SITE INFORMATION

Report Type: Remediation Work Plan NAPP2117632006

General Site Information:						
Site:	**MCA 233 Flowline Release**					
Company:	**ConocoPhillips**					
Section, Township and Range	**Unit Letters N**	**Sec. 28**	**T 17S**	**R 32E**		
Lease Number:	**N/A**					
County:	**Lea**					
Release GPS:	**32.798952°**			**-103.772842°**		
Surface Owner:	Federal					
Mineral Owner:	N/A					
Directions:	From Maljamar, NM (Hwy 82/Maljamar Rd): Head south on Maljamar Rd. for 3.91 miles. Turn right on lease road. Head west for 0.61 miles.Site is 400 ft to the south-southeast.					

Release Data:	
Date Released:	3/24/2021
Type Release:	Oil/Produced Water
Source of Contamination:	Flowline Leak
Fluid Released:	8.8 bbls
Fluids Recovered:	0 bbls

Official Communication:			
Name:	Jenni Fortunato	Shelly Tucker	Christian M. Llull, P.G.
Company:	ConocoPhillips	BLM	Tetra Tech
Address:	935 N. Eldridge Pkwy.	620 E. Greene St	8911 North Capital of Texas Hwy.
			Building 2, Suite 2310
City:	Houston, TX 77079	Carlsbad, NM 88220	Austin, Texas 78759
Phone number:	1-832-486-2477	575.234.5706 - Direct	(512) 338-2861
Fax:			
Email:	jenni.fortunato@conocophillips.com	stucker@blm.gov	christian.llull@tetratech.com

Site Characterization	
Depth to Groundwater:	*91' below surface*
Impact to groundwater or surface water:	*No*
Extents within 300 feet of a watercourse:	*No*
Extents within 200 feet of lakebed, sinkhole, or playa lake:	*No*
Extents within 300 feet of an occupied structure:	*No*
Extents within 500 horizontal feet of a private water well:	*No*
Extents within 1000 feet of any water well or spring:	*No*
Extents within incorporated municipal well field:	*No*
Extents within 300 feet of a wetland:	*No*
Extents overlying a subsurface mine:	*No*
Karst Potential:	*Low*
Extents within a 100-year floodplain:	*No*
Impact to areas not on a production site:	*No*

Recommended Remedial Action Levels (RRALs)				
Benzene	***Total BTEX***	***TPH (GRO+DRO)***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*1,000 mg/kg*	*2,500 mg/kg*	*10,000 mg/kg*

TETRA TECH

February 7, 2022

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

Re: Release Characterization and Remediation Work Plan
ConocoPhillips
MCA 233 Flowline Release
Unit Letter N, Section 28, Township 17 South, Range 32 East
Lea County, New Mexico
Incident ID nAPP2117632006

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a release that occurred at the Maljamar Cooperative Agreement (MCA) 233 Flowline Release area (Site). The Site is located in Public Land Survey System (PLSS) Unit Letter N, Section 28, Township 17 South, and Range 32 East, Lea County, New Mexico. The coordinates of the release point are approximately 32.798952°, -103.772842°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report (Appendix A), on March 24, 2021 a release caused by a flowline leak approximately 2,600 feet northeast of the MCA 233 well and affected approximately 322 square feet of pasture. Approximately 6.6 barrels (bbls) of crude oil and 2.2 bbls of produced water were reported released, and no free liquids were recovered during initial response actions. The reported release volume was back-calculated from the release areas as constructed in the spill calculator. The NMOCD received the initial C-141 on June 25, 2021 and subsequently assigned the release Incident ID nAPP2117632006.

SITE CHARACTERIZATION

A site characterization was performed and no watercourses, sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.09 New Mexico Administrative Code (NMAC). The Site is in an area of low karst potential.

According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are two (2) water wells within 800 meters (approximately ½ mile) of the Site with depth to water data. The average depth to groundwater is 91 feet below ground surface (bgs). The site characterization data is included in Appendix B.

REGULATORY FRAMEWORK

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

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Based on the site characterization and in accordance with Table I of 19.15.29.12 NMAC, the remediation RRALs for the Site are as follows:

Constituent	Site RRALs
Chloride	10,000 mg/kg
TPH (GRO+DRO+ORO)	2,500 mg/kg
GRO+DRO	1,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

Additionally, in accordance with the NMOCD guidance *Procedures for Implementation of the Spill Rule (19.15.29 NMAC)* (September 6, 2019), the following reclamation requirements for surface soils (0-4 feet bgs) outside of active oil and gas operations are as follows:

Constituent	Reclamation Requirements
Chloride	600 mg/kg
TPH (GRO+DRO+ORO)	100 mg/kg

INITIAL RESPONSE ACTIVITIES

During the initial response activities, ConocoPhillips excavated visually impacted soils within the release extent. Approximately 720 square feet of impacted soils in the vicinity of the release point were excavated to an approximate depth of 2 feet bgs. Additionally, an area of approximately 970 square feet in the downgradient portion of the release extent was scraped to approximately 6 inches bgs. No soil samples were collected immediately following excavation activities. Photographic documentation of the initial response excavation is included in Appendix C.

SITE ASSESSMENT ACTIVITIES AND RESULTS

In order to achieve vertical and horizontal delineation of the release extent, Tetra Tech personnel conducted soil sampling on August 5, 2021. A total of nine (9) hand auger borings were advanced in the vicinity of the release area. Six (6) borings (AH-1 through AH-6) were installed around the perimeter of the release extent to a depth of 3 feet bgs to determine the lateral extent of impacted soil. The remaining three (3) borings (AH-7 through AH-9) were installed within the release footprint to a depth of 8 feet below pre-release grade to determine the extent of vertical impact of the release. Boring logs, included as Appendix D, present soil descriptions, sample depths, and field screening data from the August 2021 assessment activities.

A total of twenty-six (26) samples were collected from the nine (9) borings and submitted to Pace Analytical (Pace) to be analyzed for TPH (DRO and ORO) by EPA Method 8015, TPH Low Fraction (GRO) by EPA Method 8015D, BTEX by EPA Method 8260B, and chlorides by EPA Method 300.0. Boring locations, along with the release extent and scraped area, are shown in Figure 4. Copies of the analytical laboratory reports and chain-of-custody documentation are included in Appendix E.

Results from the August 2021 soil sampling event are summarized in Table 1. The analytical results associated with boring location AH-7 exceeded the Site proposed RRALs for TPH to the total boring depth of 8 feet. Additionally, the analytical results for AH-9 (0.5-1.5') exceeded the TPH reclamation requirement for soils above 4 feet. The results associated with the remainder of analyzed samples were below the Site proposed RRALs and/or reclamation requirements for chloride, TPH and BTEX in all analyzed samples.

ADDITIONAL DELINEATION ACTIVITIES AND RESULTS

Tetra Tech personnel returned to the Site on December 16, 2021 to complete vertical delineation near the release source. One (1) boring (BH-1) was installed within the release footprint to a depth of 30 feet below

pre-release grade using an air rotary drilling rig. Boring logs, included as Appendix D, present soil descriptions, sample depths, and field screening data from the December 2021 delineation activities.

A total of nine (9) samples were collected from BH-1 and submitted to Pace Analytical (Pace) to be analyzed for TPH (DRO and ORO) by EPA Method 8015, TPH Low Fraction (GRO) by EPA Method 8015D, BTEX by EPA Method 8260B, and chlorides by EPA Method 300.0. Boring locations, along with the release extent and scraped area, are shown in Figure 4. Copies of the analytical laboratory reports and chain-of-custody documentation are included in Appendix E

Results from the December 2021 soil sampling event are summarized in Table 2. The analytical results associated with boring location BH-1 exceeded the Site proposed RRALs for TPH (GRO+DRO+ORO) to a depth of 4 feet below pre-release grade and TPH (GRO+DRO) to a depth of 6 feet below pre-release grade. The analytical results for sample intervals deeper than 6 feet were below Site RRALs.

REMEDIATION WORK PLAN

Based on the analytical results from the assessment and delineation activities, ConocoPhillips proposes to remove the impacted material within the release extent as shown in Figure 5. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 9 feet below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the Site RRALs. Heavy equipment will come no more than 4 feet from any pressurized lines. The area of the release extent within 4 feet of the buried flowline will be hand-dug to a depth of 7 feet below pre-release grade or the maximum extent practicable.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chloride. Once analytical results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 255 cubic yards.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, COP proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 5. Four (4) confirmation floor samples and fifteen (15) confirmation sidewall samples are proposed for verification of remedial activities. Additionally, one confirmation soil sample is proposed within the 6-inch initial response excavation to confirm remedial efficacy. The proposed excavation encompasses a surface area of approximately 1,745 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 500 square feet of excavated area. Confirmation samples will be sent to an analytical laboratory for analysis of TPH (Method 8015 modified), BTEX (Method 8260B), and chloride (USEPA Method 300.0). Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade.

SITE RECLAMATION AND RESTORATION PLAN

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

Site inspections will be performed to assess the revegetation progress and evaluate the site for the presence of primary or secondary noxious weeds. If noxious weeds are identified, the NMSLO will be

contacted to determine an effective method for eradication. If the site does not show revegetation after one growing season, the area will be reseeded as appropriate. The NMSLO seed mixture details and corresponding pounds pure live seed per acre are included in Appendix F. Final reclamation will create a landform that approximates and blends in with the surrounding landform, while controlling erosion.

CONCLUSION

ConocoPhillips proposes to begin remediation activities at the Site within 120 days of NMOCD plan approval. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD. If you have any questions concerning the soil assessment or the proposed remediation activities for the Site, please call me at (512) 217-7254 or Christian at (512) 338-2861.

Sincerely,

Tetra Tech, Inc.

Ryan C. Dickerson
Project Lead

Christian M, Llull, P.G.
Program Manager

cc:
Ms. Jenni Fortunato, RMR – ConocoPhillips
Mr. Arthur Arias, BLM

LIST OF ATTACHMENTS

Figures:

Figure 1 – Site Location Map
Figure 2 – Topographic Map
Figure 3 – Approximate Release Extent
Figure 4 – Initial Response and Site Assessment
Figure 5 – Proposed Remediation Extent
Figure 6 – Alternative Confirmation Sampling Plan

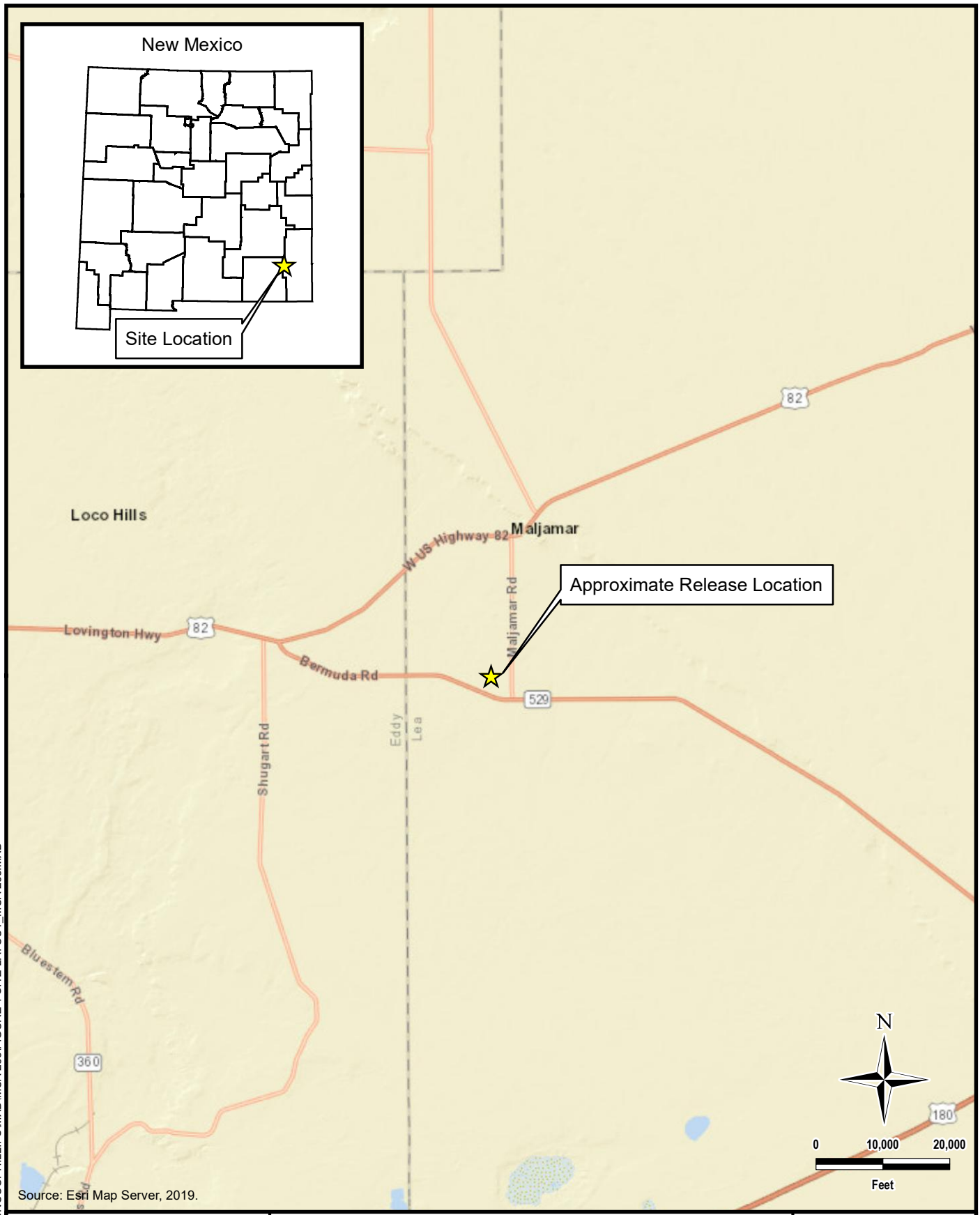
Tables:

Table 1 – Summary of Analytical Results – Soil Assessment
Table 2 – Summary of Analytical Results – Additional Delineation

Appendices:

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

FIGURES



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA 233\FIGURE 1 SITE LAYOUT_MCA 233.MXD

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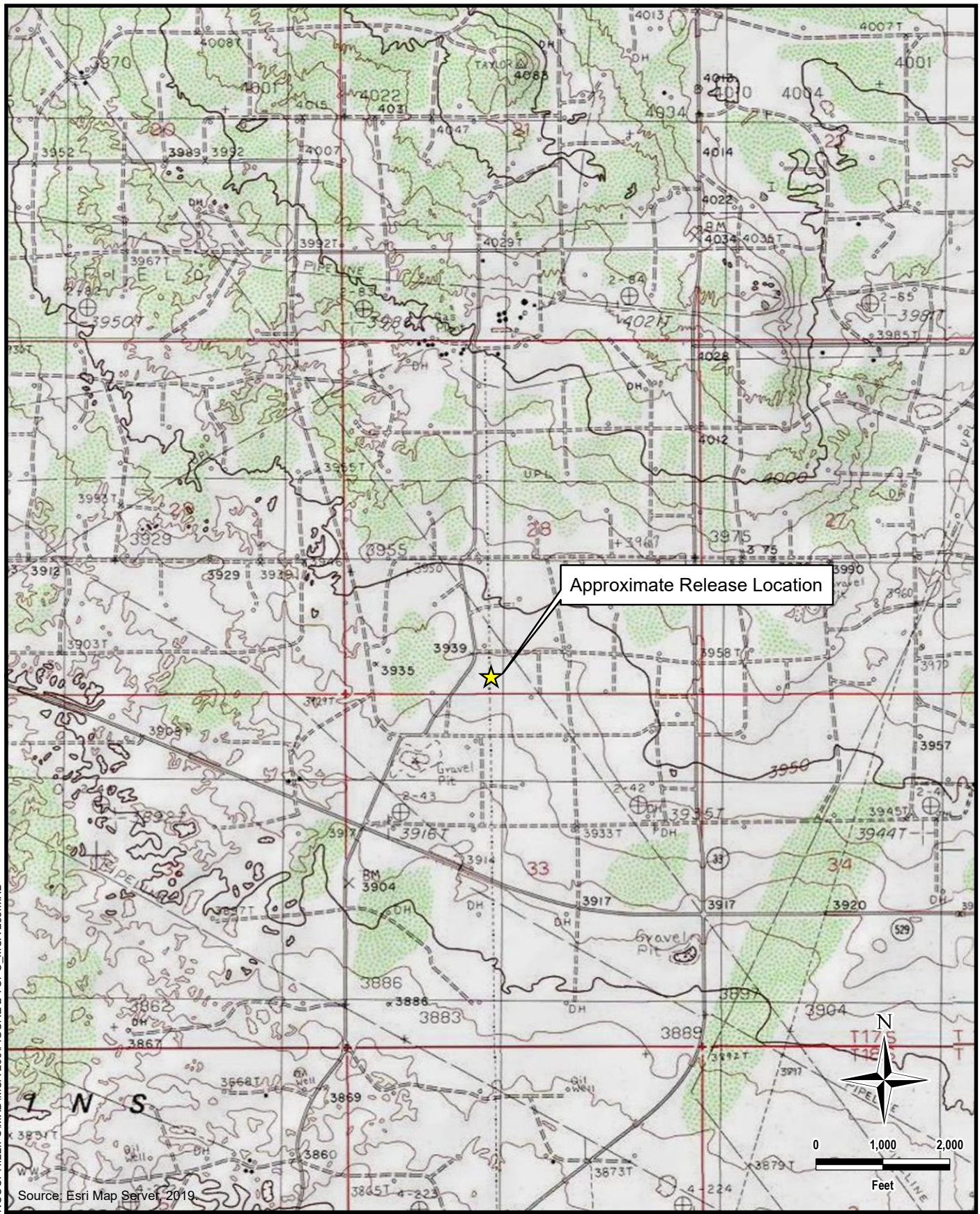
CONOCOPHILLIPS (HERITAGE CONCHO)

NAPP2117632006
(32.798952°, -103.772842°)
LEA COUNTY, NEW MEXICO

MCA 233 FLOWLINE RELEASE
SITE LOCATION MAP

PROJECT NO.:	212C-MD-02549
DATE:	SEPTEMBER 07, 2021
DESIGNED BY:	AAM

Figure No.
1



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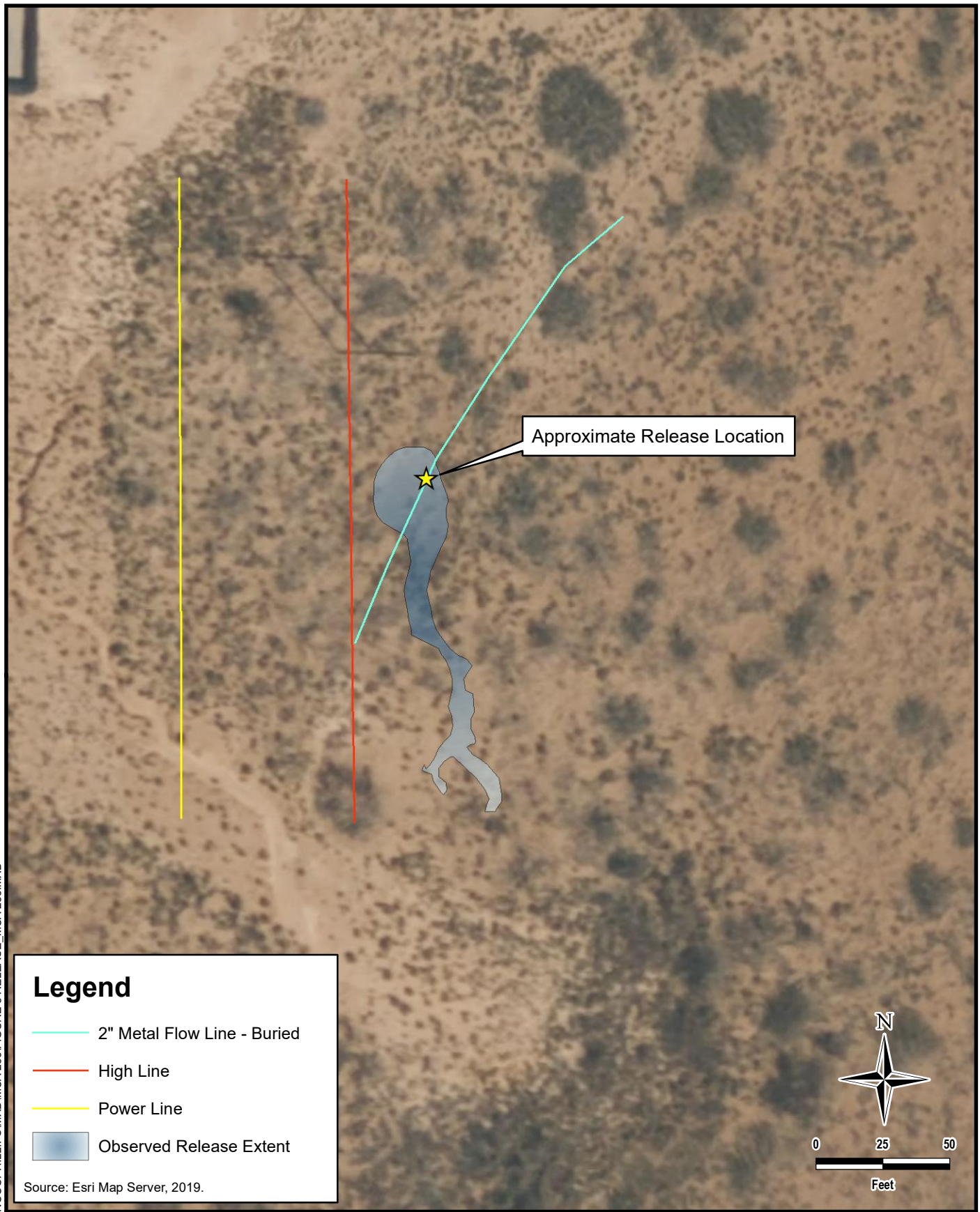
MCA 233 FLOWLINE RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02549
DATE:	SEPTEMBER 07, 2021
DESIGNED BY:	AAM

