



June 14, 2024

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

**Re: Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum Abo Battery #4 Trunkline  
Unit Letter D, Section 35, Township 17 South, Range 35 East  
Lea County, New Mexico  
Incident IDs# nJXK1616547061 and nRM2003534693**

Dear Sir or Madam,

Tetra Tech, Inc. (Tetra Tech) was contracted by ConocoPhillips (COP) to evaluate and assess a release that occurred from a trunkline located at the Vacuum Abo Battery #4, in Lea County, New Mexico (Site) on June 11, 2016. Subsequently, COP contracted COP to evaluate and assess a subsequent release at the same location that occurred on December 30, 2019. The initial C-141 for the 2016 release (nJXK1616547061) inaccurately states the release occurred in the Public Land System Survey (PLSS) Unit Letter I, Section 27, Township 17 South, and Range 35 East. This location corresponds to the well listed on the C-141, which is the Vacuum Abo Unit #004 well (API 30-025-08526). According to information provided by COP, the release occurred in the vicinity of the Vacuum Abo Battery #4, located approximately 2 miles southeast of the well location provided in the C-141, in the PLSS Unit Letter D, Section 35, Township 17 South, Range 35 East. The approximate location of the 2016 release point (nJXK1616547061) is within the caliche pad located south of the Vacuum Abo Battery #4 at 32.798140°, -103.434660°. The 2019 release (nRM2003534693) also occurred in the vicinity of the Vacuum Abo Battery #4 at coordinates 32.798410°, -103.434713°. The location of the releases is shown in **Figure 1** and **Figure 2**. In 2022 Maverick Permian LLC (Maverick) acquired the Site from COP, began operating the Site in June 2022, and undertook the remediation activities described in this report which covers both releases.

## BACKGROUND

### nJXK1616547061

According to the State of New Mexico C-141 Initial Report, the release was discovered on June 11, 2016, occurring as the result of a buried trunkline on the south side of County Road (CR) 50. The release consisted of 38 barrels (bbls) of produced water, of which 25 bbls were recovered with a vacuum truck. Immediate action was to shut in all manual header valves. The NMOCDD received notification of the release on June 13, 2016, and the release was subsequently assigned Incident ID nJXK1616547061. The approximate release extent is presented in **Figure 3A**.

### nRM2003534693

According to the State of New Mexico C-141 Initial Report, on December 30, 2019, a release occurred from a trunkline at the Vacuum Abo Battery #4. The release consisted of approximately 0.713 barrels (bbls) of oil and 27.791 bbls of produced water, of which 1 bbl of produced water was recovered. The release traveled up from the subsurface trunk line, off of the Vacuum Abo Battery #4 pad north into the ditch on the southern side of CR 50, then to the east along the ditch until it reached a point where it pooled and crossed the highway. The approximate release extent is presented in **Figure 3B**.

**Tetra Tech, Inc.**

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ConocoPhillips gave immediate notice following the discovery of the release to the New Mexico Department of Transportation County Road Department and Maintenance Department, as well as the NMOCD, and the release was subsequently assigned the release Incident ID nRM2003534693.

## SITE CHARACTERIZATION

Tetra Tech performed a Site characterization that included the identification of sensitive receptors, a depth to groundwater determination, and assessment of site soils. Site Characterization data are included in **Attachment 1**

### Receptors

that 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 19.15.29 New Mexico Administrative Code (NMAC). According to the NMOCD Oil and Gas Map online, the Site is in an area of low karst potential.

### Depth to Groundwater

According to the New Mexico Office of State Engineer's (NMOSE) Reporting System, there are two (2) water wells within ½ mile of the Site with an average depth to groundwater of 67 feet below ground surface (bgs), however, the available groundwater depths are greater than 25 years old. The United States Geological Survey (USGS) has Active Monitoring Groundwater Well 324745103251501 listed as 0.44 miles east-southeast of the site with a recorded depth to water of 55.49 feet dated water January 6, 2016.

### Soils

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the Site is mapped as Kimbrough gravelly loam, dry, 0 to 3 percent slopes, which is classified as a loam soil.

## 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 Xylenes (BTEX), Total Petroleum Hydrocarbons (TPH), and chloride in soil.

Based on the depth to water and distances to potential receptors, and in accordance with Table I of 19.15.29.12 NMAC, the remediation RRALs for the Site for groundwater between 51 and 100 feet bgs are as follows:

**Closure Criteria for Soils Impacted by a Release**

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

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

#### Reclamation Requirements

Constituent	Remediation RRAL
Chloride	600 mg/kg
TPH (GRO+DRO+ORO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

### NJXK1616547061 - 2016 REMEDIATION ACTIVITIES AND CONFIRMATION SAMPLING

Given that the footprint of the 2016 release (nJXK1616547061) closely matched the footprint of the previous release (nTO1518757703) at the site that occurred on July 6, 2015 (nTO1518757703 deferral Approved January 4, 2023), the remediation activities intended for 2015 release were merged to encompass both the 2015 release (nTO1518757703) and the 2016 release (nJXK1616547061) footprints. According to available information, further assessment work was not conducted following the 2016 release before remediation activities commenced at the Site in accordance with the approved Corrective Action Plan (CAP) for the 2015 release (nJXK1616547061). Based on the May 2016 soil assessment results for the 2015 release (nTO1518757703) and the approved CAP, excavation activities commenced in July 2016. COP scraped the release extent on the lease pad to a depth of 0.5 feet below ground surface (bgs). Accessible portions of the release area were excavated down to 2.5 feet bgs and 3.5 feet bgs. In the interest of safety, COP kept the excavation more than 5 feet from buried lines. A map created by Basin that shows the 2015 and 2016 release extents (identified as "AD #1 Stain" and "AD #2 Stain," respectively) along with the excavation areas is available from the NMOCD Permitting portal under Incidents nTO1518757703 and nJXK1616547061.

Four (4) confirmation samples were collected from the floor of the excavated areas and submitted to Cardinal Laboratories for analysis of TPH and chloride. The laboratory analytical results for chloride reported concentrations greater than the Reclamation Requirement at point 3 at 2.5 feet bgs and at point 4 at 0.5 feet bgs. The laboratory analytical report was previously submitted to the NMOCD under incident nTO1518757703. The excavated areas were backfilled with clean material upon receipt of confirmation sampling analytical results. The impacts at these locations were deferred under incident nTO1518757703, approved on January 4, 2023. The confirmation sampling summary tables and laboratory analytical packages are available from the NMOCD Permitting portal under Incidents nTO1518757703 and nJXK1616547061.

### NRM2003534693 – 2019 INITIAL RESPONSE ACTIVITIES

#### Initial Response and Remediation

Per 19.15.29.8(B)(4) NMAC, the responsible party may commence remediation immediately after the discovery of a release. According to COP, the initial response to the December 2019 release (nRM2003534693) by COP was to remove the overburden above the trunk line and hand excavate saturated soils and caliche with shovel crews to a depth of 10-12 feet bgs. The excavation was performed by hand because COP policy prohibits the use of mechanized excavation equipment in the immediate vicinity of lines. Visually impacted areas in the bar ditch adjacent to the road were scraped and then backfilled with clean material. COP contractors transported and

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disposed of the contaminated soil at an NMOCD-approved facility. Photographic documentation of the initial response was previously submitted to the NMOCD and is available from the NMOCD Permitting portal under incident nRM2003534693.

## 2020 SITE ASSESSMENT

### 2020 Soil Assessment Sampling

In October 2020 Tetra Tech mobilized to the Site on behalf of COP to conduct additional assessment activities to complete horizontal and vertical delineation of the documented releases at the Site. As there are multiple releases associated with this Site, the assessment and characterization activities were grouped together for expediency. A total of twelve (12) borings were installed using a combination of methods. Six (6) borings were completed using an air rotary drilling rig (BH-1, BH-2, BH-3, BH-7, BH-9, and Bh-10) and six (6) were completed via hand auger (BH-5, BH-6, BH-11, Bh-12, BH-13, and Bh-14). Three (3) borings (BH-1 through BH-3) were installed within the interior of the individual release extents to achieve vertical delineation of the releases. Boring locations BH-1 and BH-3 were each installed to a depth of 20 feet bgs, while BH-2 was installed to 40 feet bgs, based on field soil screening results.

BH-1 and BH-2 are the vertical delineation points for the 2016 release (nJXK1616547061). The nine (9) remaining borings (B-5, BH-6, BH-7, and BH-9 through BH-14) were installed to various depths on the perimeter of the release to the north, south, east, and west to confirm horizontal delineation of the release footprints. Boring logs presenting soil descriptions, sample depths, and field screening data from the October 2020 assessment activities are provided in **Attachment 3**.

**Figures 4A** and **4B** depict the release extents, excavated areas in response to the 2019 release (nRM2003534693), and the October 2020 soil assessment. Initial response excavation, remediation extents, and deferral location information related to the 2016 release (nJXK1616547061) Are available from the NMOCD Permitting portal under incident nTO1518757703. **Table 1** presents the locations of the soil assessment locations. A total of forty-eight (48) samples were collected from the twelve borings and submitted to Pace Analytical Laboratory in Mount Juliet, Tennessee for analysis of BTEX by Method 8021B, TPH by Method 8015M, and chloride by Method 300.0.

