



August 24, 2023

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

**Re: Release Characterization and Remediation Report
Maverick Permian, LLC
VGEU 02-20 West Flowline Release
Unit Letter D, Section 32, Township 17 South, Range 35 East
Lea County, New Mexico
Incident ID nRM2017856312**

Dear Sir or Madam:

Tetra Tech, Inc. was contracted by the previous site owner and operator (ConocoPhillips) to assess a petroleum release and subsequent remedial actions taken at the Flowline from Vacuum Gloriettes East Unit (VGEU) 02-20 well (Associated API No. 30-025-37850). The release footprint is located in Public Land Survey System (PLSS) Unit Letter D, Section 32, Township 17 South, and Range 35 East, Lea County, New Mexico (Site). The petroleum release is located approximately 2,800 feet west-northwest of the wellhead at coordinates 32.796421°, -103.487760°, as shown in **Figures 1 and 2**.

BACKGROUND

According to the State of New Mexico C-141 Initial Report, the release was discovered on June 16, 2020. The C-141 documentation reports that the release occurred as a result of a flowline rupture and encompasses an estimated area of 3,255 square feet. Approximately 56.48 barrels (bbls) of produced water and 14.12 bbls of oil were released. A total of 0.0 bbls of produced water and 5.0 bbls of oil were recovered during initial response activities. The New Mexico Oil Conservation District (NMOCD) received the C-141 form for the release on June 26, 2020, provided in **Attachment 1**. The New Mexico Oil Conservation District (NMOCD) assigned Incident ID nRM2017856312 to this release.

SITE CHARACTERIZATION

Tetra Tech performed a site characterization which identified no watercourses, sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains within the distances specified in 19.15.0029 New Mexico Administrative Code (NMAC). According to data available on the NM OCD Oil and Gas Map, the Site is located in an area of low karst potential.

Tetra Tech, Inc.

1500 CityWest Boulevard, Suite 1000, Houston, TX 77042
Tel +1.832.281.5160 | tetrattech.com/oga | tetrattech.com

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According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are six water wells within ½ mile (800m) of the Site. The three closest of the six water wells (L 14183 POD1, L 14183 POD2, and L 14183 POD3) have current reported depth to water levels less than 25 years old from 2016 with an average depth to groundwater of 105 feet below ground surface (bgs). The site characterization data is included in **Attachment 2**.

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 chloride in soil.

Based on the site characterization, established depth to groundwater, and in accordance with Table 1 of 19.15.29.12 NMAC, the remediation RRALs for the Site are as follows:

Remediation RRALs

Constituent	Site RRALs
Chloride	10,000 mg/kg
TPH	2,500 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

Additionally, in accordance with the New Mexico Oil Conservation District (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:

Reclamation Requirements

Constituent	Site Reclamation Requirements
Chloride	600 mg/kg
TPH	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

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INITIAL RESPONSE ACTIVITIES

In accordance with 19.15.29.8.B.(4) NMAC that states “the responsible party may commence remediation immediately after discovery of a release”, ConocoPhillips elected to begin remediation of the impacted area footprint in 2020. The initial period of the release was undefined until July 1, 2020. The release area was partially excavated to depths ranging from 2 feet bgs to 5 feet bgs. This excavated area encompasses approximately 3,000 square feet. **Figure 3** depicts the Initial Response and Assessment Approximate Release Extent and Initial Excavation Map.

INITIAL SITE ASSESSMENT SUMMARY

In order to achieve vertical and horizontal delineation of the release extents, Tetra Tech personnel mobilized to the Site and conducted soil sampling on July 1, 2020. A total of thirty-two (32) boreholes were advanced in the vicinity of the release area. Twenty-eight (28) samples (SP#1 through SP#28) were collected within the excavated release area and four (4) samples (SP #29 through SP #32) were collected outside the excavated release area. These soil samples were sent to Cardinal Laboratories in Hobbs, New Mexico to be analyzed for chloride via EPA Method SM4500Cl-B, TPH via EPA Method 9015M, and BTEX via EPA Method 8021B. Sample locations from this site assessment are shown in **Figure 4**.

Based on the analytical results associated with boring locations sampling reported all but three (3) sample locations exceeded Site RRALs for TPH, chloride, and/or BTEX. The analytical results associated with SP#17, SP#29, and SP#30 were below Site RRALs and/or reclamation requirements above 4 feet bgs. Sample results from the initial assessment are summarized in **Table 1**. Neither horizontal nor vertical delineation was achieved during the initial assessment.

ADDITIONAL SITE ASSESSMENT AND DELINEATION ACTIVITIES AND RESULTS

In order to achieve horizontal and vertical delineation of the release extent, Tetra Tech personnel conducted soil sampling from January 18, 2021, to May 25, 2021, on behalf of the former operator. Tetra Tech returned to the Site on January 18, 2021, to complete vertical and horizontal delineation of the release extent. A total of nine (9) borings (BH-1 through BH-9) were advanced in the vicinity of the release area. Three (3) borings (BH-1 through BH-3) were installed southeast of the perimeter of the release extent to depths ranging from 15 feet bgs to 30 feet bgs to determine the vertical delineation of the impacted soil. Five (5) borings (BH-4 through BH-8) were installed along the perimeter of the release extent to a depth of 10 feet bgs to determine the vertical impact of the release. Due to the inaccessibility of the drill rig, located west of the release footprint, one (1) hand auger boring (BH-9) was installed to a depth of 1.5 feet bgs to horizontally delineate to the west of the release footprint. These additional delineation boring locations are presented in **Figure 4**.

During the January 2021 assessment activities, Tetra Tech personnel observed potential historically impacted and disturbed areas in the vicinity of the release footprint. In an attempt to delineate the observed impacted area, a total of six (6) borings (BH-10 through BH-14 and BH-16) were installed around the perimeter of the

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affected area on May 14, 2021. BH-10 through BH-14 and BH-16 were installed using an air rotary drilling rig to depths ranging from 8 feet bgs to 15 feet bgs.

On May 25, 2021, seven (7) additional borings (AH-1 through AH-7) were installed within and around the potential historically impacted area using a hand auger to discern between the release footprint and the previously disturbed areas. Samples were collected at the 0-1' depth interval from borings AH-1 through AH-7 and at the 1-2' depth interval at AH-6.

A total of eighty-nine (89) samples were collected from the twenty-two (22) additional borings and submitted to Pace Analytical National Center for Testing & Innovation located in Nashville, Tennessee for analysis of BTEX via EPA Method 8021B, TPH Gasoline Range Organics (GRO), TPH Diesel Range Organics (DRO), and TPH Oil Range Organics (ORO) via EPA Method 8015M, and chloride via EPA Method 300.0.

According to the January 2021 sampling event, the analytical results associated with boring locations BH-1 (4-5' interval), BH-2 (2-5' interval), BH-3 (2-3' interval), BH-7 (0-7' interval), BH-8 (0-3' interval) and BH-9 (0-1.5' interval) either exceeded the reclamation requirement and Site RRALs for soils above 4 feet bgs. In addition, analytical results associated with BH-4 at the 9-10' interval exceeded the Site RRALs and/or reclamation requirements for TPH; however, all analytical results above the 9-foot depth interval were below Site RRALs and/or reclamation requirements. The TPH exceedances at 9 feet bgs are presumably related to an unrelated historical release based on the uncontaminated surface soil.

The analytical results associated with the May 2021 assessment activities indicated unrelated historical impact in the vicinity of the release footprint. Analytical results at BH-11 (9-10') and BH-16 (9-10') exceeded the Site RRAL for TPH, but the analyzed samples stratigraphically above 9 feet were below Site RRALs and reclamation requirements. Again, these TPH exceedances at 9 feet bgs are presumably related to an unrelated historical release, based on the uncontaminated surface soil. Analytical results associated with AH-2 were above the reclamation requirement for TPH; however, analytical results associated with boring locations between the nRM2017856312 release footprint and AH-2 (BH-11, AH-3, AH-6, and AH-7) were below the Site RRALs and/or reclamation requirements at corresponding depth intervals. Results from the January and May 2021 soil sampling events are summarized in **Tables 2** and **3**.

REMEDIATION WORK PLAN

On behalf of ConocoPhillips, the Release Characterization Work Plan (Work Plan nRM2017856312 VGEU 02-20) was prepared by Tetra Tech and submitted to New Mexico Oil Conservation District (NMOCD) on October 7, 2021, with the fee application payment PO Number AGLL5-211007-C-1410. The Work Plan described the results of the release assessment and provided site characterization details. The Work Plan was approved via email by Chad Hensley on Monday, November 15, 2021.

On December 20, 2021, via email, COP requested a 60-day extension to NMOCD for Incident ID nRM2017856312. This extension was requested to allow sufficient time to conduct additional assessment and revisions to the workplan to address and implement further conditions required by the NMOCD. The 60-day extension was

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granted via email by Chad Hensley on December 20, 2021. Regulatory correspondence concerning the initial work plan approval.

CULTURAL RESOURCES SURVEY

To comply with 1.10.15 NMAC and New Mexico State Land Office (NMSLO) requirements, Tetra Tech contracted SWCA Environmental Consultants to perform a Class III Cultural Resources Survey for the remediation area under New Mexico Cultural Resources Investigation System (NMCRIIS) Activity No. 152940. Ms. Robin Cordero of SWCA conducted the survey on May 15, 2023, which included an intensive pedestrian survey of the VGEU 02-20 remediation site and immediate vicinity covering 2.72 acres, which included a 100-ft cultural resources buffer around the location.

No archaeological sites or historic properties were observed during the current investigation. One isolated occurrence (IO), a crushed sanitary can, was recorded as IO 1 during the survey. No additional investigation or treatment is recommended regarding the current undertaking. No subsurface cultural materials were encountered during remediation. The cover page from the Class III Cultural Resources Survey is included in **Attachment 4**.

REMEDICATION AND CONFIRMATION SAMPLING

Based on the soil assessment and delineation results for the release and the approved remediation work plan, excavation activities commenced on June 20, 2023, and backfilling was completed on July 24, 2023. Maverick's subcontractor, SDR Enterprises, used heavy equipment to excavate a total of 1,500 cubic yards of impacted soil from the release footprint shown in **Figure 5**. Excavations were completed to a maximum depth of 10 feet below grade surface with portions of excavation completed to 2.0 feet, 2.5 feet, 4.5 feet, 5.0 feet, and 7.5 feet bgs, as shown in **Figure 6**. To avoid any potential contact with pressurized lines that could be damaged by heavy equipment, the minimum approach distance was implemented at a distance of at least 2 feet from any pressurized lines. Hydro excavation and hand digging were utilized to excavate soil within two (2) feet of any active underground lines to safely conduct remediation activities. Excavated soils were transported offsite for disposal at R360, in Hobbs, New Mexico.

Upon reaching the final lateral and vertical excavation extents, 43 confirmation samples were collected, including 17 from the floors and 23 from the side walls of the excavated areas, in accordance with the NMOCD-approved Remediation Workplan. Confirmation samples were submitted to Cardinal Laboratory in Hobbs, NM for analysis of chloride (SM4500 CL-B), TPH (8015M), and BTEX (8021B). In several instances initial sidewall confirmation sample results reported chloride or TPH at concentrations greater than Reclamation Requirements. In these instances, the excavation was laterally expanded and confirmation samples were collected and submitted for analysis until chloride, TPH, and BTEX concentrations were reported as less than Reclamation Requirements. Final confirmation sample locations are depicted in **Figure 6**.

Laboratory analytical results for submitted confirmation samples reported chloride, TPH, and BTEX concentrations as less than respective Reclamation Requirements or RRALs for all samples. Subsequent to the

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receipt of final confirmation sampling results, Between July 24 and 23, 2023 SDR completed backfilling of the excavated areas with 1,680 CY of clean topsoil obtained from the Bob McCasland pit and trucked to the Site.

Upon completion of backfilling, the surface was seeded with NMSLO Sandy Loam (SL) Sites Seed Mixture. Soil classification for the Site was obtained from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Resource Report for Lea County New Mexico. The USDA NRCS Soil Resources Report and NMSLO seed mix are provided in **Attachment 5**.

Confirmation sampling results are summarized in **Tables 4 and 5** and laboratory analytical data packages including chain of custody documentation are included in **Attachment 3**. Photographic Documentation showing the excavated areas and final grading after backfilling is provided in **Attachment 6**.

CONCLUSIONS

Based on the results of the confirmation sampling, the impacted soil within the release footprint with BTEX, TPH, or chloride at concentrations greater than Reclamation Requirements or RRALs, as applicable, has been removed and properly disposed of. The Site remediation has been completed, the excavations have been backfilled with clean material, and the surface has been graded back to match the surrounding topography. The disturbed areas resulting from remediation have been seeded for vegetation growth and reclamation completion. If you have any questions concerning the remediation activities for the Site, please call me at (832) 255-2093.

Sincerely,



Britton Mosley, Jr., M.S.E.M, P.M.P., R.E.P.
Environmental Project Manager
Tetra Tech, Inc.



Charles H. Terhune IV, P.G.
Program Manager
Tetra Tech, Inc.