Figure No.
2



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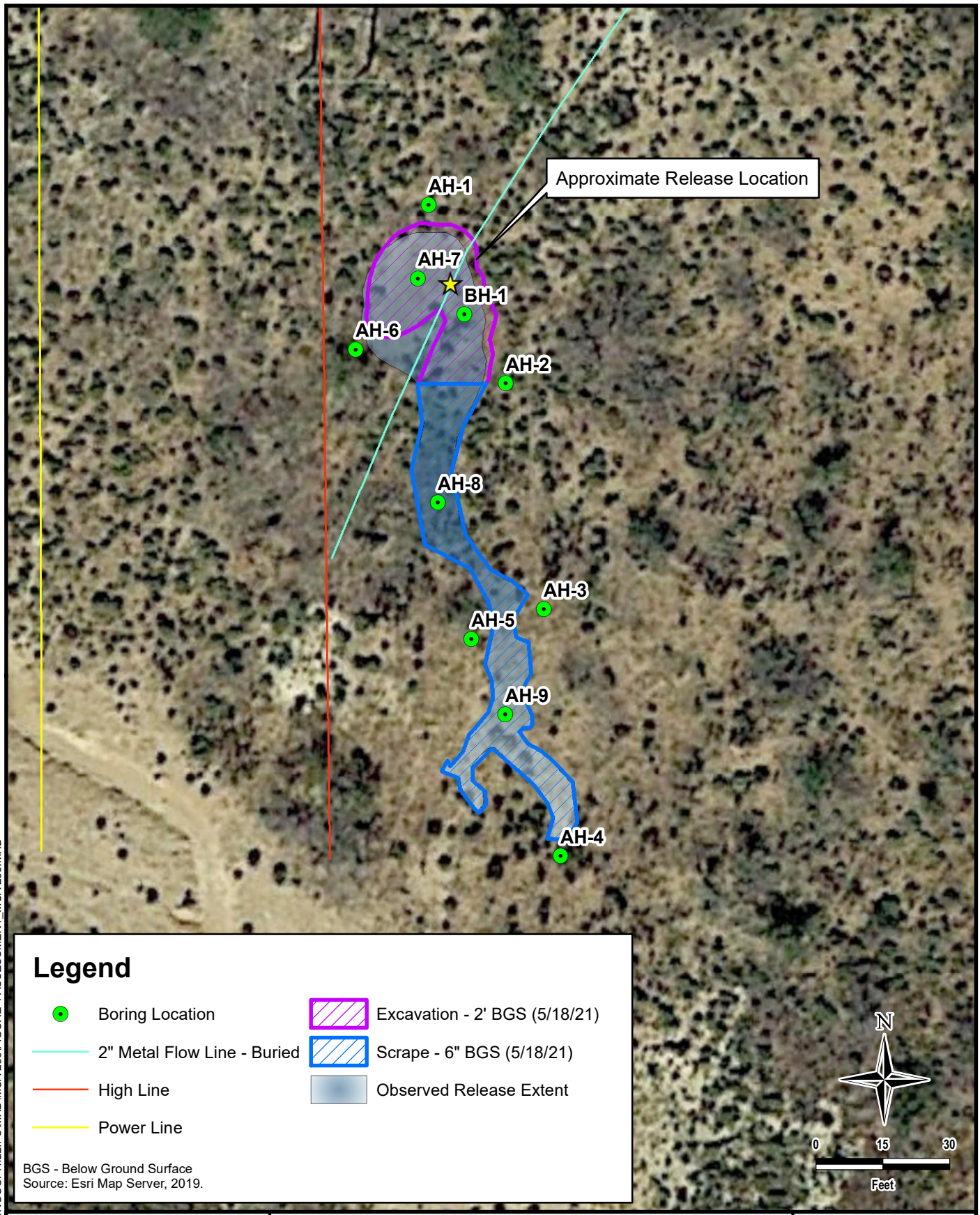
CONOCOPHILLIPS (HERITAGE CONCHO)

NAPP2117632006
(32.798952°, -103.772842°)
LEA COUNTY, NEW MEXICO

MCA 233 FLOWLINE RELEASE
APPROXIMATE RELEASE EXTENT

PROJECT NO.:	212C-MD-02549
DATE:	SEPTEMBER 07, 2021
DESIGNED BY:	AAM

Figure No.
3



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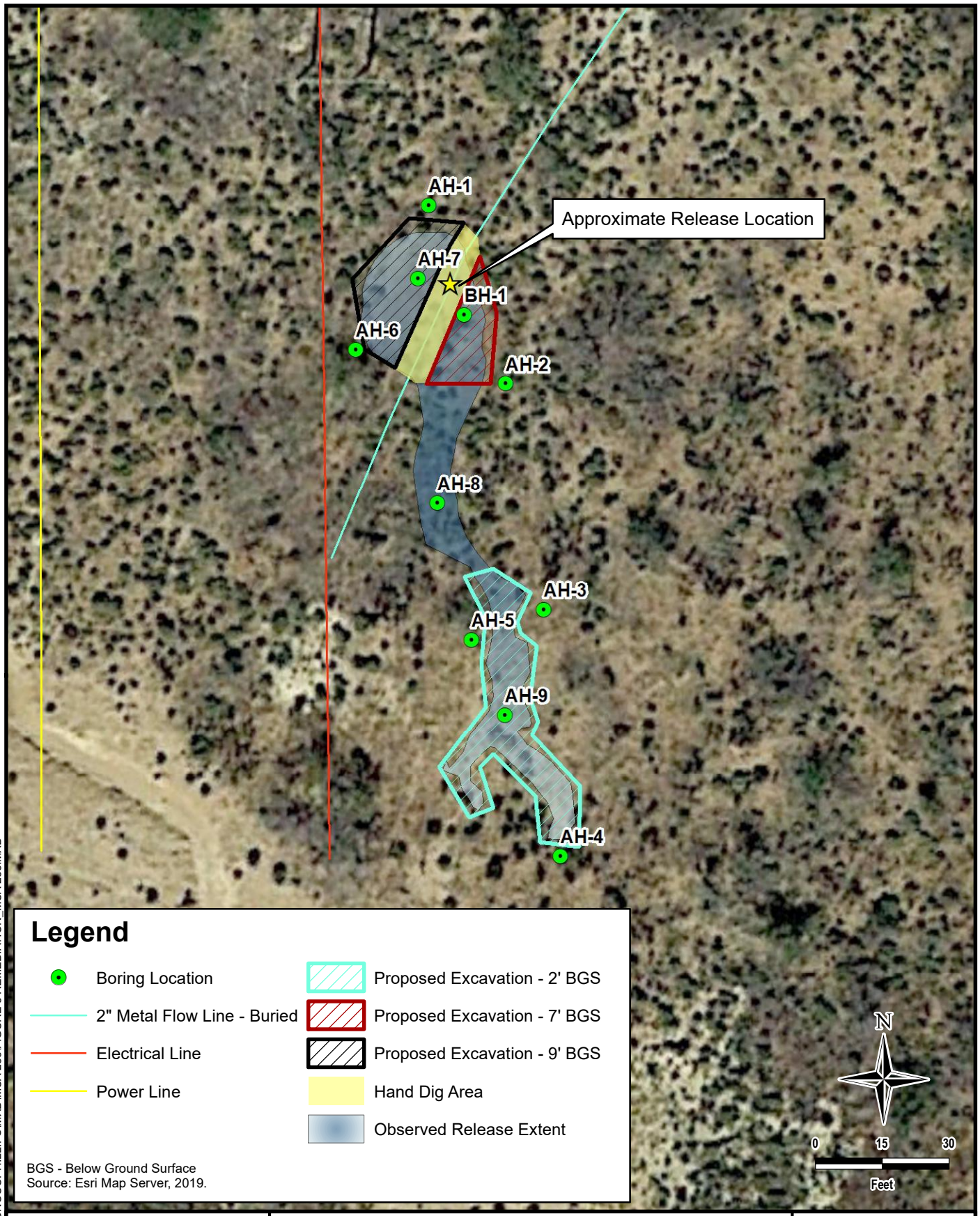
CONOCOPHILLIPS (HERITAGE CONCHO)

NAPP2117632006
(32.798952°, -103.772842°)
LEA COUNTY, NEW MEXICO

MCA 233 FLOWLINE RELEASE
INITIAL RESPONSE AND SITE ASSESSMENT

PROJECT NO.:	212C-MD-02549
DATE:	JANUARY 11, 2022
DESIGNED BY:	AAM

Figure No.
4



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA 233\FIGURE 5 REMEDIATION_MCA 233.MXD

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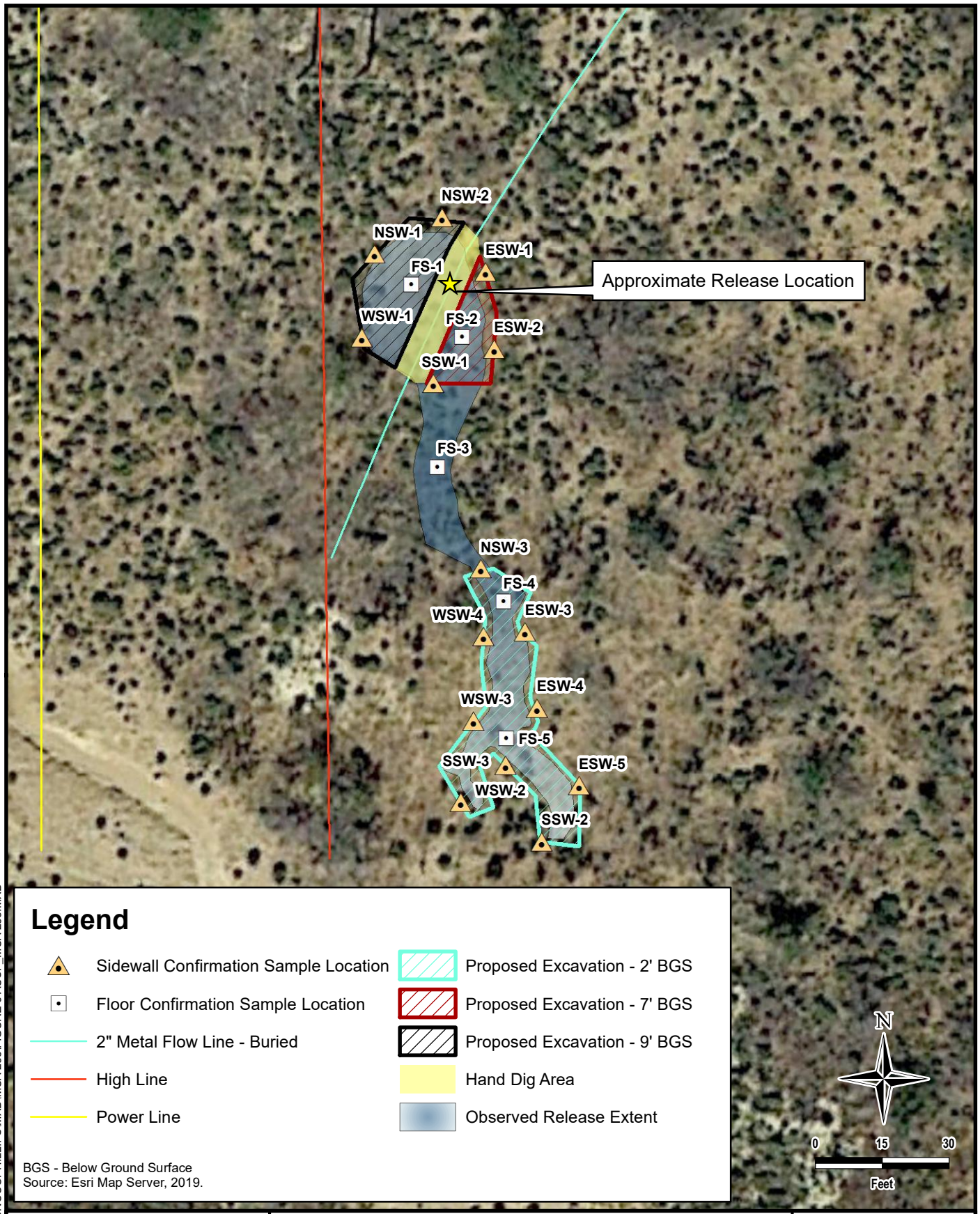
CONOCOPHILLIPS (HERITAGE CONCHO)

NAPP2117632006
(32.798952°, -103.772842°)
LEA COUNTY, NEW MEXICO

MCA 233 FLOWLINE RELEASE
PROPOSED REMEDIATION EXTENT

PROJECT NO.:	212C-MD-02549
DATE:	JANUARY 11, 2022
DESIGNED BY:	AAM

Figure No.
5



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CONOCOPHILLIPS (HERITAGE CONCHO)

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(32.798952°, -103.772842°)
LEA COUNTY, NEW MEXICO

MCA 233 FLOWLINE RELEASE
ALTERNATIVE CONFIRMATION SAMPLING PLAN

PROJECT NO.:	212C-MD-02549
DATE:	JANUARY 11, 2022
DESIGNED BY:	AAM

Figure No.
6

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT - NAPP2117632006
CONOCOPHILLIPS
MCA 233 FLOWLINE RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth Interval	Field Screening Results		Chloride[1]		BTEX[2]										TPH[3]							
			Chloride	PID			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO[4] C_3 - C_{10}		DRO C_{10} - C_{28}		ORO C_{28} - C_{40}		Total TPH (GRO+DRO+ORO)	
		ft. bgs	ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
AH-1	8/5/2021	0-1	38.3	-	15.7	J	< 0.00145		< 0.00724		< 0.00362		0.00141	J	0.00141		0.288	B V3	3.82	J	12.1		16.2	
		2-3	12.2	-	13.8	J	< 0.00155		< 0.00773		< 0.00387		0.00147	J	0.00147		0.0568	B J	< 5.09		3.60	B J	3.66	
AH-2	8/5/2021	0-1	24.1	-	11.7	J	< 0.00147		< 0.00735		< 0.00367		< 0.00955		-		0.375	B	< 4.94		< 4.94		0.375	
		2-3	94.1	-	19.4	J P1	< 0.00162		< 0.00811		< 0.00406		< 0.0105		-		0.0703	B J	< 5.25		1.91	B J	1.98	
AH-3	8/5/2021	0-1	20.4	-	14.8	J	< 0.00143		< 0.00717		< 0.00359		< 0.00932		-		0.0504	B J	< 4.84		1.31	B J	1.36	
		2-3	21.3	-	11.4	J	< 0.00146		< 0.00728		< 0.00364		0.00131	J	0.00131		0.114	B J	< 4.91		1.10	B J	1.21	
AH-4	8/5/2021	0-1	22.5	-	11.9	J	< 0.00140		< 0.00699		< 0.00350		< 0.00909		-		0.0706	B J	< 4.80		0.536	B J	0.607	
		2-3	16.2	-	12.4	J	< 0.00166		< 0.00829		< 0.00415		< 0.0108		-		0.0577	B J	27.5		46.0		73.6	
AH-5	8/5/2021	0-1	18.8	-	13.6	J	< 0.00142		< 0.00712		< 0.00356		< 0.00926		-		0.0595	B J	< 4.85		2.47	B J	2.53	
		2-3	32.3	-	18.1	J	< 0.00145		< 0.00725		< 0.00362		< 0.00942		-		0.0619	B J	< 4.90		1.86	B J	1.92	
AH-6	8/5/2021	0-1	21.9	-	12.8	J	< 0.00146		< 0.00729		< 0.00364		0.00146	J	0.00146		0.0472	B J	< 4.91		3.19	B J	3.24	
		2-3	41.2	-	12.7	J	< 0.00152		< 0.00761		< 0.00380		0.00157	J	0.00157		0.0703	B J	< 5.04		1.85	B J	1.92	
AH-7	8/5/2021	2-3	34.3	-	< 22.6		< 0.00126		< 0.00630		< 0.00315		< 0.00819		-		0.0476	B J	< 4.52		8.71	B	8.76	
		3-4	51.8	-	15.9	J	< 0.00158		< 0.00789		< 0.00395		< 0.0103		-		0.0570	B J	317		509		***826***	
		5-6	113	-	29.3		< 0.0115		< 0.0574		< 0.0287		0.0178	J	0.0178		168		8,140		4,880		***13,188***	
		7-8	137	-	69.9		< 0.0118		< 0.0591		0.0514		0.454		0.505		448		10,600		7,080		***18,128***	
AH-8	8/5/2021	0.5-1.5	33.8	-	23.8	J	< 0.00149		< 0.00745		< 0.00372		< 0.00968		-		0.0971	B J	19.5		19.4		39.0	
		2-3	195	-	121		< 0.00160		< 0.00802		0.00199	J	0.0136		0.0156		0.0672	B J	< 5.21		3.05	B J	3.12	
		3-4	248	-	175		< 0.00160		< 0.00802		< 0.00401		< 0.0104		-		0.453		3.83	J	4.09	B J	8.37	
		5-6	79.9	-	34.6		< 0.00160		< 0.00799		< 0.00399		< 0.0104		-		0.0570	B J	76.7		71.2		148	
		7-8	86.9	-	32.3		< 0.00159		< 0.00797		< 0.00398		0.00727	J	0.00727		0.0678	B J	28.3		24.3		52.7	
AH-9	8/5/2021	0.5-1.5	21.8	-	< 20.9		< 0.0218		0.0863	J	2.67		11.4		14.2		815	Q	12,300		6,190		***19,305***	
		2-3	18.3	-	17.6	J	< 0.00141		< 0.00705		< 0.00352		0.00278	J	0.00278		0.145	B	13.7		11.2	B	25.0	
		3-4	16.9	-	18.9	J	< 0.00142		< 0.00712		< 0.00356		< 0.00926		-		0.105	B J	9.95		8.04	B	18.1	
		5-6	33.8	-	19.2	J	< 0.00145		< 0.00725		< 0.00362		< 0.00942		-		0.0955	B J	7.14		5.20	B	12.4	
		7-8	64.6	-	22.4	J	< 0.00160		< 0.00799		< 0.00400		< 0.0104		-		0.136	B	30.9		24.0		55.0	

NOTES:

ft. Feet
bgs Below ground surface
ppm Parts per million
mg/kg Milligrams per kilogram
TPH Total Petroleum Hydrocarbons
GRO Gasoline range organics
DRO Diesel range organics
ORO Oil range organics
1 EPA Method 300.0
2 EPA Method 8260B
3 EPA Method 8015
4 EPA Method 8015D/GRO

Bold and italicized values indicate exceedance of proposed RRALs and/or Reclamation Requirements in upper four feet.