### 2020 Soil Assessment Sampling Results

Results from the October 2020 soil sampling event are summarized in **Table 2** screened against Reclamation Requirements. boring locations BH-1 (0-1 feet bgs), BH-2 (0-4 feet bgs), and BH-3 (0-4 feet bgs) reported chloride at concentrations greater than the Reclamation Requirement for chloride of 600 mg/kg. Additionally, analytical

results reported for the 0-1 foot bgs intervals at BH-3 and BH-7 reported TPH at concentrations greater than The reclamation requirement for TPH of 100 mg/kg. The laboratory analytical results reported for the remaining samples analyzed reported constituent concentrations as less than Reclamation Requirements or RRALs, as applicable.

Analytical sampling results that reported constituent concentrations as greater than reclamation requirements are from borings located on the Vacuum Abo Battery #4 lease pad. All samples collected from borings located in off-site pasture areas reported constituent concentrations as less than Site RRALs. The laboratory analytical data packages were previously submitted to the NMOCD and are available from the NMOCD Permitting portal under Incident nRM2003534693.



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## 2022 SITE DELINEATION AND SAMPLING RESULTS

### 2022 Site Delineation Sampling

In order to meet the requirements of 19.15.29.11 NMAC, Tetra Tech personnel conducted additional soil sampling on February 17 and February 25, 2022, on behalf of COP. A total of four (4) trenches (T-1 through T-4) were installed using a mini excavator. The trenches were excavated to achieve vertical delineation of the impacted bar ditch area north of the Vacuum Abo Battery #4 facility. Although the NMOCD requested samples in the road, Buckeye Road is a relatively impermeable asphalt-topped road and sampling for constituents of concern would require asphalt coring that may result in inconclusive data. Based on the age of the release and the impermeability of the asphalt, sampling these areas was not deemed practical or warranted as the sidewall confirmation samples in the remediation locations near the road edges will demonstrate no impacts would be present beneath the road surface.

The collected samples were submitted to Cardinal Laboratories in Hobbs, New Mexico for the analysis of BTEX, TPH, and chloride. The sample locations are shown in **Figure 5** and location coordinates are provided in **Table 1**.

### 2022 Site Delineation Sampling Analytical Results

The results of the 2022 site delineation sampling conducted in February 2022 are summarized in **Table 2** screened against Reclamation Requirements. Analytical results associated with T-1, which was installed on the northern edge of the battery pad, reported chloride at concentrations greater than the reclamation requirement of 600 mg/kg down to 3 feet bgs, but below the Site RRAL of 10,000 mg/kg. Analytical results associated with T-4 reported TPH at concentrations greater than the reclamation requirements for TPH of 100 mg/kg down to 1 foot bgs. The remainder of the analytical results for samples analyzed during the February 2022 site delineation sampling reported constituent concentrations as less than reclamation requirements for constituents analyzed. The laboratory analytical data packages for the 2022 site delineation sampling were previously submitted to the NMOCD and are available from the NMOCD Permitting portal under Incident ID nRM2003534693.

## 2022 REMEDIATION WORK PLAN

Based on the results of the additional site assessment, COP proposed to treat the bar ditch area in situ in the vicinity of T-4 with Micro-Blaze, a microbial formulation used for bioremediation of hydrocarbons and other organic compounds. Following the application, COP proposed to conduct confirmation sampling in this area to confirm the efficacy of the proposed remedial strategy. Additionally, COP requested that NMOCD defer remediation activities on and adjacent to the lease pad until battery abandonment, retrofit, or inactivity, when remediation would be completed with reclamation.

## NMOCD REJECTION OF 2022 WORK PLAN

On September 15, 2022, the NMOCD rejected the 2022 Remediation Work Plan submitted on behalf of COP under Incident nRM2003534693. This section responds to relevant NMOCD comments to provide clarification, further detail, and/or actions taken by Maverick where appropriate in response to NMOCD comments. To provide clarity, the NMOCD rejection comments are reiterated below along with Maverick's response.

*"Bioremediation to treat the bar ditch area in-situ with Micro-Blaze is approved. Confirmation samples should be collected every 200 ft<sup>2</sup> in the bar ditch and on the battery pad. Confirmation samples should be collected every 200 ft<sup>2</sup> in the bar ditch and on the battery pad. The battery pad will require full sampling delineation. The deferral may be granted so long as the contamination is fully delineated and does not cause an imminent risk to human health, the environment, or ground water. As much contaminated soil as possible should be removed safely with alternative methods. Only sample points that could cause a major*

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*facility deconstruction will be deferred. Specify exactly which sample points you are asking for a deferral on and the reason the contaminants can't be removed. The work will need to occur in 90 days after the report has been reviewed."*

In lieu of pursuing in-situ remediation and deferral, Maverick opted to remediate the affected areas through excavation and disposal of the affected material in accordance with requirements of 19.15.29.12 NMAC.

## ARCHEOLOGICAL RECORDS MANAGEMENT SECTION REVIEW

To comply with 1.10.15 NMAC and New Mexico State Land Office (NMSLO) requirements, Tetra Tech conducted an Archeological Survey for the Site. The Archeological Survey findings under NMCRIS Activity Number were reported as Negative – No further archaeological review is required for the project area within NMSLO-managed lands on lease number B025190000, GS21120002. No subsurface cultural materials were encountered during remediation activities. The redacted ARMS Review letter is included in **Attachment 3**.

## REMEDIATION AND CONFIRMATION SAMPLING

Excavation activities commenced on February 9, 2024, and concluded on February 22, 2024. Maverick's subcontractor, SDR Enterprises (SDR) used heavy equipment to excavate impacted soil from the remediation area to depths of 1, 3, and 4 feet bgs. To avoid potential contact by heavy equipment with pressurized lines within the remediation area, heavy equipment was maintained at a distance of at least 2 feet from pressurized lines where hydro-excavation and hand-digging were employed. SDR excavated a total of 441 cubic yards of contaminated soil from four excavations with an approximate total area of 5,025 square feet. Excavated material was transported to R360 Halfway Disposal and Landfill in Hobbs, New Mexico, for offsite disposal. Photographic documentation showing the open excavation is provided in **Attachment 5**.

### Confirmation Sampling

Upon reaching the final lateral and vertical excavation extents of the excavation, Tetra Tech collected 45 final confirmation samples including 23 5-point composite floor samples and 22 five-point composite side wall samples from the excavated areas. The remediation excavation confirmation sampling areas were comprised of the following:

- A 1 foot deep excavation on the facility pad with an approximately 2,330 square foot base and 245 square feet of sidewall for a total area of 2,575 square feet from which 18 confirmation samples were collected for a sampling density of approximately one confirmation sample per 144 square feet;
- A 1 foot deep to 4 foot deep excavation in the bar ditch to the east with an approximately 1,325 square foot base and 490 square foot sidewall for a total area of 1,815 square feet from which 12 confirmation samples were collected for a sampling density of approximately one confirmation sample per 152 square feet;
- A 3 foot deep excavation on the facility pad with an approximately 635 square foot base and 330 square foot sidewall for a total area of 965 square feet from which seven (7) confirmation samples were collected for a sampling density of approximately one confirmation sample per 107 square feet; and
- A 4 foot deep excavation on the facility pad with an approximately 775 square foot base and 460 square feet of sidewall for a total area of 1,235 square feet from which seven (7) confirmation samples were collected for a sampling density of approximately one sample per 177 square feet.

Samples were submitted to Cardinal Laboratory in Hobbs, New Mexico for analysis of BTEX by Method 8021B, TPH by Method 8015M, and chloride by Method SM4500 CL-B. Initial floor confirmation sample FS-21 (1.0) collected from 1.0 to 1.5 feet bgs reported a chloride concentration of chloride as greater than Reclamation

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Requirements and was subsequently over-excavated to 3 feet bgs and re-sampled and submitted for laboratory analysis. Laboratory analytical results for final confirmation samples reported concentrations of BTEX, TPH, and chloride as less than respective Reclamation Requirements demonstrating clean margins.

Confirmation sample laboratory analytical results screened against Reclamation Requirements are summarized in **Table 3** and laboratory analytical data packages including chain of custody documentation remediation confirmation sampling are included in **Attachment 5**.

## Excavation Backfill

Between February 22 and February 23, 2024, subsequent to the receipt of confirmation sample results, SDR completed backfilling of the excavated areas with clean caliche on the facility pad and clean topsoil in the bar ditch excavations. SDR sourced clean backfill from nearby pits. 270 cubic yards of caliche and 90 cubic yards of clean topsoil were sourced from Seth Boyd Pit.

## Reclamation and Revegetation

To restore the impacted surface areas to the condition that existed prior to the release, the excavated areas in the pasture have been backfilled with clean topsoil in pasture areas and excavations on the facility pad have been backfilled with caliche to restore the facility pad surface. The disturbed areas have been graded back to match the surrounding topography and the pre-existing conditions prior to contouring to provide erosion control, long-term stability, prevent ponding of water, and preserve surface water flow patterns.

