



June 17, 2020

Bradford Billings
Hydrologist
District 2 Artesia
Oil Conservation Division
Santa Fe, NM 87505

**Re: Deferral Request
ConocoPhillips
VGEU East Battery
Unit Letter N, Section 27, Township 17 South, Range 35 East
Lea County, New Mexico
1RP-4441**

Mr. Billings:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips (COP) to evaluate a release that occurred at the Vacuum Glorietta East Unit (VGEU) East Battery located within Unit Letter N, Section 27, Township 17 South, Range 35 East, in Lea County, New Mexico (Site). The site coordinates are 32.800087°, -103.445958°. The Site location is shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Attachment A), on September 8, 2016, at 1800 hrs. MDT, a spill occurred at the VGEU East Battery. While making rounds following power failure, the multi-skill operator (MSO) arrived at the VGEU East Battery and identified a spill originating from a failed valve, resulting in 88 bbls of water & 3 bbls of oil with 68 bbls water & 2 bbls of oil recovered. Immediate action was to isolate all wells entering the facility. The release extent is shown on Figure 3. The New Mexico Oil Conservation Division (NMOCD) was notified of the release on the same day, September 8, 2016, and subsequently assigned the release the Remediation Permit (RP) number 1RP-4441 and the Incident ID nKL1625827670.

SITE CHARACTERIZATION

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

Four water wells are listed in Section 27 on the New Mexico Office of the State Engineer's (NMOSE) website, with an average depth to groundwater of 76 feet below ground surface (bgs). The groundwater data and karst potential map are shown in Appendix B.

REGULATORY FRAMEWORK

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

Tetra Tech

901 West Wall St., Suite 100, Midland, TX 79701

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com

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ConocoPhillips

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

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

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

INITIAL SITE ASSESSMENT

To define the horizontal extents of the release, and to delineate release impact, Tetra Tech personnel were onsite to conduct a subsurface investigation in May 2020. On May 27, 2020, a total of six (6) soil borings (AH-1 through AH-6) were completed with a hand auger. Two boreholes (AH-1 and AH-2) were completed within in the release area. The remainder of the borings were completed outside the reported release footprint for horizontal delineation. The VGEU East Battery has numerous underground utilities and aboveground lines, in addition to piping and production equipment inside and outside the battery. The soil boring locations were chosen to avoid safety and access issues due to the subsurface infrastructure. Total depth of the borings was 2 feet bgs.

A total of 12 soil samples were collected from the six boring locations from in and around the release area (Figure 3). Selected samples were field screened and submitted to an analytical laboratory to be analyzed for TPH by EPA method 8015 modified, BTEX by EPA Method 8260B and chlorides by EPA method 300.0 at Pace Analytical National Center for Testing and Innovation in Mt. Juliet, Tennessee. Copies of analytical reports and chain-of-custody documentation are included in Appendix C.

AH-1 and AH-2 were installed within the release footprint to clarify the vertical extents in the reported release footprint. Deeper samples could not be collected as hand auger refusal was encountered due to the shallow caliche cap rock in the subsurface. Borings AH-3 through AH-6 were completed to achieve horizontal delineation per 19.15.29.11(A)(5)(b) NMAC.

The analytical results associated with the site assessment and delineation were below the RRALs for BTEX at the locations both inside and outside of the release footprint. The analytical results associated with AH-1 were below the RRAL for total TPH (GRO + DRO + ORO) and chloride. Results associated with AH-2 (0-1' and 1-2'), exceeded the most stringent RRAL for chloride (600 mg/kg). However, given that the release occurred at a production tank battery, to meet the standards of Table I of 19.15.29.12 NMAC, chlorides are far below the limit of 10,000 mg/kg.

The analytical results associated with the AH-6 samples exceeded the most stringent RRAL for total TPH (100 mg/kg). However, the chloride analytical results associated with AH-6 were below the most stringent RRALs. Thus AH-6 does provide horizontal delineation for the 1RP-4441 release. The analytical results associated with all other samples collected around the release area were below the most stringent RRALs for total TPH (GRO + DRO + ORO), BTEX and/or chloride in all samples. The boring locations are shown on Figure 3. The analytical results of the May 2020 sampling event are summarized in Table 1.

Given that AH-6 is outside of the reported release footprint (in the pasture), yet downgradient of the release extent, the detections in AH-6 for TPH (0-1' and 1'-2') are likely unrelated to the release event addressed in this report. However, as a proactive response, based on the soil sample results, COP proposes to remove the impacted material as depicted in Figure 4. Excavation in the area will be performed using heavy equipment (backhoes and track hoes) to a depth of 2 feet below ground surface within the indicated area

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ConocoPhillips

on Figure 4. Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility.

Confirmation floor and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX and chloride. Once the sample results are received, NMOCD will be notified and the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is 225 cubic yards. COP proposes to excavate the indicated area in Figure 4 within 90 days of approval of this Deferral Request.

CONCLUSION

The release (1RP-4441) was delineated horizontally and vertically, as detailed above, and does not cause an imminent risk to human health, the environment, or groundwater. Final remediation and reclamation shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the Site is no longer being used for oil and gas operations.

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

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

Sincerely,
Tetra Tech, Inc.



Christian M. Llull, P.G.
Project Manager

cc: Mr. Charles Beauvais, GPBU - ConocoPhillips

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ConocoPhillips

List of Attachments

Figures:

- Figure 1 – Site Location Map
- Figure 2 – Site Location/Topographic Map
- Figure 3 – Release Assessment Map
- Figure 4 – Proposed Remediation Extent

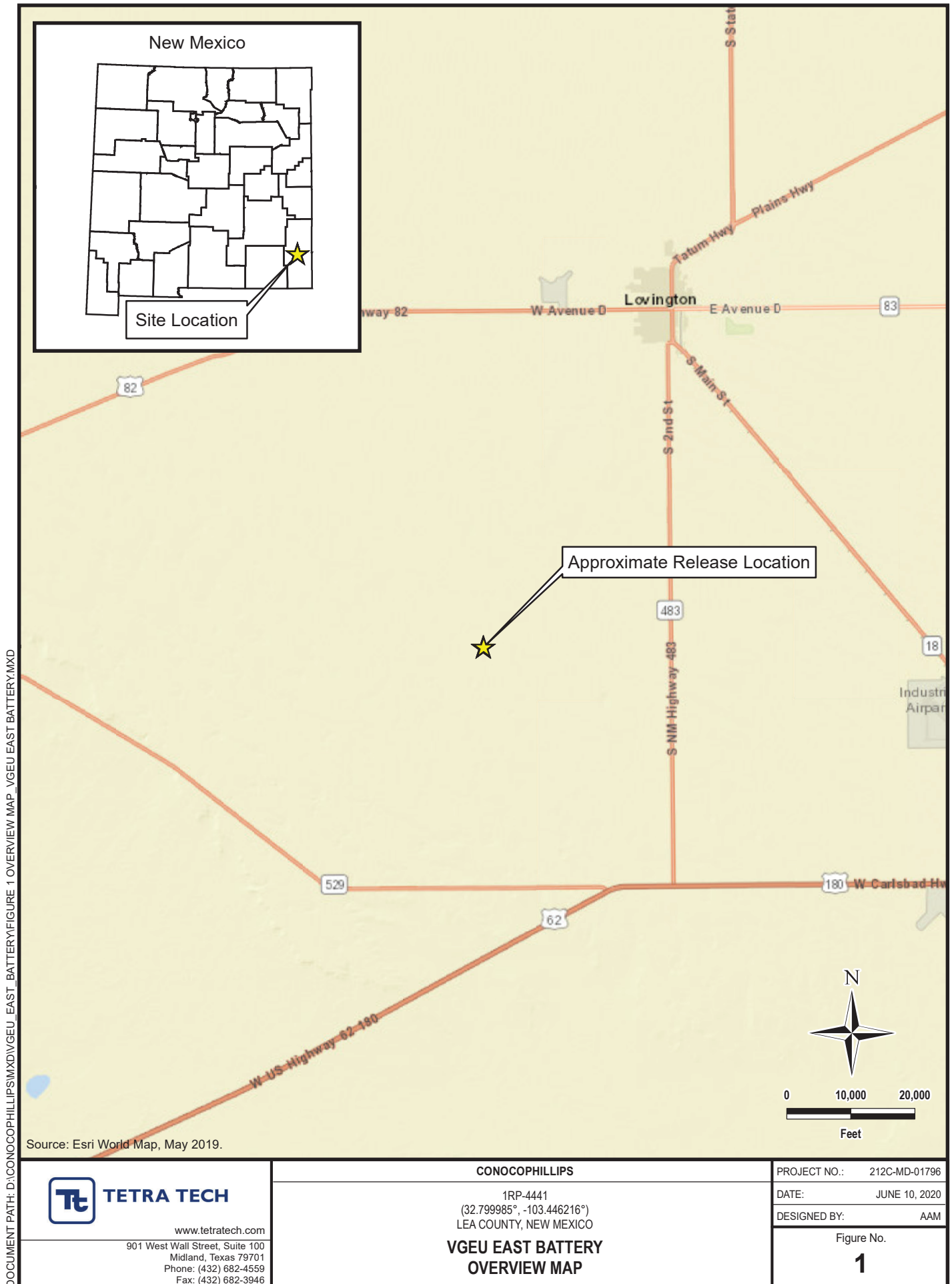
Tables:

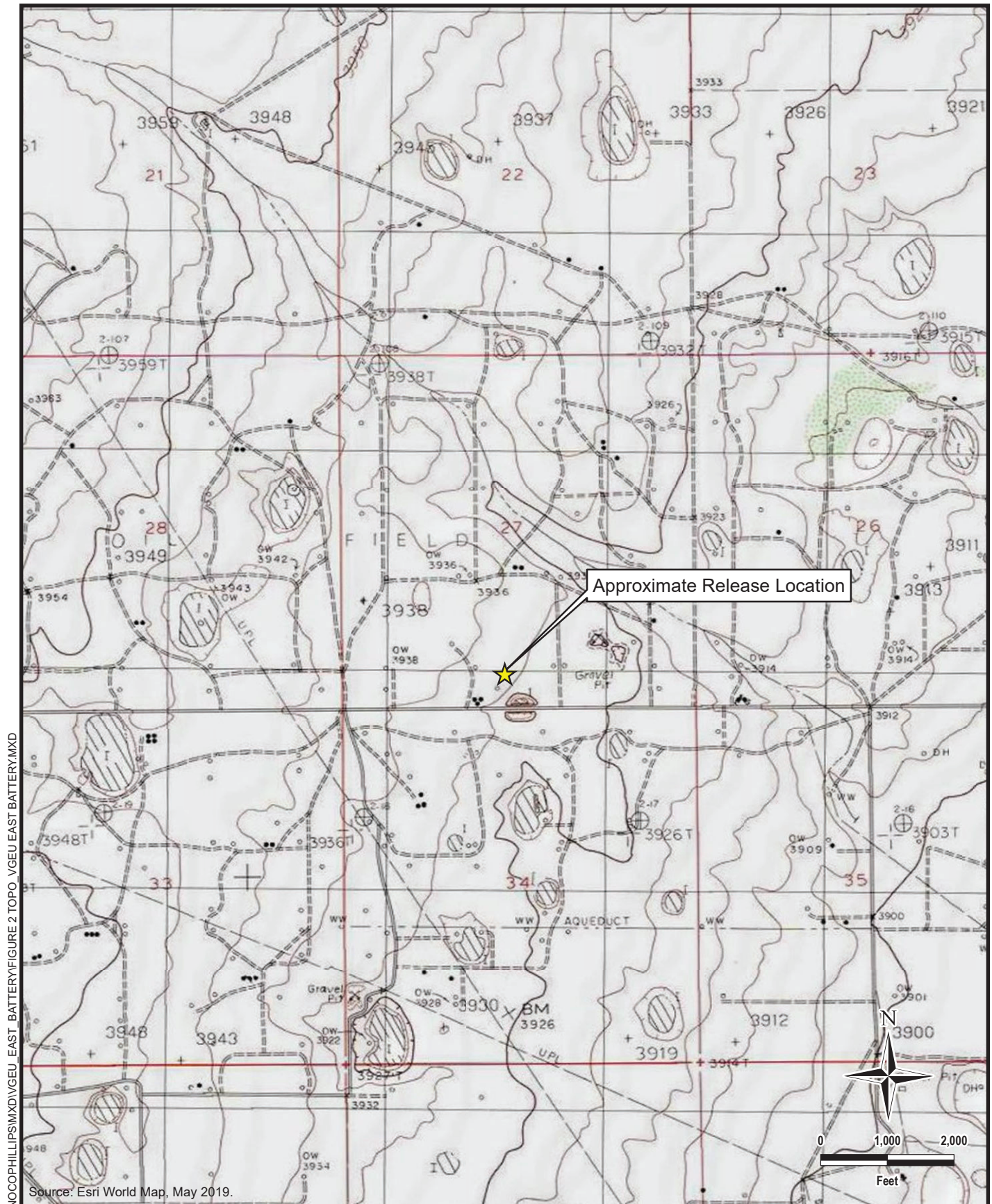
- Table 1 – Summary of Analytical Results – Soil Assessment

Appendices:

- Appendix A – C-141 Form
- Appendix B – Groundwater Data
- Appendix C – Laboratory Analytical Report

FIGURES





DOCUMENT PATH: D:\CONOCOPHILLIPS\MD\VEU EAST_BATTERY\FIGURE 2 TOPO_VGEU EAST BATTERY.MXD


TETRA TECH
www.tetrattech.com

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

CONOCOPHILLIPS

 1RP-4441
 (32.799985°, -103.446216°)
 LEA COUNTY, NEW MEXICO

**VGEU EAST BATTERY
 TOPOGRAPHIC MAP**

PROJECT NO.: 212C-MD-01796

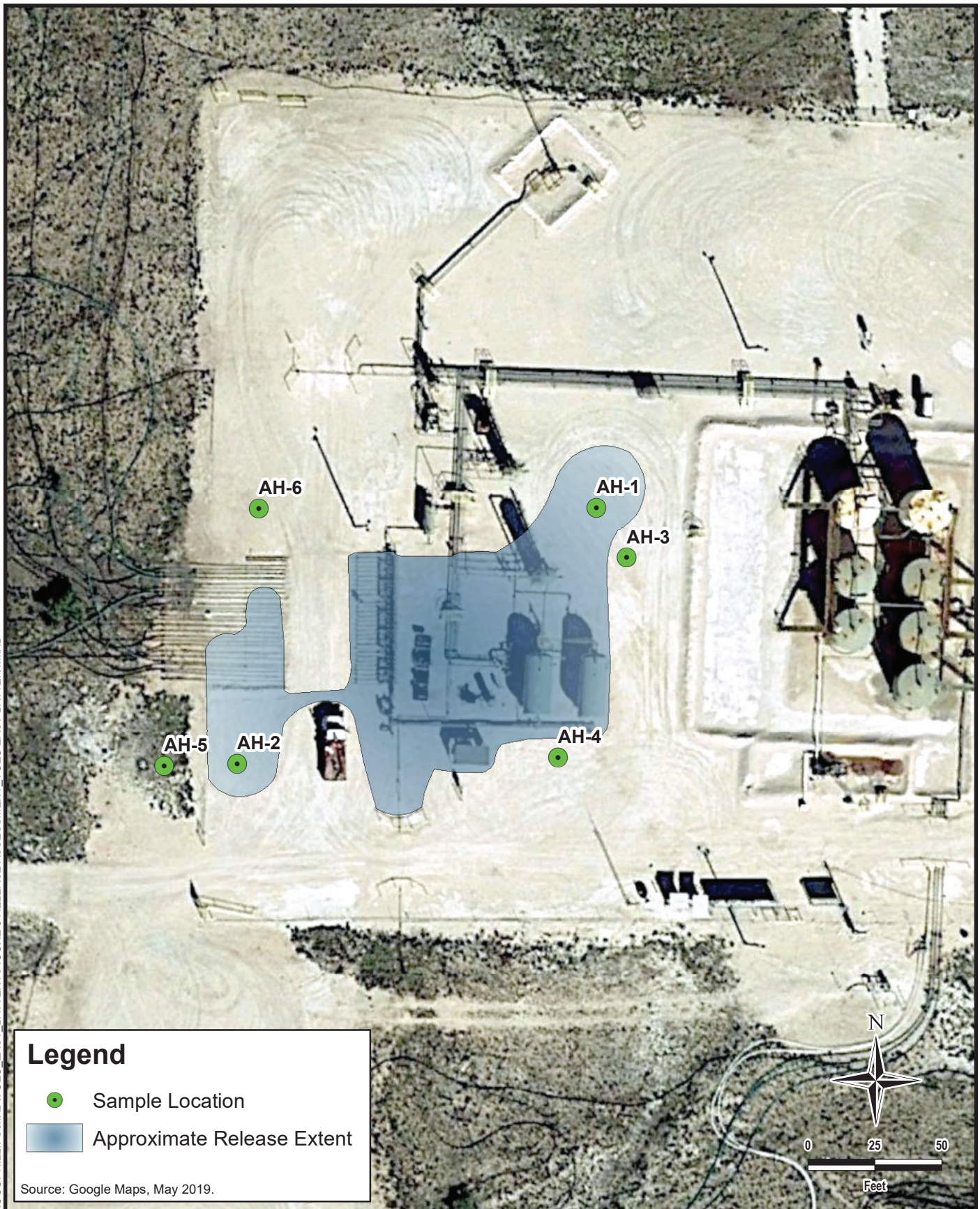
DATE: JUNE 10, 2020

DESIGNED BY: AAM

Figure No.

2

DOCUMENT PATH: D:\CONOCOPHILLIPS\MD\VGEU EAST_BATTERY\FIGURE 3 RELEASE ASSESSMENT_VGEU EAST BATTERY.MXD



Legend

- Sample Location
- Approximate Release Extent

Source: Google Maps, May 2019.