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

B The same analyte is found in the associated blank.
J The identification of the analyte is acceptable; the reported value is an estimate.
P1 RPD value not applicable for sample concentrations less than 5 times the reporting limit.
Q Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
V3 The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
ADDITIONAL DELINEATION - NAPP2117632006
CONOCOPHILLIPS
MCA 233 FLOWLINE RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth Interval	Field Screening Results		Chloride[1]		BTEX[2]								TPH[3]							
							Benzene		Ethylbenzene		Toluene		Total Xylenes		Total BTEX	GRO		DRO		ORO		Total TPH (GRO+DRO+ORO)
			Chloride	PID												C_3 - C_{10}		C_{10} - C_{28}		C_{28} - C_{35}		
		ft. bgs	ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
BH-1	12/16/2021	2-3	90.2	-	< 107		< 0.0515		< 0.0515		< 0.103		< 0.258		-	< 9.7		***5,340***	M1	2,690		***8,030***
		3-4	69.0	-	< 108		< 0.0556		< 0.0556		< 0.111		< 0.278		-	< 10.4		***1,490***		1,180		***2,670***
		5-6	58.3	-	< 107		< 0.0542		< 0.0542		< 0.108		< 0.271		-	< 10.2		***1,410***		1,020		2,430
		7-8	106	-	< 104		< 0.0582		< 0.0582		< 0.116		< 0.291		-	< 10.6		853		490		1,343
		9-10	216	-	111		< 0.0562		< 0.0562		< 0.112		< 0.281		-	< 9.3		< 10.5		< 10.5		-
		14-15	136	-	116		< 0.0544		< 0.0544		< 0.109		< 0.272		-	< 10.5		< 10.2		< 10.2		-
		19-20	125	-	< 98.5		< 0.0548		< 0.0548		< 0.110		< 0.274		-	< 10.5		< 10.3		< 10.3		-
		24-25	212	-	< 112		< 0.0527		< 0.0527		< 0.105		< 0.264		-	< 9.5		26.3		19.6		45.9
		29-30	259	-	143		< 0.0539		< 0.0539		< 0.108		< 0.269		-	< 9.5		< 10.2		< 10.2		-

NOTES:

ft. Feet
bgs Below ground surface
ppm Parts per million
mg/kg Milligrams per kilogram
TPH Total Petroleum Hydrocarbons
GRO Gasoline range organics
DRO Diesel range organics
ORO Oil range organics
1 EPA Method 9056
2 EPA Method 8260B
3 EPA Method 8015B

Bold and italicized values indicate exceedance of proposed Remediation RRALs and/or Reclamation Requirements.

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

APPENDIX A
C-141 Forms

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2117632006
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	ConocoPhillips	OGRID	217817
Contact Name	Kelsy Waggaman	Contact Telephone	505-677-9071
Contact email	Kelsy.Waggaman@conocophillips.com	Incident # *(assigned by OCD)*	nAPP2117632006
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.799008 Longitude -103.772987

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	MCA 233 Flowline	Site Type	FLOWLINE - PASTURE
Date Release Discovered	3/24/21	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
N	28	17S	32E	Lea

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

Nature and Volume of Release

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

■ Crude Oil	Volume Released (bbls) 6.6	Volume Recovered (bbls) 0
■ Produced Water	Volume Released (bbls) 2.2	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	■ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Flowline leak due to fatigue. All impact was off-pad in the pasture. Release was originally reported as 1.5 bbls produced fluids. After excavation began, vertical delineation was found to be 12". Volume of impacted soil increased to 8.8 bbls.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2117632006
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: Kelsy Waggaman
Title: Environmental Coordinator

Signature: Kelsy Waggaman
Date: 6/25/21

email: kelsy.waggaman@conocophillips.com
Telephone: (505)577-9071

OCD Only

Received by: Ramona Marcus
Date: 6/30/2021

NAPP2117632006

L48 Spill Volume Estimate Form

Facility Name & Number:	MCA 233
Asset Area:	Maljamar
Release Discovery Date & Time:	3/24/21 @1030 am
Release Type:	Oil Mixture
Provide any known details about the event:	flowline leak due to fatigue, off pad

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?	See reference table below
Has it rained at least a half inch in the last 24 hours?	See reference table below

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spille Liquid other than ((bbl.)
Rectangle A	141.0	2.0	12.00	15.32%	50.196	7.690	75.00%	5.768	1.923
Rectangle B	20.0	2.0	12.00	15.32%	7.120	1.091	75.00%	0.818	0.273
Rectangle C					0.000	0.000		0.000	0.000
Rectangle D					0.000	0.000		0.000	0.000
Rectangle E					0.000	0.000		0.000	0.000
Rectangle F					0.000	0.000		0.000	0.000
Rectangle G					0.000	0.000		0.000	0.000
Rectangle H					0.000	0.000		0.000	0.000
Rectangle I					0.000	0.000		0.000	0.000
Rectangle J					0.000	0.000		0.000	0.000
				Total Volume Release:		8.781		6.586	2.195

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 33749
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	6/30/2021

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (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	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

APPENDIX B
Site Characterization Data

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

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 12721 POD4	RA	LE	1	1	2	33	17S	32E	615055	3629589	168	140		
RA 12721 POD8	RA	LE	1	2	1	33	17S	32E	614640	3629463	318	130	108	22
RA 12721 POD7	RA	LE	1	3	2	33	17S	32E	615064	3629198	481	130		
RA 12721 POD1	RA	LE	3	2	3	28	17S	32E	614645	3630141	552	125		
RA 12721 POD3	RA	LE	2	3	4	28	17S	32E	615417	3629979	614	115		
RA 12721 POD6	RA	LE	1	2	2	33	17S	32E	615530	3629431	669	130		
RA 12721 POD2	RA	LE	1	1	4	28	17S	32E	615055	3630407	772	124	75	49

Average Depth to Water: **91 feet**
Minimum Depth: **75 feet**
Maximum Depth: **108 feet**

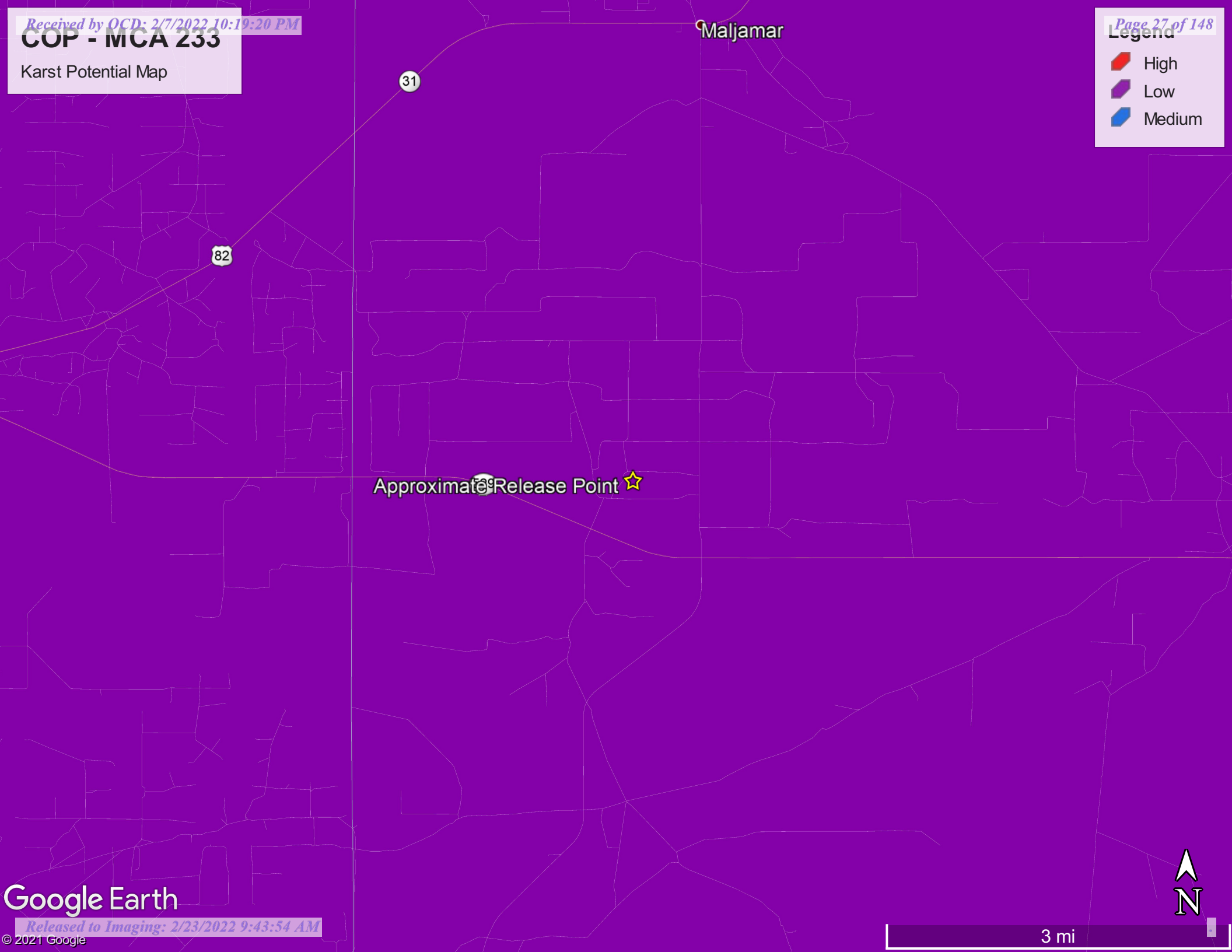
Record Count: 7

UTMNAD83 Radius Search (in meters):

Easting (X): 614898.17 **Northing (Y):** 3629650.71 **Radius:** 800

COP - MCA 233

Karst Potential Map



MCA 233 - OCD Waterbodies Map

8/17/2021, 9:15:46 AM

OSE Water-bodies

PLJV Probable Playas

OSE Streams

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Esri, HERE, Garmin, iPC, Maxar

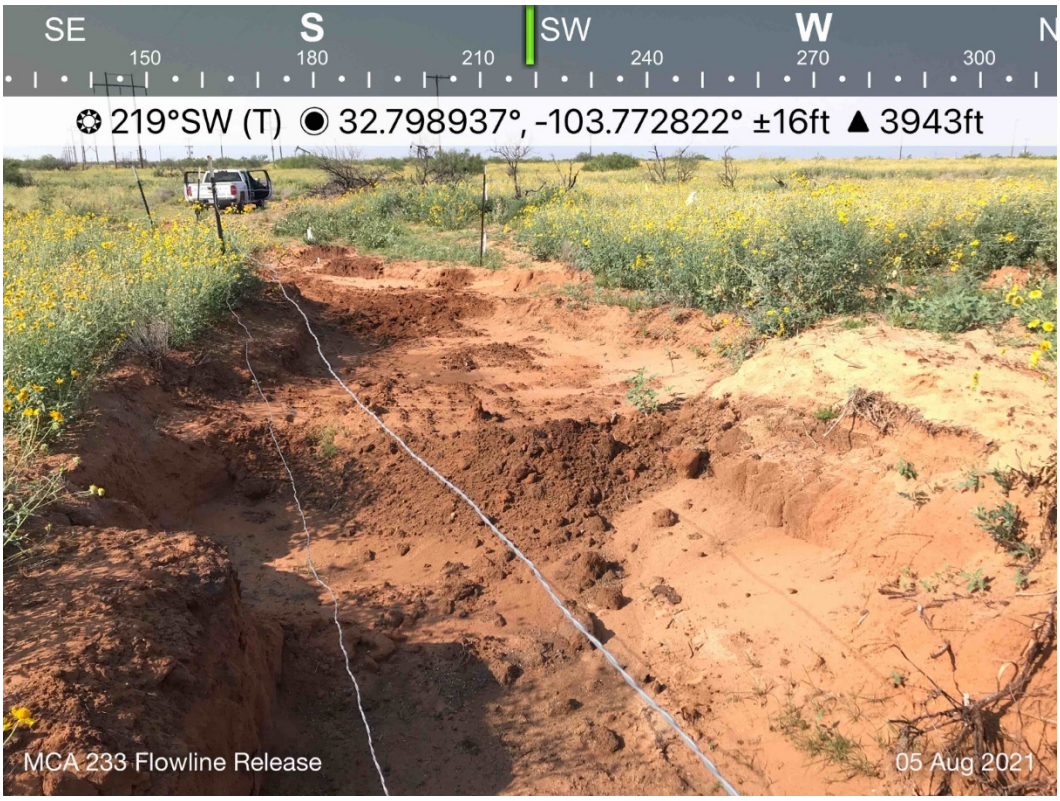
New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

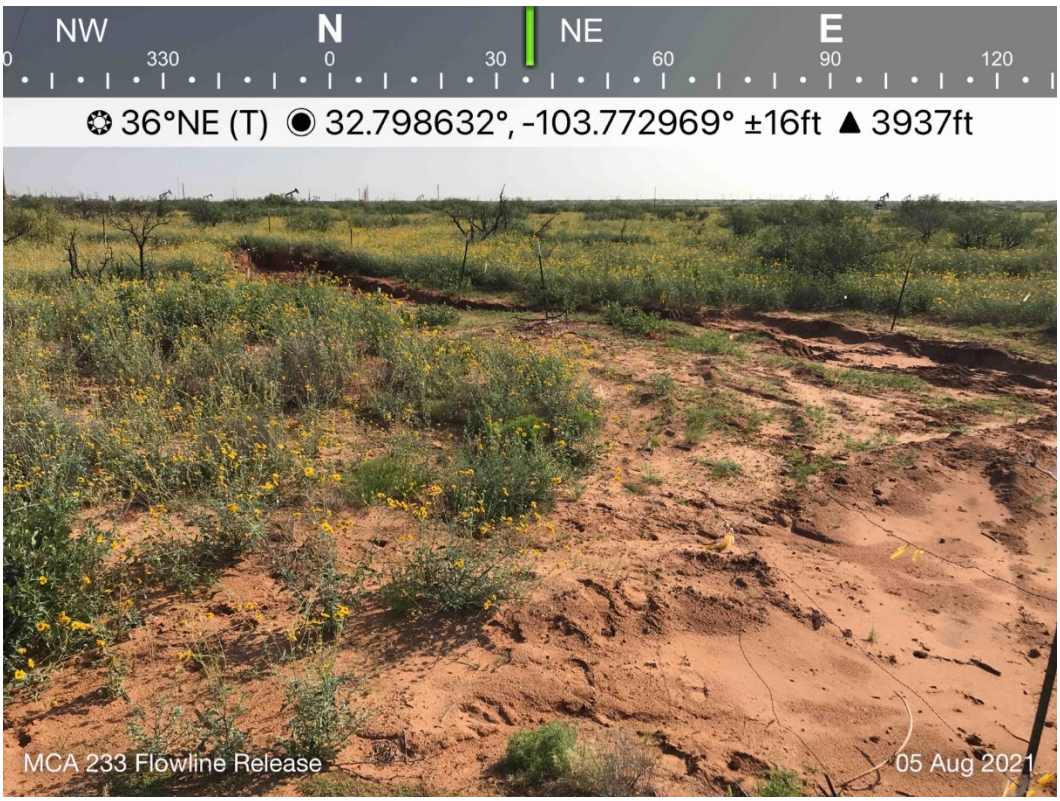
APPENDIX C
Photographic Documentation

TETRA TECH, INC. PROJECT NO. 212C-MD-02549	DESCRIPTION	View northwest. Release point and 2' bgs excavation.	1
	SITE NAME	ConocoPhillips MCA 233 Flowline Release	8/5/2021

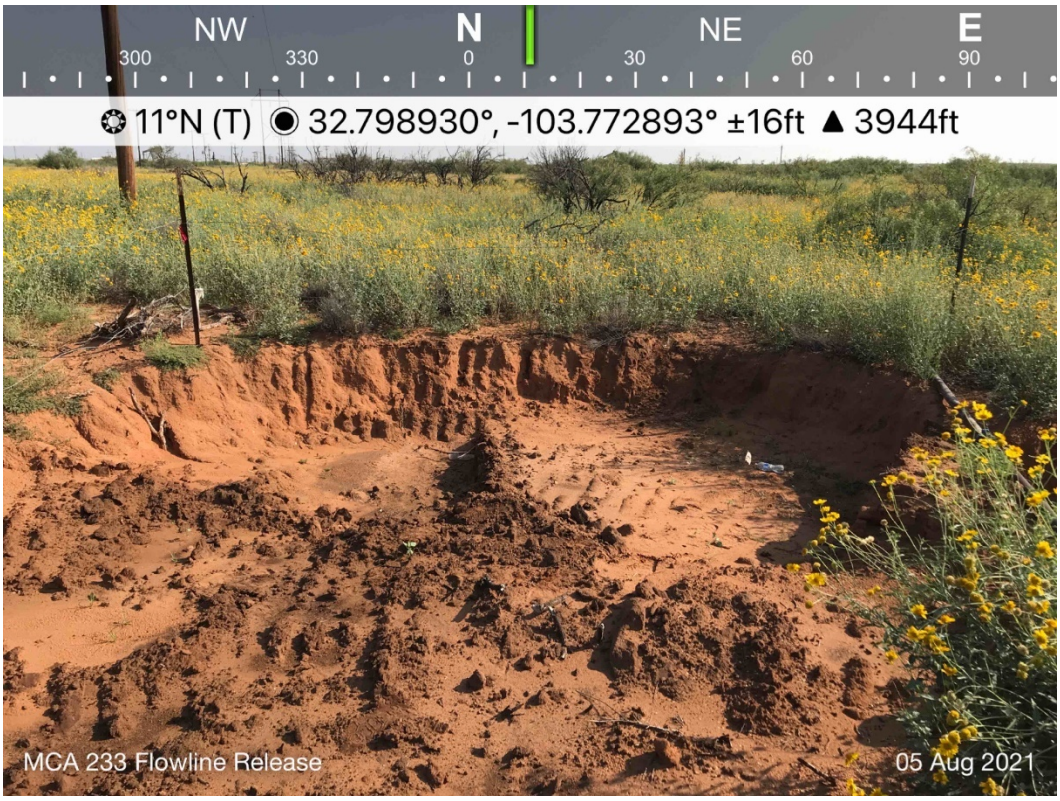
TETRA TECH, INC. PROJECT NO. 212C-MD-02549	DESCRIPTION	View north. Release point and 2' excavation.	2
	SITE NAME	ConocoPhillips MCA 233 Flowline Release	8/5/2021



TETRA TECH, INC. PROJECT NO. 212C-MD-02549	DESCRIPTION	View southwest from the release point. 2' excavation and 6" scrape.	3
	SITE NAME	ConocoPhillips MCA 233 Flowline Release	8/5/2021

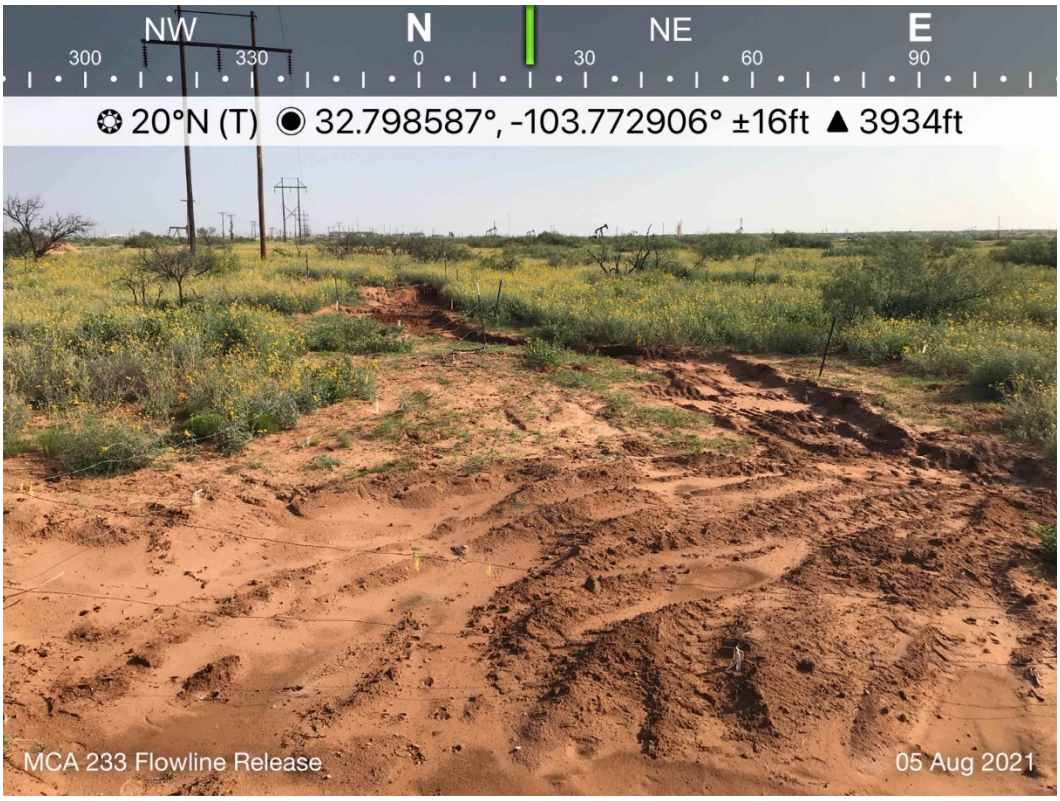


TETRA TECH, INC. PROJECT NO. 212C-MD-02549	DESCRIPTION	View northeast from the contaminated soil stockpile. 6" scrape.	4
	SITE NAME	ConocoPhillips MCA 233 Flowline Release	8/5/2021

