev.pdf

Please see attached revised COC. Please log hold samples BH-8(0-1), BH-8 (2-3), and AH-1 (0-1) for CHLORIDE-300, GRO, V8260BTEX, DRORLA, and TS. Log as R5 due 12/3.

Thanks,

Christopher McCord
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
615.773.3281 | Cell 615.504.3183
cmccord@pacenational.com | www.pacenational.com

ESC Lab Sciences is now Pace Analytical National Center for Testing & Innovation! Please make note of my new email address and website.

From: Llull, Christian [mailto:Christian.Llull@tetratech.com]
Sent: Monday, November 25, 2019 1:52 PM
To: Chris McCord
Subject: RE: *COPTETRA* hold 11-156

Chris,

Please see this revised COC for EVGSAU CTB.
Of the 13 submitted only three will be analyzed (all on page 2).
Please let me know you have received or if you need clarification.
This makes 39+3 for 42 total on the project.

Christian

From: Chris McCord <CMcCord@pacenational.com>
Sent: Friday, November 22, 2019 6:17 PM

To: Llull, Christian <Christian.Llull@tetratech.com>
Subject: *COPTETRA* hold 11-156

Hold COC from yesterday is attached.

Thanks,

Christopher McCord
Project Manager

Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
615.773.3281 | Cell 615.504.3183
cmccord@pacenational.com | pacenational.com

ESC Lab Sciences is now Pace Analytical National Center for Testing & Innovation! Please make note of my new email address and website.

APPENDIX D
Boring Logs

212C-MD-01987	TETRA TECH	**LOG OF BORING AH-1**	Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.796611°, -103.458285° | Surface Elevation: 3943 ft

Borehole Number: AH-1 | Borehole Diameter (in.): 2 | Date Started: 11/19/2019 | Date Finished: 11/19/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			330	339								**-SP-** SAND: Dark brown, loose, with gravel, heavy odor, heavy staining.	1	AH-1 (0-1')
												Bottom of borehole at 1.0 feet.		

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Clint Merritt | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-01987 | TETRA TECH | **LOG OF BORING BH-1** | Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.797019°, -103.458365° | Surface Elevation: 3945 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 8 | Date Started: 11/18/2019 | Date Finished: 11/18/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				58.5								**-SM-** SILTY SAND: Tan, dense, moderately cemented, with gravel, low odor, no staining.	1.5	BH-1 (0-1')
			1180	6.7								**-SM-** SILTY SAND: Brown, loose, with few gravel, no odor, no staining.	3.5	BH-1 (2-3')
5				8.8								**-SM-** SILTY SAND: Tan, very dense, heavily cemented, with heavy gravel, no odor, no staining.		BH-1 (4-5')
				11.2										BH-1 (6-7')
10			105	11.7									10	BH-1 (9-10')

Bottom of borehole at 10.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01987	TETRA TECH	**LOG OF BORING BH-2**	Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.796777°, -103.458586° | Surface Elevation: 3945 ft

Borehole Number: BH-2 | Borehole Diameter (in.): 8 | Date Started: 11/18/2019 | Date Finished: 11/18/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				10.6								**-SM-** SILTY SAND: Tan, dense, moderately cemented, with heavy gravel, no odor, no staining.	1.5	BH-2 (0-1')
			323	12.2								**-CL-** SILTY CLAY: Brown, medium stiff to stiff, with heavy gravel, no odor, no staining.		BH-2 (2-3')
5				6.9										BH-2 (4-5')
													5.5	
				12.9								**-SM-** SILTY SAND: Tan, very dense, heavily cemented, with heavy gravel, no odor, no staining.		BH-2 (6-7')
10			100	4.7									10	BH-2 (9-10')

Bottom of borehole at 10.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01987 | TETRA TECH | **LOG OF BORING BH-3** | Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.796387°, -103.458538° | Surface Elevation: 3945 ft

Borehole Number: BH-3 | Borehole Diameter (in.): 8 | Date Started: 11/18/2019 | Date Finished: 11/18/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				8.9								**-SM-** SILTY SAND: Tan, dense, moderately cemented, with heavy gravel, low odor, no staining.		BH-3 (0-1')
			73.3	10.6										BH-3 (2-3')
													3.5	
5				15.5								**-SM-** SILTY SAND: Tan, very dense, heavily cemented, with moderate gravel, low odor, no staining.		BH-3 (4-5')
													5.5	
				13.6								**-SM-** SILTY SAND: Tan, very dense, heavily cemented, with moderate gravel, no odor, no staining.		BH-3 (6-7')
10			46.6	11.4									10	BH-3 (9-10')