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CONOCOPHILLIPS

1RP-4441
(32.799985°, -103.446216°)
LEA COUNTY, NEW MEXICO

**VGEU EAST BATTERY
RELEASE ASSESSMENT MAP**

PROJECT NO.: 212C-MD-01796

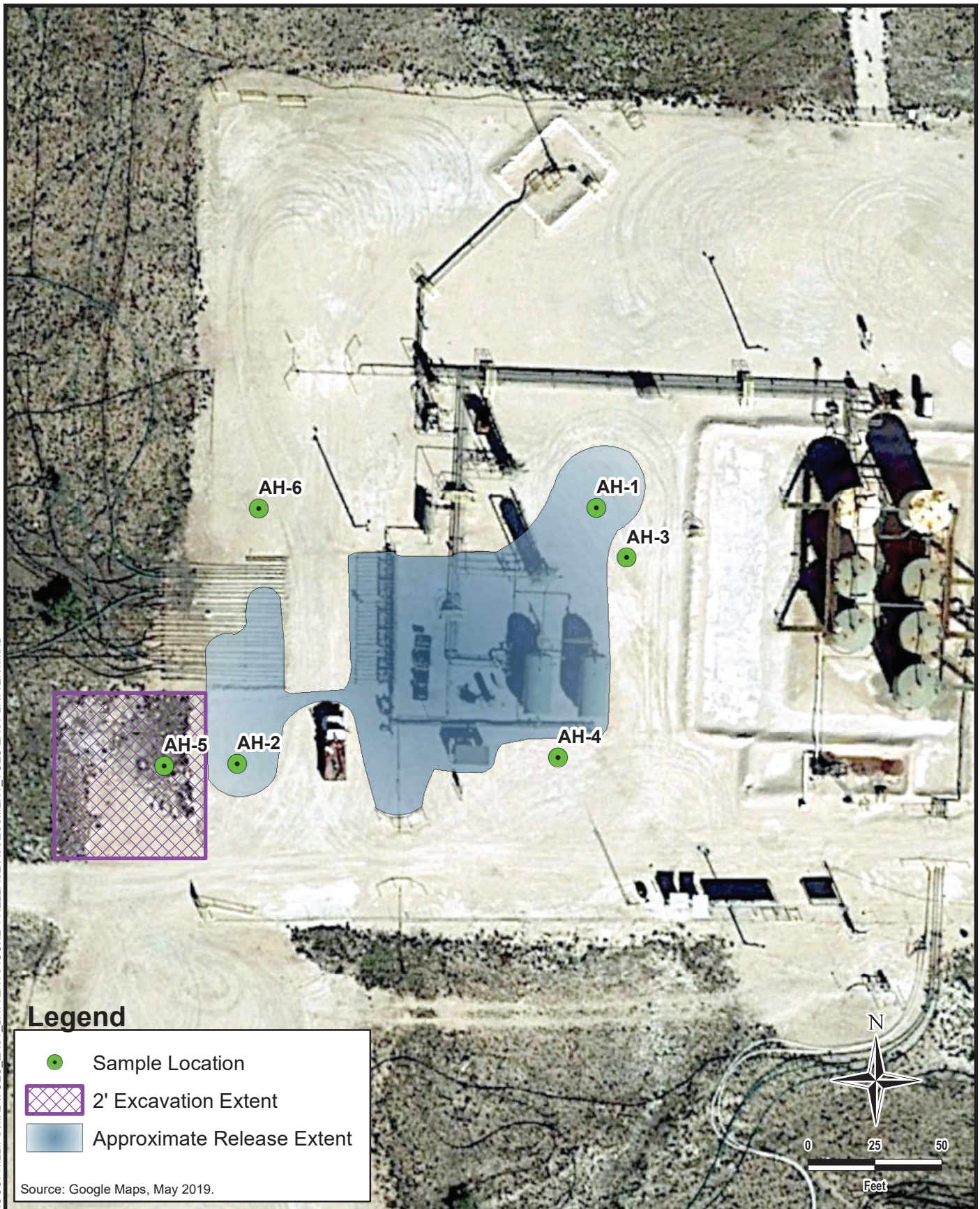
DATE: JUNE 11, 2020

DESIGNED BY: AAM

Figure No.

3

DOCUMENT PATH: D:\CONOCOPHILLIPS\MD\VGU EAST_BATTERY\FIGURE 4 RELEASE ASSESSMENT_VGEU EAST BATTERY.MXD



Legend

- Sample Location
- 2' Excavation Extent
- Approximate Release Extent

Source: Google Maps, May 2019.

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www.tetrattech.com

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

CONOCOPHILLIPS

1RP-4441
(32.799985°, -103.446216°)
LEA COUNTY, NEW MEXICO

**VGEU EAST BATTERY
PROPOSED REMEDIATION EXTENT**

PROJECT NO.: 212C-MD-01796

DATE: JUNE 11, 2020

DESIGNED BY: AAM

Figure No.

4

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT - 1RP-4441
CONOCOPHILLIPS
VGEU EAST BATTERY RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth Interval	Chloride ¹				BTEX ²						TPH ³									
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO ⁴ C ₉ - C ₁₀		DRO C ₁₀ - C ₁₄		ORO C ₁₅ - C ₄₀		Total TPH (GRO-DRO-ORO)	
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
AH-1	5/27/2020	0-1	27.3		< 0.00104	< 0.00520	< 0.00260		0.00133	J	0.00133	< 0.105	11.9	B J	71.4	B					83.3	
		1-2	57.3		< 0.00107	< 0.00534	< 0.00267		0.00119	J	0.00119	< 0.108	5.03	B	8.07	B					13.1	
AH-2	5/27/2020	0-1	775		< 0.00101	< 0.00507	< 0.00253		< 0.00659		-	< 0.102	6.89	B	6.77	B					13.7	
		1-2	946		0.000540	< 0.00569	< 0.00284		< 0.00740		0.000540	< 0.114	5.78	B	10.1	B					15.9	
AH-3	5/27/2020	0-1	12.7	J	< 0.00101	< 0.00506	< 0.00253		< 0.00657		-	< 0.101	13.3	B	24.6						37.9	
		1-2	< 21.1		< 0.00106	< 0.00528	< 0.00264		< 0.00687		-	0.0549	B J	8.95	B	15.0	B					24.0
AH-4	5/27/2020	0-1	24.6		< 0.00104	< 0.00522	< 0.00261		< 0.00678		-	< 0.104	4.40	B	6.46	B					10.9	
		1-2	13.4	J	< 0.00101	< 0.00504	< 0.00252		< 0.00656		-	< 0.102	11.3	B	18.9	B					30.2	
AH-5	5/27/2020	0-1	< 20.3		< 0.00102	< 0.00508	< 0.00254		< 0.00661		-	0.0845	J	10.3	B	28.4					38.8	
		1-2	59.5		< 0.00108	< 0.00538	< 0.00269		< 0.00700		-	< 0.108	4.04	J	10.7	B					14.7	
AH-6	5/27/2020	0-1	10.1	J P1	< 0.00108	< 0.00540	< 0.00270		< 0.00701		-	0.232	107		320						427	
		1-2	12.2	J	< 0.00109	< 0.00547	< 0.00273		< 0.00711		-	0.201	37.1		81.0						118	

NOTES:

- ft.

Below ground surface

Parts per million

Milligrams per kilogram

Total Petroleum Hydrocarbons

Gasoline range organics

Diesel range organics

Oil range organics
- 1

EPA Method 300.0

2

EPA Method 8260B

3

EPA Method 8015

4

EPA Method 8015D/GRO
- QUALIFIERS:

B

The same analyte is found in the associated blank.

J

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

P1

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Bold and italicized values indicate exceedance of proposed RRLs

APPENDIX A C-141 Forms

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

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

Form C-141
Revised August 8, 2011
Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: ConocoPhillips	Contact: Jose A Zepeda
Address: 29 Vacuum Complex Lane	Telephone No. 575-391-3165
Facility Name: VGEU East Battery	Facility Type: Valve
Surface Owner: State	Mineral Owner: N/A
API No.	