Cc:

Mr. Bryce Wagoner – Maverick Natural Resources
New Mexico State Land Office

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LIST OF ATTACHMENTS

Figures

- Figure 1 – Overview Map
- Figure 2 – Site Location/Topographic Map
- Figure 3 – Initial Response and Assessment
- Figure 4 – Additional Assessment
- Figure 5 – Additional Delineation Locations
- Figure 6 – Remediation Extent and Confirmation Sample Locations

Tables

- Table 1 – Summary of Soil Analytical Results – Initial Soil Assessment Sampling
- Table 2 – Summary of Soil Analytical Results – Soil Assessment Sampling
- Table 3 – Summary of Soil Analytical Results – Additional Soil Delineation Sampling
- Table 4 – Summary of Soil Analytical Results – Soil Shallow Confirmation Sampling
- Table 5 – Summary of Soil Analytical Results – Soil Deep Confirmation Sampling

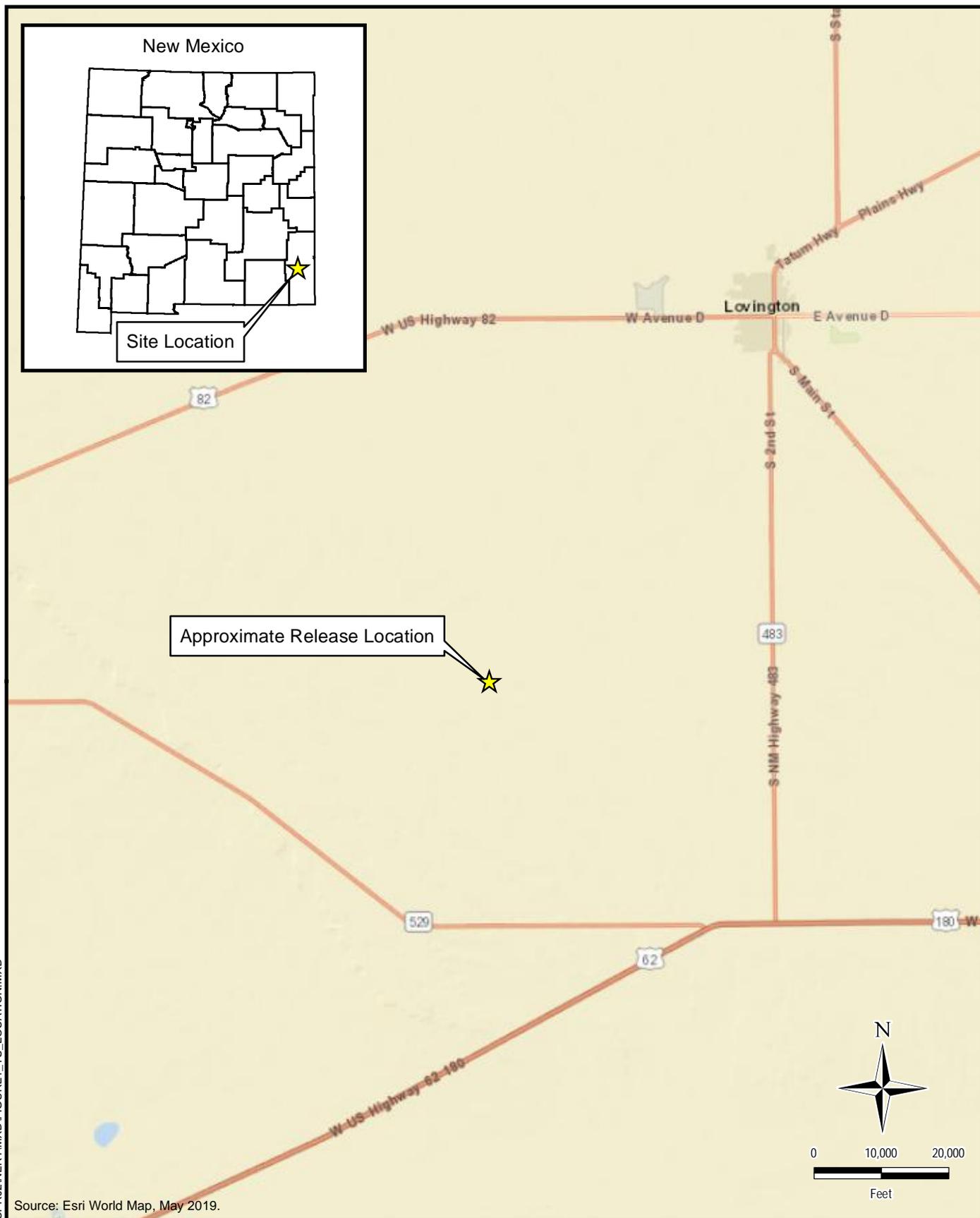
Appendices

- Attachment 1 – C-141 Form
- Attachment 2 – Site Characterization Data
- Attachment 3 – Laboratory Analytical Data
- Attachment 4 – Class III Cultural Resources Survey cover page
- Attachment 5 – NMSLO Seed Mixture Details
- Attachment 6 – Photographic Documentation

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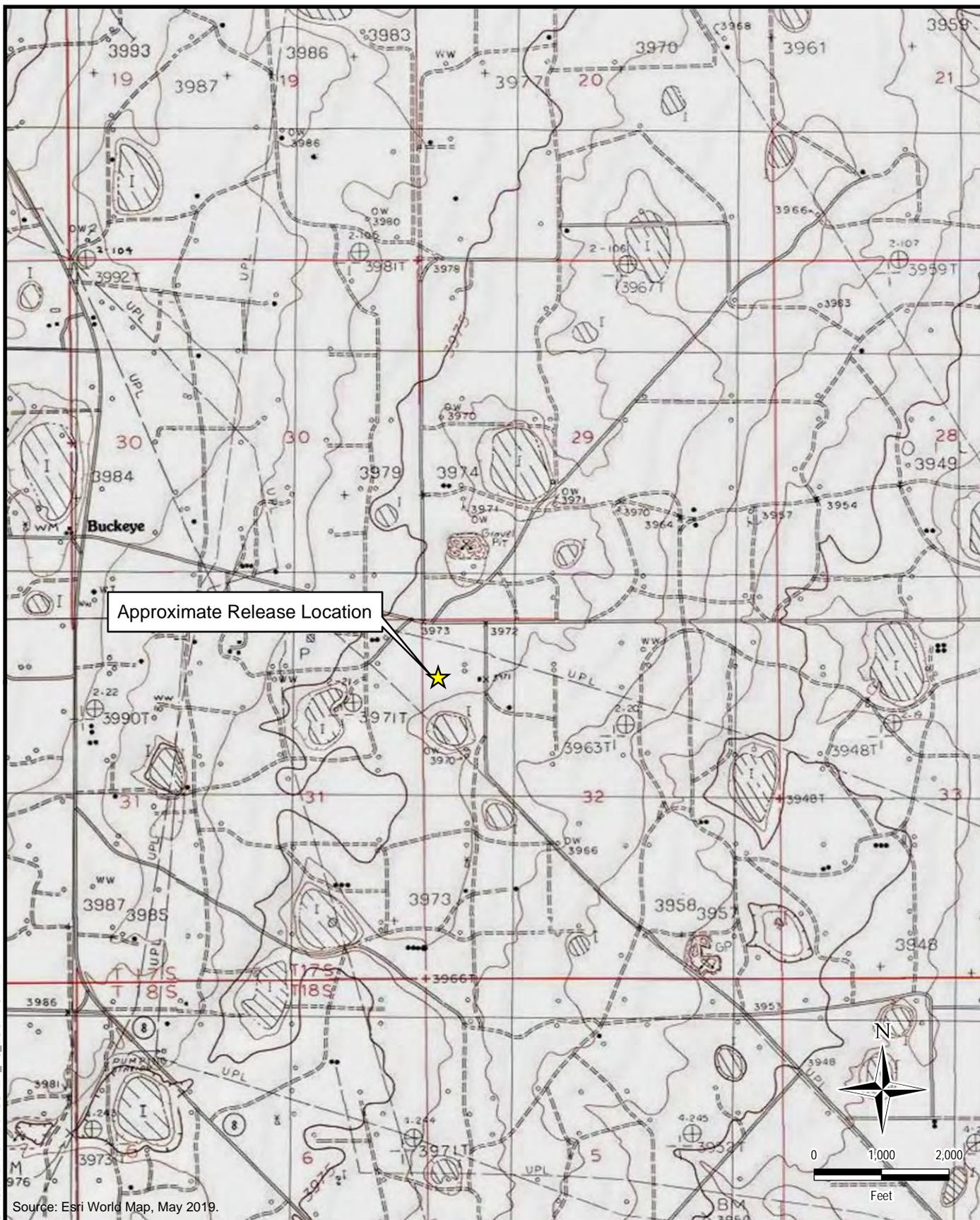
FIGURES



\\N\TS134\FS1\UP-GIS\ARCP\J2\NERT\MXDFIGURE1_TS_LOCATION.MXD

Source: Esri World Map, May 2019.

 www.tetratech.com 901 West Wall Street, Suite 100 Midland, Texas 79701 Phone: (432) 682-4559 Fax: (432) 682-3946	CONOCOPHILLIPS NRM2017856312 (32.796085°, -103.485063°) LEA COUNTY, NEW MEXICO	PROJECT NO.: 212C-MD-03070 DATE: MARCH 26, 2021 DESIGNED BY: AAM
	VGEU 02-20 WEST FLOWLINE RELEASE OVERVIEW MAP	Figure No. 1



\\TTS134FS1\sup-gis\arcp\j2\NERT\MXD\FIGURE1_TS_LOCATION.MXD

Source: Esri World Map, May 2019.



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CONOCOPHILLIPS

NRM2017856312
 (32.796085°, -103.485063°)
 LEA COUNTY, NEW MEXICO

**VGEU 02-20 WEST FLOWLINE RELEASE
 TOPOGRAPHIC MAP**

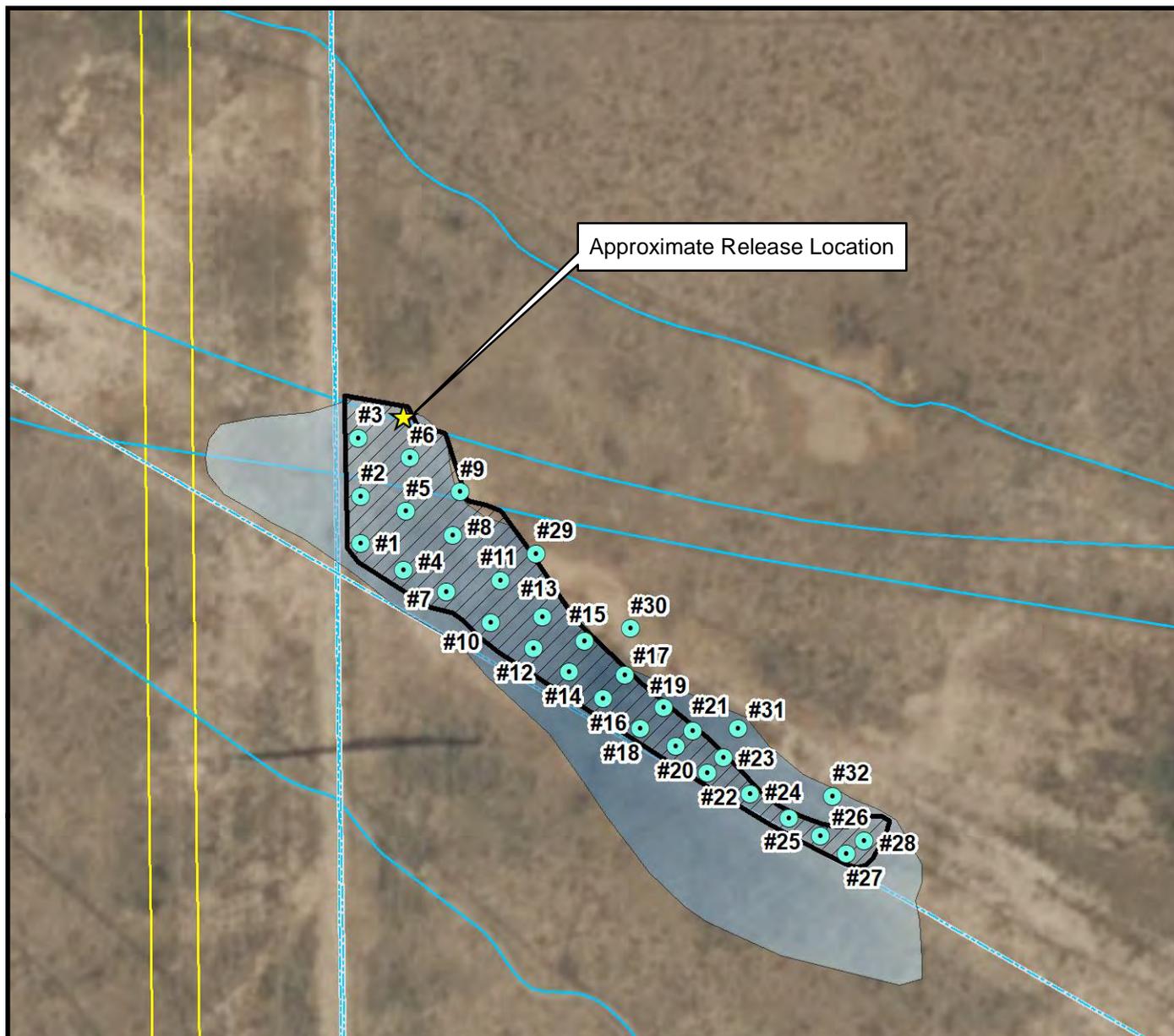
PROJECT NO.: 212C-MD-03070

DATE: MARCH 26, 2021

DESIGNED BY: AAM

Figure No.