Subsequent to restoring topography and contouring the disturbed areas, disturbed pasture areas of the Site were seeded with New Mexico State Land Office (NMSLO) Loamy (L) Sites Seed Mixture to aid in vegetation growth to complete reclamation in accordance with the Site soil profile detailed above in the Site Characterization Section. Seeding was broadcast and raked in per the specifications for broadcast application in pound pure live seed per acre according to the NMSLO Seed Mix Loamy (L) data sheet provided in **Attachment 6**.

At the end of service, the well pad site will be reclaimed and revegetated in accordance with NMOCD requirements and a reclamation report will be prepared and submitted to the NMOCD in accordance with the *EMNRD Notice Process Updates re: Submissions of Form C-141 Release Notification and Corrective Actions* requirements.

## VARIANCE REQUEST

Tetra Tech and Maverick understand that failure to notify the NMOCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted. The remediation associated with this incident was conducted concurrently with a number of other remediations during and shortly after the 2023 holiday period. Tetra Tech failed to notify the NMOCD of Additional Remediation sampling two business days in advance in accordance with 19.15.29.12.D.(1).(a). Tetra Tech respectfully requests a variance for the failure to notify the NMOCD of sampling in consideration of the significant changes to the NMOCD notification process and changes that were implemented by the NMOCD in early December 2023.

Tetra Tech has reviewed the C-141N notification process and NMOCD *Public Notice Implementation of Digital C-141 and Incident Statuses* document dated December 1, 2023, and has shifted to strictly adhering to the sampling notification requirements of 19.15.29.12.D.(1).(a) NMAC and NMOCD notification guidance. Tetra Tech is currently submitting C-141N notifications two business days prior to conducting any remediation confirmation sampling.

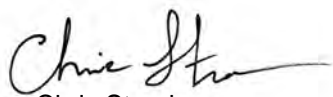
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## CONCLUSION

Based on the results of the confirmation sampling, the impacted soil within the release footprint with chloride and TPH concentrations greater than Reclamation Requirements and/or remediation RRALs has been removed and properly disposed of offsite and the excavated area has been backfilled with clean material, graded, and seeded with NMSLO approved seed mixture in pasture areas. Therefore, Site remediation is complete. A Reclamation Report for the Site will be submitted to the NMOCD under separate cover containing the NMOCD required information upon well pad reclamation at the end of Site service life. If you have any questions concerning the remediation activities for the Site, please contact Charles Terhune by email at [Charles.Terhune@tetrattech.com](mailto:Charles.Terhune@tetrattech.com) or by phone at (832) 252-2093.

Sincerely,



Chris Straub  
Project Manager  
Tetra Tech, Inc.



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

cc: Bryce Wagoner, Maverick Permian, LLC  
New Mexico State Land Office

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## LIST OF ATTACHMENTS

### Figures

Figure 1 – Site Location Map  
Figure 2 – Topographic Map  
Figure 3A – 2016 Approximate Release Extent  
Figure 3B – 2019 Approximate Release Extent  
Figure 4A – Site Assessment Locations  
Figure 4B – Site Assessment Locations  
Figure 5 – Additional Site Assessment Locations  
Figure 6A – On-Pad Remediation Extents and Confirmation Sampling  
Figure 6B – Bar Ditch Remediation Extents and Confirmation Sampling

### Tables

Table 1 – Soil Assessment Locations  
Table 2 – Summary of Analytical Results – Soil Assessment Sampling  
Table 3 – Summary of Analytical Results – Remediation Confirmation Sampling

### Attachments

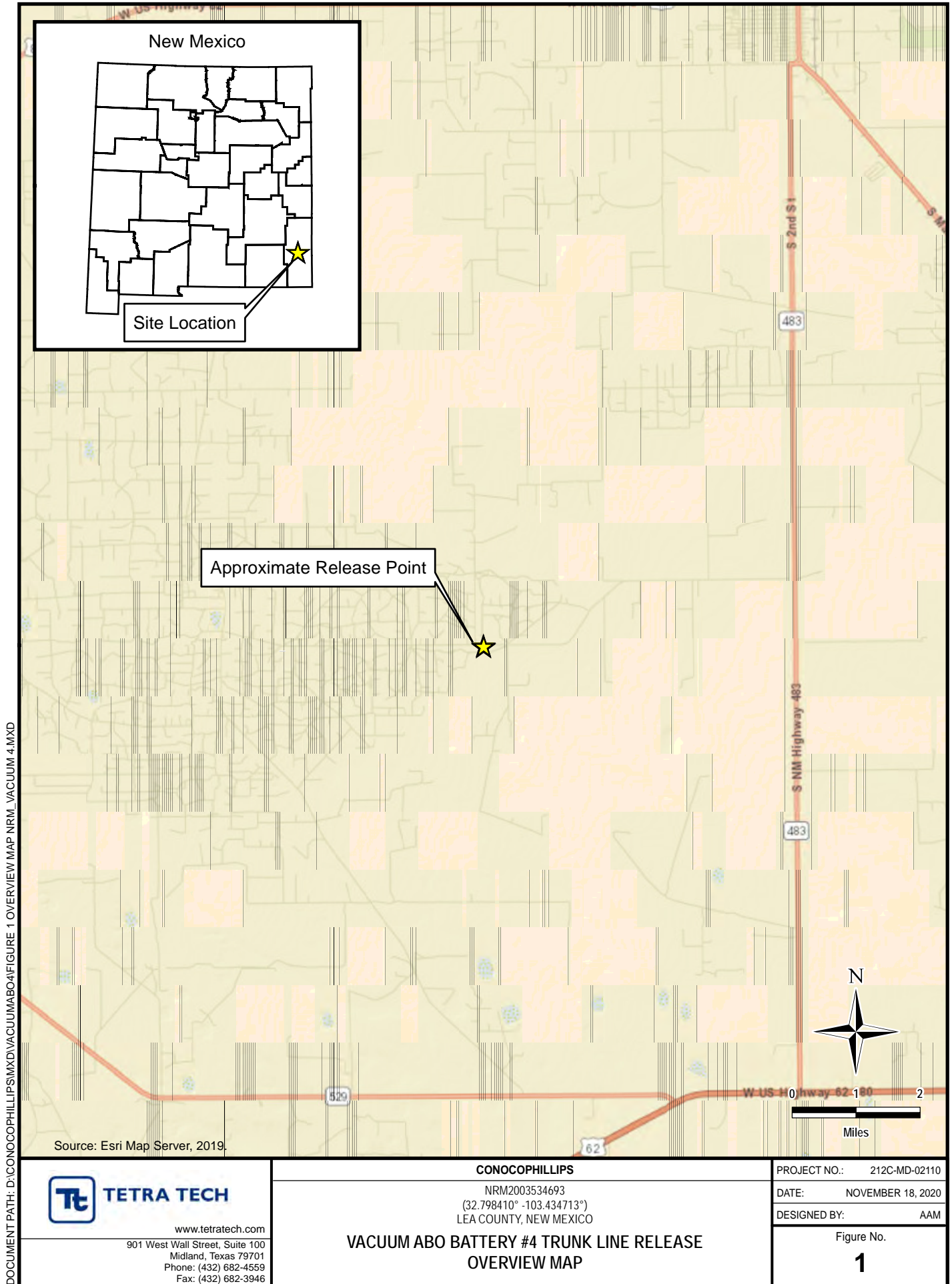
Attachment 1 – Site Characterization Data  
Attachment 2 – Boring Logs  
Attachment 3 – Cultural Resource  
Attachment 4 – Photographic Documentation  
Attachment 5 – Laboratory Analytical Reports  
Attachment 6 – NMSLO Seed Mixture Details