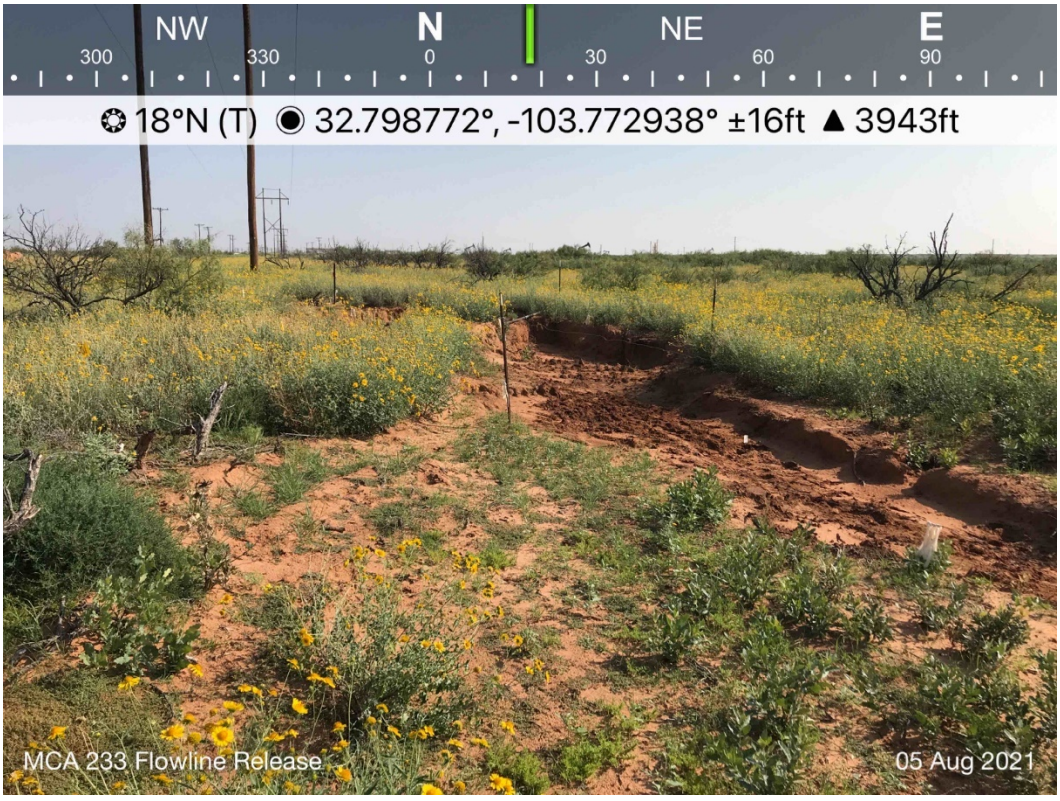


TETRA TECH, INC. PROJECT NO. 212C-MD-02549	DESCRIPTION	View north from the release point. 2' bgs excavation.	5
	SITE NAME	ConocoPhillips MCA 233 Flowline Release	8/5/2021

TETRA TECH, INC. PROJECT NO. 212C-MD-02549	DESCRIPTION	View north northeast from the central area of the release. 6" scrape and 2' bgs excavation.	6
	SITE NAME	ConocoPhillips MCA 233 Flowline Release	8/5/2021



TETRA TECH, INC. PROJECT NO. 212C-MD-02549	DESCRIPTION	View north northeast from the contaminated soil stockpile. 6" scrape.	7
	SITE NAME	ConocoPhillips MCA 233 Flowline Release	8/5/2021



TETRA TECH, INC. PROJECT NO. 212C-MD-02549	DESCRIPTION	View north northeast from the central west side. 6" scrape.	8
	SITE NAME	ConocoPhillips MCA 233 Flowline Release	8/5/2021

APPENDIX D
Soil Boring Logs

212C-MD-02549 | TETRA TECH | **LOG OF BORING AH-1** | Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.799000°, -103.772858° | Surface Elevation: 3939 ft

Borehole Number: AH-1 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
			38.3									**-SP-** SAND: Reddish-brown, dry, fine, non-cemented, no staining, no odor		AH-1 (0-1')
			12.2										3	AH-1 (2-3')

Bottom of borehole at 3.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549 | TETRA TECH | **LOG OF BORING AH-2** | Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.798890°, -103.772802° | Surface Elevation: 3938 ft

Borehole Number: AH-2 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
			24.1									**-SP-** SAND: Reddish-brown, dry, fine, non-cemented, no staining, no odor		AH-2 (0-1')
			94.1										3	AH-2 (2-3')

Bottom of borehole at 3.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549	TETRA TECH	**LOG OF BORING AH-3**	Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.798751°, -103.772775° | Surface Elevation: 3937 ft

Borehole Number: AH-3 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
			20.4									**-SP-** SAND: Reddish-brown, dry, fine, non-cemented, no staining, no odor		AH-3 (0-1')
			21.3										3	AH-3 (2-3')

Bottom of borehole at 3.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549	TETRA TECH	**LOG OF BORING AH-4**	Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.798599°, -103.772764° | Surface Elevation: 3935 ft

Borehole Number: AH-4 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
			22.5									**-SP-** SAND: Reddish-brown, dry, fine, non-cemented, no staining, no odor		AH-4 (0-1')
			16.2										3	AH-4 (2-3')

Bottom of borehole at 3.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549	TETRA TECH	**LOG OF BORING AH-5**	Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.798733°, -103.772828° | Surface Elevation: 3937 ft

Borehole Number: AH-5 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
			18.8									**-SP-** SAND: Reddish-brown, dry, fine, non-cemented, no staining, no odor		AH-5 (0-1')
			32.3										3	AH-5 (2-3')

Bottom of borehole at 3.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549 | TETRA TECH | **LOG OF BORING AH-6** | Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.798912°, -103.772911° | Surface Elevation: 3939 ft

Borehole Number: AH-6 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
			21.9									**-SP-** SAND: Reddish-brown, dry, fine, non-cemented, no staining, no odor		AH-6 (0-1')
			41.2										3	AH-6 (2-3')

Bottom of borehole at 3.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549 | TETRA TECH | **LOG OF BORING AH-7** | Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.798955°, -103.772866° | Surface Elevation: 3939 ft

Borehole Number: AH-7 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
												-- Location was previously excavated to approximately 2 ft bgs	2	
			34.3									**-SP-** SAND: Brown to dark brown, dry, fine, non-cemented, light hydrocarbon staining, no odor		AH-7 (2-3')
			51.8											AH-7 (3-4')
5														
			113											AH-7 (5-6')
													7	
			137									**-SP-** SAND: Light brown, dry, fine, non-cemented, no staining, heavy hydrocarbon odor, with caliche gravel	8	AH-7 (7-8')

Bottom of borehole at 8.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549	TETRA TECH	**LOG OF BORING AH-8**	Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.798817°, -103.772852° | Surface Elevation: 3938 ft

Borehole Number: AH-8 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
			33.8									**-SP-** SAND: Reddish-brown, dry, fine, non-cemented, no staining, no odor		AH-8 (0.5-1.5')
			195											AH-8 (2-3')
			248											AH-8 (3-4')
5													5	
			79.9									**-SM-** SILTY SAND: Tan, dry, non-cemented, no staining, no odor		AH-8 (5-6')
			86.9										8	AH-8 (7-8')

Bottom of borehole at 8.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549	TETRA TECH	**LOG OF BORING AH-9**	Page 1 of 1

Project Name: MCA 233

Borehole Location: GPS: 32.798686°, -103.772804° | Surface Elevation: 3936 ft

Borehole Number: AH-9 | Borehole Diameter (in.): 3 | Date Started: 8/5/2021 | Date Finished: 8/5/2021

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
			21.8									**-SP-** SAND: Reddish-brown, dry, fine, non-cemented, no staining, no odor		AH-9 (0.5-1.5')
			18.3											AH-9 (2-3')
			16.9											AH-9 (3-4')
5			33.8											AH-9 (5-6')
			64.6										8	AH-9 (7-8')

Bottom of borehole at 8.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Andrew Garcia | Drilling Equipment: Hand Auger | Driller: Tetra Tech

212C-MD-02549 | TETRA TECH

LOG OF BORING BH-1

Page 1 of 2

Project Name: MCA 233

Borehole Location: GPS: 32.798935°, -103.772831° | Surface Elevation: 3939 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 4 | Date Started: 12/17/2021 | Date Finished: 12/17/2021

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
												-- Location was previously excavated to approximately 2 ft bgs	2	
			90.2									**-SP-** SAND: Brown to dark brown, dry, fine, non-cemented, light hydrocarbon staining, low hydrocarbon odor		BH-1 (2-3')
			69											BH-1 (3-4')
5			58.3											BH-1 (5-6')
													7	
			106									**-SP-** SAND: Light brown, dry, fine, non-cemented, no staining, no odor	8	BH-1 (7-8')
												-SP- SAND: Light brown to tan, fine to very fine, no staining, no odor, with caliche gravel		
10			216											BH-1 (9-10')
													10	
												-SP- SAND: Light brown to tan, fine to very fine, no staining, no odor		
15			136											BH-1 (14-15')
20			125											BH-1 (19-20')

Sampler Types: Split Spoon, Shelby, Bulk Sample, Grab Sample, Acetate Liner, Vane Shear, Discrete Sample, Test Pit

Operation Types: Mud Rotary, Continuous Flight Auger, Wash Rotary, Hand Auger, Air Rotary, Direct Push, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Colton Bickerstaff | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-02549	TETRA TECH	LOG OF BORING BH-1	Page 2 of 2

Project Name: MCA 233

Borehole Location: GPS: 32.798935°, -103.772831° | Surface Elevation: 3939 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 4 | Date Started: 12/17/2021 | Date Finished: 12/17/2021

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
25			212											BH-1 (24-25')
													29	
30			259									**-SP-** SAND: Light tan, dry, very fine, no staining, no odor, with occasional caliche gravel	30	BH-1 (29-30')

Bottom of borehole at 30.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value based on Google Earth data.

Logger: Colton Bickerstaff | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

APPENDIX E
Laboratory Analytical Data

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

December 29, 2021

Sam Abbott
Tetra Tech, Inc
8911 N Capital of Texas Hwy
#2310
Austin, TX 78759

RE: Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Dear Sam Abbott:

Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

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

Sincerely,

Nolie Wood
nolie.wood@pacelabs.com
1(913)563-1401
Project Manager

Enclosures

cc: Ryan Dickerson, Tetra Tech Houston TX
Christian Lull, Tetra Tech-Houston
John Thurston, Tetra Tech-Houston TX

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60388940001	**BH-1 (2'-3')**	Solid	12/16/21 11:20	12/17/21 09:30
60388940002	**BH-1 (3'-4')**	Solid	12/16/21 11:25	12/17/21 09:30
60388940003	**BH-1 (5'-6')**	Solid	12/16/21 11:30	12/17/21 09:30
60388940004	**BH-1 (7'-8')**	Solid	12/16/21 11:35	12/17/21 09:30
60388940005	**BH-1 (9'-10')**	Solid	12/16/21 11:40	12/17/21 09:30
60388940006	**BH-1 (14'-15')**	Solid	12/16/21 11:45	12/17/21 09:30
60388940007	**BH-1 (19'-20')**	Solid	12/16/21 11:50	12/17/21 09:30
60388940008	**BH-1 (24'-25')**	Solid	12/16/21 11:55	12/17/21 09:30
60388940009	**BH-1 (29'-30')**	Solid	12/16/21 12:00	12/17/21 09:30

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60388940001	**BH-1 (2'-3')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K
60388940002	**BH-1 (3'-4')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K
60388940003	**BH-1 (5'-6')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K
60388940004	**BH-1 (7'-8')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K
60388940005	**BH-1 (9'-10')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K
60388940006	**BH-1 (14'-15')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K
60388940007	**BH-1 (19'-20')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K
60388940008	**BH-1 (24'-25')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K
60388940009	**BH-1 (29'-30')**	EPA 8015B	AHS	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		EPA 8260B	VNH	7	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9056	SK	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Sample: BH-1 (2'-3') **Lab ID: 60388940001** Collected: 12/16/21 11:20 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546 Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	**5340**	mg/kg	102	10	12/20/21 15:04	12/21/21 08:52		M1
TPH-ORO (C28-C35)	**2690**	mg/kg	102	10	12/20/21 15:04	12/21/21 08:52		
Surrogates								
n-Tetracosane (S)	0	%	31-152	10	12/20/21 15:04	12/21/21 08:52	646-31-1	S4
p-Terphenyl (S)	0	%	46-130	10	12/20/21 15:04	12/21/21 08:52	92-94-4	S4
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	9.7	1	12/21/21 18:09	12/22/21 00:53		
Surrogates								
4-Bromofluorobenzene (S)	93	%	63-121	1	12/21/21 18:09	12/22/21 00:53	460-00-4	
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	51.5	1	12/27/21 10:46	12/29/21 04:33	71-43-2	
Ethylbenzene	ND	ug/kg	51.5	1	12/27/21 10:46	12/29/21 04:33	100-41-4	
Toluene	ND	ug/kg	103	1	12/27/21 10:46	12/29/21 04:33	108-88-3	
Xylene (Total)	ND	ug/kg	258	1	12/27/21 10:46	12/29/21 04:33	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1	12/27/21 10:46	12/29/21 04:33	460-00-4	
Toluene-d8 (S)	100	%	80-120	1	12/27/21 10:46	12/29/21 04:33	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	97	%	80-120	1	12/27/21 10:46	12/29/21 04:33	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City							
Percent Moisture	**2.5**	%	0.50	1		12/17/21 16:03		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City							
Chloride	ND	mg/kg	107	10	12/28/21 09:00	12/28/21 10:48	16887-00-6	

Sample: BH-1 (3'-4') **Lab ID: 60388940002** Collected: 12/16/21 11:25 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546 Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	**1490**	mg/kg	106	10	12/20/21 15:04	12/21/21 09:39		
TPH-ORO (C28-C35)	**1180**	mg/kg	106	10	12/20/21 15:04	12/21/21 09:39		
Surrogates								
n-Tetracosane (S)	0	%	31-152	10	12/20/21 15:04	12/21/21 09:39	646-31-1	S4
p-Terphenyl (S)	0	%	46-130	10	12/20/21 15:04	12/21/21 09:39	92-94-4	S4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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(913)599-5665

ANALYTICAL RESULTS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Sample: BH-1 (3'-4') **Lab ID: 60388940002** Collected: 12/16/21 11:25 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	10.4	1	12/21/21 18:09	12/22/21 01:09		
Surrogates								
4-Bromofluorobenzene (S)	95	%	63-121	1	12/21/21 18:09	12/22/21 01:09	460-00-4	
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	55.6	1	12/27/21 10:46	12/29/21 04:48	71-43-2	
Ethylbenzene	ND	ug/kg	55.6	1	12/27/21 10:46	12/29/21 04:48	100-41-4	
Toluene	ND	ug/kg	111	1	12/27/21 10:46	12/29/21 04:48	108-88-3	
Xylene (Total)	ND	ug/kg	278	1	12/27/21 10:46	12/29/21 04:48	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1	12/27/21 10:46	12/29/21 04:48	460-00-4	
Toluene-d8 (S)	103	%	80-120	1	12/27/21 10:46	12/29/21 04:48	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	98	%	80-120	1	12/27/21 10:46	12/29/21 04:48	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City							
Percent Moisture	**6.1**	%	0.50	1		12/17/21 16:03		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City							
Chloride	ND	mg/kg	108	10	12/28/21 09:00	12/28/21 11:02	16887-00-6	

Sample: BH-1 (5'-6') **Lab ID: 60388940003** Collected: 12/16/21 11:30 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546 Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	**1410**	mg/kg	107	10	12/20/21 15:04	12/21/21 09:55		
TPH-ORO (C28-C35)	**1020**	mg/kg	107	10	12/20/21 15:04	12/21/21 09:55		
Surrogates								
n-Tetracosane (S)	0	%	31-152	10	12/20/21 15:04	12/21/21 09:55	646-31-1	S4
p-Terphenyl (S)	0	%	46-130	10	12/20/21 15:04	12/21/21 09:55	92-94-4	S4
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	10.2	1	12/21/21 18:09	12/22/21 01:25		
Surrogates								
4-Bromofluorobenzene (S)	96	%	63-121	1	12/21/21 18:09	12/22/21 01:25	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Sample: BH-1 (5'-6') **Lab ID: 60388940003** Collected: 12/16/21 11:30 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	54.2	1	12/27/21 10:46	12/29/21 05:35	71-43-2	
Ethylbenzene	ND	ug/kg	54.2	1	12/27/21 10:46	12/29/21 05:35	100-41-4	
Toluene	ND	ug/kg	108	1	12/27/21 10:46	12/29/21 05:35	108-88-3	
Xylene (Total)	ND	ug/kg	271	1	12/27/21 10:46	12/29/21 05:35	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1	12/27/21 10:46	12/29/21 05:35	460-00-4	
Toluene-d8 (S)	102	%	80-120	1	12/27/21 10:46	12/29/21 05:35	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	98	%	80-120	1	12/27/21 10:46	12/29/21 05:35	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City							
Percent Moisture	**6.8**	%	0.50	1		12/17/21 16:03		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City							
Chloride	ND	mg/kg	107	10	12/28/21 09:00	12/28/21 11:15	16887-00-6	

Sample: BH-1 (7'-8') **Lab ID: 60388940004** Collected: 12/16/21 11:35 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546 Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	**853**	mg/kg	104	10	12/20/21 15:04	12/22/21 13:41		
TPH-ORO (C28-C35)	**490**	mg/kg	104	10	12/20/21 15:04	12/22/21 13:41		
Surrogates								
n-Tetracosane (S)	0	%	31-152	10	12/20/21 15:04	12/22/21 13:41	646-31-1	S4
p-Terphenyl (S)	0	%	46-130	10	12/20/21 15:04	12/22/21 13:41	92-94-4	S4
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	10.6	1	12/21/21 18:09	12/22/21 01:40		
Surrogates								
4-Bromofluorobenzene (S)	96	%	63-121	1	12/21/21 18:09	12/22/21 01:40	460-00-4	
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	58.2	1	12/27/21 10:46	12/29/21 05:51	71-43-2	
Ethylbenzene	ND	ug/kg	58.2	1	12/27/21 10:46	12/29/21 05:51	100-41-4	
Toluene	ND	ug/kg	116	1	12/27/21 10:46	12/29/21 05:51	108-88-3	
Xylene (Total)	ND	ug/kg	291	1	12/27/21 10:46	12/29/21 05:51	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1	12/27/21 10:46	12/29/21 05:51	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Sample: BH-1 (7'-8') **Lab ID: 60388940004** Collected: 12/16/21 11:35 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Surrogates								
Toluene-d8 (S)	101	%	80-120	1	12/27/21 10:46	12/29/21 05:51	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	103	%	80-120	1	12/27/21 10:46	12/29/21 05:51	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City							
Percent Moisture	**7.7**	%	0.50	1		12/17/21 16:03		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City							
Chloride	ND	mg/kg	104	10	12/28/21 09:47	12/28/21 11:55	16887-00-6	

Sample: BH-1 (9'-10') **Lab ID: 60388940005** Collected: 12/16/21 11:40 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546 Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	ND	mg/kg	10.5	1	12/20/21 15:04	12/22/21 14:11		
TPH-ORO (C28-C35)	ND	mg/kg	10.5	1	12/20/21 15:04	12/22/21 14:11		
Surrogates								
n-Tetracosane (S)	78	%	31-152	1	12/20/21 15:04	12/22/21 14:11	646-31-1	
p-Terphenyl (S)	87	%	46-130	1	12/20/21 15:04	12/22/21 14:11	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	9.3	1	12/21/21 18:09	12/22/21 01:56		
Surrogates								
4-Bromofluorobenzene (S)	95	%	63-121	1	12/21/21 18:09	12/22/21 01:56	460-00-4	
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	56.2	1	12/27/21 10:46	12/29/21 06:07	71-43-2	
Ethylbenzene	ND	ug/kg	56.2	1	12/27/21 10:46	12/29/21 06:07	100-41-4	
Toluene	ND	ug/kg	112	1	12/27/21 10:46	12/29/21 06:07	108-88-3	
Xylene (Total)	ND	ug/kg	281	1	12/27/21 10:46	12/29/21 06:07	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1	12/27/21 10:46	12/29/21 06:07	460-00-4	
Toluene-d8 (S)	102	%	80-120	1	12/27/21 10:46	12/29/21 06:07	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	97	%	80-120	1	12/27/21 10:46	12/29/21 06:07	2199-69-1	

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ANALYTICAL RESULTS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Sample: BH-1 (9'-10') **Lab ID: 60388940005** Collected: 12/16/21 11:40 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974							
	Pace Analytical Services - Kansas City							
Percent Moisture	**6.4**	%	0.50	1		12/17/21 16:03		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056							
	Pace Analytical Services - Kansas City							
Chloride	**111**	mg/kg	99.8	10	12/28/21 09:47	12/28/21 12:09	16887-00-6	