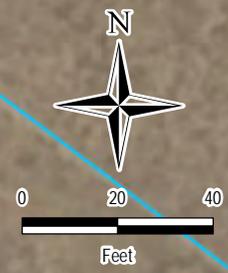
2



Legend

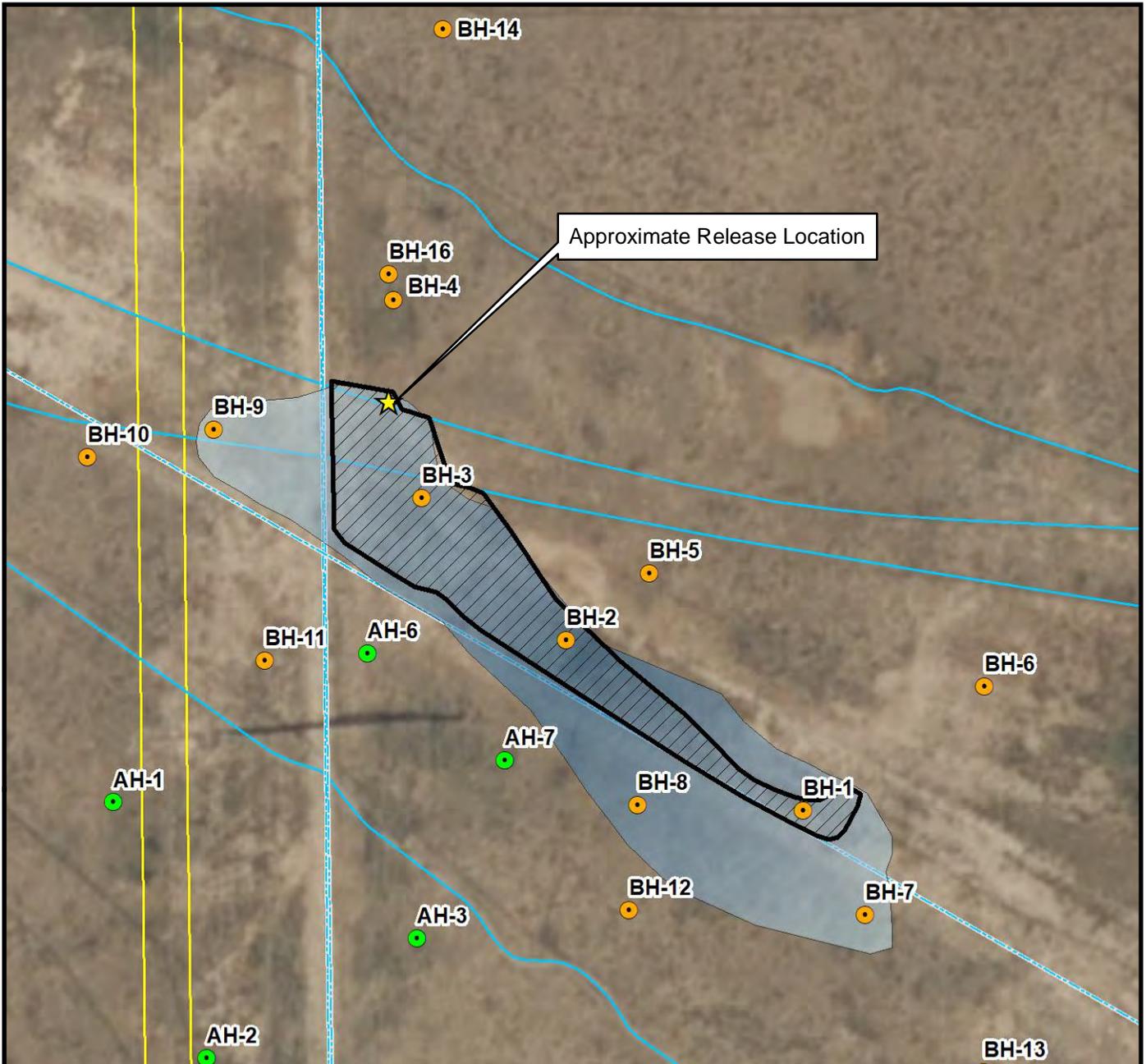
- COP Sample Location
- ▨ Initial Response Excavation Extent
- Approximate Release Extent
- Flowline
- Powerline
- Subsurface Pipeline

BGS - Below Ground Surface
Source: Esri World Map, May 2019.



\\TTS134F51\SUP-GIS\ARCP\2\NERT\MXD\FIGURE1_TS_LOCATION.MXD

 <p>www.tetrattech.com 901 West Wall Street, Suite 100 Midland, Texas 79701 Phone: (432) 682-4559 Fax: (432) 682-3946</p>	<p>CONOCOPHILLIPS</p> <p>NRM2017856312 (32.796085°, -103.485063°) LEA COUNTY, NEW MEXICO</p>	<p>PROJECT NO.: 212C-MD-03070</p> <p>DATE: OCTOBER 05, 2021</p> <p>DESIGNED BY: AAM</p>
	<p>VGEU 02-20 WEST FLOWLINE RELEASE INITIAL RESPONSE AND ASSESSMENT</p>	
	<p>Figure No. 3</p>	



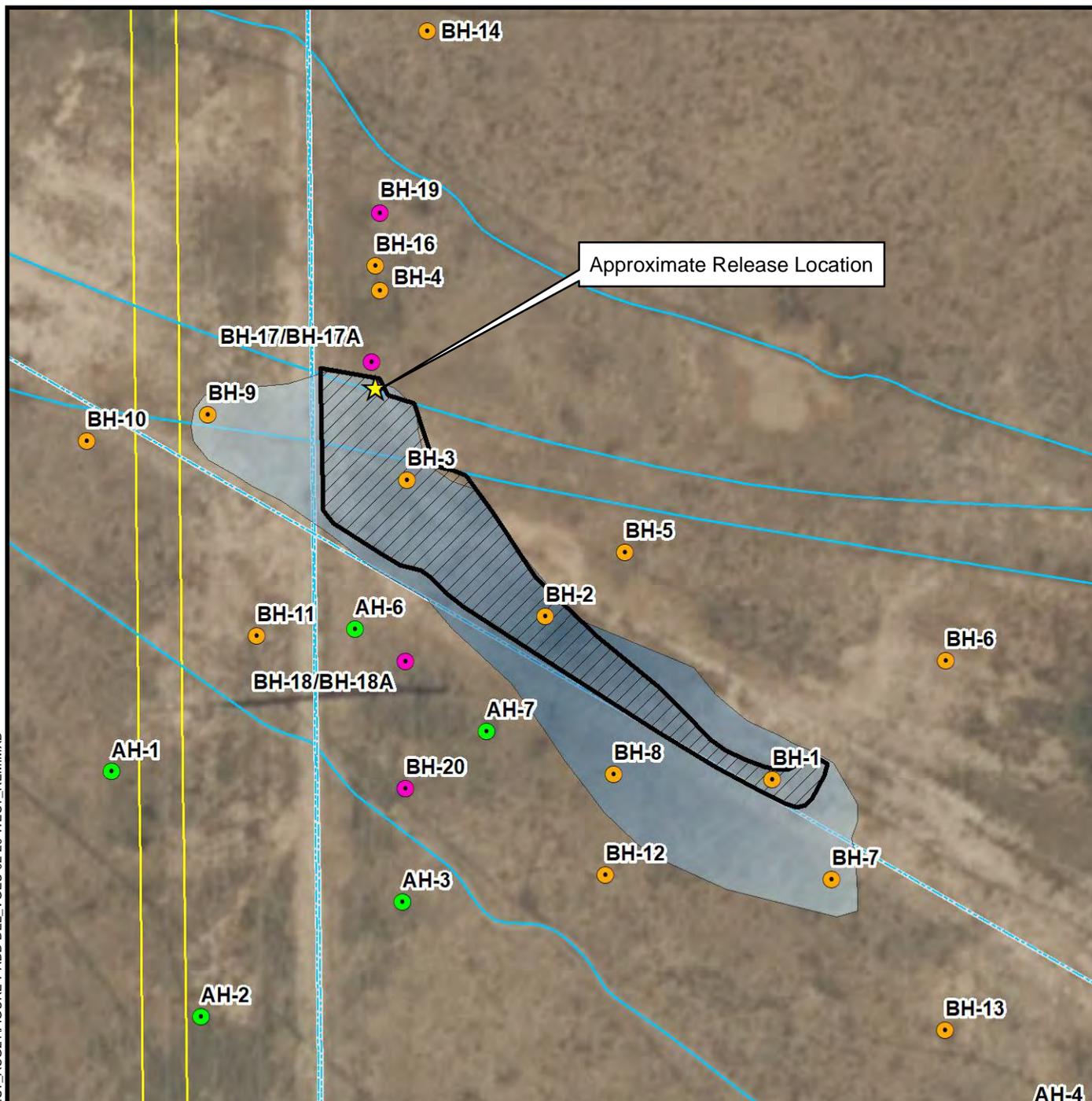
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- Boring Location
- Boring Location - Hand Auger
- Flowline
- Powerline
- Subsurface Pipeline
- Approximate Release Extent
- Initial Response Excavation Extent

BGS - Below Ground Surface
 Source: Esri World Map, May 2019.

N:\TTS134\F5\1SUP-GIS\ARCP\J2\NERT\MXD\FIGURE1_TS_LOCATION.MXD

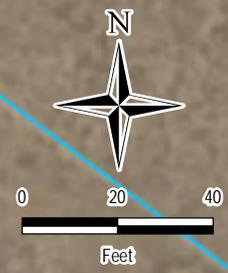
 www.tetrattech.com 901 West Wall Street, Suite 100 Midland, Texas 79701 Phone: (432) 682-4559 Fax: (432) 682-3946	CONOCOPHILLIPS NRM2017856312 (32.796085°, -103.485063°) LEA COUNTY, NEW MEXICO	PROJECT NO.: 212C-MD-03070 DATE: OCTOBER 05, 2021 DESIGNED BY: AAM
	VGEU 02-20 WEST FLOWLINE RELEASE ADDITIONAL ASSESSMENT	
	Figure No. <h1 style="margin: 0;">4</h1>	



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\VGEU 02-20\WEST\WEST_AUG21\FIGURE 7 ADD DEL_VGEU 02-20 WEST_REM.MXD

Legend					
	Boring Location		Flowline		Initial Response Excavation Extent
	Boring Location - Hand Auger		Powerline		Approximate Release Extent
	Additional Delineation Location		Subsurface Pipeline		

BGS - Below Ground Surface
Source: Esri World Map, May 2019.

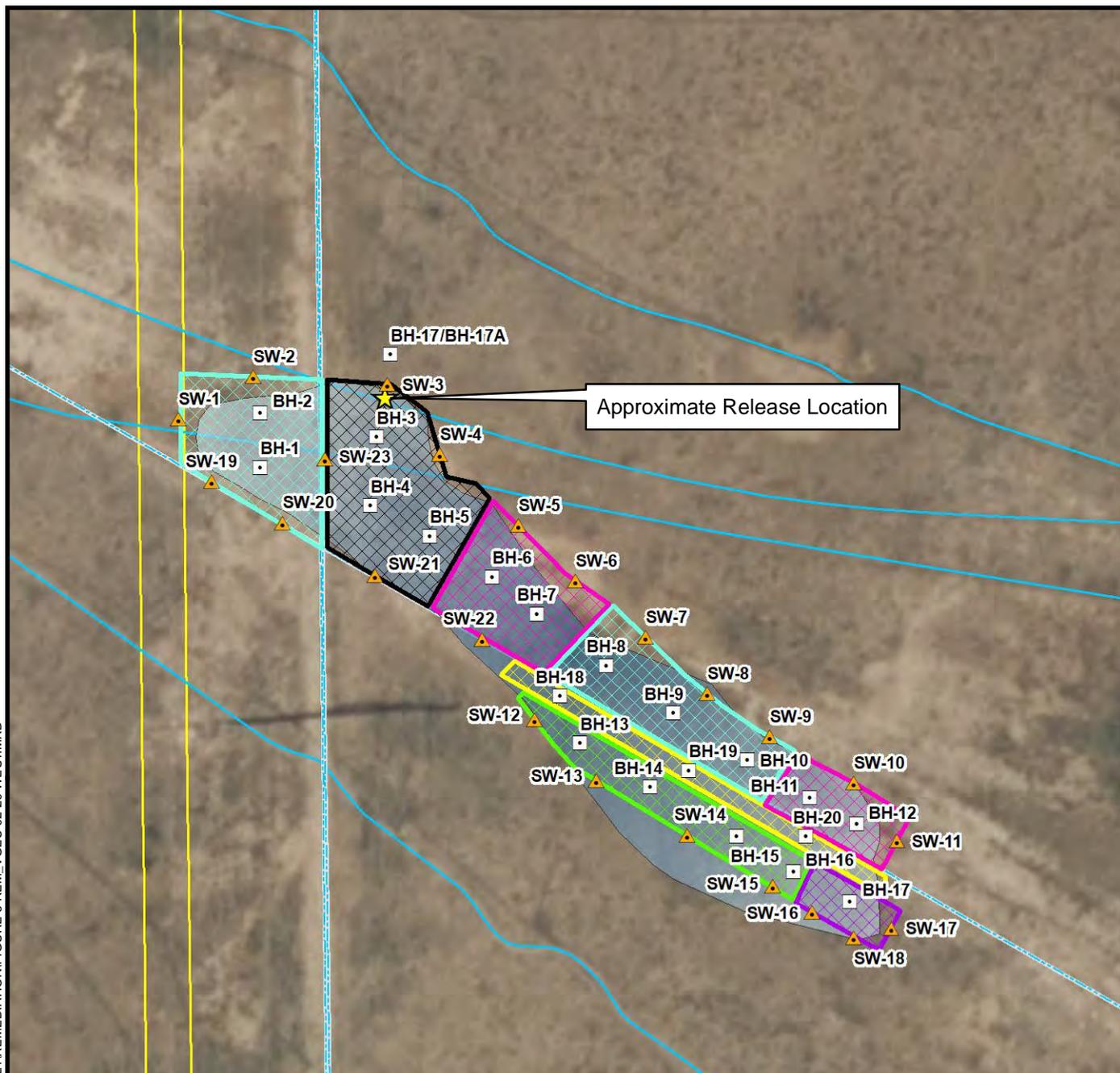


TETRA TECH
www.tetrattech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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(32.796085°, -103.485063°)
LEA COUNTY, NEW MEXICO