LOCATION OF RELEASE

Unit Letter	Section 27	Township 17S	Range 35E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
Latitude _____				Longitude _____				

NATURE OF RELEASE

Type of Release: 88 Produce Water & 3 Oil	Volume of Release: 91	Volume Recovered: 70
Source of Release: Valve	Date and Hour of Occurrence 09/08/2016 1800	Date and Hour of Discovery SAME
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? Jamie Keyes	
By Whom? Jose A Zepeda	Date and Hour: 09/09/16 1015 via email	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken. * On September 8th, 2016, at 1800 hrs. MDT, a spill occurred at the VGEU East Battery. While making rounds following power failure, MSO arrived at the VGEU East Battery and identified a spill originating from a failed valve, resulting in 88 bbls of water & 3 bbls of oil with 68 bbls water & 2 bbls of oil recovered. Immediate action was to isolate all wells entering the facility. Spill site will be remediated according to COPC and NMOCD guidelines.		
Describe Area Affected and Cleanup Action Taken. * Pasture area 150' X 150' X 1" deep.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		

OIL CONSERVATION DIVISION

Signature: JOSE A ZEPEDA	Approved by Environmental Specialist: 	
Printed Name: Jose A Zepeda		
Title: LEAD HSE	Approval Date: 9/14/2016	Expiration Date: 11/14/2016
E-mail Address: Jose. A. Zepeda@conocophillips.com	Conditions of Approval: Take discrete samples only Submit Remediation Plan no later than 10/14/2016. Please notify NMOCD prior to all sampling to allow for witnessing.	Attached ☐ IRP 4441
Date: 09/09/2016	Phone: 575-391-3165	

* Attach Additional Sheets If Necessary

nKL1625827670
pKL1625828339

Incident ID	nKL1625827670
District RP	1RP-4441
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: Charles R Beauvais II Title: Environmental Coordinator
Signature: Charles R. Beauvais II Date: 06/17/2020
email: charles.r.beauvais@conocophillips.com Telephone: 5759882043

OCD Only

Received by: _____ Date: _____

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

Signature: B. H. Hall Date: 12/12/2022

APPENDIX B

Groundwater 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-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 04829 S2	L	LE		4	3	27	17S	35E		645352	3630227*	220	90	130
L 04859	L	LE		4	4	4	27	17S	35E	646258	3630135*	145	85	60
L 05207	L	LE					27	17S	35E	645552	3630825*	140	60	80
L 13479 POD3	L	LE		4	4	3	27	17S	35E	645448	3630066	76	70	6

Average Depth to Water: **76 feet**

Minimum Depth: **60 feet**

Maximum Depth: **90 feet**

Record Count: 4

PLSS Search:

Section(s): 27

Township: 17S

Range: 35E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

6/11/20 9:03 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Legend

- High
- Low
- Medium



30 mi

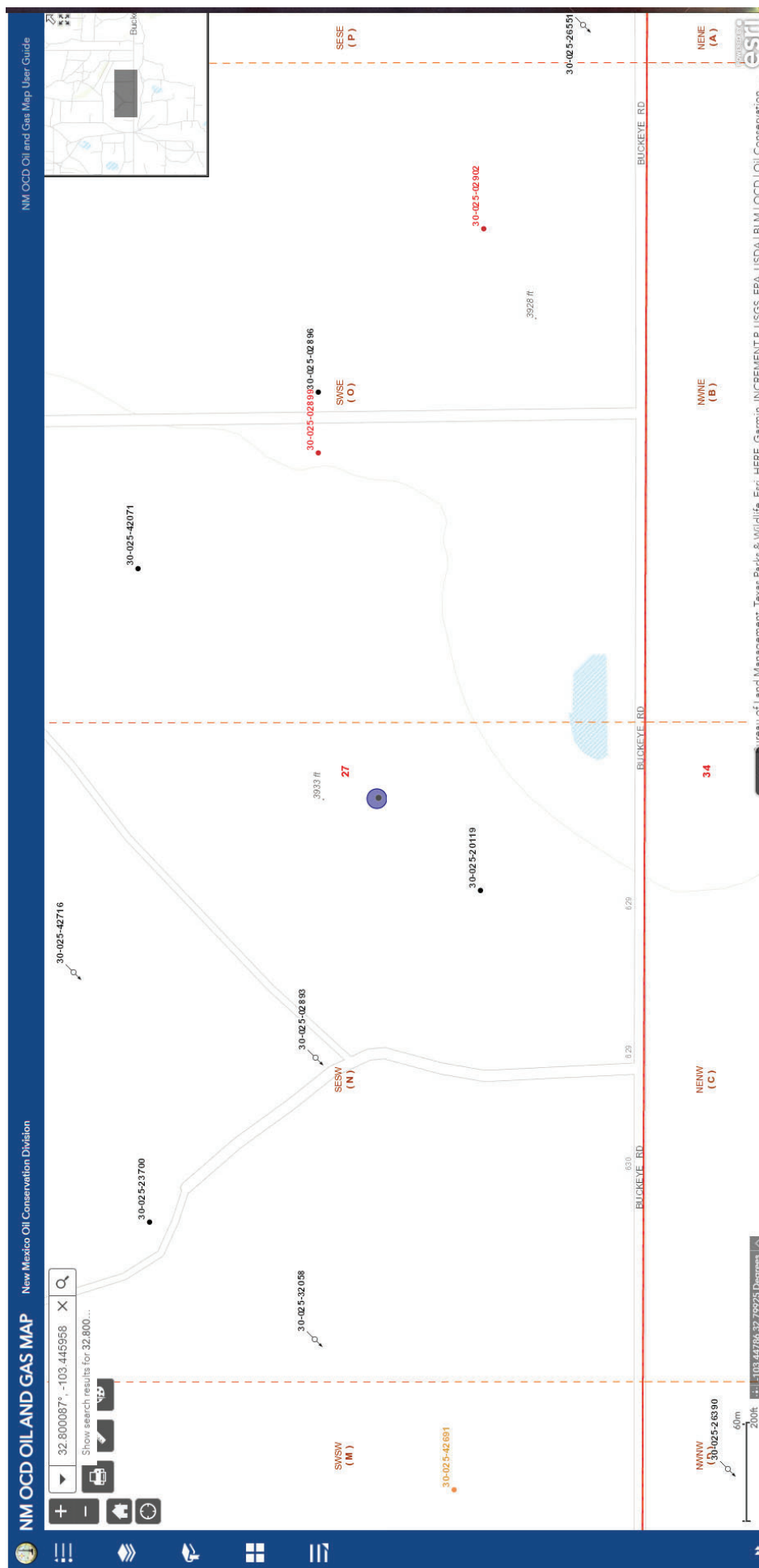
Karst Potential Map

RP-4441
VGEU East Battery

32.800087°, -103.445958
1RP-4441 VGEU East Battery

Hobbs

VGEU EAST BATTERY



APPENDIX C

Laboratory Analytical Reports



ANALYTICAL REPORT

June 10, 2020

ConocoPhillips - Tetra Tech

Sample Delivery Group: L1223768
Samples Received: 05/30/2020
Project Number: 212C-MD-01796-20
Description: Cat 2 Batch - VGEU East Battery

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

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

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.

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	6
Sr: Sample Results	7
AH-1 (0-1') L1223768-01	7
AH-1 (1-2') L1223768-02	8
AH-2 (0-1') L1223768-03	9
AH-2 (1-2') L1223768-04	10
AH-3 (0-1') L1223768-05	11
AH-3 (1-2') L1223768-06	12
AH-4 (0-1') L1223768-07	13
AH-4 (1-2') L1223768-08	14
AH-5 (0-1') L1223768-09	15
AH-5 (1-2') L1223768-10	16
AH-6 (0-1') L1223768-11	17
AH-6 (1-2') L1223768-12	18
Qc: Quality Control Summary	19
Total Solids by Method 2540 G-2011	19
Wet Chemistry by Method 9056A	21
Volatile Organic Compounds (GC) by Method 8015D/GRO	25
Volatile Organic Compounds (GC/MS) by Method 8260B	29
Semi-Volatile Organic Compounds (GC) by Method 8015	31
Gl: Glossary of Terms	33
Al: Accreditations & Locations	34
Sc: Sample Chain of Custody	35



AH-1 (0-1') L1223768-01 Solid

				Collected by Adrian	Collected date/time 05/27/20 11:00	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487086	1	06/05/20 12:55	06/05/20 13:04	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486010	1	06/02/20 22:30	06/03/20 09:43	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487005	1.01	06/02/20 15:50	06/05/20 02:52	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486432	1	06/02/20 15:50	06/03/20 13:59	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	5	06/04/20 16:25	06/09/20 16:56	TJD	Mt. Juliet, TN

1
Cp2
Tc3
Ss4
Cn

AH-1 (1-2') L1223768-02 Solid

				Collected by Adrian	Collected date/time 05/27/20 11:10	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487086	1	06/05/20 12:55	06/05/20 13:04	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486010	1	06/02/20 22:30	06/03/20 10:00	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487005	1.01	06/02/20 15:50	06/05/20 03:17	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486432	1	06/02/20 15:50	06/03/20 14:56	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	1	06/04/20 16:25	06/09/20 12:44	DMG	Mt. Juliet, TN

5
Sr6
Qc7
Gl8
Al

AH-2 (0-1') L1223768-03 Solid

				Collected by Adrian	Collected date/time 05/27/20 11:20	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487086	1	06/05/20 12:55	06/05/20 13:04	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486503	1	06/03/20 23:00	06/04/20 01:12	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487005	1.01	06/02/20 15:50	06/05/20 03:41	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486432	1	06/02/20 15:50	06/03/20 15:15	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	1	06/04/20 16:25	06/09/20 15:49	TJD	Mt. Juliet, TN

9
Sc

AH-2 (1-2') L1223768-04 Solid

				Collected by Adrian	Collected date/time 05/27/20 11:30	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487086	1	06/05/20 12:55	06/05/20 13:04	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486503	1	06/03/20 23:00	06/04/20 01:31	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487005	1	06/02/20 15:50	06/05/20 04:05	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486432	1	06/02/20 15:50	06/03/20 16:31	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	1	06/04/20 16:25	06/09/20 16:03	TJD	Mt. Juliet, TN