Bottom of borehole at 10.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01987 | TETRA TECH | **LOG OF BORING BH-4** | Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.796428°, -103.458282° | Surface Elevation: 3945 ft

Borehole Number: BH-4 | Borehole Diameter (in.): 8 | Date Started: 11/21/2019 | Date Finished: 11/21/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			184	1.9								**-SM-** SILTY SAND: Tan, dense, moderately cemented, with heavy gravel, low odor, little staining.	1.5	BH-4 (0-1')
				3.2								**-SM-** SILTY SAND: Tan, dense, moderately cemented, with heavy gravel, no odor, no staining.	3.5	BH-4 (2-3')
5				3.2								**-SM-** SILTYSAND: Brown, medium dense, with heavy gravel, no odor, no staining.	5.5	BH-4 (4-5')
			301	4.4								**-SM-** SILTY SAND: Tan, very dense, heavily cemented, with moderate gravel, no odor, no staining.		BH-4 (6-7')
10			351	5									10	BH-4 (9-10')

Bottom of borehole at 10.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01987 | TETRA TECH | **LOG OF BORING BH-5** | Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.795630°, -103.458761° | Surface Elevation: 3945 ft

Borehole Number: BH-5 | Borehole Diameter (in.): 8 | Date Started: 11/21/2019 | Date Finished: 11/21/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				3								**-SC-** CLAYEY SAND: Tan with brown clay, medium dense, with heavy gravel, no odor, no staining.		BH-5 (0-1')
				3.4										BH-5 (2-3')
													3.5	
5				3.9								**-SM-** SILTY SAND: Tan, very dense, heavily cemented, with heavy gravel, no odor, no staining.		BH-5 (4-5')
				4										BH-5 (6-7')
10				4										BH-5 (9-10')
				3.9										BH-5 (11-12')
													13	
												-SM- SILTY SAND: Tan, medium dense, moderately cemented, with no odor, no staining.		
15			91	0.8									15	BH-5 (14-15')

Bottom of borehole at 15.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01987 | TETRA TECH | **LOG OF BORING BH-6** | Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.795210°, -103.458332° | Surface Elevation: 3945 ft

Borehole Number: BH-6 | Borehole Diameter (in.): 8 | Date Started: 11/21/2019 | Date Finished: 11/21/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				0.8								**-SC-** CLAYEY SAND: Tan with brown, medium dense, with heavy gravel, no odor, no staining.		BH-6 (0-1')
				0.4										BH-6 (2-3')
													3.5	
5				1								**-SM-** SILTY SAND: Tan, very dense, heavily cemented, with moderate gravel, no odor, no staining.		BH-6 (4-5')
				2.5										BH-6 (6-7')
													8	
10			53.7	2.9								**-SM-** SILTY SAND: White, very dense, heavily cemented, with moderate gravel, low odor, no staining.		BH-6 (9-10')
				2.8										BH-6 (13-14')
15													15	
				3.1								**-SM-** SILTY SAND: Tan, dense, moderately cemented, with no odor, no staining.		BH-6 (16-17')
20			96.1	2.6									20	BH-6 (19-20')

Bottom of borehole at 20.0 feet.

Sampler Types: Split Spoon, Shelby, Bulk Sample, Grab Sample, Acetate Liner, Vane Shear, California, Test Pit

Operation Types: Mud Rotary, Continuous Flight Auger, Wash Rotary, Auger, Air Rotary, Core Barrel, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01987 | TETRA TECH | **LOG OF BORING BH-7** | Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.795710°, -103.458078° | Surface Elevation: 3945 ft

Borehole Number: BH-7 | Borehole Diameter (in.): 8 | Date Started: 11/21/2019 | Date Finished: 11/21/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				2.7								**-SM-** SILTY SAND: Tan, dense, moderately cemented, with heavy gravel, no odor, no staining.		BH-7 (0-1')
				3.6										BH-7 (2-3')
													3.5	
5				3.7								**-SM-** SILTY SAND: Tan, very dense, heavily cemented, with moderate gravel, no odor, no staining.		BH-7 (4-5')
				4.1										BH-7 (6-7')
													8	
10				3.4								**-SM-** SILTY SAND: Tan, dense to very dense, heavily cemented, with few gravel, no odor, no staining.		BH-7 (9-10')
			128	0.6										BH-7 (11-12')
15			512	1.4									15	BH-7 (14-15')