**VGEU 02-20 WEST FLOWLINE RELEASE
ADDITIONAL DELINEATION LOCATIONS**

PROJECT NO.:	212C-MD-03070
DATE:	MAY 26, 2022
DESIGNED BY:	AAM
Figure No.	5



DOCUMENT PATH: D:\CONOCOPHILLIPS\IMX\VGEU 02-20\WEST\WEST_AUG21\REMEDIATION\FIGURE 6 REM_VGEU 02-20 WEST.MXD

Legend

Sidewall Confirmation Sample Location	Excavation - 2' BGS
Floor Confirmation Sample Location	Excavation - 2.5' BGS
Flowline	Excavation - 4.5' BGS
Powerline	Excavation - 5' BGS
Subsurface Pipeline	Excavation - 7.5' BGS
	Excavation - 10' BGS
	Approximate Release Extent

BGS - Below Ground Surface
Source: Esri World Map, May 2019.



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	<p>VGEU 02-20 WEST FLOWLINE RELEASE REMEDATION EXTENT AND CONFIRMATION SAMPLE LOCATIONS</p>	
	<p>Figure No. 6</p>	

Site Remediation Closure Report
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Maverick Permian, LLC
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TABLES

TABLE 1
 SUMMARY OF SOIL ANALYTICAL RESULTS
 INITIAL SOIL ASSESSMENT SAMPLING - INCIDENT ID NAPP2207049431
 MAVERICK PERMIAN, LLC
 VGEU 02-20 WEST FLOWLINE RELEASE
 LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth feet bgs	Chloride ¹ mg/kg Q		BTEX ²								TPH ³								
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C ₆ - C ₁₀		DRO > C ₁₀ - C ₂₈		EXT DRO > C ₂₈ - C ₃₆		Total TPH (GRO+DRO+EXT DRO) mg/kg
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	
Reclamation Requirements (19.15.29 NMAC)			600		10								50						100		
SP #1	7/1/2020	2.0	4,360		< 0.050		0.051		0.158		< 0.150		0.323		< 10.0		1,560		517		2,077
SP #2	7/1/2020	2.0	12,400		< 0.050		0.073		0.147		0.302		0.523		11		7,450		1,700		9,161
SP #3	7/1/2020	2.0	3,600		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 50.0		5,680		1,750		7,430
SP #4	7/1/2020	2.0	10,400		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		1,920		687		2,607
SP #5	7/1/2020	2.0	18,300		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		2,140		786		2,926
SP #6	7/1/2020	2.0	15,600		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		533		188		721
SP #7	7/1/2020	2.0	15,600		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		1,670		610		2,280
SP #8	7/1/2020	2.0	17,200		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		3,780		1,190		4,970
SP #9	7/1/2020	2.0	7,600		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		4,260		1,300		5,560
SP #10	7/1/2020	2.0	15,000		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		1,260		327		1,587
SP #11	7/1/2020	2.0	14,800		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		1,930		595		2,525
SP #12	7/1/2020	2.0	6,130		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		452		247		699
SP #13	7/1/2020	2.0	8,660		< 0.050		< 0.050		0.067		0.168		< 0.300		< 10.0		2,300		651		2,951
SP #14	7/1/2020	2.0	5,860		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 50.0		8,550		2,330		10,880
SP #15	7/1/2020	2.0	8,660		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		1,260		543		1,803
SP #16	7/1/2020	5.0	3,040		< 0.050		2.77		43		31.2		77		1,160		3,970		543		5,673
SP #17	7/1/2020	5.0	2,360		< 0.050		0.216		4.18		2.78		7.17		71.8		369		< 50.0		441
SP #18	7/1/2020	5.0	8,660		< 0.050		0.848		16.6		16.1		33.5		868		4,030		612		5,510
SP #19	7/1/2020	5.0	1,880		< 0.050		0.442		< 0.100		10.9		11.4		597		5,050		826		6,473
SP #20	7/1/2020	3.5	6,160		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		19.3		1,840		605		2,464
SP #21	7/1/2020	3.5	5,060		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		2,470		674		3,144
SP #22	7/1/2020	3.5	2,200		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		15.8		3,270		803		4,089
SP #23	7/1/2020	3.5	5,600		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		365		124		489
SP #24	7/1/2020	3.0	3,840		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		10.8		2,100		467		2,578
SP #25	7/1/2020	3.0	3,280		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		1,050		390		1,440
SP #26	7/1/2020	2.5	1,540		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		15		2,610		710		3,335
SP #27	7/1/2020	2.5	1,920		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		14.8		3,140		857		4,012
SP #28	7/1/2020	2.5	1,380		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		3,180		936		4,116
SP #29	7/1/2020	-	1,380		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30.0
SP #30	7/1/2020	-	64		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30.0
SP #31	7/1/2020	-	464		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		313		64		377
SP #32	7/1/2020	-	304		< 0.050		< 0.050		0.176		0.243		0.419		10.2		325		121		456

NOTES:

bgs: Below ground surface
 mg/kg: Milligrams per kilogram
 TPH: Total Petroleum Hydrocarbons
 GRO: Gasoline Range Organics
 DRO: Diesel Range Organics
 ORO: Oil Range Organics

1: Method SM4500Cl-B
 2: Method 8021B
 3: Method 8015M

Bold and highlighted values indicate exceedance of Reclamation Requirements (19.15.29 NMAC).

TABLE 2
 SUMMARY OF SOIL ANALYTICAL RESULTS
 SOIL ASSESSMENT SAMPLING - INCIDENT ID NAPP2207049431
 MAVERICK PERMIAN, LLC
 VGEU 02-20 WEST FLOWLINE RELEASE
 LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth feet bgs	Chloride ¹		BTEX ²								TPH ³								
			mg/kg	Q	Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C ₆ - C ₁₀		DRO > C ₁₀ - C ₂₈		EXT DRO > C ₂₈ - C ₃₆		Total TPH (GRO+DRO+EXT DRO) mg/kg
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	
Reclamation Requirements (19.15.29 NMAC)			600		10								50							100	
BH-1	1/18/2021	4-5	4,430		< 0.00111		< 0.00557		0.0959		0.203		0.299		0.973		1,540		1,850		3,391
		6-7	213		< 0.00104		< 0.00522		0.00149	J	0.00492	J	0.00641		1.27		273		210		484
		9-10	12	J	< 0.00105		< 0.00526		< 0.00263		< 0.00683		-		0.0298	J	6		7		13
		15.0	< 20.7		< 0.00107		< 0.00533		< 0.00266		0.00114	J	0.00114		< 0.103		9		9		18
BH-2	1/18/2021	2-3	2,450		< 0.00110		< 0.00551		0.0562		0.142		0.198		1.73		930		1,040		1,972
		4-5	3,620		< 0.00114		< 0.00568		0.0376		0.0948		0.132		2.97		1,520		1,420		2,943
		6-7	499		< 0.00116		< 0.00581		< 0.00290		< 0.00755		-		0.0458	J	73		84		156
		9-10	42		0.00151		< 0.00589		< 0.00294		< 0.00765		0.00151		0.0292	J	8		9		17
		15.0	34		< 0.00114		< 0.00570		< 0.00285		< 0.00741		-		0.0334	J	9		9		18
BH-3	1/18/2021	2-3	3,550		< 0.00113		< 0.00567		0.00639		0.0196		0.026		2.22		784		649		1,435
		4-5	5,070		< 0.0459		< 0.229		0.0352	J	0.109	J	0.144		411		3,460		1,650		5,521
		6-7	6,370		< 0.0475		< 0.237		0.0843	J	0.451		0.535		633		3,210		1,450		5,293
		9-10	2,940		< 0.0481		< 0.241		0.0697	J	0.284	J	0.354		327		2,280		1,220		3,827
		15.0	648		< 0.00112		< 0.00562		0.00208	J	0.00824		0.0103		2.4		337		199		538
		20.0	811		< 0.00451		< 0.0225		0.00349	J	0.0128	J	0.0163		47.4		330		183		560
		25.0	46		< 0.00115		< 0.00575		< 0.00288		< 0.00748		-		0	J	20	T8	19	T8	
BH-4	1/18/2021	0-1	< 21.2		< 0.00112		< 0.00560		0.00084	J	< 0.00728		0.00084		0.0528	B J	4	J	10		14
		2-3	17	J	< 0.00107		< 0.00536		0.000912	J	0.00279	J	0.0037		0.1	B J	3	J	6		9
		4-5	< 20.8		< 0.00108		< 0.00538		< 0.00269		< 0.00699		-		< 0.104		2	J	3	J	6
		6-7	< 20.6		< 0.00106		< 0.00531		< 0.00266		< 0.00691		-		< 0.103		4	J	13		16
		9-10	< 20.8		< 0.00108		< 0.00542		< 0.00271		< 0.00704		-		< 0.104		1,410		1,980		3,390
		15.0	< 20.8		< 0.00108		< 0.00542		< 0.00271		< 0.00704		-		< 0.104		1,410		1,980		3,390
BH-5	1/18/2021	0-1	14	J	< 0.00109		< 0.00547		< 0.00273		< 0.00711		-		< 0.105		8		20		28
		2-3	211		< 0.00109		< 0.00545		< 0.00272		< 0.00708		-		< 0.104		19		25		44
		4-5	49		< 0.00106		< 0.00531		< 0.00266		< 0.00691		-		< 0.103		10		12		23
		6-7	< 20.9		< 0.00109		< 0.00546		< 0.00273		< 0.00710		-		< 0.105		9		9		18
		9-10	11	J	< 0.00109		< 0.00544		< 0.00272		< 0.00707		-		< 0.104		5		5		10
BH-6	1/18/2021	0-1	13	J	0.000905	B J	< 0.00603		0.00145	J	0.00317	J	0.00553		0.0715	B J	12		30		42
		2-3	< 20.7		0.000643	B J	< 0.00536		< 0.00268		< 0.00697		0.000643		< 0.104		3	J	7		11
		4-5	32		0.000927	B J	< 0.00567		0.00259	J	0.00573	J	0.009247		0.0466	B J	238		742		980
		6-7	< 21.5		0.00072	J	0.00738		0.00461		0.027		0.0397		7.68		2	J	2	J	12
		9-10	< 20.9		< 0.00109		< 0.00544		< 0.00272		< 0.00707		-		0.0574	J	81		137		218
BH-7	1/18/2021	0-1	20	J	0.00078	B J	< 0.00578		0.0475		0.0896		0.138		0.77		293		869		1,163
		2-3	< 20.6		0.000576	B J	< 0.00530		0.0353		0.0841		0.12		1.89		233		586		821
		4-5	< 21.3		< 0.00901		< 0.0451		0.205		0.497		0.702		401		3,980		2,090		6,471
		6-7	< 21.4		< 0.00913		< 0.0457		0.0404		0.116		0.156		111		2,320		1,130		3,561
		9-10	< 21.9		< 0.00119		< 0.00595		< 0.00297		< 0.00773		-		0.386		85		52		137