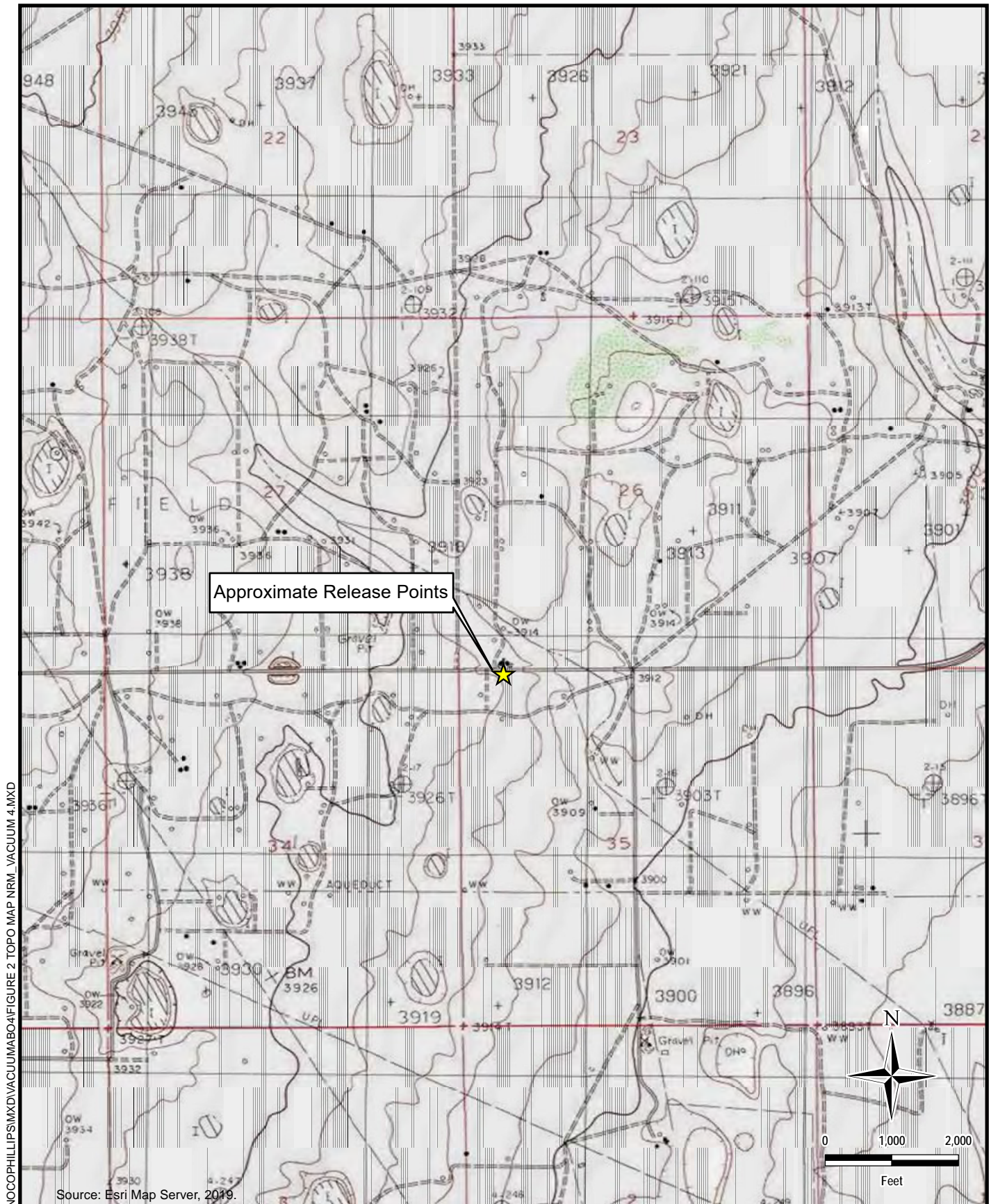
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## FIGURES







DOCUMENT PATH: D:\CONCOPHILLIPS\MXD\VACUUMABO4\FIGURE 2 TOPO MAP NRM\_VACUUM 4.MXD


**TETRA TECH**
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**MAVERICK PERMIAN, LLC**  
 NJXK1616547061 & NRM2003534693  
 (32.798140°, -103.434660°) & (32.798410° -103.434713°)  
 LEA COUNTY, NEW MEXICO

**VACUUM ABO BATTERY #4 TRUNKLINE RELEASES  
 TOPOGRAPHIC MAP**

PROJECT NO.: 212C-MD-02110

DATE: NOVEMBER 18, 2020

DESIGNED BY: AAM


Figure No.

**2**





## Legend

 Approximate Release Extent  
Image Source: Esri Map Server, 2017.



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**MAVERICK PERMIAN, LLC**

NJXK1616547061  
(32.798140°, -103.434660°)  
LEA COUNTY, NEW MEXICO

**2016 VACUUM ABO BATTERY #4 TRUNK LINE RELEASE  
APPROXIMATE RELEASE EXTENT**

PROJECT NO.: 212C-MD-02110

DATE: MARCH 02, 2021

DESIGNED BY: AAM

Figure No.

**3A**





**Legend**


 Approximate Release Extent

Image Source: Esri Map Server, 2017.

 **TETRA TECH**

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**MAVERICK PERMIAN, LLC**

NRM2003534693  
(32.798410°, -103.434713°)  
LEA COUNTY, NEW MEXICO

**VACUUM ABO BATTERY #4 2019 TRUNK LINE RELEASE  
APPROXIMATE RELEASE EXTENT**

PROJECT NO.:	212C-MD-02110
DATE:	DECEMBER 08, 2020
DESIGNED BY:	AAM
Figure No.	<b>3B</b>

DOCUMENT PATH: D:\CONCOPHILLIPS\MXD\VACUUMABO4\FIGURE 3 RELEASE MAP NRM - VACUUM 4.MXD



DOCUMENT PATH: D:\CONCOPHILLIPS\MXD\VAACUMABO4\FIGURE 4 REMEDIATION MAP 1RP-4310\_VACUUM 4.MXD



## Legend




-  Boring Location - Hand Auger (2020)
-  Boring Location (2020)
-  Approximate Releasee Extent

Image Source: Esri Map Server, 2017.



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NJXK1616547061  
(32.798140°, -103.434660°)  
LEA COUNTY, NEW MEXICO

## 2016 VACUUM ABO BATTERY #4 TRUNK LINE RELEASE SITE ASSESSMENT

PROJECT NO.: 212C-MD-02110

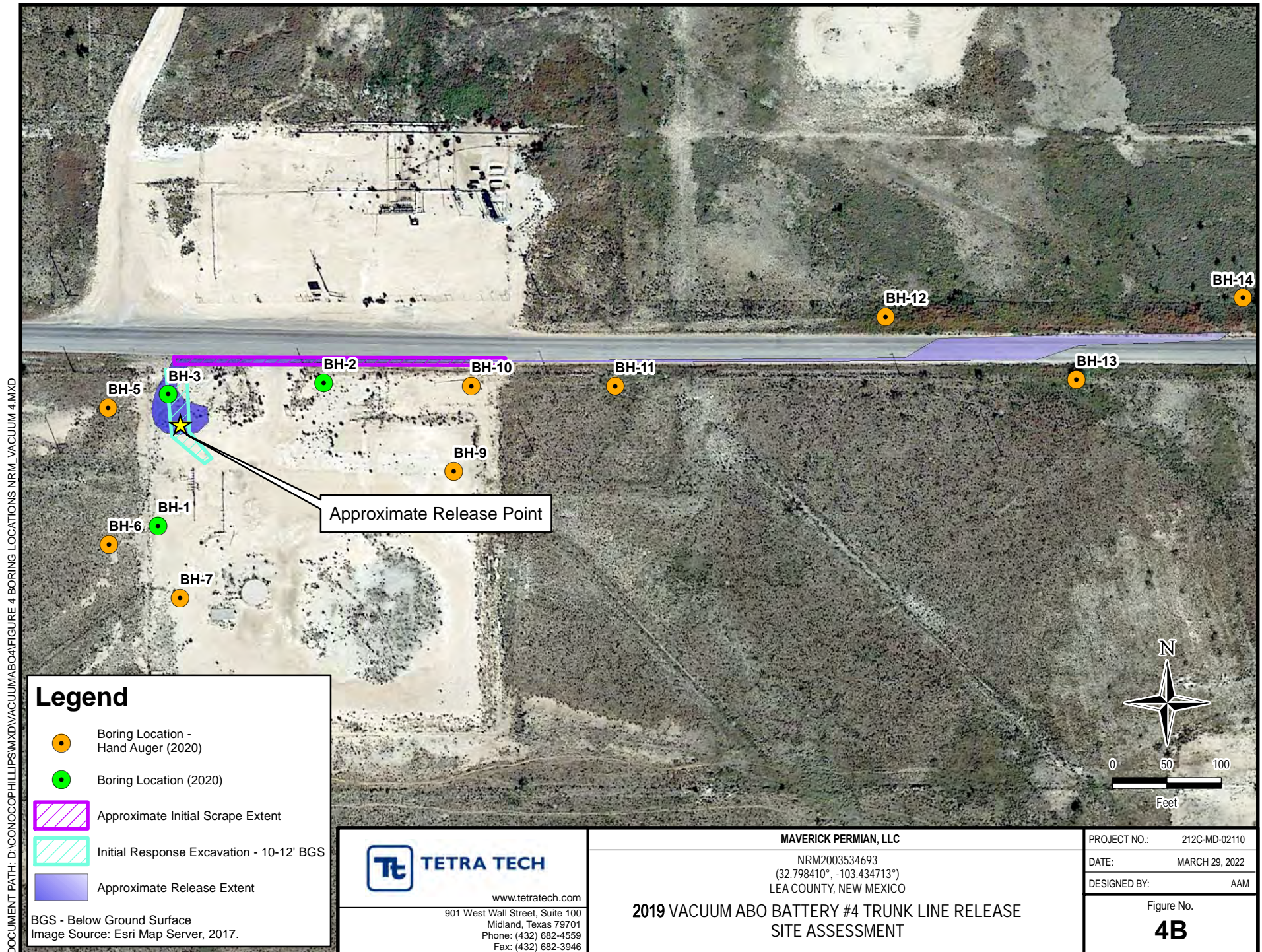
DATE: MARCH 02, 2021

DESIGNED BY: AAM

Figure No.