Bottom of borehole at 15.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01987 | TETRA TECH | **LOG OF BORING BH-8** | Page 1 of 1

Project Name: EVGSAU CTB Release

Borehole Location: GPS: 32.796202°, -103.458763° | Surface Elevation: 3945 ft

Borehole Number: BH-8 | Borehole Diameter (in.): 8 | Date Started: 11/19/2019 | Date Finished: 11/19/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			154	0.1								**-SM-** SILTY SAND: White, dense, moderately cemented, with heavy gravel, no odor, no staining.		BH-8 (0-1')
			250	0.2									3	BH-8 (2-3')

Bottom of borehole at 3.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

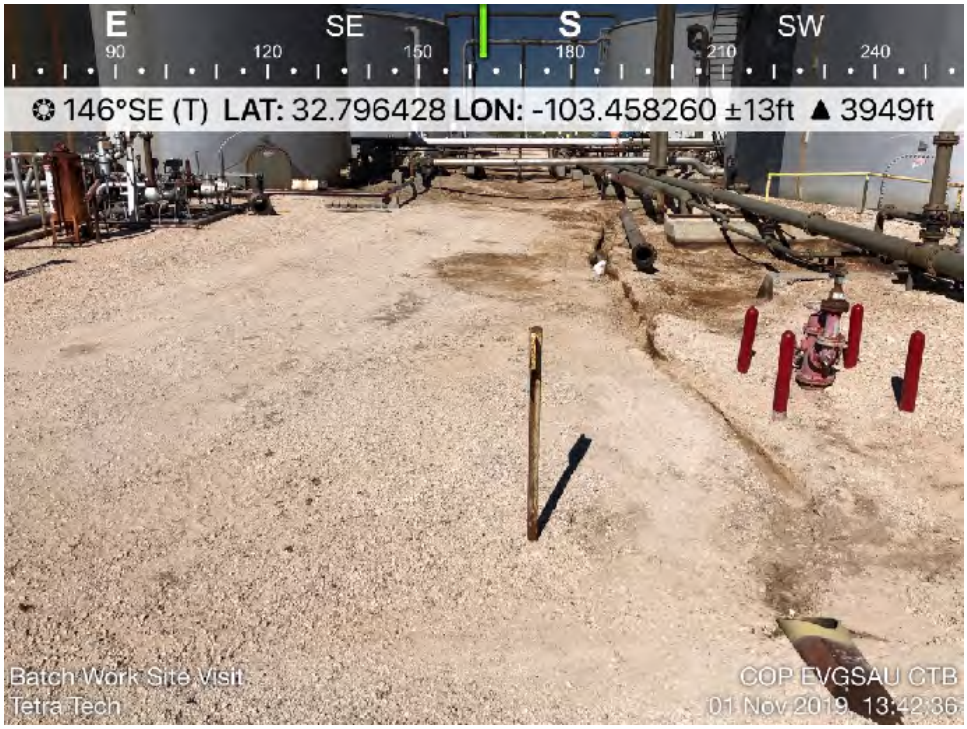
Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Clint Merritt | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

APPENDIX E
Photographic Documentation



TETRA TECH, INC. PROJECT NO. 212C-MD-01987	DESCRIPTION	View north. Release area in the northern tank battery.	1
	SITE NAME	EVGSAU CTB Release	11/1/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01987	DESCRIPTION	View south. Central portion of the release area south of the northern tank battery.	2
	SITE NAME	EVGSAU CTB Release	11/1/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01987	DESCRIPTION	View southeast. Southern portion of the release area.	3
	SITE NAME	EVGSAU CTB Release	11/1//2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01987	DESCRIPTION	View northeast. Southern portion of the release area.	4
	SITE NAME	EVGSAU CTB Release	11/1/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01987	DESCRIPTION	View northeast. Typical production lines and equipment at the Site.	5
	SITE NAME	EVGSAU CTB Release	11/1/2019