Sample: BH-1 (14'-15') **Lab ID: 60388940006** Collected: 12/16/21 11:45 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
	Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	ND	mg/kg	10.2	1	12/20/21 15:04	12/22/21 14:19		
TPH-ORO (C28-C35)	ND	mg/kg	10.2	1	12/20/21 15:04	12/22/21 14:19		
Surrogates								
n-Tetracosane (S)	77	%	31-152	1	12/20/21 15:04	12/22/21 14:19	646-31-1	
p-Terphenyl (S)	85	%	46-130	1	12/20/21 15:04	12/22/21 14:19	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B							
	Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	10.5	1	12/21/21 18:09	12/22/21 02:11		
Surrogates								
4-Bromofluorobenzene (S)	91	%	63-121	1	12/21/21 18:09	12/22/21 02:11	460-00-4	
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
	Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	54.4	1	12/27/21 10:46	12/29/21 06:22	71-43-2	
Ethylbenzene	ND	ug/kg	54.4	1	12/27/21 10:46	12/29/21 06:22	100-41-4	
Toluene	ND	ug/kg	109	1	12/27/21 10:46	12/29/21 06:22	108-88-3	
Xylene (Total)	ND	ug/kg	272	1	12/27/21 10:46	12/29/21 06:22	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1	12/27/21 10:46	12/29/21 06:22	460-00-4	
Toluene-d8 (S)	102	%	80-120	1	12/27/21 10:46	12/29/21 06:22	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120	1	12/27/21 10:46	12/29/21 06:22	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974							
	Pace Analytical Services - Kansas City							
Percent Moisture	**4.7**	%	0.50	1		12/17/21 16:03		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056							
	Pace Analytical Services - Kansas City							
Chloride	**116**	mg/kg	110	10	12/28/21 09:47	12/28/21 12:22	16887-00-6	

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ANALYTICAL RESULTS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Sample: BH-1 (19'-20') **Lab ID: 60388940007** Collected: 12/16/21 11:50 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546 Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	ND	mg/kg	10.3	1	12/20/21 15:04	12/22/21 14:27		
TPH-ORO (C28-C35)	ND	mg/kg	10.3	1	12/20/21 15:04	12/22/21 14:27		
Surrogates								
n-Tetracosane (S)	81	%	31-152	1	12/20/21 15:04	12/22/21 14:27	646-31-1	
p-Terphenyl (S)	90	%	46-130	1	12/20/21 15:04	12/22/21 14:27	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	10.5	1	12/21/21 18:09	12/22/21 02:27		
Surrogates								
4-Bromofluorobenzene (S)	91	%	63-121	1	12/21/21 18:09	12/22/21 02:27	460-00-4	
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	54.8	1	12/27/21 10:46	12/29/21 06:38	71-43-2	
Ethylbenzene	ND	ug/kg	54.8	1	12/27/21 10:46	12/29/21 06:38	100-41-4	
Toluene	ND	ug/kg	110	1	12/27/21 10:46	12/29/21 06:38	108-88-3	
Xylene (Total)	ND	ug/kg	274	1	12/27/21 10:46	12/29/21 06:38	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1	12/27/21 10:46	12/29/21 06:38	460-00-4	
Toluene-d8 (S)	101	%	80-120	1	12/27/21 10:46	12/29/21 06:38	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	98	%	80-120	1	12/27/21 10:46	12/29/21 06:38	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City							
Percent Moisture	**4.9**	%	0.50	1		12/17/21 16:03		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City							
Chloride	ND	mg/kg	98.5	10	12/28/21 09:47	12/28/21 12:35	16887-00-6	

Sample: BH-1 (24'-25') **Lab ID: 60388940008** Collected: 12/16/21 11:55 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546 Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	**26.3**	mg/kg	10.3	1	12/20/21 15:04	12/22/21 14:35		
TPH-ORO (C28-C35)	**19.6**	mg/kg	10.3	1	12/20/21 15:04	12/22/21 14:35		
Surrogates								
n-Tetracosane (S)	82	%	31-152	1	12/20/21 15:04	12/22/21 14:35	646-31-1	
p-Terphenyl (S)	91	%	46-130	1	12/20/21 15:04	12/22/21 14:35	92-94-4	

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ANALYTICAL RESULTS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Sample: BH-1 (24'-25') **Lab ID: 60388940008** Collected: 12/16/21 11:55 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	9.5	1	12/21/21 18:09	12/22/21 03:14		
Surrogates								
4-Bromofluorobenzene (S)	90	%	63-121	1	12/21/21 18:09	12/22/21 03:14	460-00-4	
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	52.7	1	12/27/21 10:46	12/29/21 06:53	71-43-2	
Ethylbenzene	ND	ug/kg	52.7	1	12/27/21 10:46	12/29/21 06:53	100-41-4	
Toluene	ND	ug/kg	105	1	12/27/21 10:46	12/29/21 06:53	108-88-3	
Xylene (Total)	ND	ug/kg	264	1	12/27/21 10:46	12/29/21 06:53	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1	12/27/21 10:46	12/29/21 06:53	460-00-4	
Toluene-d8 (S)	102	%	80-120	1	12/27/21 10:46	12/29/21 06:53	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120	1	12/27/21 10:46	12/29/21 06:53	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City							
Percent Moisture	**4.7**	%	0.50	1		12/17/21 16:04		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City							
Chloride	ND	mg/kg	112	10	12/28/21 09:47	12/28/21 12:49	16887-00-6	

Sample: BH-1 (29'-30') **Lab ID: 60388940009** Collected: 12/16/21 12:00 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546 Pace Analytical Services - Kansas City							
TPH-DRO (C10-C28)	ND	mg/kg	10.2	1	12/20/21 15:04	12/22/21 14:43		
TPH-ORO (C28-C35)	ND	mg/kg	10.2	1	12/20/21 15:04	12/22/21 14:43		
Surrogates								
n-Tetracosane (S)	72	%	31-152	1	12/20/21 15:04	12/22/21 14:43	646-31-1	
p-Terphenyl (S)	83	%	46-130	1	12/20/21 15:04	12/22/21 14:43	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City							
TPH-GRO	ND	mg/kg	9.5	1	12/21/21 18:09	12/22/21 03:29		
Surrogates								
4-Bromofluorobenzene (S)	90	%	63-121	1	12/21/21 18:09	12/22/21 03:29	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Sample: BH-1 (29'-30') **Lab ID: 60388940009** Collected: 12/16/21 12:00 Received: 12/17/21 09:30 Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B Pace Analytical Services - Kansas City							
Benzene	ND	ug/kg	53.9	1	12/27/21 10:46	12/29/21 07:09	71-43-2	
Ethylbenzene	ND	ug/kg	53.9	1	12/27/21 10:46	12/29/21 07:09	100-41-4	
Toluene	ND	ug/kg	108	1	12/27/21 10:46	12/29/21 07:09	108-88-3	
Xylene (Total)	ND	ug/kg	269	1	12/27/21 10:46	12/29/21 07:09	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1	12/27/21 10:46	12/29/21 07:09	460-00-4	
Toluene-d8 (S)	101	%	80-120	1	12/27/21 10:46	12/29/21 07:09	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	97	%	80-120	1	12/27/21 10:46	12/29/21 07:09	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City							
Percent Moisture	**4.5**	%	0.50	1		12/17/21 16:04		
9056 IC Anions	Analytical Method: EPA 9056 Preparation Method: EPA 9056 Pace Analytical Services - Kansas City							
Chloride	**143**	mg/kg	111	10	12/28/21 09:47	12/28/21 13:02	16887-00-6	

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QUALITY CONTROL DATA

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

QC Batch: 763039
QC Batch Method: EPA 5035A/5030B
Analysis Method: EPA 8015B
Analysis Description: Gasoline Range Organics
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

METHOD BLANK: 3052370 Matrix: Solid
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	12/21/21 21:14	
4-Bromofluorobenzene (S)	%	93	63-121	12/21/21 21:14	

LABORATORY CONTROL SAMPLE: 3052371

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	49.4	99	71-107	
4-Bromofluorobenzene (S)	%			95	63-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3052372 3052373

Parameter	Units	60388493003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	ND	58.7	58.7	54.7	55.4	92	93	29-143	1	26	
4-Bromofluorobenzene (S)	%						94	94	63-121			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

QC Batch: 763976
QC Batch Method: EPA 5035/5030B
Analysis Method: EPA 8260B
Analysis Description: 8260 MSV 5030 Med
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

METHOD BLANK: 3055169 Matrix: Solid
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	50.0	12/29/21 04:17	
Ethylbenzene	ug/kg	ND	50.0	12/29/21 04:17	
Toluene	ug/kg	ND	100	12/29/21 04:17	
Xylene (Total)	ug/kg	ND	250	12/29/21 04:17	
1,2-Dichlorobenzene-d4 (S)	%	99	80-120	12/29/21 04:17	
4-Bromofluorobenzene (S)	%	101	80-120	12/29/21 04:17	
Toluene-d8 (S)	%	101	80-120	12/29/21 04:17	

LABORATORY CONTROL SAMPLE: 3055170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2000	1990	99	75-125	
Ethylbenzene	ug/kg	2000	1970	98	80-130	
Toluene	ug/kg	2000	2010	100	80-120	
Xylene (Total)	ug/kg	6000	6050	101	80-125	
1,2-Dichlorobenzene-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3055171 3055172

Parameter	Units	60388940002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	ND	2230	2230	2350	2350	106	105	45-130	0	35	
Ethylbenzene	ug/kg	ND	2230	2230	2390	2340	107	105	35-140	2	35	
Toluene	ug/kg	ND	2230	2230	2440	2430	110	109	40-135	1	35	
Xylene (Total)	ug/kg	ND	6680	6680	7120	7210	107	108	30-145	1	35	
1,2-Dichlorobenzene-d4 (S)	%						99	97	80-120			
4-Bromofluorobenzene (S)	%						101	100	80-120			
Toluene-d8 (S)	%						102	102	80-120			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

QC Batch: 762725 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

METHOD BLANK: 3051617 Matrix: Solid
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO (C10-C28)	mg/kg	ND	10	12/21/21 08:36	
TPH-ORO (C28-C35)	mg/kg	ND	10	12/21/21 08:36	
n-Tetracosane (S)	%	85	31-152	12/21/21 08:36	
p-Terphenyl (S)	%	93	46-130	12/21/21 08:36	

LABORATORY CONTROL SAMPLE: 3051618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO (C10-C28)	mg/kg	82.2	72.5	88	74-124	
n-Tetracosane (S)	%			88	31-152	
p-Terphenyl (S)	%			95	46-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3051619 3051620

Parameter	Units	60388940001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO (C10-C28)	mg/kg	5340	84.2	84	4950	5000	-460	-407	30-130	1	35	
n-Tetracosane (S)	%						0	0	31-152			S4
p-Terphenyl (S)	%						0	0	46-130			S4

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

QC Batch: 762613
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

METHOD BLANK: 3050992 Matrix: Solid
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	12/17/21 16:03	

SAMPLE DUPLICATE: 3050993

Parameter	Units	60388940001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	2.5	2.5	0	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

QC Batch: 764089
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

METHOD BLANK: 3055483 Matrix: Solid
Associated Lab Samples: 60388940001, 60388940002, 60388940003, 60388940004, 60388940005, 60388940006, 60388940007, 60388940008, 60388940009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	103	12/28/21 09:15	

LABORATORY CONTROL SAMPLE: 3055484

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	521	494	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3055485 3055486

Parameter	Units	60389053002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	4770	21300	20600	23600	22800	88	87	80-120	4	15	

SAMPLE DUPLICATE: 3055487

Parameter	Units	60389053003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/kg	4410	4160	6	15	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCA 233 FLOWLINE RELEASE
Pace Project No.: 60388940

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60388940001	**BH-1 (2'-3')**	EPA 3546	762725	EPA 8015B	763003
60388940002	**BH-1 (3'-4')**	EPA 3546	762725	EPA 8015B	763003
60388940003	**BH-1 (5'-6')**	EPA 3546	762725	EPA 8015B	763003
60388940004	**BH-1 (7'-8')**	EPA 3546	762725	EPA 8015B	763003
60388940005	**BH-1 (9'-10')**	EPA 3546	762725	EPA 8015B	763003
60388940006	**BH-1 (14'-15')**	EPA 3546	762725	EPA 8015B	763003
60388940007	**BH-1 (19'-20')**	EPA 3546	762725	EPA 8015B	763003
60388940008	**BH-1 (24'-25')**	EPA 3546	762725	EPA 8015B	763003
60388940009	**BH-1 (29'-30')**	EPA 3546	762725	EPA 8015B	763003
60388940001	**BH-1 (2'-3')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940002	**BH-1 (3'-4')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940003	**BH-1 (5'-6')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940004	**BH-1 (7'-8')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940005	**BH-1 (9'-10')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940006	**BH-1 (14'-15')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940007	**BH-1 (19'-20')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940008	**BH-1 (24'-25')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940009	**BH-1 (29'-30')**	EPA 5035A/5030B	763039	EPA 8015B	763332
60388940001	**BH-1 (2'-3')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940002	**BH-1 (3'-4')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940003	**BH-1 (5'-6')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940004	**BH-1 (7'-8')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940005	**BH-1 (9'-10')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940006	**BH-1 (14'-15')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940007	**BH-1 (19'-20')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940008	**BH-1 (24'-25')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940009	**BH-1 (29'-30')**	EPA 5035/5030B	763976	EPA 8260B	763994
60388940001	**BH-1 (2'-3')**	ASTM D2974	762613		
60388940002	**BH-1 (3'-4')**	ASTM D2974	762613		
60388940003	**BH-1 (5'-6')**	ASTM D2974	762613		
60388940004	**BH-1 (7'-8')**	ASTM D2974	762613		
60388940005	**BH-1 (9'-10')**	ASTM D2974	762613		
60388940006	**BH-1 (14'-15')**	ASTM D2974	762613		
60388940007	**BH-1 (19'-20')**	ASTM D2974	762613		
60388940008	**BH-1 (24'-25')**	ASTM D2974	762613		
60388940009	**BH-1 (29'-30')**	ASTM D2974	762613		
60388940001	**BH-1 (2'-3')**	EPA 9056	764089	EPA 9056	764205
60388940002	**BH-1 (3'-4')**	EPA 9056	764089	EPA 9056	764205
60388940003	**BH-1 (5'-6')**	EPA 9056	764089	EPA 9056	764205
60388940004	**BH-1 (7'-8')**	EPA 9056	764089	EPA 9056	764205
60388940005	**BH-1 (9'-10')**	EPA 9056	764089	EPA 9056	764205
60388940006	**BH-1 (14'-15')**	EPA 9056	764089	EPA 9056	764205
60388940007	**BH-1 (19'-20')**	EPA 9056	764089	EPA 9056	764205
60388940008	**BH-1 (24'-25')**	EPA 9056	764089	EPA 9056	764205
60388940009	**BH-1 (29'-30')**	EPA 9056	764089	EPA 9056	764205

REPORT OF LABORATORY ANALYSIS

Pace Analytical www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60388940

60388940

Client Name: Tetra tech

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

Tracking #: 2877 0668 7930 Pace Shipping Label Used? Yes ☐ No ☑

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

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

Thermometer Used: T299 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): As-read 1.0 **Corr. Factor** 0.2 **Corrected** 0.8

Date and initials of person examining contents: MKB 12/16/21

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

F-KS-C-003-Rev.11, February 28, 2018

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

603888940

Client Name: ConocoPhillips

Site Manager: Sam Abbott

Project Name: MCA 233 Flowline Release

Project Location: (county, state) Lea County, New Mexico

Project #: 212C-MD-02549

Invoice to: Tetra Tech, Attention: Sam Abbott

Receiving Laboratory: Pace Analytical

Sampler Signature: Colton Bickerstaff

Comments:

Send invoice, results to Sam Abbott at **Sam.Abbott@tetratech.com**

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	BH-1 (2'-3')	12/16/2021	11:20		X				X			1	N
	BH-1 (3'-4')	12/16/2021	11:25		X				X			1	N
	BH-1 (5'-6')	12/16/2021	11:30		X				X			1	N
	BH-1 (7'-8')	12/16/2021	11:35		X				X			1	N
	BH-1 (9'-10')	12/16/2021	11:40		X				X			1	N
	BH-1 (14'-15')	12/16/2021	11:45		X				X			1	N
	BH-1 (19'-20')	12/16/2021	11:50		X				X			1	N
	BH-1 (24'-25')	12/16/2021	11:55		X				X			1	N
	BH-1 (29'-30')	12/16/2021	12:00		X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO)	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	Asbestos			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							

Relinquished by: Colton Bickerstaff Date: 12/16/21 Time: 15:15

Received by: Victor B → Pace Date: 12/17/21 Time: 0930

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature 0.8

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

COC PAGE ___ of ___

SBS
DI
MeOH (only)
BK
Kit

Client: Tetra Tech

Site: MCA 233 Flowline Release

Sample Container Count

Profile # _____

Notes _____

COC Line Item	Matrix	R	VG9H	DG9H	DG9Q	VG9U	DG9U	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	JGFU	WGKU	ZPLC	DG9M	DG9B				
1																								1								
2																								1								
3																								1								
4																								1								
5																								1								
6																								1								
7																								1								
8																								1								
9																								1								
10																								1								
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
		AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

ANALYTICAL REPORT

August 24, 2021

ConocoPhillips - Tetra Tech

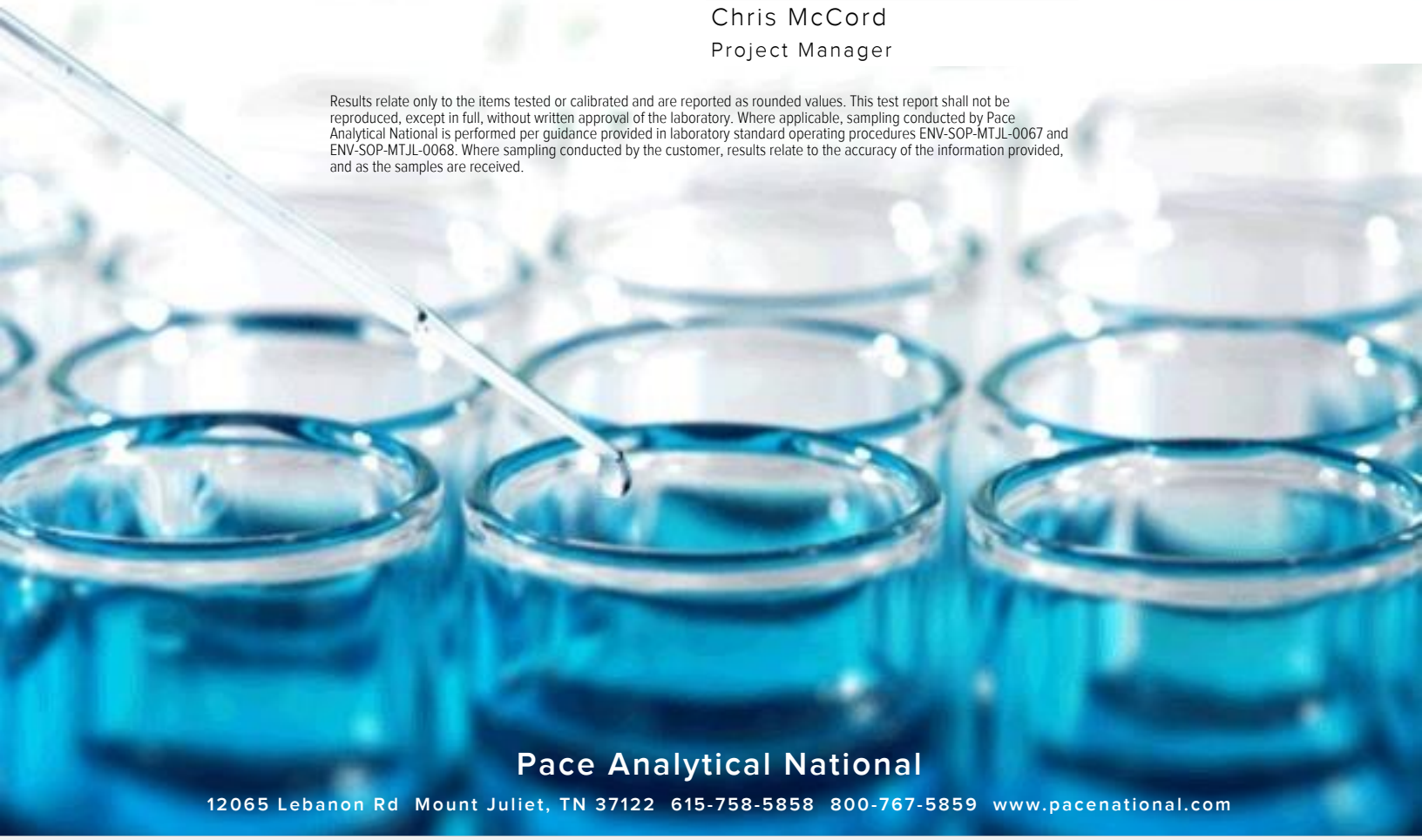
Sample Delivery Group:	L1388054
Samples Received:	08/07/2021
Project Number:	212C-MD-02549
Description:	MCA 233 Flowline Release