TABLE 2
 SUMMARY OF SOIL ANALYTICAL RESULTS
 SOIL ASSESSMENT SAMPLING - INCIDENT ID NAPP2207049431
 MAVERICK PERMIAN, LLC
 VGEU 02-20 WEST FLOWLINE RELEASE
 LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth feet bgs	Chloride ¹ mg/kg Q		BTEX ²								TPH ³								
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C ₆ - C ₁₀		DRO > C ₁₀ - C ₂₈		EXT DRO > C ₂₈ - C ₃₆		Total TPH (GRO+DRO+EXT DRO) mg/kg
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	
Reclamation Requirements (19.15.29 NMAC)			600		10								50						100		
BH-8	1/18/2021	0-1	17	J	0.000746	B J	< 0.00552		0.0278		0.0564		0.0849		0.985		314		820		1,135
		2-3	15	J	0.000778	B J	< 0.00519		0.00288		0.00875		0.0124		1		921		1,330		2,252
		4-5	< 20.4		0.000488	B J	< 0.00519		< 0.00260		0.00164	J	0.00213		0.0843	B J	320		612		932
		6-7	13	J	< 0.00107		< 0.00533		< 0.00267		< 0.00693		-		< 0.103		13		22		35
		9-10	214		< 0.00110		< 0.00548		< 0.00274		0.00195	J	0.00195		0.629		242		143		386
BH-9	1/18/2021	0-1	17	J	< 0.00112		< 0.00562		0.00227	J	0.0126		0.0149		0.338		1,260		5,100		6,360
		1-1.5	< 20.6		0.000663	B J	< 0.00530		0.00313		0.00822		0.0114		0.173	B	520		1,150		1,670
BH-10	5/14/2021	0-1	10	J	< 0.00113		< 0.00567		< 0.00283		0.00113	J	0.00113		< 0.107		15		31		46
		2-3	20	J	< 0.00108		< 0.00540		< 0.00270		< 0.00702		-		< 0.104		2	J	4	J	5
		3-4	14	J	< 0.00103		< 0.00515		< 0.00258		< 0.00670		-		0.0441	J	< 4.06		2	J	2
BH-11	5/14/2021	0-1	< 21.0		< 0.00110		< 0.00549		< 0.00274		< 0.00713		-		< 0.105		21		30		51
		3-4	< 20.4		< 0.00104		< 0.00521		< 0.00260		< 0.00677		-		< 0.102		14		36		50
		4-5	< 20.5		< 0.00105		< 0.00527		< 0.00263		0.00276	J	0.00276		0.119		188		438		626
		9-10	< 20.7		< 0.00857	J3	< 0.0428	J3	0.045	J3	0.703	J3	0.748		94.6		2,170		1,240		3,505
BH-12	5/14/2021	0-1	104		< 0.00115		< 0.00575		< 0.00288		< 0.00748		-		< 0.107		4	J	17		21
		2-3	58		< 0.00106		< 0.00532		< 0.00266		< 0.00692		-		< 0.103		< 4.13		3	J	3
		4-5	17		< 0.00105		< 0.00523		< 0.00261		< 0.00680		-		< 0.102		< 4.09		1	J	1
		9-10	13	J	< 0.00109		< 0.00547		< 0.00273		< 0.00711		-		< 0.105		< 4.19		0	J	0
BH-13	5/14/2021	0-1	592		< 0.00116		< 0.00581		< 0.00290		< 0.00755		-		< 0.108		4	J	15		19
		2-3	397		< 0.00109		< 0.00545		< 0.00272		< 0.00708		-		< 0.104		< 4.18		2	J	2
		3-4	495		< 0.00107		< 0.00537		< 0.00269		< 0.00699		-		< 0.104		< 4.15		1	J	1
		4-5	847		< 0.00113		< 0.00563		< 0.00282		< 0.00732		-		< 0.106		< 4.25		0	J	0
BH-14	5/14/2021	0-1	14	J	< 0.00111		< 0.00553		< 0.00276		< 0.00719		-		< 0.105		15		32		47
		2-3	19	J	< 0.00108		< 0.00538		< 0.00269		< 0.00700		-		< 0.104		3	J	5		8
		3-4	15	J	< 0.00106		< 0.00530		< 0.00265		< 0.00690		-		< 0.103		2	J	3	J	6
		9-10	< 20.6		< 0.00106		< 0.00531		< 0.00265		< 0.00690		-		< 0.103		< 4.12		< 4.12		-
BH-16	5/14/2021	0-1	107		< 0.00114		< 0.00571		< 0.00286		< 0.00742		-		< 0.107		5		16		20
		9-10	< 21.2		< 0.00112	J3	< 0.00559	J3	< 0.00280	J3	< 0.00727	J3	-		0.488		1,960		2,260		4,220
AH-1	5/25/2021	0-1	< 21.4		0.000824	B J	0.00219	J	0.00171	J	0.00418	J	0.0089		< 0.107		9		29		38
AH-2	5/25/2021	0-1	< 21.8		< 0.00118		< 0.00590		< 0.00295		< 0.00767		-		< 0.109		293		908		1,201
AH-3	5/25/2021	0-1	< 22.8		0.000825	J	0.00333	J	0.00127	J	0.00615	J	-		< 0.114		3	J	9		12
AH-4	5/25/2021	0-1	< 21.6		< 0.00116		0.00163	J	< 0.00289		0.00198	J	0.00361		< 0.108		7		15		22
AH-5	5/25/2021	0-1	11	J	< 0.00115		0.00168	J	< 0.00287		0.00247	J	0.00415		< 0.107		13		33		46
AH-6	5/25/2021	0-1	< 23.2		< 0.00132		0.00225	J	< 0.00331		0.00278	J	0.00503		< 0.116		6		20		26
		1-2	< 22.1		< 0.00121		0.00191	J	< 0.00302		0.00276	J	0.00467		< 0.110		3	J	6	B	8
AH-7	5/25/2021	0-1	< 22.9		< 0.00129		0.00367	J	< 0.00322		0.00338	J	0.00705		< 0.114		5		8.02		13

TABLE 2
 SUMMARY OF SOIL ANALYTICAL RESULTS
 SOIL ASSESSMENT SAMPLING - INCIDENT ID NAPP2207049431
 MAVERICK PERMIAN, LLC
 VGEU 02-20 WEST FLOWLINE RELEASE
 LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride ¹		BTEX ²								TPH ³								
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH (GRO+DRO+EXT DRO)
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	
feet 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		
Reclamation Requirements (19.15.29 NMAC)				600		10							50							100	

NOTES:

bgs: Below ground surface

mg/kg: Milligrams per kilogram

TPH: Total Petroleum Hydrocarbons

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

1: Method SM4500Cl-B

2: Method 8021B

3: Method 8015M

B: The same analyte is found in the associated blank.

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

J3: The associated batch QC was outside the established quality control range for precision.

Bold and highlighted values indicate exceedance of Reclamation Requirements (19.15.29 NMAC).

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS
ADDITIONAL SOIL DELINEATION SAMPLING - INCIDENT ID NAPP2207049431
MAVERICK PERMIAN, LLC
VGEU 02-20 WEST FLOWLINE RELEASE
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth feet bgs	Chloride ¹ mg/kg Q		BTEX ²								TPH ³								
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C ₆ - C ₁₀		DRO > C ₁₀ - C ₂₈		EXT DRO > C ₂₈ - C ₃₆		Total TPH (GRO+DRO+EXT DRO) mg/kg
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	
Reclamation Requirements (19.15.29 NMAC)			600		10								50						100		
RRALs (Table I 19.15.29.12 NMAC)			10,000		10								50						2,500		
BH-17	2/18/2022	6 - 7	64		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30
		8 - 9	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		158		120		278
		10 - 11	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		18.3		1,200		355		1,573
		12 - 13	< 16.0		< 0.050		< 0.050		0.121	GC-NC1	0.96	GC-NC1	1.08		130		2,370		503		3,003
BH-17A	5/24/2022	14 - 15	32		< 0.050		< 0.050	GC-NC	< 0.050	GC-NC	< 0.150	GC-NC	< 0.300		200	QM-07	4,860	QM-07	1,060		6,120
		19 - 20	32		< 0.050		0.332		0.294		4.6		5.23		284		4,360		851		5,495
		24 - 25	16		< 0.050		0.136		0.121		2.69		2.95		145		2,800		557		3,502
		29 - 30	< 16.0		< 0.050		< 0.050		0.062		0.73		0.793		38.9		1,440		287		1,766
		34 - 35	< 16.0		< 0.050		0.108		0.177		1.24		1.53		41.4		1,400		287		1,728
		39 - 40	16		< 0.050		< 0.050		0.076		0.407		0.483		21.6		997		219		1,238
BH-18	2/18/2022	44 - 45	32		< 0.050		0.5		0.894		2.34		3.74		54		1,100		227		1,381
		6 - 7	< 16.0		< 0.050		< 0.050		0.61	GC-NC1	3.06	GC-NC1	3.67		201		2,140		414		2,755
		8 - 9	< 16.0		< 0.050		< 0.050		0.802	GC-NC1	3.9	GC-NC1	4.7		223		2,190		431		2,844
		10 - 11	< 16.0		< 0.050		< 0.050		0.598	GC-NC1	2.68	GC-NC1	3.28		182		2,100		418		2,700
BH-18A	5/24/2022	12 - 13	< 16.0		< 0.050		< 0.050		< 0.050		0.194		< 0.300		23.8		340		46		409
		14 - 15	< 16.0		< 0.200		4.06		13.3		27.6		44.9		366		2,590		496		3,452
		19 - 20	< 16.0		< 0.500		8.44		20.9		37.9		67.2		728		3,580		638		4,946
		24 - 25	< 16.0		< 0.050		0.383		1.25		2.48		4.11		58.9		1,000		191		1,250
		29 - 30	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		54		< 10.0		54
		34 - 35	< 16.0		< 0.050		< 0.050		0.067		< 0.150		< 0.300		< 10.0		87		< 10.0		87
		39 - 40	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		101		13		114
BH-19	2/18/2022	44 - 45	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		45		< 10.0		45
		49 - 50	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		16		< 10.0		16
BH-20	5/24/2022	6 - 7	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30
		9 - 10	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30
BH-20	5/24/2022	0 - 1	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		54		< 10.0		54
		2 - 3	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		20		< 10.0		20
		4 - 5	64		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30
		6 - 7	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30
		9 - 10	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30
		14 - 15	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		<30

NOTES:

bgs: Below ground surface
mg/kg: Milligrams per kilogram
TPH: Total Petroleum Hydrocarbons
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics

1: Method SM4500Cl-B
2: Method 8021B
3: Method 8015M

GC-NC: 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis DRO Diesel range organics and are reported as non-detect
GC-NC1: 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis Method 8021B and are biased high with interfering compounds.
QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS.

Bold and highlighted values indicate exceedance of Reclamation Requirements (19.15.29 NMAC).
Bold and highlighted values indicate exceedance of Table I 19.15.29.12 NMAC.

TABLE 4
 SUMMARY OF ANALYTICAL RESULTS
 SHALLOW SOIL CONFIRMATION SAMPLING - INCIDENT ID NRM2017856312
 MAVERICK PERMIAN, LLC
 VGEU 02-20 WEST FLOWLINE RELEASE
 LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth feet bgs	Chloride ¹ mg/kg Q		BTEX ²								TPH ³								
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C ₆ - C ₁₀		DRO > C ₁₀ - C ₂₈		EXT DRO > C ₂₈ - C ₃₆		Total TPH (GRO+DRO+EXT DRO)
					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
Reclamation Requirements (19.15.29 NMAC)			600		10								50						100		
BH - 13 (2')	7/12/2023	2 - 2.5	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		14.3		21.6		35.9
BH - 14 (2')	7/12/2023	2 - 2.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		43.5		37.6		81.1
BH - 15 (2')	7/12/2023	2 - 2.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		52.9		46.4		99.3
BH - 16 (2')	7/12/2023	2 - 2.5	<16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		13.9		14		27.9
SW - 1	7/11/2023	0.5 - 4.0	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 2	7/11/2023	0.5 - 3.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 3	7/11/2023	0.5 - 9.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		11.5		11.5
SW - 4	7/11/2023	0.5 - 9.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 5	7/6/2023	0.5 - 4.5	224		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		160		90.5		250.5
	7/11/2023	0.5 - 4.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 6	7/6/2023	0.5 - 4.5	288		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		412		186		598
	7/11/2023	0.5 - 4.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 7	7/6/2023	0.5 - 4.0	400		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		165		138		303
	7/11/2023	0.5 - 4.0	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 8	7/6/2023	0.5 - 4.0	352		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		413		257		670
	7/11/2023	0.5 - 4.0	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 9	7/6/2023	0.5 - 4.0	240		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		88		120		208
	7/11/2023	0.5 - 4.0	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 10	7/6/2023	0.5 - 4.5	368		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		157		146		303
	7/11/2023	0.5 - 4.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 11	7/6/2023	0.5 - 4.5	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		116		130		246
	7/11/2023	0.5 - 4.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 12	7/12/2023	0.5 - 2.0	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		18.9		17.6		36.5
SW - 13	7/12/2023	0.5 - 2.0	64		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		41		24.7		65.5
SW - 14	7/12/2023	0.5 - 2.0	64		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		37		23.1		59.7
SW - 15	7/12/2023	0.5 - 2.0	64		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		44		24.8		68.6
SW - 16	7/13/2023	0.5 - 7.0	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		722		484		1,206
	7/17/2023	0.5 - 7.0	80		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		10.2		<10.0		10.2
SW - 17	7/13/2023	0.5 - 7.0	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		750		534		1,284
	7/17/2023	0.5 - 7.0	112		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		10.4		<10.0		10.4
SW - 18	7/13/2023	0.5 - 7.0	848		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		18.1		<10.0		18.1
	7/17/2023	0.5 - 7.0	64		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		10.4		<10.0		10.4
SW - 19	7/13/2023	0.5 - 4.0	384		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		10.6		10.8		21.4
SW - 20	7/13/2023	0.5 - 4.0	400		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30
SW - 21	7/13/2023	0.5 - 9.5	400		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30

TABLE 4
 SUMMARY OF ANALYTICAL RESULTS
 SHALLOW SOIL CONFIRMATION SAMPLING - INCIDENT ID NRM2017856312
 MAVERICK PERMIAN, LLC
 VGEU 02-20 WEST FLOWLINE RELEASE
 LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride ¹		BTEX ²								TPH ³								
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
					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
feet 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		
SW - 22	7/13/2023	0.5 - 4.5	416		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		<10.0		<10.0		<10.0		<30

NOTES:

bgs: Below ground surface

mg/kg: Milligrams per kilogram

TPH: Total Petroleum Hydrocarbons

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

1: Method SM4500Cl-B

2: Method 8021B

3: Method 8015M

Bold and highlighted values indicate exceedance of Reclamation Requirements (19.15.29 NMAC).