**4A**

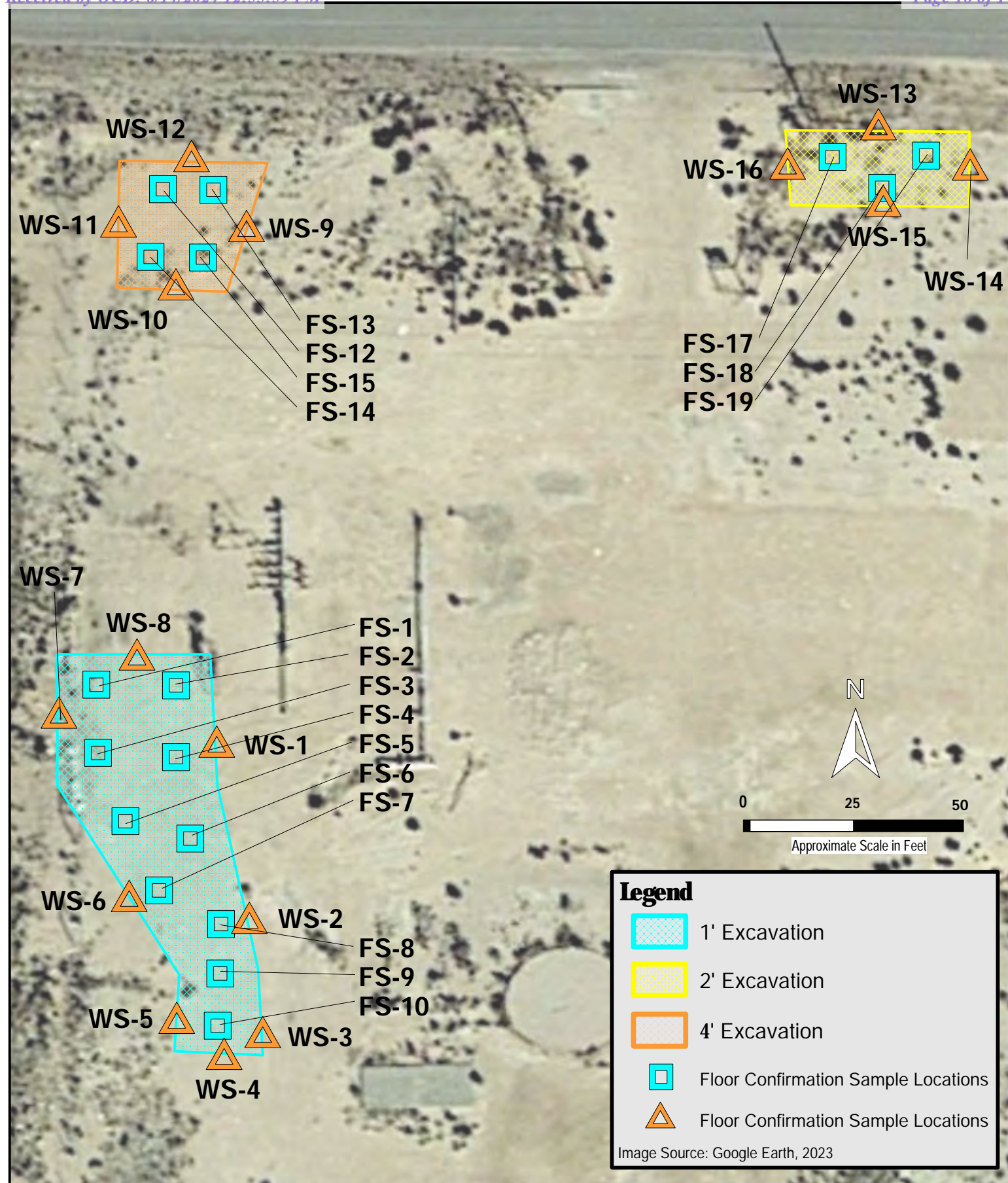












TETRA TECH

1500 CityWest Boulevard  
Suite 1000  
Houston, Texas 77042

## MAVERICK PERMIAN, LLC

nJXK1616547061 &amp; nRM2003534693

32.798140°, -103.434660° &amp; 32.798410°, -103.434713°

Lea County, New Mexico

**VACUUM ABO BATTERY #4 TRUNK LINE RELEASES  
ON-PAD EXCAVATION AND CONFIRMATION SAMPLING**

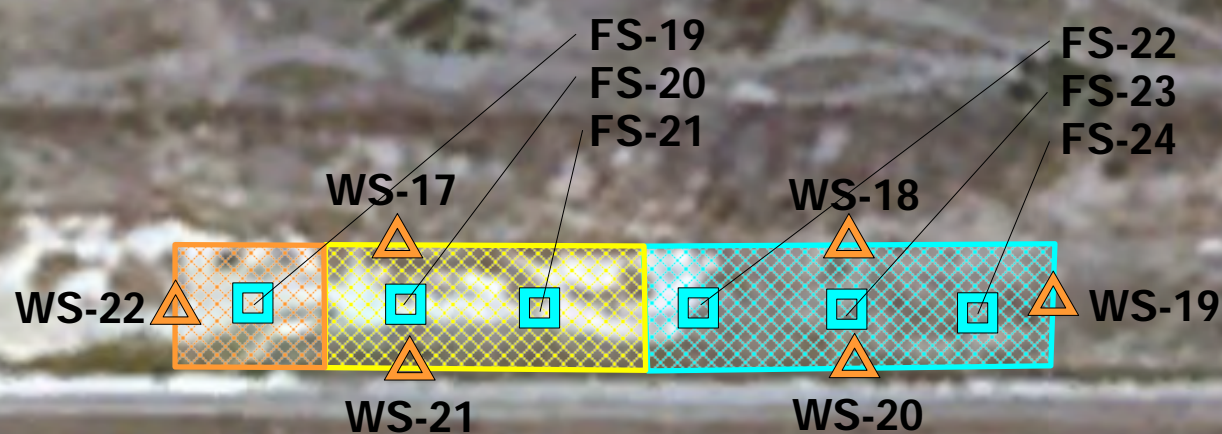
PROJECT NO: 212C-HN-03372

DATE: MAY 24, 2024

DESIGNED BY: CHT

**Figure  
6A**





### Legend






-  1' Excavation
-  2' Excavation
-  4' Excavation
-  Floor Confirmation Sample Locations
-  Floor Confirmation Sample Locations

Image Source: Google Earth, 2023



**TETRA TECH**

1500 CityWest Boulevard  
Suite 1000  
Houston, Texas 77042

### MAVERICK PERMIAN, LLC

nJXK1616547061 & nRM2003534693  
32.798140°, -103.434660° & 32.798410°, -103.434713°  
Lea County, New Mexico

**VACUUM ABO BATTERY #4 TRUNK LINE RELEASES  
BAR-DITCH EXCAVATION AND CONFIRMATION SAMPLING**

PROJECT NO: 212C-HN-03372  
DATE: MAY 24, 2024  
DESIGNED BY: CHT

**Figure  
6B**

Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum Abo Battery #4 Trunkline Releases  
Incident IDs: nJXK1616547061 & nRM2003534693

June 14, 2024

TABLES



## SOIL ASSESSMENT LOCATIONS

INCIDENT IDS NJXK1616547061 &amp; NRM2003534693

MAVERICK PERMIAN, LLC

VACUUM ABO BATTERY #4 TRUNK LINE RELEASES

LEA COUNTY, NEW MEXICO

Boring ID	Date	Latitude	Longitude
BH-1	10/13/2020	32.798153	-103.434817
BH-2	10/13/2020	32.798500	-103.434330
BH-3	10/13/2020	32.798469	-103.434784
BH-4	Boring ID not used		
BH-5	10/13/2020	32.798446	-103.434976
BH-6	10/13/2020	32.798081	-103.434961
BH-7	10/14/2020	32.797961	-103.434748
BH-8	Boring ID not used		
BH-9	10/14/2020	32.798282	-103.433912
BH-10	10/14/2020	32.798502	-103.433857
BH-11	10/13/2021	32.798499	-103.433394
BH-12	10/13/2021	32.798687	-103.432567
BH-13	10/13/2021	32.798519	-103.432003
BH-14	10/13/2021	32.798707	-103.431501
T-1	2/17/2022	32.798563	-103.434547
T-2	2/17/2022	32.798546	-103.433625
T-3	2/17/2022	32.798542	-103.432427
T-4	2/17/2022	32.798646	-103.431691



**TABLE 2**  
**SOIL ASSESSMENTS SAMPLING ANALYTICAL RESULTS**  
**INCIDENTS NJXK1616547061 & NRM2003534693**  
**MAVERICK PERMIAN, LLC**  
**VACUUM ABO BATTERY #4 TRUNK LINE RELEASES**  
**LEA COUNTY, NEW MEXICO**