AH-3 (0-1') L1223768-05 Solid

				Collected by Adrian	Collected date/time 05/27/20 11:50	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487086	1	06/05/20 12:55	06/05/20 13:04	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486503	1	06/03/20 23:00	06/04/20 01:40	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1488711	1	06/02/20 15:50	06/08/20 16:18	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486581	1	06/02/20 15:50	06/03/20 21:20	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	1	06/04/20 16:25	06/09/20 16:16	TJD	Mt. Juliet, TN

AH-3 (1-2') L1223768-06 Solid

				Collected by Adrian	Collected date/time 05/27/20 12:00	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487086	1	06/05/20 12:55	06/05/20 13:04	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486503	1	06/03/20 23:00	06/04/20 01:50	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487708	1	06/02/20 15:50	06/05/20 20:06	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486581	1	06/02/20 15:50	06/03/20 21:40	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	1	06/04/20 16:25	06/09/20 16:29	TJD	Mt. Juliet, TN

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

AH-4 (0-1') L1223768-07 Solid

				Collected by Adrian	Collected date/time 05/27/20 12:10	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487086	1	06/05/20 12:55	06/05/20 13:04	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486503	1	06/03/20 23:00	06/04/20 01:59	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487243	1	06/02/20 15:50	06/05/20 02:42	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486581	1	06/02/20 15:50	06/03/20 22:00	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	1	06/04/20 16:25	06/09/20 16:43	TJD	Mt. Juliet, TN

AH-4 (1-2') L1223768-08 Solid

				Collected by Adrian	Collected date/time 05/27/20 12:20	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487091	1	06/05/20 12:43	06/05/20 12:53	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486503	1	06/03/20 23:00	06/04/20 02:09	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487243	1.01	06/02/20 15:50	06/05/20 03:02	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486581	1	06/02/20 15:50	06/03/20 22:20	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	1	06/04/20 16:25	06/09/20 17:09	TJD	Mt. Juliet, TN

AH-5 (0-1') L1223768-09 Solid

				Collected by Adrian	Collected date/time 05/27/20 13:00	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487091	1	06/05/20 12:43	06/05/20 12:53	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1486503	1	06/03/20 23:00	06/04/20 02:56	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487243	1.01	06/02/20 15:50	06/05/20 03:23	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486581	1	06/02/20 15:50	06/03/20 22:40	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1488233	1	06/04/20 16:25	06/09/20 17:36	TJD	Mt. Juliet, TN

AH-5 (1-2') L1223768-10 Solid

				Collected by Adrian	Collected date/time 05/27/20 13:10	Received date/time 05/30/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487091	1	06/05/20 12:43	06/05/20 12:53	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1487388	1	06/04/20 19:00	06/04/20 21:55	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487243	1	06/02/20 15:50	06/05/20 03:44	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486581	1	06/02/20 15:50	06/03/20 23:00	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1487207	1	06/05/20 10:28	06/07/20 17:22	JN	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1487207	1	06/05/20 10:28	06/08/20 19:32	DMG	Mt. Juliet, TN

AH-6 (0-1') L1223768-11 Solid

Collected by
Adrian

Collected date/time
05/27/20 14:00

Received date/time
05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487091	1	06/05/20 12:43	06/05/20 12:53	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1487774	1	06/08/20 10:00	06/08/20 11:32	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487243	1	06/02/20 15:50	06/05/20 04:04	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486581	1.01	06/02/20 15:50	06/03/20 23:20	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1487207	10	06/05/20 10:28	06/07/20 18:32	JN	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1487207	10	06/05/20 10:28	06/08/20 20:38	DMG	Mt. Juliet, TN

AH-6 (1-2') L1223768-12 Solid

Collected by
Adrian

Collected date/time
05/27/20 14:10

Received date/time
05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1487091	1	06/05/20 12:43	06/05/20 12:53	MT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1487774	1	06/08/20 10:00	06/08/20 12:38	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1487243	1.01	06/02/20 15:50	06/05/20 04:25	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1486581	1	06/02/20 15:50	06/03/20 23:39	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1487207	1	06/05/20 10:28	06/07/20 19:40	JN	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1487207	1	06/05/20 10:28	06/08/20 21:45	DMG	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

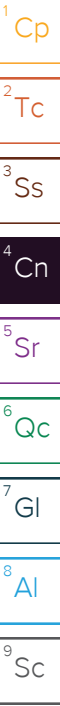
8Al

9Sc

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



Collected date/time: 05/27/20 11:00

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.2		1	06/05/2020 13:04	WG1487086

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	27.3		9.56	20.8	1	06/03/2020 09:43	WG1486010

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

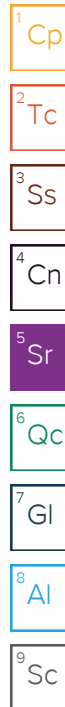
Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0228	0.105	1.01	06/05/2020 02:52	WG1487005
(S) a,a,a-Trifluorotoluene(FID)	95.8			77.0-120		06/05/2020 02:52	WG1487005

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000485	0.00104	1	06/03/2020 13:59	WG1486432
Toluene	U		0.00135	0.00520	1	06/03/2020 13:59	WG1486432
Ethylbenzene	U		0.000766	0.00260	1	06/03/2020 13:59	WG1486432
Total Xylenes	0.00133	J	0.000915	0.00676	1	06/03/2020 13:59	WG1486432
(S) Toluene-d8	105			75.0-131		06/03/2020 13:59	WG1486432
(S) 4-Bromofluorobenzene	92.8			67.0-138		06/03/2020 13:59	WG1486432
(S) 1,2-Dichloroethane-d4	105			70.0-130		06/03/2020 13:59	WG1486432

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	11.9	B J	8.37	20.8	5	06/09/2020 16:56	WG1488233
C28-C40 Oil Range	71.4	B	1.42	20.8	5	06/09/2020 16:56	WG1488233
(S) o-Terphenyl	82.1			18.0-148		06/09/2020 16:56	WG1488233



Collected date/time: 05/27/20 11:10

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.6		1	06/05/2020 13:04	WG1487086

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	57.3		9.83	21.4	1	06/03/2020 10:00	WG1486010

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0234	0.108	1.01	06/05/2020 03:17	WG1487005
(S) a,a,a-Trifluorotoluene(FID)	95.9			77.0-120		06/05/2020 03:17	WG1487005

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000499	0.00107	1	06/03/2020 14:56	WG1486432
Toluene	U		0.00139	0.00534	1	06/03/2020 14:56	WG1486432
Ethylbenzene	U		0.000788	0.00267	1	06/03/2020 14:56	WG1486432
Total Xylenes	0.00119	J	0.000940	0.00695	1	06/03/2020 14:56	WG1486432
(S) Toluene-d8	107			75.0-131		06/03/2020 14:56	WG1486432
(S) 4-Bromofluorobenzene	93.8			67.0-138		06/03/2020 14:56	WG1486432
(S) 1,2-Dichloroethane-d4	106			70.0-130		06/03/2020 14:56	WG1486432

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	5.03	B	1.72	4.27	1	06/09/2020 12:44	WG1488233
C28-C40 Oil Range	8.07	B	0.293	4.27	1	06/09/2020 12:44	WG1488233
(S) o-Terphenyl	80.9			18.0-148		06/09/2020 12:44	WG1488233

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 05/27/20 11:20

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.7		1	06/05/2020 13:04	WG1487086

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	775		9.33	20.3	1	06/04/2020 01:12	WG1486503

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

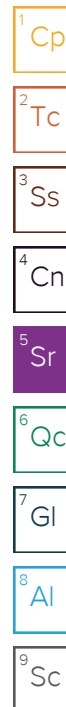
Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0222	0.102	1.01	06/05/2020 03:41	WG1487005
(S) a,a,a-Trifluorotoluene(FID)	95.7			77.0-120		06/05/2020 03:41	WG1487005

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000473	0.00101	1	06/03/2020 15:15	WG1486432
Toluene	U		0.00132	0.00507	1	06/03/2020 15:15	WG1486432
Ethylbenzene	U		0.000747	0.00253	1	06/03/2020 15:15	WG1486432
Total Xylenes	U		0.000892	0.00659	1	06/03/2020 15:15	WG1486432
(S) Toluene-d8	104			75.0-131		06/03/2020 15:15	WG1486432
(S) 4-Bromofluorobenzene	93.6			67.0-138		06/03/2020 15:15	WG1486432
(S) 1,2-Dichloroethane-d4	106			70.0-130		06/03/2020 15:15	WG1486432

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.89	B	1.63	4.05	1	06/09/2020 15:49	WG1488233
C28-C40 Oil Range	6.77	B	0.278	4.05	1	06/09/2020 15:49	WG1488233
(S) o-Terphenyl	92.7			18.0-148		06/09/2020 15:49	WG1488233



Collected date/time: 05/27/20 11:30

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.9		1	06/05/2020 13:04	WG1487086

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	946		10.5	22.8	1	06/04/2020 01:31	WG1486503

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

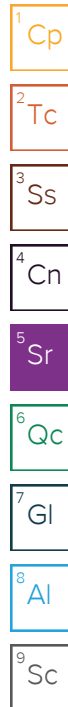
Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0247	0.114	1	06/05/2020 04:05	WG1487005
(S) a,a,a-Trifluorotoluene(FID)	95.6			77.0-120		06/05/2020 04:05	WG1487005