Gold highlighted cells indicate areas which were overexcavated and re-sampled

TABLE 5
 SUMMARY OF SOIL ANALYTICAL RESULTS
 DEEP CONFIRMATION SAMPLING - INCIDENT ID NRM2017856312
 MAVERICK PERMIAN, LLC
 VGEU 02-20 WEST FLOWLINE RELEASE
 LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth feet bgs	Chloride ¹ mg/kg Q		BTEX ²								TPH ³								
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C ₆ - C ₁₀		DRO > C ₁₀ - C ₂₈		EXT DRO > C ₂₈ - C ₃₆		Total TPH (GRO+DRO+EXT DRO) mg/kg
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	
RRALs (Table I 19.15.29.12 NMAC)			10,000		10						50							2,500			
BH - 1 (4.5')	7/11/2023	4.5 - 5.0	2,280		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		<30
BH - 2 (4.5')	7/11/2023	4.5 - 5.0	2,560		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		<30
BH - 3 (10')	7/11/2023	10.0 - 10.5	2,180		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		463		140		603
BH - 4 (10')	7/11/2023	10.0 - 10.5	784		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		404		168		572
BH - 5 (10')	7/11/2023	10.0 - 10.5	1,650		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		178		74.1		252.1
BH - 6 (5')	7/6/2023	5.0 - 5.5	2,120		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		1,880		414		2,294
BH - 7 (5')	7/6/2023	5.0 - 5.5	1,540		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		1,310		564		1,874
BH - 8 (4.5')	7/6/2023	4.5 - 5.0	464		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		240		186		426
BH - 9 (4.5')	7/6/2023	4.5 - 5.0	1,560		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		67.9		100		167.9
BH - 10 (4.5')	7/6/2023	4.5 - 5.0	1,440		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		71.9		81.5		153.4
BH - 11 (5')	7/6/2023	5.0 - 5.5	688		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		621		275		896
BH - 12 (5')	7/6/2023	5.0 - 5.5	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		1,030		489		1,519
BH - 17 (7.5')	7/13/2023	7.5 - 8.0	176		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		181		149		330
BH - 18 (4.5')	7/13/2023	4.5 - 5.0	96		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		266		231		497
BH - 19 (4.5')	7/13/2023	4.5 - 5.0	112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		16.8		18.4		35.2
BH - 20 (4.5')	7/13/2023	4.5 - 5.0	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		242		208		450
SW-23	7/13/2023	5.0 - 9.5	320		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		69.6		94.2		163.8

NOTES:

bgs: Below ground surface
 TPH: Total Petroleum Hydrocarbons
 GRO: Gasoline Range Organics
 DRO: Diesel Range Organics
 ORO: Oil Range Organics

1: Chloride by Method SM4500Cl-B
 2: BTEX by Method 8021B
 3: TPH by Method 8015M

Bold and highlighted values indicate exceedance of Table I 19.15.29.12 NMAC.

Site Remediation Closure Report
VGEU 02-20
nRM2017856312

Maverick Permian, LLC
August 24, 2023

ATTACHMENT 1: C-141 FORM

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

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

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

Incident ID	nRM2017856312
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	ConocoPhillips Company	OGRID	217817
Contact Name	Kelsy Waggaman	Contact Telephone	505-577-9071
Contact email	Kelsy.Waggaman@ConocoPhillips.com	Incident # (assigned by OCD)	
Contact mailing address	29 Vacuum Complex Lane, Lovington, NM 88260		

Location of Release Source

Latitude 32.796111 Longitude - 103.487222
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	VGEU 02-20	Site Type	Off location
Date Release Discovered	6/16/20	API# (if applicable)	N/A

Unit Letter	Section	Township	Range	County
D	32	17S	35E	Lea

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls)	14.12	Volume Recovered (bbls)	5
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls)	56.48	Volume Recovered (bbls)	0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
<input type="checkbox"/> Condensate	Volume Released (bbls)		Volume Recovered (bbls)	
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)		Volume Recovered (Mcf)	
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)		Volume/Weight Recovered (provide units)	

Cause of Release

Flowline split

State of New Mexico
Oil Conservation Division

Incident ID	nRM2017856312
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release exceeded 25 bbls of produced water.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Email notification was given to Bradford Billings and Jim Griswold, OCD by Kelsy Waggaman, ConocoPhillips Environmental Coordinator on 6/17/20.	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Kelsy Waggaman</u>	Title: <u>Environmental Coordinator</u>
Signature: <u></u>	Date: <u>6/26/20</u>
email: <u>Kelsy.Waggaman@ConocoPhillips.com</u>	Telephone: <u>505-577-9071</u>
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	nRM2017856312
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?	_____ 100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

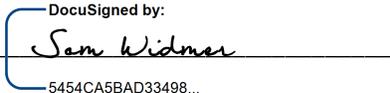
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods,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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	nRM2017856312
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: Sam Widmer Title: Principal Program Manager
 Signature:  Date: May-30-2022
 email: Sam.widmer@conocophillips.com Telephone: 281-206-5298

OCD Only

Received by: _____ Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 5

Incident ID	nRM2017856312
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: Samuel Widmer Title: RM&R Program Manager
 Signature: [Signature] Date: 10/07/21
 email: Sam.Widmer@ocd.com Telephone: 281-206-5298

OCD Only

Received by: Chad Hensley Date: 11/15/2021

Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: [Signature] Date: 11/15/2021

Incident ID	nRM2017856312
District RP	
Facility ID	
Application ID	

Remediation Plan

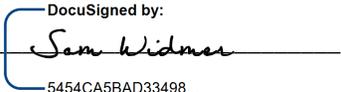
Remediation Plan Checklist: Each of the following items must be included in the plan.

- 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)

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- 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: Sam Widmer Title: Principal Program Manager
 Signature:  Date: May-30-2022
 email: Sam.Widmer@conocophillips.com Telephone: 281-206-5298

OCD Only

Received by: _____ Date: _____

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ Date: _____

Incident ID	nRM2017856312
District RP	
Facility ID	
Application ID	

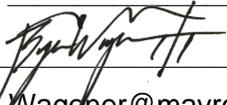
Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Bryce Wagoner Title: ESG Specialist
 Signature:  Date: 09/14/2023
 email: Bryce.Wagoner@mavresources.com Telephone: (928) 241-1862

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Scott Rodgers Date: 12/07/2023

Printed Name: Scott Rodgers Title: Environmental Specialist Advanced

Site Remediation Closure Report
VGEU 02-20
nRM2017856312

Maverick Permian, LLC
August 24, 2023

ATTACHMENT 2: 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-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 14183 POD2	L	LE		3	2	2	31	17S	35E	641304	3629691	300	227	105	122
L 14183 POD1	L	LE		3	2	2	31	17S	35E	641266	3629667	341	229	106	123
L 14183 POD3	L	LE		3	2	2	31	17S	35E	641213	3629731	388	227	104	123
L 03875 S2	R	L	LE			2	31	17S	35E	641131	3629576*	496	120	95	25
L 03875 S4	L	LE				2	31	17S	35E	641131	3629576*	496	120		
L 03874	L	LE		3	1	2	31	17S	35E	640823	3629678*	780	229	90	139

Average Depth to Water: **100 feet**
 Minimum Depth: **90 feet**
 Maximum Depth: **106 feet**

Record Count: 6

UTMNAD83 Radius Search (in meters):

Easting (X): 641601.32

Northing (Y): 3629736

Radius: 800

*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.

Karst Potential Map

VGEU 02-20 West Flowline Release
NRM2017856312

Legend

-  Approximate Release Location
-  High
-  Low
-  Medium



VGEU 02-20 West Flowline Release



6/2/2021, 9:48:38 AM



Override 1



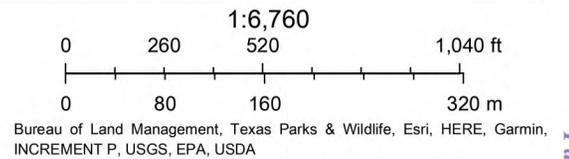
OSE Water-bodies



OSE Streams



PLJV Probable Playas



Site Remediation Closure Report
VGEU 02-20
nRM2017856312

Maverick Permian, LLC
August 24, 2023

ATTACHMENT 3: LABORATORY ANALYTICAL DATA



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

July 10, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VGEU 02-20

Enclosed are the results of analyses for samples received by the laboratory on 07/07/23 12:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 5 (H233464-01)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	07/07/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	160	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	90.5	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 6 (H233464-02)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	07/07/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91		
DRO >C10-C28*	412	10.0	07/07/2023	ND	197	98.5	200	1.61		
EXT DRO >C28-C36	186	10.0	07/07/2023	ND						

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 157 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 7 (H233464-03)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	07/07/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	165	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	138	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 8 (H233464-04)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	07/07/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91		
DRO >C10-C28*	413	10.0	07/07/2023	ND	197	98.5	200	1.61		
EXT DRO >C28-C36	257	10.0	07/07/2023	ND						

Surrogate: 1-Chlorooctane 93.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 157 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 9 (H233464-05)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	07/07/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	88.0	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	120	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 10 (H233464-06)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	07/07/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	157	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	146	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 91.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 11 (H233464-07)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/07/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	116	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	130	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 6 (5') (H233464-08)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	07/07/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	1880	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	414	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 97.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 7 (5') (H233464-09)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1540	16.0	07/07/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	1310	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	564	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 8 (4.5') (H233464-10)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	07/07/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	240	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	186	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 49.1-148

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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 9 (4.5') (H233464-11)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37		
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25		
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01		
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76		
Total BTEX	<0.300	0.300	07/07/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1560	16.0	07/07/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91		
DRO >C10-C28*	67.9	10.0	07/07/2023	ND	197	98.5	200	1.61		
EXT DRO >C28-C36	100	10.0	07/07/2023	ND						

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 10 (4.5') (H233464-12)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1440	16.0	07/07/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91	
DRO >C10-C28*	71.9	10.0	07/07/2023	ND	197	98.5	200	1.61	
EXT DRO >C28-C36	81.5	10.0	07/07/2023	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 11 (5') (H233464-13)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	07/07/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91		
DRO >C10-C28*	621	10.0	07/07/2023	ND	197	98.5	200	1.61		
EXT DRO >C28-C36	275	10.0	07/07/2023	ND						

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 183 % 49.1-148

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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/07/2023	Sampling Date:	07/06/2023
Reported:	07/10/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 12 (5') (H233464-14)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2023	ND	2.08	104	2.00	3.37	
Toluene*	<0.050	0.050	07/07/2023	ND	2.04	102	2.00	3.25	
Ethylbenzene*	<0.050	0.050	07/07/2023	ND	2.19	109	2.00	4.01	
Total Xylenes*	<0.150	0.150	07/07/2023	ND	6.58	110	6.00	3.76	
Total BTEX	<0.300	0.300	07/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/07/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/07/2023	ND	205	102	200	1.91		
DRO >C10-C28*	1030	10.0	07/07/2023	ND	197	98.5	200	1.61		
EXT DRO >C28-C36	489	10.0	07/07/2023	ND						

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 186 % 49.1-148

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

July 13, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VGEU 02-20

Enclosed are the results of analyses for samples received by the laboratory on 07/12/23 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 1 (4.5') (H233542-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95		
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35		
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74		
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47		
Total BTEX	<0.300	0.300	07/12/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2280	16.0	07/12/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30		
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58		
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND						

Surrogate: 1-Chlorooctane 91.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 2 (4.5') (H233542-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	QM-07
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 87.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 3 (10') (H233542-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2180	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	463	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	140	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 91.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 4 (10') (H233542-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	401	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	168	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 91.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 5 (10') (H233542-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1650	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	178	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	74.1	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 96.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 1 (H233542-06)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 60.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 2 (H233542-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 3 (H233542-08)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	11.5	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 89.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 4 (H233542-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 88.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 5 (H233542-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 54.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 62.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 6 (H233542-11)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 57.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 7 (H233542-12)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					