Sample ID	Sample Date	Sample Depth	Chloride <sup>1</sup>		BTEX <sup>2</sup>										TPH <sup>3</sup>							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		ORO		Total TPH	
		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	(GRO+DRO+ORO)	mg/kg
Reclamation Requirements (19.15.29 NMAC)			600		10								50								100	
BH-1	10/13/2020	0 - 1	642		< 0.00106		0.0017	J	< 0.00266		0.000958	J	0.00266		0.0534	J	1.89	J	3.74	J	5.68	
	10/13/2020	2 - 3	340		< 0.00107		< 0.00537		< 0.00268		< 0.00698		-		< 0.104		< 4.15		1.81	J	1.81	
	10/13/2020	4 - 5	365		< 0.00115		< 0.00573		< 0.00287		< 0.00745		-		0.0443	J	< 4.29		< 4.29		0.0443	
	10/13/2020	6 - 7	176		< 0.00111		< 0.00556		< 0.00278		< 0.00723		-		< 0.106		< 4.23		< 4.23		-	
	10/13/2020	9 - 10	114		< 0.00107		< 0.00535		< 0.00268		< 0.00696		-		0.0672	J	< 4.14		< 4.14		0.0672	
	10/13/2020	14 - 15	120		< 0.00110		< 0.00550		< 0.00275		< 0.00715		-		< 0.105		< 4.20		< 4.20		-	
	10/13/2020	19 - 20	172		< 0.00119		< 0.00594		< 0.00297		< 0.00772		-		0.0502	J	< 4.37		< 4.37		0.0502	
BH-2	10/13/2020	0 - 1	1,000		< 0.00103		< 0.00517		< 0.00259		< 0.00672		-		< 0.102		13.3		30.2		43.5	
	10/13/2020	2 - 3	1,050		< 0.00109		< 0.00543		< 0.00271		< 0.00705		-		0.0245	J	3.11	J	4.28		7.41	
	10/13/2020	4 - 5	346		< 0.00105		< 0.00526		< 0.00263		< 0.00684		-		0.0313	J	< 4.11		< 4.11		0.0313	
	10/13/2020	6 - 7	371		< 0.00109		< 0.00543		< 0.00271		< 0.00706		-		< 0.104		< 4.17		< 4.17		-	
	10/13/2020	9 - 10	114		0.000544	J	< 0.00550		< 0.00275		< 0.00715		0.000544		< 0.105		< 4.20		< 4.20		-	
	10/13/2020	14 - 15	986		< 0.00151		< 0.00753		< 0.00376		< 0.00978		-		< 0.125		< 5.00		< 5.00		-	
	10/13/2020	19 - 20	471		< 0.00125		< 0.00626		< 0.00313		< 0.00813		-		0.0253	J	4.45	J	3.26	J	7.74	
	10/13/2020	24 - 25	310		< 0.00111		< 0.00555		< 0.00277		< 0.00721		-		< 0.105		2.38	J	< 4.22		2.38	
	10/13/2020	29 - 30	282		< 0.00109		< 0.00545		< 0.00272		< 0.00708		-		< 0.104		1.93	J	< 4.18		1.93	
	10/13/2020	34 - 35	239		< 0.00108		< 0.00540		< 0.00270		< 0.00703		-		< 0.104		3.03	J	< 4.16		3.03	
10/13/2020	39 - 40	252		< 0.00108		< 0.00542		< 0.00271		0.00352	J	0.00352		0.0303	B J	2.53	J	1.12	B J	3.68		
BH-3	10/13/2020	0 - 1	4,650		0.000547	J	< 0.00526		0.000911	J	0.00341	J	0.00487		0.0568	B J	99.7		136		236	
	10/13/2020	2 - 3	1,530		< 0.00106		< 0.00531		< 0.00266		< 0.00691		-		0.0346	B J	22.5		28.4		50.9	
	10/13/2020	4 - 5	77		< 0.00103		< 0.00515		< 0.00257		< 0.00669		-		0.0336	B J	4.76		5.52		10.3	
	10/13/2020	6 - 7	15.8	J	< 0.00114		< 0.00572		< 0.00286		< 0.00744		-		0.0307	B J	< 4.29		0.998	B J	1.03	
	10/13/2020	9 - 10	66.2		< 0.00112		< 0.00558		< 0.00279		< 0.00726		-		0.0236	B J	< 4.23		1.68	B J	1.7	
	10/13/2020	14 - 15	93.6		< 0.00118		< 0.00588		< 0.00294		< 0.00765		-		0.0275	B J	< 4.35		0.957	B J	0.985	
	10/13/2020	19 - 20	55.3		< 0.00111		< 0.00554		< 0.00277		< 0.00720		-		0.0286	B J	2.73	J	0.911	B J	3.67	
BH-5	10/13/2020	0 - 1	< 20.3		0.000539	J	0.00144	J	< 0.00256		< 0.00667		0.00198		0.0423	B J	8.01		22.5		30.6	
BH-6	10/13/2020	0 - 1	35.8		0.0011		0.00274	J	< 0.00258		0.00134	J	0.00518		0.0348	B J	4.54		17.6		22.2	
BH-7	10/14/2020	0 - 1	20.8		< 0.00104		< 0.00518		< 0.00259		< 0.00673		-		0.0283	B J	18.9		188		207	
	10/14/2020	2 - 3	16.5	J	< 0.00106		< 0.00532		< 0.00266		< 0.00691		-		0.032	B J	4.01	J	28.4		32.4	
	10/14/2020	4 - 5	96.9		< 0.00107		< 0.00535		< 0.00268		< 0.00696		-		0.0298	B J	< 4.14		2.68	B J	2.71	
	10/14/2020	6 - 7	320		< 0.00114		< 0.00568		< 0.00284		< 0.00738		-		< 0.107		< 4.27		0.364	B J	0.364	
	10/14/2020	9 - 10	341		< 0.00112		< 0.00559		< 0.00279		< 0.00727		-		0.0553	B J	< 4.23		< 4.23		0.0553	
BH-9	10/14/2020	0 - 1	36.3		< 0.00106		< 0.00528		< 0.00264		< 0.00686		-		0.0264	B J	< 4.11		1.36	B J	1.39	
	10/14/2020	2 - 3	30.9		< 0.00110		< 0.00549		< 0.00274		< 0.00714		-		0.025	B J	< 4.20		3.87	B J	3.9	
	10/14/2020	4 - 5	31.7		< 0.00110		< 0.00552		< 0.00276		< 0.00718		-		0.0284	B J	< 4.21		1.53	B J	1.56	
BH-10	10/14/2020	0 - 1	47.4		< 0.00104		< 0.00520		< 0.00260		< 0.00675		-		0.0316	B J	2.34	J	8.13		10.5	
	10/14/2020	2 - 3	37.5		< 0.00105		< 0.00524		< 0.00262		< 0.00681		-		0.0264	B J	< 4.10		1.34	B J	1.37	
	10/14/2020	4 - 5	113		< 0.00111		< 0.00553		< 0.00277		< 0.00719		-		< 0.105		< 4.21		0.598	B J	0.598	
	10/14/2020	6 - 7	80.6		< 0.00117		< 0.00583		< 0.00291		< 0.00757		-		0.0271	B J	< 4.33		0.425	B J	0.452	
	10/14/2020	9 - 10	34.8		< 0.00111		< 0.00554		< 0.00277		< 0.00720		-		0.0522	B J	< 4.21		0.455	B J	0.507	
BH-11	10/13/2020	0 - 1	44.9		0.000971		< 0.00511		< 0.00255		< 0.00664		0.000971		0.0302	B J	9.69		29.5		39.2	
	10/13/2020	2 - 3	163		0.00106		0.00134	J	< 0.00258		< 0.00672		0.0024		0.0289	B J	10.8		37.8		48.6	
BH-12	10/13/2020	0 - 1	12.4	J	< 0.00109		< 0.00544		< 0.00272		0.00292	B J	0.00292		0.0448	B J	5.31		20.1		25.5	
	10/13/2020	2 - 3	< 21.2		< 0.00112		< 0.00561		< 0.00281		0.00224	B J	0.00224		0.0307	B J	8.86		25.1		34	
BH-13	10/13/2020	0 - 1	24.9		< 0.00107		0.00166	J	0.000877	J	0.00321	B J	0.00575		0.0541	B J	10.9		38.3		49.3	
	10/13/2020	2 - 3	55.6		< 0.00113		< 0.00565		< 0.00283		0.00101	B J	0.00101		0.102	J	6.46		21.3		27.9	





TABLE 2  
SOIL ASSESSMENTS SAMPLING ANALYTICAL RESULTS  
INCIDENTS NJXK1616547061 & NRM2003534693  
MAVERICK PERMIAN, LLC  
VACUUM ABO BATTERY #4 TRUNK LINE RELEASES  
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride <sup>1</sup>		BTEX <sup>2</sup>										TPH <sup>3</sup>							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		ORO		Total TPH	
		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	
BH-14	10/13/2020	0 - 1	219		< 0.00110		< 0.00552		< 0.00276		0.00127	B J	0.00127		0.0447	J	9.1		21.7		30.8	
	10/13/2020	2 - 3	452		< 0.00113		< 0.00566		< 0.00283		0.00736	B J	0.00736		0.0482	J	11.1		24.2		35.3	
T-1	2/17/2022	0 - 1	656		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		12.3		< 10.0		12.3	
	2/17/2022	2 - 3	3,640		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		19.8		20.7		40.5	
	2/17/2022	4 - 5	176		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
	2/17/2022	6 - 7	192		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
T-2	2/17/2022	0 - 1	528		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
	2/17/2022	2 - 3	240		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
	2/17/2022	4 - 5	224		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
	2/17/2022	6 - 7	48		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
T-3	2/17/2022	0 - 1	288		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
T-4	2/17/2022	0 - 1	144		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		102		< 10.0		102	
	2/25/2022	1 - 2	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	

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 300.0  
2: Method 8260B  
3: Method 8015M