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000540	J	0.000531	0.00114	1	06/03/2020 16:31	WG1486432
Toluene	U		0.00148	0.00569	1	06/03/2020 16:31	WG1486432
Ethylbenzene	U		0.000839	0.00284	1	06/03/2020 16:31	WG1486432
Total Xylenes	U		0.00100	0.00740	1	06/03/2020 16:31	WG1486432
(S) Toluene-d8	100			75.0-131		06/03/2020 16:31	WG1486432
(S) 4-Bromofluorobenzene	97.1			67.0-138		06/03/2020 16:31	WG1486432
(S) 1,2-Dichloroethane-d4	103			70.0-130		06/03/2020 16:31	WG1486432

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	5.78	B	1.83	4.55	1	06/09/2020 16:03	WG1488233
C28-C40 Oil Range	10.1	B	0.312	4.55	1	06/09/2020 16:03	WG1488233
(S) o-Terphenyl	70.7			18.0-148		06/09/2020 16:03	WG1488233



Collected date/time: 05/27/20 11:50

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.9		1	06/05/2020 13:04	WG1487086

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	12.7	J	9.30	20.2	1	06/04/2020 01:40	WG1486503

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0219	0.101	1	06/08/2020 16:18	WG1488711
(S) a,a,a-Trifluorotoluene(FID)	103			77.0-120		06/08/2020 16:18	WG1488711

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000472	0.00101	1	06/03/2020 21:20	WG1486581
Toluene	U		0.00131	0.00506	1	06/03/2020 21:20	WG1486581
Ethylbenzene	U		0.000745	0.00253	1	06/03/2020 21:20	WG1486581
Total Xylenes	U		0.000890	0.00657	1	06/03/2020 21:20	WG1486581
(S) Toluene-d8	111			75.0-131		06/03/2020 21:20	WG1486581
(S) 4-Bromofluorobenzene	104			67.0-138		06/03/2020 21:20	WG1486581
(S) 1,2-Dichloroethane-d4	88.9			70.0-130		06/03/2020 21:20	WG1486581

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	13.3	B	1.63	4.05	1	06/09/2020 16:16	WG1488233
C28-C40 Oil Range	24.6		0.277	4.05	1	06/09/2020 16:16	WG1488233
(S) o-Terphenyl	97.9			18.0-148		06/09/2020 16:16	WG1488233

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.6		1	06/05/2020 13:04	WG1487086

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.72	21.1	1	06/04/2020 01:50	WG1486503

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0549	B J	0.0229	0.106	1	06/05/2020 20:06	WG1487708
(S) a,a,a-Trifluorotoluene(FID)	91.4			77.0-120		06/05/2020 20:06	WG1487708

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000493	0.00106	1	06/03/2020 21:40	WG1486581
Toluene	U		0.00137	0.00528	1	06/03/2020 21:40	WG1486581
Ethylbenzene	U		0.000779	0.00264	1	06/03/2020 21:40	WG1486581
Total Xylenes	U		0.000930	0.00687	1	06/03/2020 21:40	WG1486581
(S) Toluene-d8	109			75.0-131		06/03/2020 21:40	WG1486581
(S) 4-Bromofluorobenzene	103			67.0-138		06/03/2020 21:40	WG1486581
(S) 1,2-Dichloroethane-d4	100			70.0-130		06/03/2020 21:40	WG1486581

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	8.95	B	1.70	4.23	1	06/09/2020 16:29	WG1488233
C28-C40 Oil Range	15.0	B	0.290	4.23	1	06/09/2020 16:29	WG1488233
(S) o-Terphenyl	74.7			18.0-148		06/09/2020 16:29	WG1488233

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

Collected date/time: 05/27/20 12:10

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.8		1	06/05/2020 13:04	WG1487086

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Chloride	24.6		9.60	20.9	1	06/04/2020 01:59	WG1486503

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0226	0.104	1	06/05/2020 02:42	WG1487243
(S) a,a,a-Trifluorotoluene(FID)	87.9			77.0-120		06/05/2020 02:42	WG1487243

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Benzene	U		0.000487	0.00104	1	06/03/2020 22:00	WG1486581
Toluene	U		0.00136	0.00522	1	06/03/2020 22:00	WG1486581
Ethylbenzene	U		0.000769	0.00261	1	06/03/2020 22:00	WG1486581
Total Xylenes	U		0.000918	0.00678	1	06/03/2020 22:00	WG1486581
(S) Toluene-d8	111			75.0-131		06/03/2020 22:00	WG1486581
(S) 4-Bromofluorobenzene	102			67.0-138		06/03/2020 22:00	WG1486581
(S) 1,2-Dichloroethane-d4	94.4			70.0-130		06/03/2020 22:00	WG1486581

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	4.40	B	1.68	4.17	1	06/09/2020 16:43	WG1488233
C28-C40 Oil Range	6.46	B	0.286	4.17	1	06/09/2020 16:43	WG1488233
(S) o-Terphenyl	87.5			18.0-148		06/09/2020 16:43	WG1488233

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

Collected date/time: 05/27/20 12:20

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	99.1		1	06/05/2020 12:53	WG1487091

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	13.4	J	9.28	20.2	1	06/04/2020 02:09	WG1486503

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0221	0.102	1.01	06/05/2020 03:02	WG1487243
(S) a,a,a-Trifluorotoluene(FID)	87.6			77.0-120		06/05/2020 03:02	WG1487243

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000471	0.00101	1	06/03/2020 22:20	WG1486581
Toluene	U		0.00131	0.00504	1	06/03/2020 22:20	WG1486581
Ethylbenzene	U		0.000744	0.00252	1	06/03/2020 22:20	WG1486581
Total Xylenes	U		0.000888	0.00656	1	06/03/2020 22:20	WG1486581
(S) Toluene-d8	110			75.0-131		06/03/2020 22:20	WG1486581
(S) 4-Bromofluorobenzene	103			67.0-138		06/03/2020 22:20	WG1486581
(S) 1,2-Dichloroethane-d4	94.6			70.0-130		06/03/2020 22:20	WG1486581

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	11.3	B	1.62	4.04	1	06/09/2020 17:09	WG1488233
C28-C40 Oil Range	18.9	B	0.276	4.04	1	06/09/2020 17:09	WG1488233
(S) o-Terphenyl	88.2			18.0-148		06/09/2020 17:09	WG1488233

Collected date/time: 05/27/20 13:00

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	98.4		1	06/05/2020 12:53	WG1487091

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		9.35	20.3	1	06/04/2020 02:56	WG1486503

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0845	<u>J</u>	0.0223	0.103	1.01	06/05/2020 03:23	WG1487243
(S) a,a,a-Trifluorotoluene(FID)	83.9			77.0-120		06/05/2020 03:23	WG1487243

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000475	0.00102	1	06/03/2020 22:40	WG1486581
Toluene	U		0.00132	0.00508	1	06/03/2020 22:40	WG1486581
Ethylbenzene	U		0.000749	0.00254	1	06/03/2020 22:40	WG1486581
Total Xylenes	U		0.000894	0.00661	1	06/03/2020 22:40	WG1486581
(S) Toluene-d8	113			75.0-131		06/03/2020 22:40	WG1486581
(S) 4-Bromofluorobenzene	106			67.0-138		06/03/2020 22:40	WG1486581
(S) 1,2-Dichloroethane-d4	99.9			70.0-130		06/03/2020 22:40	WG1486581

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	10.3	<u>B</u>	1.64	4.07	1	06/09/2020 17:36	WG1488233
C28-C40 Oil Range	28.4		0.278	4.07	1	06/09/2020 17:36	WG1488233
(S) o-Terphenyl	85.8			18.0-148		06/09/2020 17:36	WG1488233

Collected date/time: 05/27/20 13:10

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.9		1	06/05/2020 12:53	WG1487091

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	59.5		9.90	21.5	1	06/04/2020 21:55	WG1487388

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0234	0.108	1	06/05/2020 03:44	WG1487243
(S) a,a,a-Trifluorotoluene(FID)	87.4			77.0-120		06/05/2020 03:44	WG1487243

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000503	0.00108	1	06/03/2020 23:00	WG1486581
Toluene	U		0.00140	0.00538	1	06/03/2020 23:00	WG1486581
Ethylbenzene	U		0.000793	0.00269	1	06/03/2020 23:00	WG1486581
Total Xylenes	U		0.000947	0.00700	1	06/03/2020 23:00	WG1486581
(S) Toluene-d8	111			75.0-131		06/03/2020 23:00	WG1486581
(S) 4-Bromofluorobenzene	105			67.0-138		06/03/2020 23:00	WG1486581
(S) 1,2-Dichloroethane-d4	96.9			70.0-130		06/03/2020 23:00	WG1486581

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	4.04	<u>J</u>	1.73	4.31	1	06/08/2020 19:32	WG1487207
C28-C40 Oil Range	10.7	<u>B</u>	0.295	4.31	1	06/07/2020 17:22	WG1487207
(S) o-Terphenyl	83.0			18.0-148		06/08/2020 19:32	WG1487207
(S) o-Terphenyl	97.6			18.0-148		06/07/2020 17:22	WG1487207