Surrogate: 1-Chlorooctane 50.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 62.4 % 49.1-148

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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 8 (H233542-13)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/13/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/13/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/13/2023	ND					

Surrogate: 1-Chlorooctane 70.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 9 (H233542-14)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/13/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/13/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/13/2023	ND					

Surrogate: 1-Chlorooctane 74.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 10 (H233542-15)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/13/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/13/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/13/2023	ND					

Surrogate: 1-Chlorooctane 70.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/12/2023	Sampling Date:	07/11/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 11 (H233542-16)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/12/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/13/2023	ND	190	95.0	200	5.30	
DRO >C10-C28*	<10.0	10.0	07/13/2023	ND	199	99.6	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	07/13/2023	ND					

Surrogate: 1-Chlorooctane 52.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 62.9 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

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

Client Name: **Maverick** Site Manager: **Chuck Terhune**

Project Name: **VGEU 02-20** (281) 755-8965
chuck.terhune@tetrattech.com

Project Location: **Lea County, NM** Project #: **212C-MD-03070**

Invoice to: chuck.terhune@tetrattech.com

Receiving Laboratory: **Cardinal Labs** Sampler Signature: **Miguel A. Flores**

Comments:

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	Hold
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD			# CONTAINERS	FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE		
1	BH-1 (4.5')	7/11/2023		X			X			
2	BH-2 (4.5')	7/11/2023		X			X			
3	BH-3 (10')	7/11/2023		X			X			
4	BH-4 (10')	7/11/2023		X			X			
5	BH-5 (10')	7/11/2023		X			X			
6	SW-1	7/11/2023		X			X			
7	SW-2	7/11/2023		X			X			
8	SW-3	7/11/2023		X			X			
9	SW-4	7/11/2023		X			X			
10	SW-5	7/11/2023		X			X			

Acquired by: **Miguel A Flores** Date: **7/12/23** Time: **0800**

Received by: **Sauvra Datta** Date: **7-12-23** Time: **0800**

Acquired by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____

Acquired by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____

LAB USE ONLY

Sample Temperature: **5.5°C**

#14020

REMARKS: Standard

RUSH: Same Day **24 hr** 48 hr 72 hr

Rush Charges Authorized

Special Report Limits or TRRP Report

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

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

Client Name: Maverick **Site Manager:** Chuck Terhune
Project Name: VGEU 02-20 (281) 755-8965
chuck.terhune@tetratech.com
Project Location: Lea County, NM **Project #:** 212C-MD-03070
Invoice to: chuck.terhune@tetratech.com
Receiving Laboratory: Cardinal Labs **Sampler Signature:** Miguel A. Flores

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	Hold
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H233542

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD			# CONTAINERS	FILTERED (Y/N)										
		YEAR: 2023		WATER	SOIL	HCL	HNO ₃	ICE												
		DATE	TIME																	
11	SW-6	7/11/2023		X				X												
12	SW-7	7/11/2023		X			X								X					
13	SW-8	7/11/2023		X			X								X					
14	SW-9	7/11/2023		X			X								X					
15	SW-10	7/11/2023		X			X								X					
16	SW-11	7/11/2023		X			X								X					

Inquired by: Miguel A Flores **Date:** 7/12/23 **Time:** 0800
Received by: *[Signature]* **Date:** 7-12-23 **Time:** 0800

LAB USE ONLY
 Sample Temperature: 5.5°C
 #140

REMARKS: Standard
 RUSH: Same Day 24 hr 48 hr 72 hr
 Rush Charges Authorized
 Special Report Limits or TRRP Report

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #:



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

July 14, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VGEU 02-20

Enclosed are the results of analyses for samples received by the laboratory on 07/13/23 13:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/12/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 13 (2') (H233595-01)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	219	109	200	0.378	
DRO >C10-C28*	14.3	10.0	07/14/2023	ND	223	112	200	3.63	
EXT DRO >C28-C36	21.6	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 93.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/12/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 14 (2') (H233595-02)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	219	109	200	0.378	
DRO >C10-C28*	43.5	10.0	07/14/2023	ND	223	112	200	3.63	
EXT DRO >C28-C36	37.6	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/12/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 15 (2') (H233595-03)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	219	109	200	0.378	
DRO >C10-C28*	52.9	10.0	07/14/2023	ND	223	112	200	3.63	
EXT DRO >C28-C36	46.4	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/12/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 16 (2') (H233595-04)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	219	109	200	0.378	
DRO >C10-C28*	13.9	10.0	07/14/2023	ND	223	112	200	3.63	
EXT DRO >C28-C36	14.0	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 97.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/12/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 12 (H233595-05)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	219	109	200	0.378	
DRO >C10-C28*	18.9	10.0	07/14/2023	ND	223	112	200	3.63	
EXT DRO >C28-C36	17.6	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/12/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 13 (H233595-06)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	219	109	200	0.378	
DRO >C10-C28*	40.8	10.0	07/14/2023	ND	223	112	200	3.63	
EXT DRO >C28-C36	24.7	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 74.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/12/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 14 (H233595-07)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	219	109	200	0.378	
DRO >C10-C28*	36.6	10.0	07/14/2023	ND	223	112	200	3.63	
EXT DRO >C28-C36	23.1	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 68.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/12/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 15 (H233595-08)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	219	109	200	0.378	
DRO >C10-C28*	43.8	10.0	07/14/2023	ND	223	112	200	3.63	
EXT DRO >C28-C36	24.8	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

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

Client Name: **Maverick** Site Manager: **Chuck Terhune**
 Project Name: **VGEU 02-20** (281) 755-8965
 Project Location: **Lea County, NM** Project #: **212C-MD-03070**
 Invoice to: **chuck.terhune@tetratech.com**
 Receiving Laboratory: **Cardinal Labs** Sampler Signature: **Miguel A. Flores**

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 / 808	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
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H233595

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD			# CONTAINERS	FILTERED (Y/N)										
		YEAR: 2023		WATER	SOIL	HCL	HNO ₃	ICE												
		DATE	TIME																	
1	BH- 13 (2')	7/12/2023		X				X												
2	BH-14 (2')	7/12/2023		X				X												
3	BH-15 (2')	7/12/2023		X				X												
4	BH-16 (2')	7/12/2023		X				X												
5	SW-12	7/12/2023		X				X												
6	SW-13	7/12/2023		X				X												
7	SW-14	7/12/2023		X				X												
8	SW-15	7/12/2023		X				X												

Relinquished by: *Miguel A Flores* Date: *7/13/23* Time: *13:14* Received by: *[Signature]* Date: *7-13-23* Time: *1310*

LAB USE ONLY
 Sample Temperature: *5.3°C*
#140

REMARKS: Standard
 RUSH: Same Day 24 hr 48 hr 72 hr
 Rush Charges Authorized
 Special Report Limits or TRRP Report

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____



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July 14, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VGEU 02-20

Enclosed are the results of analyses for samples received by the laboratory on 07/13/23 13:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/13/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 17 (7.5) (H233596-01)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	217	109	200	3.01	
DRO >C10-C28*	181	10.0	07/14/2023	ND	193	96.7	200	9.55	
EXT DRO >C28-C36	149	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/13/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 16 (H233596-02)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	217	109	200	3.01		
DRO >C10-C28*	722	10.0	07/14/2023	ND	193	96.7	200	9.55		
EXT DRO >C28-C36	484	10.0	07/14/2023	ND						

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 154 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/13/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 17 (H233596-03)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	217	109	200	3.01		
DRO >C10-C28*	750	10.0	07/14/2023	ND	193	96.7	200	9.55		
EXT DRO >C28-C36	534	10.0	07/14/2023	ND						

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 153 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/13/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 18 (H233596-04)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/13/2023	ND	2.01	101	2.00	1.11	
Toluene*	<0.050	0.050	07/13/2023	ND	2.02	101	2.00	0.494	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	2.16	108	2.00	1.05	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	6.50	108	6.00	0.625	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	848	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/13/2023	ND	217	109	200	3.01	
DRO >C10-C28*	18.1	10.0	07/13/2023	ND	193	96.7	200	9.55	
EXT DRO >C28-C36	<10.0	10.0	07/13/2023	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 135 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

July 14, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VGEU 02-20

Enclosed are the results of analyses for samples received by the laboratory on 07/13/23 13:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/13/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 18 (4.5') (H233605-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/14/2023	ND	2.04	102	2.00	0.487	
Toluene*	<0.050	0.050	07/14/2023	ND	2.03	101	2.00	0.818	
Ethylbenzene*	<0.050	0.050	07/14/2023	ND	2.00	100	2.00	0.595	
Total Xylenes*	<0.150	0.150	07/14/2023	ND	6.08	101	6.00	1.15	
Total BTEX	<0.300	0.300	07/14/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	217	109	200	3.01	
DRO >C10-C28*	266	10.0	07/14/2023	ND	193	96.7	200	9.55	
EXT DRO >C28-C36	231	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/13/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 19 (4.5') (H233605-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/14/2023	ND	2.04	102	2.00	0.487	
Toluene*	<0.050	0.050	07/14/2023	ND	2.03	101	2.00	0.818	
Ethylbenzene*	<0.050	0.050	07/14/2023	ND	2.00	100	2.00	0.595	
Total Xylenes*	<0.150	0.150	07/14/2023	ND	6.08	101	6.00	1.15	
Total BTEX	<0.300	0.300	07/14/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	217	109	200	3.01	
DRO >C10-C28*	16.8	10.0	07/14/2023	ND	193	96.7	200	9.55	
EXT DRO >C28-C36	18.4	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 91.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.3 % 49.1-148

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/13/2023	Sampling Date:	07/13/2023
Reported:	07/14/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: BH - 20 (4.5') (H233605-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/14/2023	ND	2.04	102	2.00	0.487	
Toluene*	<0.050	0.050	07/14/2023	ND	2.03	101	2.00	0.818	
Ethylbenzene*	<0.050	0.050	07/14/2023	ND	2.00	100	2.00	0.595	
Total Xylenes*	<0.150	0.150	07/14/2023	ND	6.08	101	6.00	1.15	
Total BTEX	<0.300	0.300	07/14/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/14/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	217	109	200	3.01	
DRO >C10-C28*	242	10.0	07/14/2023	ND	193	96.7	200	9.55	
EXT DRO >C28-C36	208	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



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July 19, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VGEU 02-20

Enclosed are the results of analyses for samples received by the laboratory on 07/18/23 16:08.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/18/2023	Sampling Date:	07/17/2023
Reported:	07/19/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 16 (H233735-01)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2023	ND	2.12	106	2.00	2.12	
Toluene*	<0.050	0.050	07/18/2023	ND	2.09	105	2.00	0.704	
Ethylbenzene*	<0.050	0.050	07/18/2023	ND	2.21	111	2.00	0.468	
Total Xylenes*	<0.150	0.150	07/18/2023	ND	6.61	110	6.00	0.264	
Total BTEX	<0.300	0.300	07/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/19/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/19/2023	ND	200	100	200	6.57	
DRO >C10-C28*	10.2	10.0	07/19/2023	ND	197	98.7	200	3.80	
EXT DRO >C28-C36	<10.0	10.0	07/19/2023	ND					

Surrogate: 1-Chlorooctane 89.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/18/2023	Sampling Date:	07/17/2023
Reported:	07/19/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 17 (H233735-02)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2023	ND	2.12	106	2.00	2.12	
Toluene*	<0.050	0.050	07/18/2023	ND	2.09	105	2.00	0.704	
Ethylbenzene*	<0.050	0.050	07/18/2023	ND	2.21	111	2.00	0.468	
Total Xylenes*	<0.150	0.150	07/18/2023	ND	6.61	110	6.00	0.264	
Total BTEX	<0.300	0.300	07/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/19/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/19/2023	ND	200	100	200	6.57	
DRO >C10-C28*	10.4	10.0	07/19/2023	ND	197	98.7	200	3.80	
EXT DRO >C28-C36	<10.0	10.0	07/19/2023	ND					

Surrogate: 1-Chlorooctane 89.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/18/2023	Sampling Date:	07/17/2023
Reported:	07/19/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 18 (H233735-03)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2023	ND	2.11	105	2.00	0.119	
Toluene*	<0.050	0.050	07/19/2023	ND	2.05	102	2.00	1.79	
Ethylbenzene*	<0.050	0.050	07/19/2023	ND	2.15	108	2.00	2.58	
Total Xylenes*	<0.150	0.150	07/19/2023	ND	6.47	108	6.00	0.877	
Total BTEX	<0.300	0.300	07/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/19/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/19/2023	ND	200	100	200	6.57	
DRO >C10-C28*	10.4	10.0	07/19/2023	ND	197	98.7	200	3.80	
EXT DRO >C28-C36	<10.0	10.0	07/19/2023	ND					

Surrogate: 1-Chlorooctane 88.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