**Bold and highlighted values indicate exceedance of Reclamation Requirements (19.15.29 NMAC).**  
B: The same analyte is found in the associated blank  
J: The reported value is an estimate



**TABLE 3**  
**SUMMARY OF ANALYTICAL RESULTS**  
**SOIL CONFIRMATION SAMPLING - INCIDENTS NJXK1616547061 & NRM2003534693**  
**MAVERICK PERMIAN, LLC**  
**VACCUM ABO Battery #4 TRUNK LINE RELEASES**  
**LEA COUNTY, NEW MEXICO**

Sample ID	Sample Date	Sample Depth	Chloride <sup>1</sup>		BTEX <sup>2</sup>										TPH <sup>3</sup>							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH (GRO+DRO+EXT DRO)	
		C <sub>6</sub> - C <sub>10</sub>	> C <sub>10</sub> - C <sub>28</sub>	> C <sub>28</sub> - C <sub>36</sub>	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	Q	10	Q		Q		Q		Q	50	Q		Q		Q		Q	100	
FS - 1 (1.0)	2/19/2024	1.0 - 1.5	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 2 (1.0)	2/19/2024	1.0 - 1.5	240		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 3 (1.0)	2/19/2024	1.0 - 1.5	208		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 4 (1.0)	2/19/2024	1.0 - 1.5	448		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 5 (1.0)	2/19/2024	1.0 - 1.5	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 6 (1.0)	2/19/2024	1.0 - 1.5	464		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 7 (1.0)	2/19/2024	1.0 - 1.5	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 8 (1.0)	2/19/2024	1.0 - 1.5	224		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 9 (1.0)	2/19/2024	1.0 - 1.5	48		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 10 (1.0)	2/19/2024	1.0 - 1.5	384		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS-11	-	-	Location ID skipped during sampling																			
FS - 12 ( 4.0' )	2/16/2024	4.0 - 4.5	96		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 13 ( 4.0' )	2/16/2024	4.0 - 4.5	160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 14 ( 4.0' )	2/16/2024	4.0 - 4.5	112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 15 ( 4.0' )	2/16/2024	4.0 - 4.5	272		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 16 ( 3.0' )	2/16/2024	3.0 - 3.5	288		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 17 ( 3.0' )	2/16/2024	3.0 - 3.5	496		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 18 ( 3.0' )	2/16/2024	3.0 - 3.5	480		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 19 (4.0)	2/19/2024	3.0 - 3.5	184		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 20 (3.0)	2/19/2024	3.0 - 3.5	112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 21 (1.0)	2/19/2024	1.0 - 1.5	2,480		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 21 (3.0')	2/22/2024	2.0 - 2.5	416		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 22 (1.0)	2/19/2024	1.0 - 1.5	144		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 23 (1.0)	2/19/2024	1.0 - 1.5	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
FS - 24 (1.0)	2/19/2024	1.0 - 1.5	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 1	2/19/2024	0.0 - 1.0	256		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 2	2/19/2024	0.0 - 1.0	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 3	2/19/2024	0.0 - 1.0	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 4	2/19/2024	0.0 - 1.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 5	2/19/2024	0.0 - 1.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 6	2/19/2024	0.0 - 1.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 7	2/19/2024	0.0 - 1.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 8	2/19/2024	0.0 - 1.0	144		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 9	2/16/2024	0.0 - 4.0	352		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 10	2/16/2024	0.0 - 4.0	112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 11	2/16/2024	0.0 - 4.0	80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 12	2/16/2024	0.0 - 4.0	80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	



TABLE 3  
SUMMARY OF ANALYTICAL RESULTS  
SOIL CONFIRMATION SAMPLING - INCIDENTS NJXK1616547061 & NRM2003534693  
MAVERICK PERMIAN, LLC  
VACCUM ABO Battery #4 TRUNK LINE RELEASES  
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride <sup>1</sup>		BTEX <sup>2</sup>										TPH <sup>3</sup>							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH (GRO+DRO+EXT DRO)	
		C <sub>6</sub> - C <sub>10</sub>	> C <sub>10</sub> - C <sub>28</sub>	> C <sub>28</sub> - C <sub>36</sub>	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	
WS - 13	2/16/2024	0.0 - 3.0	96		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 14	2/16/2024	0.0 - 3.0	96		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 15	2/16/2024	0.0 - 3.0	544		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 16	2/16/2024	0.0 - 3.0	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 17	2/19/2024	0.0 - 4.0	240		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 18	2/19/2024	0.0 - 1.0	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		30		30	
WS - 19	2/19/2024	0.0 - 1.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 20	2/19/2024	0.0 - 1.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 21	2/19/2024	0.0 - 4.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 22	2/19/2024	0.0 - 4.0	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		18		18	

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 SM4500CI-B  
2: Method 8021B  
3: Method 8015M

Bold and highlighted values indicate exceedance of Reclamation Requirements (19.15.29 NMAC).  
Laterally or vertically over excavated and resampled

Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum Abo Battery #4 Trunkline Releases  
Incident IDs: nJXK1616547061 & nRM2003534693

June 14, 2024

## **ATTACHMENT 1 – SITE CHARACTERIZATION DATA**

# National Flood Hazard Layer FIRMette



103°26'24"W 32°48'9"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

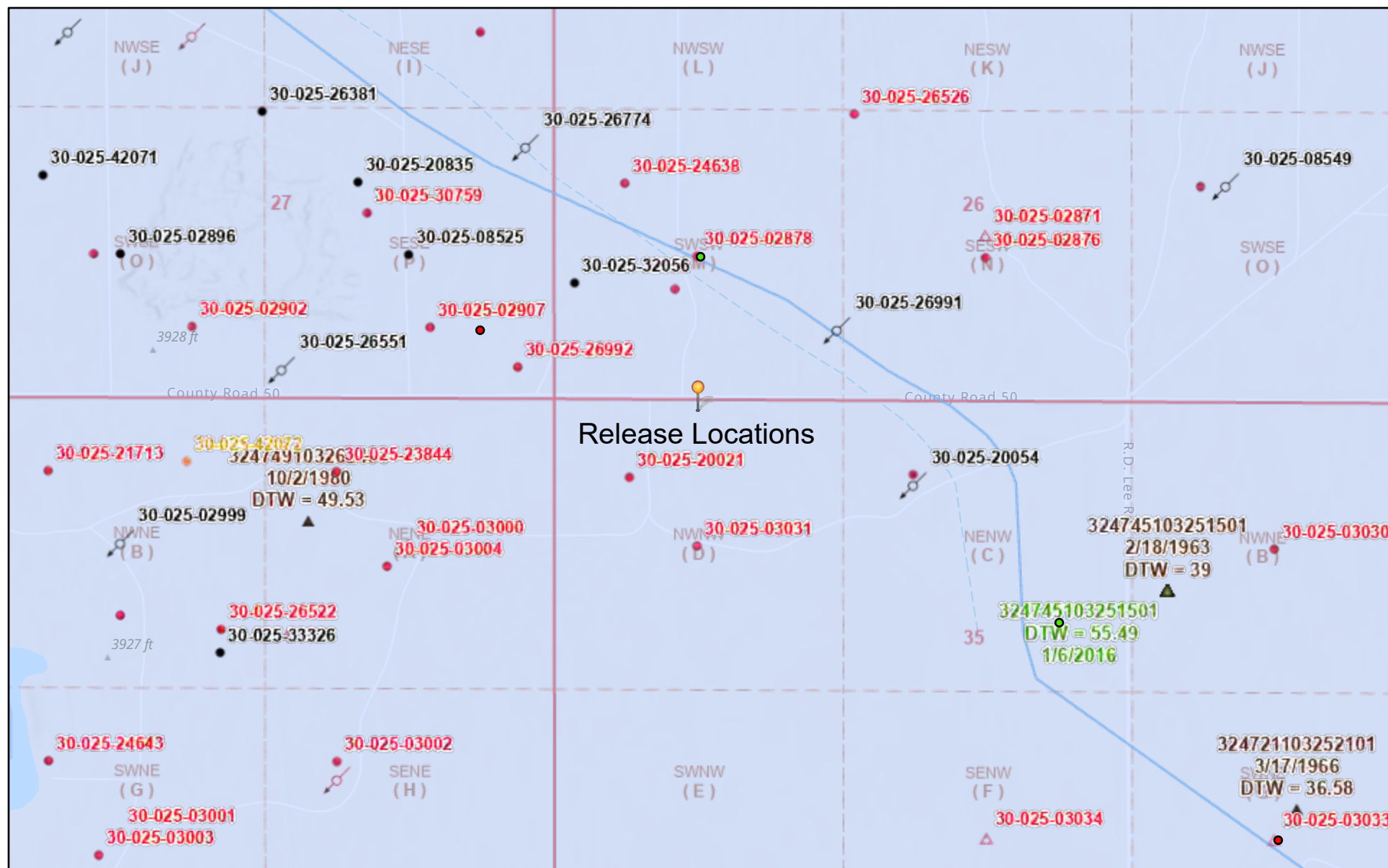
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/22/2024 at 3:51 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