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.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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AH-1 (0'-1') L1388054-01 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 08:30 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722166	1	08/14/21 09:04	08/14/21 09:13	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/11/21 23:43	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1724117	1	08/11/21 16:37	08/16/21 18:09	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 01:16	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/20/21 03:59	JDG	Mt. Juliet, TN

AH-1 (2'-3') L1388054-02 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 08:45 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722166	1	08/14/21 09:04	08/14/21 09:13	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/11/21 23:52	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721939	1.01	08/11/21 16:37	08/13/21 01:19	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 01:35	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/20/21 03:32	JDG	Mt. Juliet, TN

AH-2 (0'-1') L1388054-03 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 09:00 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722166	1	08/14/21 09:04	08/14/21 09:13	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 00:02	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1724117	1	08/11/21 16:37	08/16/21 18:32	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 01:54	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/19/21 09:53	CAG	Mt. Juliet, TN

AH-2 (2'-3') L1388054-04 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 09:15 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722166	1	08/14/21 09:04	08/14/21 09:13	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 00:11	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	1	08/11/21 16:37	08/14/21 01:07	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 02:13	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/19/21 09:26	CAG	Mt. Juliet, TN

AH-3 (0'-1') L1388054-05 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 09:30 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722166	1	08/14/21 09:04	08/14/21 09:13	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 00:30	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1725700	1	08/11/21 16:37	08/18/21 22:57	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1.01	08/11/21 16:37	08/12/21 02:32	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/19/21 10:07	CAG	Mt. Juliet, TN

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

AH-3 (2'-3') L1388054-06 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 09:45 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722166	1	08/14/21 09:04	08/14/21 09:13	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 00:40	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1725700	1	08/11/21 16:37	08/18/21 23:20	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 02:51	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/20/21 04:13	JDG	Mt. Juliet, TN

AH-4 (0'-1') L1388054-07 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 10:00 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722166	1	08/14/21 09:04	08/14/21 09:13	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 00:49	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1725700	1	08/11/21 16:37	08/18/21 23:44	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 03:10	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/19/21 10:20	CAG	Mt. Juliet, TN

AH-4 (2'-3') L1388054-08 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 10:15 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722166	1	08/14/21 09:04	08/14/21 09:13	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 01:18	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1725700	1	08/11/21 16:37	08/19/21 00:07	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1.01	08/11/21 16:37	08/12/21 03:29	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/20/21 03:46	JDG	Mt. Juliet, TN

AH-5 (0'-1') L1388054-09 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 10:30 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 01:27	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	1.01	08/11/21 16:37	08/14/21 03:05	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 03:48	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/20/21 03:19	JDG	Mt. Juliet, TN

AH-5 (2'-3') L1388054-10 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 10:45 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 01:37	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1726002	1	08/19/21 11:58	08/19/21 17:34	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 04:08	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723559	1	08/16/21 17:47	08/19/21 09:40	CAG	Mt. Juliet, TN

AH-6 (0'-1') L1388054-11 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 11:00 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 01:46	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1726002	1	08/19/21 11:58	08/19/21 17:10	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 04:27	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 08:57	CAG	Mt. Juliet, TN

AH-6 (2'-3') L1388054-12 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 11:15 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 02:01	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	1	08/11/21 16:37	08/14/21 04:16	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 04:46	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 09:11	CAG	Mt. Juliet, TN

AH-7 (2'-3') L1388054-13 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 11:30 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 02:10	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1725700	1.01	08/11/21 16:37	08/19/21 01:18	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 05:05	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 11:13	TJD	Mt. Juliet, TN

AH-7 (3'-4') L1388054-14 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 11:45 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 02:48	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1725700	1	08/11/21 16:37	08/19/21 01:42	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 05:24	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	2	08/17/21 18:14	08/18/21 20:48	TJD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	4	08/17/21 18:14	08/19/21 01:13	TJD	Mt. Juliet, TN

AH-7 (5'-6') L1388054-15 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 12:00 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 03:17	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	100	08/11/21 16:37	08/14/21 07:48	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	8	08/11/21 16:37	08/12/21 06:41	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	40	08/17/21 18:14	08/19/21 00:46	TJD	Mt. Juliet, TN

AH-7 (7'-8') L1388054-16 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 12:15 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 03:26	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	100	08/11/21 16:37	08/14/21 08:12	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	8	08/11/21 16:37	08/12/21 07:00	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	100	08/17/21 18:14	08/20/21 13:00	JDG	Mt. Juliet, TN

AH-8 (.5'-1.5') L1388054-17 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 12:30 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 03:36	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	1	08/11/21 16:37	08/14/21 05:27	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 05:43	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 13:16	TJD	Mt. Juliet, TN

AH-8 (2'-3') L1388054-18 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 12:45 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722167	1	08/14/21 08:53	08/14/21 09:00	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 03:45	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1725700	1	08/11/21 16:37	08/19/21 02:05	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1726218	1	08/11/21 16:37	08/19/21 14:52	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 11:27	TJD	Mt. Juliet, TN

AH-8 (3'-4') L1388054-19 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 13:00 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722168	1	08/14/21 08:40	08/14/21 08:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 03:55	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	1	08/11/21 16:37	08/14/21 05:50	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 06:02	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 11:41	TJD	Mt. Juliet, TN

AH-8 (5'-6') L1388054-20 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 13:15 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722168	1	08/14/21 08:40	08/14/21 08:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721309	1	08/11/21 18:22	08/12/21 04:05	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	1.01	08/11/21 16:37	08/14/21 06:14	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721723	1	08/11/21 16:37	08/12/21 06:22	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 14:38	TJD	Mt. Juliet, TN

Cp Tc Ss Cn Sr Qc Gl Al Sc

AH-8 (7'-8') L1388054-21 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 13:30 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722168	1	08/14/21 08:40	08/14/21 08:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721308	1	08/11/21 23:22	08/12/21 08:41	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1721942	1	08/11/21 19:48	08/14/21 06:38	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1721768	1	08/11/21 19:48	08/12/21 04:27	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 20:35	TJD	Mt. Juliet, TN

AH-9 (.5'-1.5') L1388054-22 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 13:45 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722168	1	08/14/21 08:40	08/14/21 08:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721308	1	08/11/21 23:22	08/12/21 08:50	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1726685	1000	08/11/21 19:48	08/20/21 12:05	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1722202	20	08/11/21 19:48	08/12/21 16:17	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	40	08/17/21 18:14	08/19/21 00:19	TJD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	80	08/17/21 18:14	08/19/21 07:59	CAG	Mt. Juliet, TN

AH-9 (2'-3') L1388054-23 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 14:00 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722168	1	08/14/21 08:40	08/14/21 08:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721308	1	08/11/21 23:22	08/12/21 09:00	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1726002	1	08/19/21 12:03	08/19/21 17:57	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1722202	1	08/11/21 19:48	08/12/21 14:40	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 11:54	TJD	Mt. Juliet, TN

AH-9 (3'-4') L1388054-24 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 14:15 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722168	1	08/14/21 08:40	08/14/21 08:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721308	1	08/11/21 23:22	08/12/21 09:09	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1724829	1	08/11/21 19:48	08/17/21 22:20	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1722202	1	08/11/21 19:48	08/12/21 15:00	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 12:08	TJD	Mt. Juliet, TN

AH-9 (5'-6') L1388054-25 Solid

Collected by: Andrew Garcia | Collected date/time: 08/05/21 14:30 | Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722168	1	08/14/21 08:40	08/14/21 08:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721311	1	08/13/21 17:03	08/13/21 23:28	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1722637	1	08/11/21 19:48	08/13/21 19:21	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1722202	1	08/11/21 19:48	08/12/21 15:19	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 12:22	TJD	Mt. Juliet, TN

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

SAMPLE SUMMARY

AH-9 (7'-8') L1388054-26 Solid

Collected by: Andrew Garcia
Collected date/time: 08/05/21 14:45
Received date/time: 08/07/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1722168	1	08/14/21 08:40	08/14/21 08:49	CMK	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1721311	1	08/13/21 17:03	08/13/21 23:45	MSP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1724829	1	08/11/21 19:48	08/17/21 22:44	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1722202	1	08/11/21 19:48	08/12/21 15:39	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1723562	1	08/17/21 18:14	08/18/21 13:03	TJD	Mt. Juliet, TN

CASE NARRATIVE

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	81.7		1	08/14/2021 09:13	WG1722166

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	15.7	J	11.3	24.5	1	08/11/2021 23:43	WG1721309

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	0.288	B V3	0.0266	0.122	1	08/16/2021 18:09	WG1724117
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*		*08/16/2021 18:09*	WG1724117

Sample Narrative:

L1388054-01 WG1724117: IS failure due to matrix interference.

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		0.000676	0.00145	1	08/12/2021 01:16	WG1721723
Toluene	U		0.00188	0.00724	1	08/12/2021 01:16	WG1721723
Ethylbenzene	U		0.00107	0.00362	1	08/12/2021 01:16	WG1721723
Total Xylenes	0.00141	J	0.00127	0.00941	1	08/12/2021 01:16	WG1721723
(S) Toluene-d8	*118*			*75.0-131*		*08/12/2021 01:16*	WG1721723
(S) 4-Bromofluorobenzene	*87.0*			*67.0-138*		*08/12/2021 01:16*	WG1721723
(S) 1,2-Dichloroethane-d4	*84.2*			*70.0-130*		*08/12/2021 01:16*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.82	J	1.97	4.89	1	08/20/2021 03:59	WG1723559
C28-C36 Motor Oil Range	12.1		0.335	4.89	1	08/20/2021 03:59	WG1723559
(S) o-Terphenyl	*56.4*			*18.0-148*		*08/20/2021 03:59*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.6		1	08/14/2021 09:13	WG1722166

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	13.8	J	11.7	25.5	1	08/11/2021 23:52	WG1721309

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	0.0568	B J	0.0279	0.129	1.01	08/13/2021 01:19	WG1721939
(S) a,a,a-Trifluorotoluene(FID)	*98.0*			*77.0-120*		*08/13/2021 01:19*	WG1721939

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		0.000722	0.00155	1	08/12/2021 01:35	WG1721723
Toluene	U		0.00201	0.00773	1	08/12/2021 01:35	WG1721723
Ethylbenzene	U		0.00114	0.00387	1	08/12/2021 01:35	WG1721723
Total Xylenes	0.00147	J	0.00136	0.0101	1	08/12/2021 01:35	WG1721723
(S) Toluene-d8	*109*			*75.0-131*		*08/12/2021 01:35*	WG1721723
(S) 4-Bromofluorobenzene	*94.5*			*67.0-138*		*08/12/2021 01:35*	WG1721723
(S) 1,2-Dichloroethane-d4	*88.7*			*70.0-130*		*08/12/2021 01:35*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		2.05	5.09	1	08/20/2021 03:32	WG1723559
C28-C36 Motor Oil Range	3.60	B J	0.349	5.09	1	08/20/2021 03:32	WG1723559
(S) o-Terphenyl	*48.1*			*18.0-148*		*08/20/2021 03:32*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.0		1	08/14/2021 09:13	WG1722166

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	11.7	J	11.4	24.7	1	08/12/2021 00:02	WG1721309

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	0.375	B	0.0268	0.123	1	08/16/2021 18:32	WG1724117
(S) a,a,a-Trifluorotoluene(FID)	*106*			*77.0-120*		*08/16/2021 18:32*	WG1724117

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		0.000686	0.00147	1	08/12/2021 01:54	WG1721723
Toluene	U		0.00191	0.00735	1	08/12/2021 01:54	WG1721723
Ethylbenzene	U		0.00108	0.00367	1	08/12/2021 01:54	WG1721723
Total Xylenes	U		0.00129	0.00955	1	08/12/2021 01:54	WG1721723
(S) Toluene-d8	*111*			*75.0-131*		*08/12/2021 01:54*	WG1721723
(S) 4-Bromofluorobenzene	*91.3*			*67.0-138*		*08/12/2021 01:54*	WG1721723
(S) 1,2-Dichloroethane-d4	*93.6*			*70.0-130*		*08/12/2021 01:54*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.99	4.94	1	08/19/2021 09:53	WG1723559
C28-C36 Motor Oil Range	U		0.338	4.94	1	08/19/2021 09:53	WG1723559
(S) o-Terphenyl	*44.2*			*18.0-148*		*08/19/2021 09:53*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	76.2		1	08/14/2021 09:13	WG1722166

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	19.4	J P1	12.1	26.2	1	08/12/2021 00:11	WG1721309

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	0.0703	B J	0.0285	0.131	1	08/14/2021 01:07	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*99.1*			*77.0-120*		*08/14/2021 01:07*	WG1721942

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		0.000758	0.00162	1	08/12/2021 02:13	WG1721723
Toluene	U		0.00211	0.00811	1	08/12/2021 02:13	WG1721723
Ethylbenzene	U		0.00120	0.00406	1	08/12/2021 02:13	WG1721723
Total Xylenes	U		0.00143	0.0105	1	08/12/2021 02:13	WG1721723
(S) Toluene-d8	*111*			*75.0-131*		*08/12/2021 02:13*	WG1721723
(S) 4-Bromofluorobenzene	*87.8*			*67.0-138*		*08/12/2021 02:13*	WG1721723
(S) 1,2-Dichloroethane-d4	*99.4*			*70.0-130*		*08/12/2021 02:13*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		2.11	5.25	1	08/19/2021 09:26	WG1723559
C28-C36 Motor Oil Range	1.91	B J	0.359	5.25	1	08/19/2021 09:26	WG1723559
(S) o-Terphenyl	*52.7*			*18.0-148*		*08/19/2021 09:26*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.6		1	08/14/2021 09:13	WG1722166

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	14.8	J	11.1	24.2	1	08/12/2021 00:30	WG1721309

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	0.0504	B J	0.0263	0.121	1	08/18/2021 22:57	WG1725700
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*08/18/2021 22:57*	WG1725700

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		0.000670	0.00143	1.01	08/12/2021 02:32	WG1721723
Toluene	U		0.00186	0.00717	1.01	08/12/2021 02:32	WG1721723
Ethylbenzene	U		0.00106	0.00359	1.01	08/12/2021 02:32	WG1721723
Total Xylenes	U		0.00126	0.00932	1.01	08/12/2021 02:32	WG1721723
(S) Toluene-d8	*107*			*75.0-131*		*08/12/2021 02:32*	WG1721723
(S) 4-Bromofluorobenzene	*89.3*			*67.0-138*		*08/12/2021 02:32*	WG1721723
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*08/12/2021 02:32*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.95	4.84	1	08/19/2021 10:07	WG1723559
C28-C36 Motor Oil Range	1.31	B J	0.332	4.84	1	08/19/2021 10:07	WG1723559
(S) o-Terphenyl	*53.7*			*18.0-148*		*08/19/2021 10:07*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.4		1	08/14/2021 09:13	WG1722166

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	11.4	J	11.3	24.6	1	08/12/2021 00:40	WG1721309

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	0.114	B J	0.0266	0.123	1	08/18/2021 23:20	WG1725700
(S) a,a,a-Trifluorotoluene(FID)	*99.9*			*77.0-120*		*08/18/2021 23:20*	WG1725700

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		0.000680	0.00146	1	08/12/2021 02:51	WG1721723
Toluene	U		0.00189	0.00728	1	08/12/2021 02:51	WG1721723
Ethylbenzene	U		0.00107	0.00364	1	08/12/2021 02:51	WG1721723
Total Xylenes	0.00131	J	0.00128	0.00946	1	08/12/2021 02:51	WG1721723
(S) Toluene-d8	*113*			*75.0-131*		*08/12/2021 02:51*	WG1721723
(S) 4-Bromofluorobenzene	*91.3*			*67.0-138*		*08/12/2021 02:51*	WG1721723
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*08/12/2021 02:51*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.98	4.91	1	08/20/2021 04:13	WG1723559
C28-C36 Motor Oil Range	1.10	B J	0.336	4.91	1	08/20/2021 04:13	WG1723559
(S) o-Terphenyl	*51.9*			*18.0-148*		*08/20/2021 04:13*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.4		1	08/14/2021 09:13	WG1722166

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	11.9	J	11.0	24.0	1	08/12/2021 00:49	WG1721309

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	0.0706	B J	0.0260	0.120	1	08/18/2021 23:44	WG1725700
(S) a,a,a-Trifluorotoluene(FID)	*99.9*			*77.0-120*		*08/18/2021 23:44*	WG1725700

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		0.000653	0.00140	1	08/12/2021 03:10	WG1721723
Toluene	U		0.00182	0.00699	1	08/12/2021 03:10	WG1721723
Ethylbenzene	U		0.00103	0.00350	1	08/12/2021 03:10	WG1721723
Total Xylenes	U		0.00123	0.00909	1	08/12/2021 03:10	WG1721723
(S) Toluene-d8	*109*			*75.0-131*		*08/12/2021 03:10*	WG1721723
(S) 4-Bromofluorobenzene	*90.9*			*67.0-138*		*08/12/2021 03:10*	WG1721723
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*08/12/2021 03:10*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.93	4.80	1	08/19/2021 10:20	WG1723559
C28-C36 Motor Oil Range	0.536	B J	0.329	4.80	1	08/19/2021 10:20	WG1723559
(S) o-Terphenyl	*50.8*			*18.0-148*		*08/19/2021 10:20*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	75.7		1	08/14/2021 09:13	WG1722166

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	12.4	J	12.2	26.4	1	08/12/2021 01:18	WG1721309

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	0.0577	B J	0.0287	0.132	1	08/19/2021 00:07	WG1725700
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*		*08/19/2021 00:07*	WG1725700

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		0.000775	0.00166	1.01	08/12/2021 03:29	WG1721723
Toluene	U		0.00215	0.00829	1.01	08/12/2021 03:29	WG1721723
Ethylbenzene	U		0.00122	0.00415	1.01	08/12/2021 03:29	WG1721723
Total Xylenes	U		0.00146	0.0108	1.01	08/12/2021 03:29	WG1721723
(S) Toluene-d8	*110*			*75.0-131*		*08/12/2021 03:29*	WG1721723
(S) 4-Bromofluorobenzene	*84.3*			*67.0-138*		*08/12/2021 03:29*	WG1721723
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*		*08/12/2021 03:29*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	27.5		2.13	5.29	1	08/20/2021 03:46	WG1723559
C28-C36 Motor Oil Range	46.0		0.362	5.29	1	08/20/2021 03:46	WG1723559
(S) o-Terphenyl	*48.0*			*18.0-148*		*08/20/2021 03:46*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.5		1	08/14/2021 09:00	WG1722167

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	13.6	J	11.2	24.2	1	08/12/2021 01:27	WG1721309

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	0.0595	B J	0.0265	0.122	1.01	08/14/2021 03:05	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*98.7*			*77.0-120*		*08/14/2021 03:05*	WG1721942

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		0.000665	0.00142	1	08/12/2021 03:48	WG1721723
Toluene	U		0.00185	0.00712	1	08/12/2021 03:48	WG1721723
Ethylbenzene	U		0.00105	0.00356	1	08/12/2021 03:48	WG1721723
Total Xylenes	U		0.00125	0.00926	1	08/12/2021 03:48	WG1721723
(S) Toluene-d8	*109*			*75.0-131*		*08/12/2021 03:48*	WG1721723
(S) 4-Bromofluorobenzene	*88.4*			*67.0-138*		*08/12/2021 03:48*	WG1721723
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*08/12/2021 03:48*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.95	4.85	1	08/20/2021 03:19	WG1723559
C28-C36 Motor Oil Range	2.47	B J	0.332	4.85	1	08/20/2021 03:19	WG1723559
(S) o-Terphenyl	*60.6*			*18.0-148*		*08/20/2021 03:19*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.6		1	08/14/2021 09:00	WG1722167

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	18.1	J	11.3	24.5	1	08/12/2021 01:37	WG1721309

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	0.0619	B J	0.0266	0.122	1	08/19/2021 17:34	WG1726002
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*77.0-120*		*08/19/2021 17:34*	WG1726002