July 24, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VGEU 02-20

Enclosed are the results of analyses for samples received by the laboratory on 07/20/23 13:04.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/20/2023	Sampling Date:	07/13/2023
Reported:	07/24/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 19 (H233791-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2023	ND	2.09	104	2.00	1.43	
Toluene*	<0.050	0.050	07/21/2023	ND	2.04	102	2.00	2.00	
Ethylbenzene*	<0.050	0.050	07/21/2023	ND	1.98	99.0	2.00	1.69	
Total Xylenes*	<0.150	0.150	07/21/2023	ND	6.00	99.9	6.00	1.61	
Total BTEX	<0.300	0.300	07/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	07/21/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/21/2023	ND	173	86.3	200	5.90	
DRO >C10-C28*	10.6	10.0	07/21/2023	ND	180	89.8	200	5.63	
EXT DRO >C28-C36	10.8	10.0	07/21/2023	ND					

Surrogate: 1-Chlorooctane 82.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.6 % 49.1-148

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/20/2023	Sampling Date:	07/13/2023
Reported:	07/24/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 20 (H233791-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2023	ND	2.09	104	2.00	1.43	
Toluene*	<0.050	0.050	07/21/2023	ND	2.04	102	2.00	2.00	
Ethylbenzene*	<0.050	0.050	07/21/2023	ND	1.98	99.0	2.00	1.69	
Total Xylenes*	<0.150	0.150	07/21/2023	ND	6.00	99.9	6.00	1.61	
Total BTEX	<0.300	0.300	07/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	07/21/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/21/2023	ND	173	86.3	200	5.90	
DRO >C10-C28*	<10.0	10.0	07/21/2023	ND	180	89.8	200	5.63	
EXT DRO >C28-C36	<10.0	10.0	07/21/2023	ND					

Surrogate: 1-Chlorooctane 80.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.5 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/20/2023	Sampling Date:	07/13/2023
Reported:	07/24/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 21 (H233791-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2023	ND	2.09	104	2.00	1.43	
Toluene*	<0.050	0.050	07/21/2023	ND	2.04	102	2.00	2.00	
Ethylbenzene*	<0.050	0.050	07/21/2023	ND	1.98	99.0	2.00	1.69	
Total Xylenes*	<0.150	0.150	07/21/2023	ND	6.00	99.9	6.00	1.61	
Total BTEX	<0.300	0.300	07/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	07/21/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/21/2023	ND	173	86.3	200	5.90	
DRO >C10-C28*	<10.0	10.0	07/21/2023	ND	180	89.8	200	5.63	
EXT DRO >C28-C36	<10.0	10.0	07/21/2023	ND					

Surrogate: 1-Chlorooctane 86.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/20/2023	Sampling Date:	07/13/2023
Reported:	07/24/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 22 (H233791-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2023	ND	2.09	104	2.00	1.43	
Toluene*	<0.050	0.050	07/21/2023	ND	2.04	102	2.00	2.00	
Ethylbenzene*	<0.050	0.050	07/21/2023	ND	1.98	99.0	2.00	1.69	
Total Xylenes*	<0.150	0.150	07/21/2023	ND	6.00	99.9	6.00	1.61	
Total BTEX	<0.300	0.300	07/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	07/21/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/21/2023	ND	173	86.3	200	5.90	
DRO >C10-C28*	<10.0	10.0	07/21/2023	ND	180	89.8	200	5.63	
EXT DRO >C28-C36	<10.0	10.0	07/21/2023	ND					

Surrogate: 1-Chlorooctane 92.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 CHUCK TERHUNE
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	07/20/2023	Sampling Date:	07/13/2023
Reported:	07/24/2023	Sampling Type:	Soil
Project Name:	VGEU 02-20	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03070	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA COUNTY, NM		

Sample ID: SW - 23 (H233791-05)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/21/2023	ND	2.09	104	2.00	1.43		
Toluene*	<0.050	0.050	07/21/2023	ND	2.04	102	2.00	2.00		
Ethylbenzene*	<0.050	0.050	07/21/2023	ND	1.98	99.0	2.00	1.69		
Total Xylenes*	<0.150	0.150	07/21/2023	ND	6.00	99.9	6.00	1.61		
Total BTEX	<0.300	0.300	07/21/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	07/21/2023	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/21/2023	ND	173	86.3	200	5.90		
DRO >C10-C28*	69.6	10.0	07/21/2023	ND	180	89.8	200	5.63		
EXT DRO >C28-C36	94.2	10.0	07/21/2023	ND						

Surrogate: 1-Chlorooctane 89.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

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

Client Name: **Maverick** Site Manager: **Chuck Terhune**

Project Name: **VGEU 02-20** (281) 755-8965
chuck.terhune@tetratech.com

Project Location: **Lea County, NM** Project #: **212C-MD-03070**

Invoice to: chuck.terhune@tetratech.com

Receiving Laboratory: **Cardinal Labs** Sampler Signature: **Miguel A. Flores**

Comments:

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	Hold
X	X	X	X	X											X				

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD			# CONTAINERS	FILTERED (Y/N)	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	Hold			
		YEAR: 2023	DATE	TIME	WATER	SOIL	HCL	HNO ₃																							ICE		
1	SW-19	7/13/2023			X			X			X	X	X	X																			
2	SW-20	7/13/2023			X			X			X	X	X	X													X						
3	SW-21	7/13/2023			X			X			X	X	X	X												X							
4	SW-22	7/13/2023			X			X			X	X	X	X												X							
5	SW-23	7/13/2023			X			X			X	X	X	X												X							

Relinquished by: *Miguel A Flores* Date: _____ Time: _____

Received by: *S Rodriguez 7/20/23 1300* Date: _____ Time: _____

Relinquished by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____

Relinquished 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 TRRP Report

Sample Temperature: 57.2

#140

M.F.

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Site Remediation Closure Report
VGEU 02-20
nRM2017856312

Maverick Permian, LLC
August 24, 2023

ATTACHMENT 4: CULTURAL RESOURCE SURVEY COVER PAGE

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 9 4 0

Registration

Lead Agency: New Mexico State Land Office

Performing Agency: SWCA Environmental Consultants

Activity ID: 81415

Performing Agency Report No: 23-317

Report Recipient (Your Client): Tetra Tech, Inc.

- Activity Types:**
- Research Design
 - Archaeological Survey/Inventory
 - Architectural Survey/Inventory
 - Test Excavation
 - Monitoring
 - Collections/Non-Field Study
 - Compliance Decision
 - Literature Review Overview
 - Excavation
 - Ethnographic Study
 - Resource/Property Visit
 - Historic Structures Report
 - Other:

Total Survey Acreage: 2.72

Total Tribal Acreage: 0.00

Total Resources Visited: 0

Site Remediation Closure Report
VGEU 02-20
nRM2017856312

Maverick Permian, LLC
August 24, 2023

ATTACHMENT 5: NMSLO SEED MIXTURE DETAILS



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

VGEU 02-20 West Flowline Release



August 24, 2021

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



Soil Map may not be valid at this scale.

Map Scale: 1:1,060 if printed on A landscape (11" x 8.5") sheet.

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

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lea County, New Mexico
 Survey Area Data: Version 17, Jun 8, 2020

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

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

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

Custom Soil Resource Report

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	1.7	100.0%
Totals for Area of Interest		1.7	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.

Custom Soil Resource Report

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.

Custom Soil Resource Report

Lea County, New Mexico**KU—Kimbrough-Lea complex, dry, 0 to 3 percent slopes****Map Unit Setting**

National map unit symbol: 2tw46
Elevation: 2,500 to 4,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Kimbrough and similar soils: 45 percent
Lea and similar soils: 25 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimbrough**Setting**

Landform: Plains, playa rims
Down-slope shape: Linear, convex
Across-slope shape: Linear, concave
Parent material: Loamy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 3 inches: gravelly loam
Bw - 3 to 10 inches: loam
Bkkm1 - 10 to 16 inches: cemented material
Bkkm2 - 16 to 80 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 4 to 18 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 95 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R077DY049TX - Very Shallow 12-17" PZ
Hydric soil rating: No

Custom Soil Resource Report

Description of Lea**Setting***Landform:* Plains*Down-slope shape:* Convex*Across-slope shape:* Linear*Parent material:* Calcareous, loamy eolian deposits from the blackwater draw formation of pleistocene age over indurated caliche of pliocene age**Typical profile***A - 0 to 10 inches:* loam*Bk - 10 to 18 inches:* loam*Bkk - 18 to 26 inches:* gravelly fine sandy loam*Bkkm - 26 to 80 inches:* cemented material**Properties and qualities***Slope:* 0 to 3 percent*Depth to restrictive feature:* 22 to 30 inches to petrocalcic*Drainage class:* Well drained*Runoff class:* High*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:* 90 percent*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*Sodium adsorption ratio, maximum:* 3.0*Available water supply, 0 to 60 inches:* Very low (about 2.9 inches)**Interpretive groups***Land capability classification (irrigated):* None specified*Land capability classification (nonirrigated):* 7s*Hydrologic Soil Group:* D*Ecological site:* R077DY047TX - Sandy Loam 12-17" PZ*Hydric soil rating:* No**Minor Components****Douro***Percent of map unit:* 12 percent*Landform:* Plains*Down-slope shape:* Linear*Across-slope shape:* Linear*Ecological site:* R077DY047TX - Sandy Loam 12-17" PZ*Other vegetative classification:* Unnamed (G077DH000TX)*Hydric soil rating:* No**Kenhill***Percent of map unit:* 12 percent*Landform:* Plains*Down-slope shape:* Linear*Across-slope shape:* Linear*Ecological site:* R077DY038TX - Clay Loam 12-17" PZ*Hydric soil rating:* No

Custom Soil Resource Report

Spraberry

Percent of map unit: 6 percent

Landform: Plains, playa rims

Down-slope shape: Linear, convex

Across-slope shape: Linear

Ecological site: R077DY049TX - Very Shallow 12-17" PZ

Other vegetative classification: Unnamed (G077DH000TX)

Hydric soil rating: No

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.



Site Remediation Closure Report
VGEU 02-20
nRM2017856312

Maverick Permian, LLC
August 24, 2023

ATTACHMENT 6: PHOTOGRAPHIC DOCUMENTATION

SW

W

NW

N

210

240

270

300

330

0

☉ 290°W (T) LAT: 32.796124 LON: -103.487202 ±3m ▲ 1219m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 05 2023, 12:51:07 MDT

S

SW

W

NW

150

180

210

240

270

300

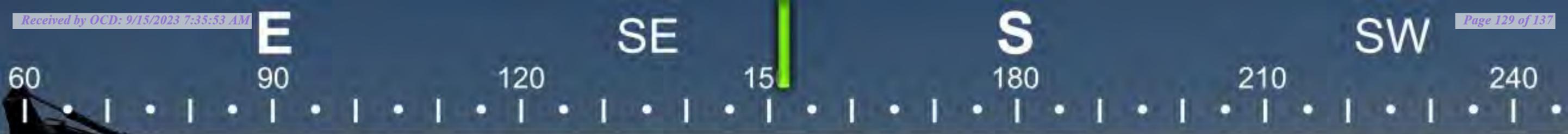
330

☉ 238°SW (T) LAT: 32.796183 LON: -103.487180 ±4m ▲ 1215m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 05 2023, 12:52:58 MDT



☉ 152°SE (T) LAT: 32.796331 LON: -103.487471 ±4m ▲ 1214m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 05 2023, 12:53:26 MDT

N NE E SE

0 30 60 90 120 150

☀ 82°E (T) LAT: 32.796414 LON: -103.487766 ±4m ▲ 1214m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 05 2023, 12:54:49 MDT

NE

E

SE

S

30

60

90

120

150

180

☀ 112°E (T) LAT: 32.796379 LON: -103.487732 ±4m ▲ 1214m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 05 2023, 12:55:04 MDT

SW

W

NW

N

210

240

270

300

330

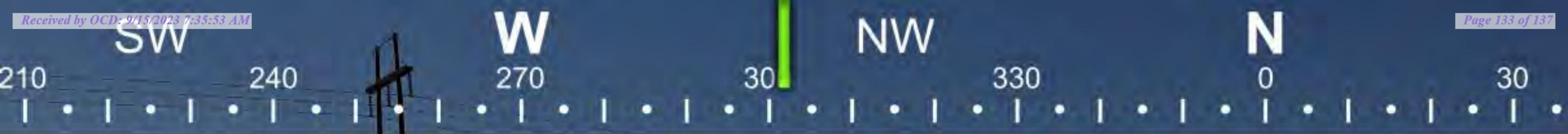
0

☉ 282°W (T) LAT: 32.796163 LON: -103.487167 ±4m ▲ 1210m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 12 2023, 12:25:17 MDT



☉ 302°NW (T) LAT: 32.796030 LON: -103.487161 ±4m ▲ 1210m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 18 2023, 15:24:34 MDT



☉ 229°SW (T) LAT: 32.796204 LON: -103.487021 ±4m ▲ 1215m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 26 2023, 12:24:57 MDT



☉ 196°S (T) **LAT: 32.796440 LON: -103.487215 ±4m ▲ 1222m**



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 26 2023, 12:25:23 MDT

S

SW

W

NW

180

210

240

270

300

330

☉ 252°W (T) LAT: 32.796417 LON: -103.487209 ±4m ▲ 1221m



Site Remediation
Tetra Tech

Maverick - VGEU 02-20
Jul 26 2023, 12:25:27 MDT

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 265540

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 265540
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	None	12/7/2023