Collected date/time: 05/27/20 14:00

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.6		1	06/05/2020 12:53	WG1487091

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	10.1	J P1	9.83	21.4	1	06/08/2020 11:32	WG1487774

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.232		0.0232	0.107	1	06/05/2020 04:04	WG1487243
(S) a,a,a-Trifluorotoluene(FID)	79.0			77.0-120		06/05/2020 04:04	WG1487243

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000505	0.00108	1.01	06/03/2020 23:20	WG1486581
Toluene	U		0.00140	0.00540	1.01	06/03/2020 23:20	WG1486581
Ethylbenzene	U		0.000795	0.00270	1.01	06/03/2020 23:20	WG1486581
Total Xylenes	U		0.000950	0.00701	1.01	06/03/2020 23:20	WG1486581
(S) Toluene-d8	111			75.0-131		06/03/2020 23:20	WG1486581
(S) 4-Bromofluorobenzene	105			67.0-138		06/03/2020 23:20	WG1486581
(S) 1,2-Dichloroethane-d4	100			70.0-130		06/03/2020 23:20	WG1486581

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	107		17.2	42.8	10	06/08/2020 20:38	WG1487207
C28-C40 Oil Range	320		2.93	42.8	10	06/07/2020 18:32	WG1487207
(S) o-Terphenyl	139			18.0-148		06/07/2020 18:32	WG1487207
(S) o-Terphenyl	129			18.0-148		06/08/2020 20:38	WG1487207

Collected date/time: 05/27/20 14:10

L1223768

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.5		1	06/05/2020 12:53	WG1487091

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	12.2	J	10.1	21.9	1	06/08/2020 12:38	WG1487774

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	0.201		0.0239	0.110	1.01	06/05/2020 04:25	WG1487243
(S) a,a,a-Trifluorotoluene(FID)	81.3			77.0-120		06/05/2020 04:25	WG1487243

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		0.000511	0.00109	1	06/03/2020 23:39	WG1486581
Toluene	U		0.00142	0.00547	1	06/03/2020 23:39	WG1486581
Ethylbenzene	U		0.000806	0.00273	1	06/03/2020 23:39	WG1486581
Total Xylenes	U		0.000962	0.00711	1	06/03/2020 23:39	WG1486581
(S) Toluene-d8	113			75.0-131		06/03/2020 23:39	WG1486581
(S) 4-Bromofluorobenzene	102			67.0-138		06/03/2020 23:39	WG1486581
(S) 1,2-Dichloroethane-d4	87.5			70.0-130		06/03/2020 23:39	WG1486581

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	37.1		1.76	4.37	1	06/08/2020 21:45	WG1487207
C28-C40 Oil Range	81.0		0.300	4.37	1	06/07/2020 19:40	WG1487207
(S) o-Terphenyl	87.2			18.0-148		06/07/2020 19:40	WG1487207
(S) o-Terphenyl	85.8			18.0-148		06/08/2020 21:45	WG1487207

(MB) R3535747-1 06/05/20 13:04					
Analyte	MB Result	MB Qualifier	MB MDL	MB RDL	
Total Solids	%		%	%	
	0.000				

(OS) L1223768-01 06/05/20 13:04 • (DUP) R3535747-3 06/05/20 13:04					
L1223768-01 Original Sample (OS) • Duplicate (DUP)					
Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RPD Limits
Total Solids	%	%		%	%
	96.2	96.4	1	0.254	10

Laboratory Control Sample (LCS)					
(LCS) R3535747-2 06/05/20 13:04					
Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Total Solids	%	%	%	%	
	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3535745-1 06/05/20 12:53

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

L1223768-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1223768-08 06/05/20 12:53 • (DUP) R3535745-3 06/05/20 12:53

Analyte	Original Result		DUP Result		DUP RPD		DUP RPD Limits	
	%		%		%		%	
Total Solids	99.1		99.3	1	0.157		10	

Laboratory Control Sample (LCS)

(LCS) R3535745-2 06/05/20 12:53

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) R3534486-1 06/03/20 01:30

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

L1223523-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1223523-08 06/03/20 02:24 • (DUP) R3534486-3 06/03/20 02:40

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1320	1350	5	2.47		15

L1223768-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1223768-02 06/03/20 10:00 • (DUP) R3534486-6 06/03/20 10:17

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	57.3	54.7	1	4.48		15

Laboratory Control Sample (LCS)

(LCS) R3534486-2 06/03/20 01:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	205	103	80.0-120	

L1223523-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223523-14 06/03/20 04:22 • (MS) R3534486-4 06/03/20 05:13 • (MSD) R3534486-5 06/03/20 05:30

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MS Rec. %	MSD Result (dry) mg/kg	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	516	1850	2410	110	2300	88.1	1	80.0-120	E	E	4.81	15

Method Blank (MB)

(MB) R3534873-1 06/04/20 00:29

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

L1223768-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1223768-03 06/04/20 01:12 • (DUP) R3534873-3 06/04/20 01:21

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	775	746	1	3.86		15

L1224474-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1224474-03 06/04/20 03:25 • (DUP) R3534873-6 06/04/20 03:34

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12.1	9.65	1	22.8	J P1	15

Laboratory Control Sample (LCS)

(LCS) R3534873-2 06/04/20 00:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	191	95.5	80.0-120	

L1223768-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223768-08 06/04/20 02:09 • (MS) R3534873-4 06/04/20 02:18 • (MSD) R3534873-5 06/04/20 02:47

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	504	13.4	511	507	98.7	97.8	1	80.0-120		0.864		15

Method Blank (MB)

(MB) R3535355-1 06/04/20 20:57

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

L1223768-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1223768-10 06/04/20 21:55 • (DUP) R3535355-3 06/04/20 22:04

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	59.5	56.8	1	4.62		15

L1225244-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1225244-19 06/05/20 02:11 • (DUP) R3535355-6 06/05/20 02:20

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	550	480	1	13.6		15

Laboratory Control Sample (LCS)

(LCS) R3535355-2 06/04/20 21:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	196	98.2	80.0-120	

L1225244-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1225244-03 06/04/20 22:33 • (MS) R3535355-4 06/04/20 22:42 • (MSD) R3535355-5 06/04/20 22:52

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	619	3430	5420	5020	322	256	1	80.0-120	E.V	E.V	7.75	15

Method Blank (MB)

(MB) R3536238-1 06/08/20 10:54

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

L1223768-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1223768-11 06/08/20 11:32 • (DUP) R3536238-3 06/08/20 11:41

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	10.1	U	1	200	P1	15

L1224346-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1224346-01 06/08/20 15:30 • (DUP) R3536238-6 06/08/20 15:39

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		15

Laboratory Control Sample (LCS)

(LCS) R3536238-2 06/08/20 11:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	194	96.8	80.0-120	

L1223771-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223771-06 06/08/20 13:36 • (MS) R3536238-4 06/08/20 13:45 • (MSD) R3536238-5 06/08/20 13:55

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MS Rec. %	MSD Result (dry) mg/kg	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	505	97.3	611	102	609	101	1	80.0-120		0.378		15

Method Blank (MB)

(MB) R3535973-2 06/04/20 17:24					
Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg	
TPH (GC/FID) Low Fraction	U	0.0217	0.0217	0.100	
(S) a,a,α-Trifluorotoluene(FID)	95.2			77.0-120	

Laboratory Control Sample (LCS)

(LCS) R3535973-1 06/04/20 16:37					
Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.26	114	72.0-127	
(S) a,a,α-Trifluorotoluene(FID)		104		77.0-120	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3535973-3 06/05/20 04:53 • (MSD) R3535973-4 06/05/20 05:18									
Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	RPD Limits %
TPH (GC/FID) Low Fraction	1190	1200	1200	1130	102	95.4	250	10.0-151	28
(S) a,a,α-Trifluorotoluene(FID)			106	105				77.0-120	

Method Blank (MB)

(MB) R3535359-3 06/05/20 00:38					
Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg	
TPH (GC/FID) Low Fraction	U	0.0217	0.0217	0.100	
(S) a,a,a-Trifluorotoluene(FID)	92.1			77.0-120	

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

(LCS) R3535359-1 06/04/20 23:22 • (LCSD) R3535359-2 06/04/20 23:42									
Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD Limits %
	TPH (GC/FID) Low Fraction	5.50	5.28	4.94	96.0	89.8	72.0-127	6.65	20
(S) a,a,a-Trifluorotoluene(FID)		106		105		77.0-120			

1 C
2 T
3 S
4 C
5 S
6 Qc
7 GI
8 AI
9 Sc

Method Blank (MB)

(MB) R3535691-3 06/05/20 12:38

Analyte	TPH (GC/FID) Low Fraction	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction		0.0470	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)		92.8			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3535691-2 06/05/20 11:53

Analyte	TPH (GC/FID) Low Fraction	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction		5.50	4.90	89.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)				98.6	77.0-120	

1C

2T

3S

4C

5S

6Qc

7GI

8AI

9Sc

Method Blank (MB)