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		0.000677	0.00145	1	08/12/2021 04:08	WG1721723
Toluene	U		0.00188	0.00725	1	08/12/2021 04:08	WG1721723
Ethylbenzene	U		0.00107	0.00362	1	08/12/2021 04:08	WG1721723
Total Xylenes	U		0.00128	0.00942	1	08/12/2021 04:08	WG1721723
(S) Toluene-d8	*103*			*75.0-131*		*08/12/2021 04:08*	WG1721723
(S) 4-Bromofluorobenzene	*85.4*			*67.0-138*		*08/12/2021 04:08*	WG1721723
(S) 1,2-Dichloroethane-d4	*87.8*			*70.0-130*		*08/12/2021 04:08*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.97	4.90	1	08/19/2021 09:40	WG1723559
C28-C36 Motor Oil Range	1.86	B J	0.336	4.90	1	08/19/2021 09:40	WG1723559
(S) o-Terphenyl	*57.4*			*18.0-148*		*08/19/2021 09:40*	WG1723559

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.4		1	08/14/2021 09:00	WG1722167

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	12.8	J	11.3	24.6	1	08/12/2021 01:46	WG1721309

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	0.0472	B J	0.0267	0.123	1	08/19/2021 17:10	WG1726002
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*77.0-120*		*08/19/2021 17:10*	WG1726002

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		0.000680	0.00146	1	08/12/2021 04:27	WG1721723
Toluene	U		0.00189	0.00729	1	08/12/2021 04:27	WG1721723
Ethylbenzene	U		0.00107	0.00364	1	08/12/2021 04:27	WG1721723
Total Xylenes	0.00146	J	0.00128	0.00947	1	08/12/2021 04:27	WG1721723
(S) Toluene-d8	*96.6*			*75.0-131*		*08/12/2021 04:27*	WG1721723
(S) 4-Bromofluorobenzene	*86.2*			*67.0-138*		*08/12/2021 04:27*	WG1721723
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*08/12/2021 04:27*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.98	4.91	1	08/18/2021 08:57	WG1723562
C28-C36 Motor Oil Range	3.19	B J	0.337	4.91	1	08/18/2021 08:57	WG1723562
(S) o-Terphenyl	*49.2*			*18.0-148*		*08/18/2021 08:57*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	79.3		1	08/14/2021 09:00	WG1722167

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	12.7	J	11.6	25.2	1	08/12/2021 02:01	WG1721309

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	0.0703	B J	0.0274	0.126	1	08/14/2021 04:16	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*98.4*			*77.0-120*		*08/14/2021 04:16*	WG1721942

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		0.000710	0.00152	1	08/12/2021 04:46	WG1721723
Toluene	U		0.00198	0.00761	1	08/12/2021 04:46	WG1721723
Ethylbenzene	U		0.00112	0.00380	1	08/12/2021 04:46	WG1721723
Total Xylenes	0.00157	J	0.00134	0.00989	1	08/12/2021 04:46	WG1721723
(S) Toluene-d8	*106*			*75.0-131*		*08/12/2021 04:46*	WG1721723
(S) 4-Bromofluorobenzene	*87.8*			*67.0-138*		*08/12/2021 04:46*	WG1721723
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*		*08/12/2021 04:46*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		2.03	5.04	1	08/18/2021 09:11	WG1723562
C28-C36 Motor Oil Range	1.85	B J	0.345	5.04	1	08/18/2021 09:11	WG1723562
(S) o-Terphenyl	*50.0*			*18.0-148*		*08/18/2021 09:11*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.5		1	08/14/2021 09:00	WG1722167

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		10.4	22.6	1	08/12/2021 02:10	WG1721309

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	0.0476	B J	0.0247	0.114	1.01	08/19/2021 01:18	WG1725700
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*08/19/2021 01:18*	WG1725700

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		0.000588	0.00126	1	08/12/2021 05:05	WG1721723
Toluene	U		0.00164	0.00630	1	08/12/2021 05:05	WG1721723
Ethylbenzene	U		0.000928	0.00315	1	08/12/2021 05:05	WG1721723
Total Xylenes	U		0.00111	0.00819	1	08/12/2021 05:05	WG1721723
(S) Toluene-d8	*114*			*75.0-131*		*08/12/2021 05:05*	WG1721723
(S) 4-Bromofluorobenzene	*84.7*			*67.0-138*		*08/12/2021 05:05*	WG1721723
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*08/12/2021 05:05*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.82	4.52	1	08/18/2021 11:13	WG1723562
C28-C36 Motor Oil Range	8.71	B	0.309	4.52	1	08/18/2021 11:13	WG1723562
(S) o-Terphenyl	*59.3*			*18.0-148*		*08/18/2021 11:13*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	77.5		1	08/14/2021 09:00	WG1722167

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	15.9	J	11.9	25.8	1	08/12/2021 02:48	WG1721309

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	0.0570	B J	0.0280	0.129	1	08/19/2021 01:42	WG1725700
(S) a,a,a-Trifluorotoluene(FID)	*98.1*			*77.0-120*		*08/19/2021 01:42*	WG1725700

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		0.000737	0.00158	1	08/12/2021 05:24	WG1721723
Toluene	U		0.00205	0.00789	1	08/12/2021 05:24	WG1721723
Ethylbenzene	U		0.00116	0.00395	1	08/12/2021 05:24	WG1721723
Total Xylenes	U		0.00139	0.0103	1	08/12/2021 05:24	WG1721723
(S) Toluene-d8	*94.4*			*75.0-131*		*08/12/2021 05:24*	WG1721723
(S) 4-Bromofluorobenzene	*85.6*			*67.0-138*		*08/12/2021 05:24*	WG1721723
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*08/12/2021 05:24*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	317		4.15	10.3	2	08/18/2021 20:48	WG1723562
C28-C36 Motor Oil Range	509		1.42	20.6	4	08/19/2021 01:13	WG1723562
(S) o-Terphenyl	*62.2*			*18.0-148*		*08/19/2021 01:13*	WG1723562
(S) o-Terphenyl	*60.0*			*18.0-148*		*08/18/2021 20:48*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.2		1	08/14/2021 09:00	WG1722167

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	29.3		11.2	24.3	1	08/12/2021 03:17	WG1721309

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	168		3.11	14.3	100	08/14/2021 07:48	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*08/14/2021 07:48*	WG1721942

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		0.00536	0.0115	8	08/12/2021 06:41	WG1721723
Toluene	U		0.0149	0.0574	8	08/12/2021 06:41	WG1721723
Ethylbenzene	U		0.00846	0.0287	8	08/12/2021 06:41	WG1721723
Total Xylenes	0.0178	J	0.0101	0.0746	8	08/12/2021 06:41	WG1721723
(S) Toluene-d8	*116*			*75.0-131*		*08/12/2021 06:41*	WG1721723
(S) 4-Bromofluorobenzene	*97.7*			*67.0-138*		*08/12/2021 06:41*	WG1721723
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*08/12/2021 06:41*	WG1721723

Sample Narrative:

L1388054-15 WG1721723: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	8140		78.4	195	40	08/19/2021 00:46	WG1723562
C28-C36 Motor Oil Range	4880		13.4	195	40	08/19/2021 00:46	WG1723562
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*08/19/2021 00:46*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	80.7		1	08/14/2021 09:00	WG1722167

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	69.9		11.4	24.8	1	08/12/2021 03:26	WG1721309

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	448		3.21	14.8	100	08/14/2021 08:12	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*08/14/2021 08:12*	WG1721942

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		0.00553	0.0118	8	08/12/2021 07:00	WG1721723
Toluene	U		0.0154	0.0591	8	08/12/2021 07:00	WG1721723
Ethylbenzene	0.0514		0.00872	0.0296	8	08/12/2021 07:00	WG1721723
Total Xylenes	0.454		0.0104	0.0769	8	08/12/2021 07:00	WG1721723
(S) Toluene-d8	*102*			*75.0-131*		*08/12/2021 07:00*	WG1721723
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*08/12/2021 07:00*	WG1721723
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*08/12/2021 07:00*	WG1721723

Sample Narrative:

L1388054-16 WG1721723: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	10600		200	496	100	08/20/2021 13:00	WG1723562
C28-C36 Motor Oil Range	7080		34.0	496	100	08/20/2021 13:00	WG1723562
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*08/20/2021 13:00*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	80.3		1	08/14/2021 09:00	WG1722167

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	23.8	J	11.5	24.9	1	08/12/2021 03:36	WG1721309

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	0.0971	B J	0.0270	0.124	1	08/14/2021 05:27	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*99.1*			*77.0-120*		*08/14/2021 05:27*	WG1721942

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		0.000696	0.00149	1	08/12/2021 05:43	WG1721723
Toluene	U		0.00194	0.00745	1	08/12/2021 05:43	WG1721723
Ethylbenzene	U		0.00110	0.00372	1	08/12/2021 05:43	WG1721723
Total Xylenes	U		0.00131	0.00968	1	08/12/2021 05:43	WG1721723
(S) Toluene-d8	*108*			*75.0-131*		*08/12/2021 05:43*	WG1721723
(S) 4-Bromofluorobenzene	*86.3*			*67.0-138*		*08/12/2021 05:43*	WG1721723
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*08/12/2021 05:43*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	19.5		2.00	4.98	1	08/18/2021 13:16	WG1723562
C28-C36 Motor Oil Range	19.4		0.341	4.98	1	08/18/2021 13:16	WG1723562
(S) o-Terphenyl	*59.5*			*18.0-148*		*08/18/2021 13:16*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	76.8		1	08/14/2021 09:00	WG1722167

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	121		12.0	26.0	1	08/12/2021 03:45	WG1721309

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	0.0672	B J	0.0282	0.130	1	08/19/2021 02:05	WG1725700
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*		*08/19/2021 02:05*	WG1725700

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		0.000750	0.00160	1	08/19/2021 14:52	WG1726218
Toluene	U		0.00209	0.00802	1	08/19/2021 14:52	WG1726218
Ethylbenzene	0.00199	J	0.00118	0.00401	1	08/19/2021 14:52	WG1726218
Total Xylenes	0.0136		0.00141	0.0104	1	08/19/2021 14:52	WG1726218
(S) Toluene-d8	*102*			*75.0-131*		*08/19/2021 14:52*	WG1726218
(S) 4-Bromofluorobenzene	*94.1*			*67.0-138*		*08/19/2021 14:52*	WG1726218
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*		*08/19/2021 14:52*	WG1726218

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		2.10	5.21	1	08/18/2021 11:27	WG1723562
C28-C36 Motor Oil Range	3.05	B J	0.357	5.21	1	08/18/2021 11:27	WG1723562
(S) o-Terphenyl	*53.2*			*18.0-148*		*08/18/2021 11:27*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	76.8		1	08/14/2021 08:49	WG1722168

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	175		12.0	26.0	1	08/12/2021 03:55	WG1721309

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	0.453		0.0282	0.130	1	08/14/2021 05:50	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*100*			*77.0-120*		*08/14/2021 05:50*	WG1721942

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		0.000749	0.00160	1	08/12/2021 06:02	WG1721723
Toluene	U		0.00209	0.00802	1	08/12/2021 06:02	WG1721723
Ethylbenzene	U		0.00118	0.00401	1	08/12/2021 06:02	WG1721723
Total Xylenes	U		0.00141	0.0104	1	08/12/2021 06:02	WG1721723
(S) Toluene-d8	*109*			*75.0-131*		*08/12/2021 06:02*	WG1721723
(S) 4-Bromofluorobenzene	*86.4*			*67.0-138*		*08/12/2021 06:02*	WG1721723
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*08/12/2021 06:02*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.83	J	2.10	5.21	1	08/18/2021 11:41	WG1723562
C28-C36 Motor Oil Range	4.09	B J	0.357	5.21	1	08/18/2021 11:41	WG1723562
(S) o-Terphenyl	*49.1*			*18.0-148*		*08/18/2021 11:41*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	77.0		1	08/14/2021 08:49	WG1722168

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	34.6		11.9	26.0	1	08/12/2021 04:05	WG1721309

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	0.0570	B J	0.0284	0.131	1.01	08/14/2021 06:14	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*98.9*			*77.0-120*		*08/14/2021 06:14*	WG1721942

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		0.000746	0.00160	1	08/12/2021 06:22	WG1721723
Toluene	U		0.00208	0.00799	1	08/12/2021 06:22	WG1721723
Ethylbenzene	U		0.00118	0.00399	1	08/12/2021 06:22	WG1721723
Total Xylenes	U		0.00141	0.0104	1	08/12/2021 06:22	WG1721723
(S) Toluene-d8	*112*			*75.0-131*		*08/12/2021 06:22*	WG1721723
(S) 4-Bromofluorobenzene	*95.9*			*67.0-138*		*08/12/2021 06:22*	WG1721723
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*08/12/2021 06:22*	WG1721723

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	76.7		2.09	5.19	1	08/18/2021 14:38	WG1723562
C28-C36 Motor Oil Range	71.2		0.356	5.19	1	08/18/2021 14:38	WG1723562
(S) o-Terphenyl	*46.3*			*18.0-148*		*08/18/2021 14:38*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	77.1		1	08/14/2021 08:49	WG1722168

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	32.3		11.9	25.9	1	08/12/2021 08:41	WG1721308

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	0.0678	B J	0.0281	0.130	1	08/14/2021 06:38	WG1721942
(S) a,a,a-Trifluorotoluene(FID)	*98.4*			*77.0-120*		*08/14/2021 06:38*	WG1721942

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		0.000744	0.00159	1	08/12/2021 04:27	WG1721768
Toluene	U		0.00207	0.00797	1	08/12/2021 04:27	WG1721768
Ethylbenzene	U		0.00117	0.00398	1	08/12/2021 04:27	WG1721768
Total Xylenes	0.00727	J	0.00140	0.0104	1	08/12/2021 04:27	WG1721768
(S) Toluene-d8	*106*			*75.0-131*		*08/12/2021 04:27*	WG1721768
(S) 4-Bromofluorobenzene	*113*			*67.0-138*		*08/12/2021 04:27*	WG1721768
(S) 1,2-Dichloroethane-d4	*84.7*			*70.0-130*		*08/12/2021 04:27*	WG1721768

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	28.3		2.09	5.19	1	08/18/2021 20:35	WG1723562
C28-C36 Motor Oil Range	24.3		0.355	5.19	1	08/18/2021 20:35	WG1723562
(S) o-Terphenyl	*49.4*			*18.0-148*		*08/18/2021 20:35*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.6		1	08/14/2021 08:49	WG1722168

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	U		9.62	20.9	1	08/12/2021 08:50	WG1721308

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	815	Q	23.7	109	1000	08/20/2021 12:05	WG1726685
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*08/20/2021 12:05*	WG1726685

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		0.0102	0.0218	20	08/12/2021 16:17	WG1722202
Toluene	0.0863	J	0.0284	0.109	20	08/12/2021 16:17	WG1722202
Ethylbenzene	2.67		0.0160	0.0546	20	08/12/2021 16:17	WG1722202
Total Xylenes	11.4		0.0192	0.142	20	08/12/2021 16:17	WG1722202
(S) Toluene-d8	*98.4*			*75.0-131*		*08/12/2021 16:17*	WG1722202
(S) 4-Bromofluorobenzene	*117*			*67.0-138*		*08/12/2021 16:17*	WG1722202
(S) 1,2-Dichloroethane-d4	*85.6*			*70.0-130*		*08/12/2021 16:17*	WG1722202

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	12300		135	335	80	08/19/2021 07:59	WG1723562
C28-C36 Motor Oil Range	6190		11.5	167	40	08/19/2021 00:19	WG1723562
(S) o-Terphenyl	*10000*	J7		*18.0-148*		*08/19/2021 00:19*	WG1723562
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*08/19/2021 07:59*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.0		1	08/14/2021 08:49	WG1722168

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	17.6	J	11.1	24.1	1	08/12/2021 09:00	WG1721308

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	0.145	B	0.0261	0.120	1	08/19/2021 17:57	WG1726002
(S) a,a,a-Trifluorotoluene(FID)	*99.5*			*77.0-120*		*08/19/2021 17:57*	WG1726002

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		0.000658	0.00141	1	08/12/2021 14:40	WG1722202
Toluene	U		0.00183	0.00705	1	08/12/2021 14:40	WG1722202
Ethylbenzene	U		0.00104	0.00352	1	08/12/2021 14:40	WG1722202
Total Xylenes	0.00278	J	0.00124	0.00916	1	08/12/2021 14:40	WG1722202
(S) Toluene-d8	*109*			*75.0-131*		*08/12/2021 14:40*	WG1722202
(S) 4-Bromofluorobenzene	*99.7*			*67.0-138*		*08/12/2021 14:40*	WG1722202
(S) 1,2-Dichloroethane-d4	*80.6*			*70.0-130*		*08/12/2021 14:40*	WG1722202

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	13.7		1.94	4.82	1	08/18/2021 11:54	WG1723562
C28-C36 Motor Oil Range	11.2	B	0.330	4.82	1	08/18/2021 11:54	WG1723562
(S) o-Terphenyl	*52.4*			*18.0-148*		*08/18/2021 11:54*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.5		1	08/14/2021 08:49	WG1722168

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	18.9	J	11.2	24.2	1	08/12/2021 09:09	WG1721308

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	0.105	B J	0.0263	0.121	1	08/17/2021 22:20	WG1724829
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*77.0-120*		*08/17/2021 22:20*	WG1724829

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		0.000665	0.00142	1	08/12/2021 15:00	WG1722202
Toluene	U		0.00185	0.00712	1	08/12/2021 15:00	WG1722202
Ethylbenzene	U		0.00105	0.00356	1	08/12/2021 15:00	WG1722202
Total Xylenes	U		0.00125	0.00926	1	08/12/2021 15:00	WG1722202
(S) Toluene-d8	*106*			*75.0-131*		*08/12/2021 15:00*	WG1722202
(S) 4-Bromofluorobenzene	*94.9*			*67.0-138*		*08/12/2021 15:00*	WG1722202
(S) 1,2-Dichloroethane-d4	*83.8*			*70.0-130*		*08/12/2021 15:00*	WG1722202

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	9.95		1.95	4.85	1	08/18/2021 12:08	WG1723562
C28-C36 Motor Oil Range	8.04	B	0.332	4.85	1	08/18/2021 12:08	WG1723562
(S) o-Terphenyl	*54.7*			*18.0-148*		*08/18/2021 12:08*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.7		1	08/14/2021 08:49	WG1722168

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	19.2	J	11.3	24.5	1	08/13/2021 23:28	WG1721311

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	0.0955	B J	0.0266	0.122	1	08/13/2021 19:21	WG1722637
(S) a,a,a-Trifluorotoluene(FID)	*99.1*			*77.0-120*		*08/13/2021 19:21*	WG1722637

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		0.000677	0.00145	1	08/12/2021 15:19	WG1722202
Toluene	U		0.00188	0.00725	1	08/12/2021 15:19	WG1722202
Ethylbenzene	U		0.00107	0.00362	1	08/12/2021 15:19	WG1722202
Total Xylenes	U		0.00128	0.00942	1	08/12/2021 15:19	WG1722202
(S) Toluene-d8	*103*			*75.0-131*		*08/12/2021 15:19*	WG1722202
(S) 4-Bromofluorobenzene	*96.3*			*67.0-138*		*08/12/2021 15:19*	WG1722202
(S) 1,2-Dichloroethane-d4	*81.9*			*70.0-130*		*08/12/2021 15:19*	WG1722202

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	7.14		1.97	4.90	1	08/18/2021 12:22	WG1723562
C28-C36 Motor Oil Range	5.20	B	0.336	4.90	1	08/18/2021 12:22	WG1723562
(S) o-Terphenyl	*52.3*			*18.0-148*		*08/18/2021 12:22*	WG1723562

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	77.0		1	08/14/2021 08:49	WG1722168

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	J	12.0	26.0	1	08/13/2021 23:45	WG1721311

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	0.136	B	0.0282	0.130	1	08/17/2021 22:44	WG1724829
(S) a,a,a-Trifluorotoluene(FID)	*99.8*			*77.0-120*		*08/17/2021 22:44*	WG1724829

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		0.000746	0.00160	1	08/12/2021 15:39	WG1722202
Toluene	U		0.00208	0.00799	1	08/12/2021 15:39	WG1722202
Ethylbenzene	U		0.00118	0.00400	1	08/12/2021 15:39	WG1722202
Total Xylenes	U		0.00141	0.0104	1	08/12/2021 15:39	WG1722202
(S) Toluene-d8	*107*			*75.0-131*		*08/12/2021 15:39*	WG1722202
(S) 4-Bromofluorobenzene	*99.9*			*67.0-138*		*08/12/2021 15:39*	WG1722202
(S) 1,2-Dichloroethane-d4	*85.3*			*70.0-130*		*08/12/2021 15:39*	WG1722202

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	30.9		2.09	5.20	1	08/18/2021 13:03	WG1723562
C28-C36 Motor Oil Range	24.0		0.356	5.20	1	08/18/2021 13:03	WG1723562
(S) o-Terphenyl	*49.8*			*18.0-148*		*08/18/2021 13:03*	WG1723562