(MB) R3536286-3 06/08/20 14:46					
Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg	
TPH (GC/FID) Low Fraction	U	0.0217	0.0217	0.100	
(S) a,a,a-Trifluorotoluene(FID)	102			77.0-120	

Laboratory Control Sample (LCS)

(LCS) R3536286-2 06/08/20 14:04					
Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.72	104	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)		99.5	99.5	77.0-120	

1C

2T

3S

4C

5S

6Qc

7GI

8AI

9Sc

Method Blank (MB)

(MB) R3534655-3 06/03/20 12:13

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	106		75.0-131	
(S) 4-Bromofluorobenzene	96.8		67.0-138	
(S) 1,2-Dichloroethane-d4	110		70.0-130	

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

(LCS) R3534655-1 06/03/20 10:57 • (LCSD) R3534655-2 06/03/20 11:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.118	0.117	94.4	93.6	70.0-123			0.851	20
Ethylbenzene	0.125	0.110	0.110	88.0	88.0	74.0-126			0.000	20
Toluene	0.125	0.122	0.127	97.6	102	75.0-121			4.02	20
Xylenes, Total	0.375	0.333	0.343	88.8	91.5	72.0-127			2.96	20
(S) Toluene-d8				98.0	100	75.0-131				
(S) 4-Bromofluorobenzene				98.7	97.5	67.0-138				
(S) 1,2-Dichloroethane-d4				117	121	70.0-130				

Method Blank (MB)

(MB) R3534740-3 06/03/20 16:36

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	109			75.0-131
(S) 4-Bromofluorobenzene	105			67.0-138
(S) 1,2-Dichloroethane-d4	100			70.0-130

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

(LCS) R3534740-1 06/03/20 15:17 • (LCSD) R3534740-2 06/03/20 15:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.111	0.113	88.8	90.4	70.0-123		1.79	20
Ethylbenzene	0.125	0.141	0.150	113	120	74.0-126		6.19	20
Toluene	0.125	0.112	0.112	89.6	89.6	75.0-121		0.000	20
Xylenes, Total	0.375	0.370	0.379	98.7	101	72.0-127		2.40	20
(S) Toluene-d8				108	108	75.0-131			
(S) 4-Bromofluorobenzene				104	104	67.0-138			
(S) 1,2-Dichloroethane-d4				103	102	70.0-130			

L1223768-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223768-05 06/03/20 21:20 • (MS) R3534740-4 06/04/20 00:40 • (MSD) R3534740-5 06/04/20 01:00

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	RPD %	RPD Limits %
Benzene	0.125	U	0.0818	0.0886	65.2	70.6	1	10.0-149		7.95	37
Ethylbenzene	0.125	U	0.106	0.118	84.7	94.4	1	10.0-160		10.8	38
Toluene	0.125	U	0.0823	0.0908	65.6	72.4	1	10.0-156		9.81	38
Xylenes, Total	0.376	U	0.282	0.304	75.0	80.9	1	10.0-160		7.59	38
(S) Toluene-d8				111	111	75.0-131					
(S) 4-Bromofluorobenzene				106	106	67.0-138					
(S) 1,2-Dichloroethane-d4				103	103	70.0-130					

Method Blank (MB)

(MB) R3535956-1 06/07/20 16:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U	1.61	4.00	4.00
C28-C40 Oil Range	1.02	0.274	4.00	4.00
(S) o-Terphenyl	103		18.0-148	

Laboratory Control Sample (LCS)

(LCS) R3535956-2 06/07/20 17:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	60.7	121	50.0-150	
(S) o-Terphenyl		114	114	18.0-148	

Method Blank (MB)

(MB) R3536000-2 06/08/20 18:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	2.04	J	1.61	4.00
C28-C40 Oil Range	1.96	J	0.274	4.00
(S) o-Terphenyl	79.0			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3536000-3 06/08/20 18:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	51.4	103	50.0-150	
(S) o-Terphenyl			91.1	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.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

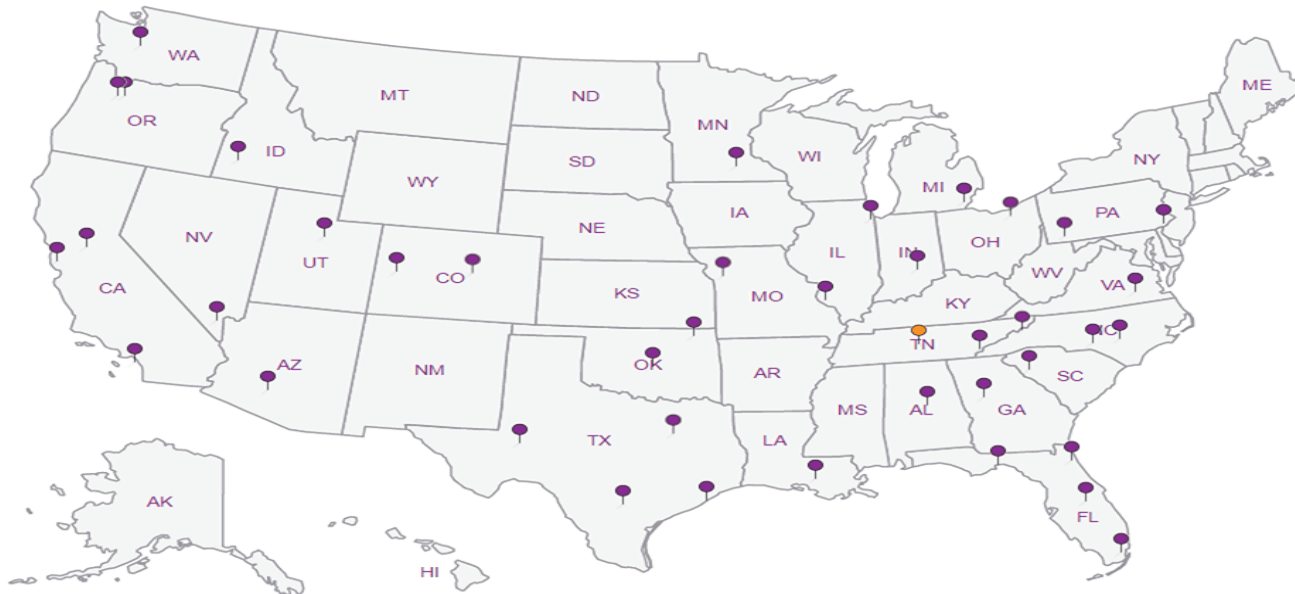
Third Party Federal Accreditations

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

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

Our Locations

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





J155

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

Christian Lull

Email: christian.llull@tetrattech.com
Phone: (512) 338-1667

Project #: 212C-MD-01796-20 Task 136

Accounts Payable
901 West Wall Street, Suite 100 Midland, Texas 79701

Sampler Signature:

Comments: COPTETRA Acctnum

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)
		YEAR: 2020		WATER	SOIL	HCL	HNO ₃	ICE	NONE		
		DATE	TIME								
01	AH-1 (0-1')	5/27/2020	1100	X				X		1	N
02	AH-1 (1-2')	5/27/2020	1110	X				X		1	N
03	AH-2 (0-1')	5/27/2020	1120	X				X		1	N
04	AH-2 (1-2')	5/27/2020	1130	X				X		1	N
05	AH-3 (0-1')	5/27/2020	1150	X				X		1	N
06	AH-3 (1-2')	5/27/2020	1200	X				X		1	N
07	AH-4 (0-1')	5/27/2020	1210	X				X		1	N
08	AH-4 (1-2')	5/27/2020	1220	X				X		1	N
09	AH-5 (0-1')	5/27/2020	1300	X				X		1	N
10	AH-5 (1-2')	5/27/2020	1310	X				X		1	N

Received by:  Date:  Time: 

Received by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____

LAB USE
ONLY

REMARKS: ☒ Standard☐ RUSH: Same Day 24 hr. 48 hr. 72 hr.☐ Rush Charges Authorized☐ Special Report Limits or TRAP Report

(Circle)	HAND DELIVERED	FEDEX	UPS	Tracking #:

ORIGINAL COPY 179030383165

2.0 ± 0.20 μ M RAD SCREEN: < 0.5 mR/hr



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:	Cat 2 Batch - VGEU East Battery	Contact Info:	Email: christian.llull@tetratech.com Phone: (512) 338-1667
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-01796-20 Task 136
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	Adrian
Comments:	COPETRA Accnum		

[illegible]

Relinquished by: 	Date: 5/29/20 Time: 14:35	Received by: 	Date: 5/29/20 Time: 14:33
Relinquished by: 	Date: 5/29/20 Time: 16:00	Received by: 	Date: 5/29/20 Time: 16:00
Relinquished by: 	Date: 5/29/20 Time: 09:00	Received by: 	Date: 5/29/20 Time: 09:00

[illegible]

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59150303165

2.0±0.2.0 ^{WM} A7

RAD SCREEN: <0.5 mB/hr

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

Action 165913

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 165913
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	1RP-4441 closed. Please refer to incident #NKL1625827670 in all future correspondence.	12/12/2022
bhall	Deferral approval until the equipment is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first. Incident will stay in "Closure Not Approved" status until final closure report is received and approved.	12/12/2022