Method Blank (MB)

(MB) R3692592-1 08/14/21 09:13

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00300			

L1388054-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1388054-03 08/14/21 09:13 • (DUP) R3692592-3 08/14/21 09:13

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	81.0	81.6	1	0.696		10

Laboratory Control Sample (LCS)

(LCS) R3692592-2 08/14/21 09:13

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

Method Blank (MB)

(MB) R3692589-1 08/14/21 09:00

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

L1388054-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1388054-14 08/14/21 09:00 • (DUP) R3692589-3 08/14/21 09:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	77.5	78.4	1	1.15		10

Laboratory Control Sample (LCS)

(LCS) R3692589-2 08/14/21 09:00

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) R3692584-1 08/14/21 08:49

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00300			

L1388054-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1388054-25 08/14/21 08:49 • (DUP) R3692584-3 08/14/21 08:49

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	81.7	82.8	1	1.43		10

Laboratory Control Sample (LCS)

(LCS) R3692584-2 08/14/21 08:49

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

Method Blank (MB)

(MB) R3691941-1 08/12/21 04:33

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

L1388037-51 Original Sample (OS) • Duplicate (DUP)

(OS) L1388037-51 08/12/21 05:40 • (DUP) R3691941-3 08/12/21 05:49

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	11.3	11.0	1	2.61	J	20

L1388037-61 Original Sample (OS) • Duplicate (DUP)

(OS) L1388037-61 08/12/21 07:43 • (DUP) R3691941-4 08/12/21 07:53

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	16.5	14.9	1	10.4	J	20

Laboratory Control Sample (LCS)

(LCS) R3691941-2 08/12/21 04:43

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

L1388037-61 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388037-61 08/12/21 07:43 • (MS) R3691941-5 08/12/21 08:22 • (MSD) R3691941-6 08/12/21 08:31

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	509	16.5	539	532	102	101	1	80.0-120			1.21	20

Method Blank (MB)

(MB) R3691940-1 08/11/21 23:13

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

L1388054-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1388054-04 08/12/21 00:11 • (DUP) R3691940-3 08/12/21 00:21

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	19.4	24.4	1	22.7	J P1	20

L1388054-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1388054-13 08/12/21 02:10 • (DUP) R3691940-4 08/12/21 02:20

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

Laboratory Control Sample (LCS)

(LCS) R3691940-2 08/11/21 23:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	196	98.0	90.0-110	

L1388054-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388054-13 08/12/21 02:10 • (MS) R3691940-5 08/12/21 02:29 • (MSD) R3691940-6 08/12/21 02:39

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	565	U	463	470	81.9	83.2	1	80.0-120			1.61	20

Method Blank (MB)

(MB) R3692016-1 08/13/21 22:34

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

L1388073-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1388073-06 08/14/21 02:27 • (DUP) R3692016-3 08/14/21 02:44

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	314	356	1	12.4		20

L1388567-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1388567-03 08/14/21 03:20 • (DUP) R3692016-4 08/14/21 03:38

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

Laboratory Control Sample (LCS)

(LCS) R3692016-2 08/13/21 22:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	206	103	90.0-110	

L1388567-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388567-03 08/14/21 03:20 • (MS) R3692016-5 08/14/21 03:56 • (MSD) R3692016-6 08/14/21 04:14

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	U	486	481	97.2	96.1	1	80.0-120			1.12	20

Method Blank (MB)

(MB) R3692519-3 08/13/21 00:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0341	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3692519-2 08/12/21 23:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.52	100	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*109*	*77.0-120*	

Method Blank (MB)

(MB) R3693641-2 08/14/21 00:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0324	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3693641-1 08/13/21 23:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.91	107	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*110*	*77.0-120*	

L1388054-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388054-09 08/14/21 03:05 • (MS) R3693641-3 08/14/21 09:00 • (MSD) R3693641-4 08/14/21 09:23

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.67	0.0595	1.96	2.44	28.6	35.7	1	10.0-151			21.5	28
(S) a,a,a-Trifluorotoluene(FID)					*96.2*	*96.9*		*77.0-120*				

Method Blank (MB)

(MB) R3693069-2 08/13/21 12:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0334	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3693069-1 08/13/21 11:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.22	94.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*108*	*77.0-120*	

L1388582-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388582-19 08/13/21 15:49 • (MS) R3693069-3 08/13/21 21:42 • (MSD) R3693069-4 08/13/21 22:06

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	237	2.66	210	231	88.9	97.7	31	10.0-151			9.40	28
(S) a,a,a-Trifluorotoluene(FID)					*108*	*110*		*77.0-120*				

Method Blank (MB)

(MB) R3693647-3 08/16/21 17:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0965	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*

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

(LCS) R3693647-1 08/16/21 16:11 • (LCSD) R3693647-2 08/16/21 16:35

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	5.95	5.98	108	109	72.0-127			0.503	20
(S) a,a,a-Trifluorotoluene(FID)				*114*	*113*	*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) R3693664-3 08/17/21 21:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0450	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3693664-2 08/17/21 20:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.52	100	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*110*	*77.0-120*	

Method Blank (MB)

(MB) R3693841-2 08/18/21 22:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0328	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3693841-1 08/18/21 21:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.27	95.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*112*	*77.0-120*	

Method Blank (MB)

(MB) R3694306-2 08/19/21 16:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0283	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3694306-1 08/19/21 15:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.48	118	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*113*	*77.0-120*	

Method Blank (MB)

(MB) R3694465-2 08/20/21 11:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.677	J	0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3694465-1 08/20/21 10:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.63	102	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*77.0-120*	

Method Blank (MB)

(MB) R3693973-2 08/12/21 00:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*107*			*75.0-131*
(S) 4-Bromofluorobenzene	*85.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*98.7*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3693973-1 08/11/21 23:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.112	89.6	70.0-123	
Ethylbenzene	0.125	0.114	91.2	74.0-126	
Toluene	0.125	0.124	99.2	75.0-121	
Xylenes, Total	0.375	0.353	94.1	72.0-127	
(S) Toluene-d8			*108*	*75.0-131*	
(S) 4-Bromofluorobenzene			*89.8*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*99.8*	*70.0-130*	

L1388054-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388054-03 08/12/21 01:54 • (MS) R3693973-3 08/12/21 07:38 • (MSD) R3693973-4 08/12/21 07:57

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.184	U	0.176	0.187	96.0	102	1	10.0-149			5.67	37
Ethylbenzene	0.184	U	0.185	0.193	101	105	1	10.0-160			3.89	38
Toluene	0.184	U	0.200	0.209	109	114	1	10.0-156			4.32	38
Xylenes, Total	0.551	U	0.575	0.589	104	107	1	10.0-160			2.53	38
(S) Toluene-d8					*106*	*105*		*75.0-131*				
(S) 4-Bromofluorobenzene					*85.3*	*82.6*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*107*	*101*		*70.0-130*				

Method Blank (MB)

(MB) R3691043-2 08/12/21 01:17

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*107*			*75.0-131*
(S) 4-Bromofluorobenzene	*110*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*77.7*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3691043-1 08/12/21 00:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.115	92.0	70.0-123	
Ethylbenzene	0.125	0.124	99.2	74.0-126	
Toluene	0.125	0.121	96.8	75.0-121	
Xylenes, Total	0.375	0.385	103	72.0-127	
(S) Toluene-d8			*106*	*75.0-131*	
(S) 4-Bromofluorobenzene			*108*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*80.4*	*70.0-130*	

L1388054-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388054-21 08/12/21 04:27 • (MS) R3691043-3 08/12/21 08:51 • (MSD) R3691043-4 08/12/21 09:10

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.199	U	0.201	0.204	101	102	1	10.0-149			1.57	37
Ethylbenzene	0.199	U	0.226	0.236	114	118	1	10.0-160			4.14	38
Toluene	0.199	U	0.215	0.223	108	112	1	10.0-156			3.64	38
Xylenes, Total	0.598	0.00727	0.720	0.735	119	122	1	10.0-160			1.97	38
(S) Toluene-d8					*104*	*104*		*75.0-131*				
(S) 4-Bromofluorobenzene					*108*	*110*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*82.8*	*84.5*		*70.0-130*				

Method Blank (MB)

(MB) R3691855-3 08/12/21 10:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*112*			*75.0-131*
(S) 4-Bromofluorobenzene	*97.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*82.9*			*70.0-130*

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

(LCS) R3691855-1 08/12/21 08:48 • (LCSD) R3691855-2 08/12/21 09:07

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	0.136	0.140	109	112	70.0-123			2.90	20
Ethylbenzene	0.125	0.140	0.139	112	111	74.0-126			0.717	20
Toluene	0.125	0.145	0.142	116	114	75.0-121			2.09	20
Xylenes, Total	0.375	0.432	0.419	115	112	72.0-127			3.06	20
(S) Toluene-d8				*105*	*104*	*75.0-131*				
(S) 4-Bromofluorobenzene				*95.9*	*94.8*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*82.2*	*86.1*	*70.0-130*				

L1388054-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388054-22 08/12/21 16:17 • (MS) R3691855-4 08/12/21 16:37 • (MSD) R3691855-5 08/12/21 16:56

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 %
Benzene	2.73	U	2.70	3.10	98.8	114	20	10.0-149			13.9	37
Ethylbenzene	2.73	2.67	5.21	5.58	92.8	106	20	10.0-160			6.88	38
Toluene	2.73	0.0863	2.62	2.88	92.8	102	20	10.0-156			9.52	38
Xylenes, Total	8.19	11.4	19.8	20.6	103	113	20	10.0-160			4.32	38
(S) Toluene-d8					*95.3*	*94.2*		*75.0-131*				
(S) 4-Bromofluorobenzene					*128*	*123*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*87.1*	*82.6*		*70.0-130*				

Method Blank (MB)

(MB) R3694182-3 08/19/21 12:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*91.4*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.5*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*

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

(LCS) R3694182-1 08/19/21 11:16 • (LCSD) R3694182-2 08/19/21 11:37

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	0.133	0.132	106	106	70.0-123			0.755	20
Ethylbenzene	0.125	0.119	0.120	95.2	96.0	74.0-126			0.837	20
Toluene	0.125	0.127	0.129	102	103	75.0-121			1.56	20
Xylenes, Total	0.375	0.361	0.354	96.3	94.4	72.0-127			1.96	20
(S) Toluene-d8				*101*	*100*	*75.0-131*				
(S) 4-Bromofluorobenzene				*98.0*	*93.7*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*122*	*122*	*70.0-130*				

Method Blank (MB)

(MB) R3693008-1 08/17/21 11:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.293	J	0.274	4.00
(S) o-Terphenyl	*65.6*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3693008-2 08/17/21 11:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	36.4	72.8	50.0-150	
(S) o-Terphenyl			*51.8*	*18.0-148*	

L1388054-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388054-07 08/19/21 10:20 • (MS) R3693866-1 08/19/21 10:34 • (MSD) R3693866-2 08/19/21 10:48

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	59.4	U	39.8	35.7	67.1	59.6	1	50.0-150			10.8	20
(S) o-Terphenyl					*38.8*	*40.4*		*18.0-148*				

Method Blank (MB)

(MB) R3693298-1 08/18/21 08:30

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-C36 Motor Oil Range	0.942	J	0.274	4.00
(S) o-Terphenyl	*64.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3693298-2 08/18/21 08:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.5	75.0	50.0-150	
(S) o-Terphenyl			*59.2*	*18.0-148*	

L1388054-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1388054-17 08/18/21 13:16 • (MS) R3693298-3 08/18/21 13:30 • (MSD) R3693298-4 08/18/21 13:44

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	58.5	19.5	57.6	69.0	65.1	84.5	1	50.0-150			17.9	20
(S) o-Terphenyl					*43.0*	*52.9*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
V3	The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

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

E028

Client Name:	Conoco Phillips	**Site Manager:**	Christian Llull
Project Name:	MCA 233 Flowline Release	**Contact Info:**	Email: Christian.Llull@tetratech.com Phone: (512) 565-0190
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02549
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	Andrew Garcia
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION L1388054	SAMPLING YEAR: 2021 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE		# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
-01	AH-1 (0'-1')	08/05/21	830		X				X			1	N	X		X												X						
-02	AH-1 (2'-3')	08/05/21	845		X				X			1	N	X		X												X						
-03	AH-2 (0'-1')	08/05/21	900		X				X			1	N	X		X												X						
-04	AH-2 (2'-3')	08/05/21	915		X				X			1	N	X		X												X						
-05	AH-3 (0'-1')	08/05/21	930		X				X			1	N	X		X												X						
-06	AH-3 (2'-3')	08/05/21	945		X				X			1	N	X		X												X						
-07	AH-4 (0'-1')	08/05/21	1000		X				X			1	N	X		X												X						
-08	AH-4 (2'-3')	08/05/21	1015		X				X			1	N	X		X												X						
-09	AH-5 (0'-1')	08/05/21	1030		X				X			1	N	X		X												X						
-10	AH-5 (2'-3')	08/05/21	1045		X				X			1	N	X		X												X						

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Andrew Garcia	6-Aug-21	11:00		8-6-21	11:00
	8-6-21 ~~8-7-21~~	16:00		8-6-21	16:00
			Heather Kems	8/7/21	945

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 #: _____

TC:26

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Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Christian Llull
Project Name:	MCA 233 Flowline Release	**Contact Info:**	Email: Christian.Llull@tetratech.com Phone: (512) 565-0190
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02549
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	Andrew Garcia
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2021 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
-11	AH-6 (0'-1')	08/05/21	1100		X				X			1	N	X		X												X						
-12	AH-6 (2'-3')	08/05/21	1115		X				X			1	N	X		X												X						
-13	AH-7 (2'-3')	08/05/21	1130		X				X			1	N	X		X												X						
-14	AH-7 (3'-4')	08/05/21	1145		X				X			1	N	X		X												X						
-15	AH-7 (5'-6')	08/05/21	1200		X				X			1	N	X		X												X						
-16	AH-7 (7'-8')	08/05/21	1215		X				X			1	N	X		X												X						
-17	AH-8 (.5'-1.5')	08/05/21	1230		X				X			1	N	X		X												X						
-18	AH-8 (2'-3')	08/05/21	1245		X				X			1	N	X		X												X						
-19	AH-8 (3'-4')	08/05/21	1300		X				X			1	N	X		X												X						
-20	AH-8 (5'-6')	08/05/21	1315		X				X			1	N	X		X												X						

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Andrew Garcia	6-Aug-21	11:00		8-6-21	11:00
	8-6-21	16:00	SwA	8-6-21	16:00
			Heather Kems	8/7/21	945

LAB USE ONLY

Sample Temperature

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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TC:26

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Christian Llull
Project Name:	MCA 233 Flowline Release	**Contact Info:**	Email: Christian.Llull@tetratech.com Phone: (512) 565-0190
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02549
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	Andrew Garcia
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2021 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
	L1388054																																	
-21	AH-8 (7'-8')	08/05/21	1330		X				X			1	N	X		X												X						
-22	AH-9 (.5'-1.5')	08/05/21	1345		X				X			1	N	X		X												X						
-23	AH-9 (2'-3')	08/05/21	1400		X				X			1	N	X		X												X						
-24	AH-9 (3'-4')	08/05/21	1415		X				X			1	N	X		X												X						
-25	AH-9 (5'-6')	08/05/21	1430		X				X			1	N	X		X												X						
-26	AH-9 (7'-8')	08/05/21	1445		X				X			1	N	X		X												X						

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Andrew Garcia	6-Aug-21	11:00		8-6-21	11:00
	8-6-21	16:00		8-6-21	16:00
			Heather Kems	8/7/21	945

TC: 26
NOTE

ORIGINAL COPY

LAB USE ONLY

Sample Temperature

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

APPENDIX F
NMSLO Seed Mixture Details

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Lea County, New Mexico

MCA 233 Flowline Release

January 3, 2022

Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

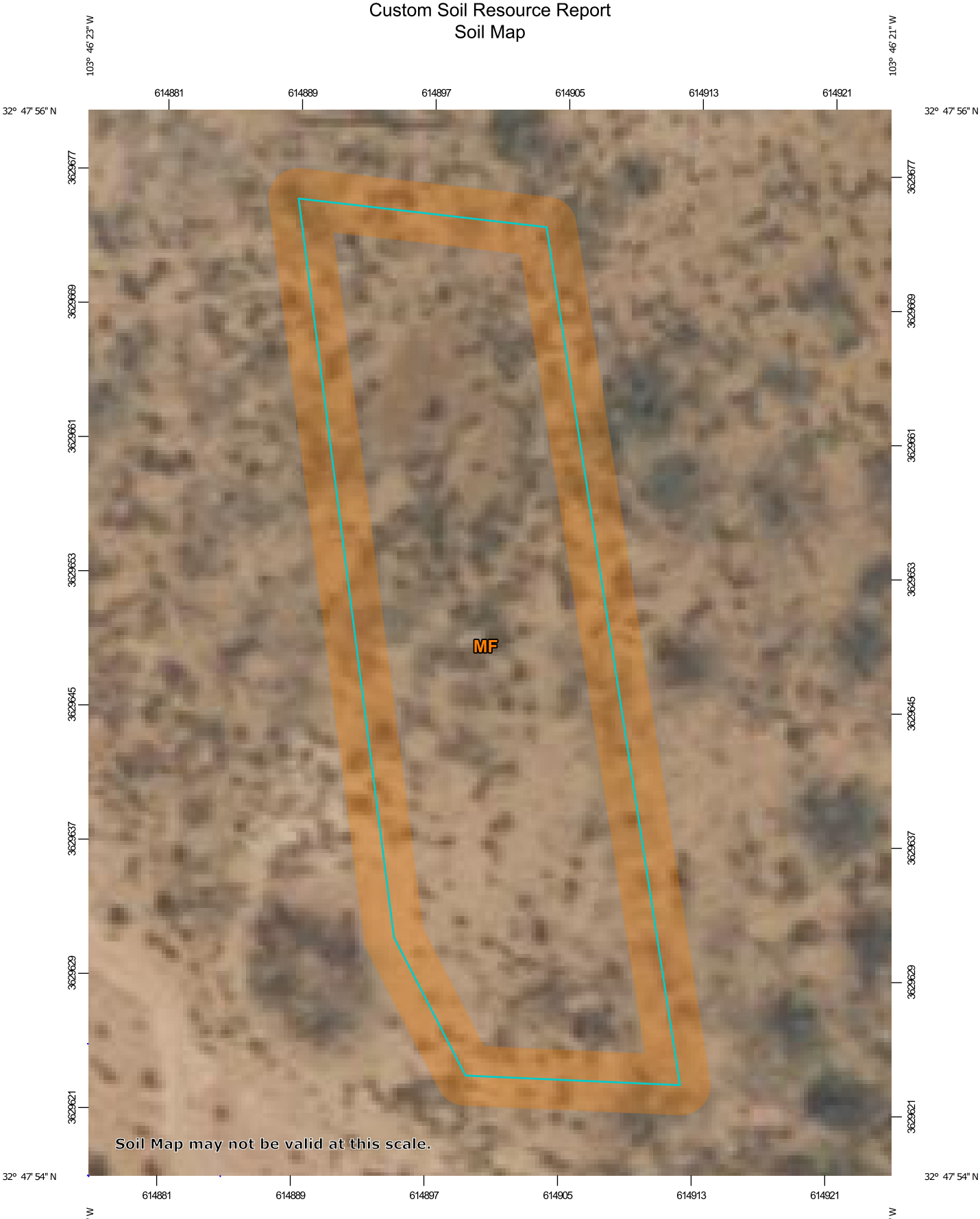
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:310 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 4 9 18 27

Feet: 0 15 30 60 90

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 18, Sep 10, 2021

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MF	Maljamar and Palomas fine sands, 0 to 3 percent slopes	0.2	100.0%
Totals for Area of Interest		**0.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lea County, New Mexico

MF—Maljamar and Palomas fine sands, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: dmqb
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Maljamar

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 24 inches: fine sand
Bt - 24 to 50 inches: sandy clay loam
Bkm - 50 to 60 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

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

Description of Palomas

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone

Typical profile

A - 0 to 16 inches: fine sand
Bt - 16 to 60 inches: sandy clay loam
Bk - 60 to 66 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 45 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Kermit

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

Wink

Percent of map unit: 5 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

References

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

NMSLO Seed Mix Sandy Loam (SL)

SANDY LOAM (SL) SITES SEED MIXTURE:

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

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

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

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1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 79346

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 79346
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	Closure report due 05/23/2022	2/23/2022
chensley	NOTE: The OCD requires a copy of all correspondence relative to remedial projects be included in all proposal and/or final closure reports. Correspondence required to be included in reports may include, but not necessarily limited to, extension requests, liner inspection notifications, sample event notifications, spill/release/fire notifications, and variance requests. This will allow for notifications and requests to become a documented part of the incident file.	2/23/2022