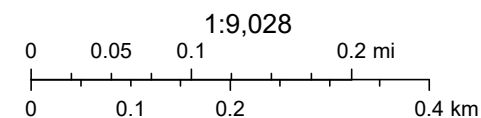
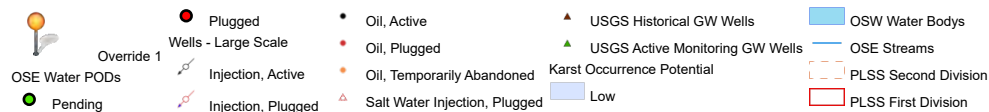
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## OCD Well Locations



5/22/2024, 2:34:01 PM

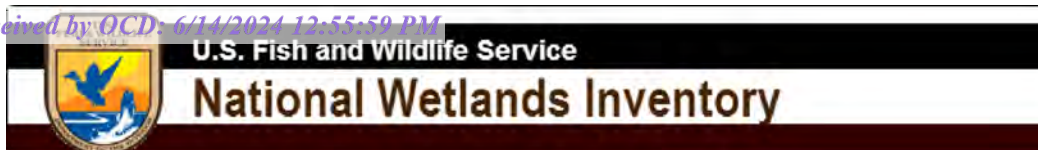


BLM, OCD, New Mexico Tech, Esri, NASA, NGA, USGS, FEMA, Oil Conservation Division of the New Mexico Energy, Minerals and Natural

New Mexico Oil Conservation Division

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





## Vacuum Abo Battery #4 Trunkline Releases



May 22, 2024

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



# 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			Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
	Sub-Code	basin	County												
<a href="#">L 04859</a>	L	LE		4	4	4	27	17S	35E	646258	3630135* 	323	145	85	60
<a href="#">L 04881</a>	L	LE		1	3	26	17S	35E	646556	3630644* 	620	137	50	87	

Average Depth to Water: **67 feet**

Minimum Depth: **50 feet**

Maximum Depth: **85 feet**

Record Count: 2

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 646561.8

**Northing (Y):** 3630023.63

**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.

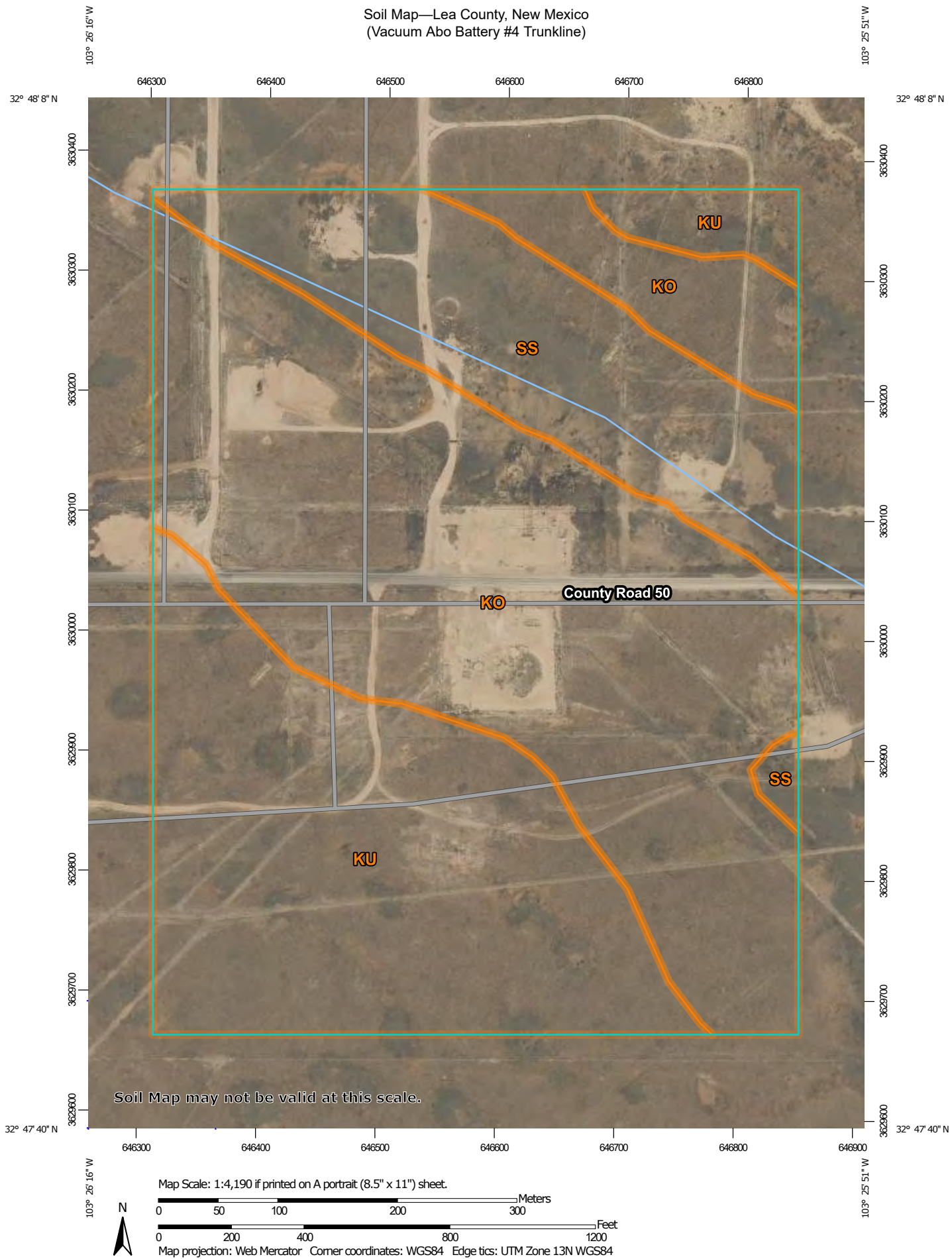
5/22/24 1:41 PM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



Soil Map—Lea County, New Mexico  
(Vacuum Abo Battery #4 Trunkline)



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

5/22/2024  
Page 1 of 3

Soil Map—Lea County, New Mexico  
(Vacuum Abo Battery #4 Trunkline)

## 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 20, Sep 6, 2023

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

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

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



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	47.1	49.9%
KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	30.8	32.6%
SS	Stegall and Slaughter soils	16.6	17.5%
Totals for Area of Interest		94.5	100.0%

Map Unit Description: Kimbrough gravelly loam, dry, 0 to 3 percent slopes---Lea County, New Mexico

Vacuum Abo Battery #4 Trunkline

## Lea County, New Mexico

### KO—Kimbrough gravelly loam, dry, 0 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2tw43

*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, dry, and similar soils:* 80 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Kimbrough, Dry

##### Setting

*Landform:* Playa rims, plains

*Down-slope shape:* Convex, linear

*Across-slope shape:* Concave, linear

*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:* Very 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

Map Unit Description: Kimbrough gravelly loam, dry, 0 to 3 percent slopes---Lea County, New Mexico

Vacuum Abo Battery #4 Trunkline

*Hydrologic Soil Group:* D  
*Ecological site:* R077DY049TX - Very Shallow 12-17" PZ  
*Hydric soil rating:* No

#### Minor Components

##### Eunice

*Percent of map unit:* 10 percent  
*Landform:* Plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Ecological site:* R077DY049TX - Very Shallow 12-17" PZ  
*Hydric soil rating:* No

##### Spraberry

*Percent of map unit:* 6 percent  
*Landform:* Playa rims, plains  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Linear  
*Ecological site:* R077DY049TX - Very Shallow 12-17" PZ  
*Hydric soil rating:* No

##### Kenhill

*Percent of map unit:* 4 percent  
*Landform:* Plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* R077DY038TX - Clay Loam 12-17" PZ  
*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: Lea County, New Mexico  
Survey Area Data: Version 20, Sep 6, 2023





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National Water Information System: Web Interface

USGS Water Resources

Data Category:


Site Information

Geographic Area:

United States

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- [Full News](#) 

USGS 324745103251501 17S.35E.35.213132

Available data for this site

Groundwater: Field measurements

GO

Well Site

DESCRIPTION:

Latitude 32°47'46.3", Longitude 103°25'39.7" NAD83  
Lea County, New Mexico , Hydrologic Unit 12080003  
Well depth: 121 feet  
Land surface altitude: 3,908 feet above NAVD88.  
Well completed in "High Plains aquifer" (N100HGHPLN) national aquifer.  
Well completed in "Ogallala Formation" (121OGLL) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<a href="#">Field groundwater-level measurements</a>	1940-09-26	2024-02-08	143
<a href="#">Revisions</a>	Unavailable (site:0) (timeseries:0)		
Additional Data Sources	Begin Date	End Date	Count

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center  
Email questions about this site to [New Mexico Water Science Center Water-Data Inquiries](#)

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Title: NWIS Site Information for USA: Site Inventory

URL: [https://waterdata.usgs.gov/nwis/inventory?agency\\_code=USGS&site\\_no=324745103251501](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=324745103251501)



Page Contact Information: [New Mexico Water Data Support Team](#)

Page Last Modified: 2024-05-22 15:44:53 EDT

0.28 0.28 caww01



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National Water Information System: Web Interface


USGS Water Resources

Data Category:  
Groundwater

Geographic Area:  
United States

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Groundwater levels for the Nation

 Important: [Next Generation Monitoring Location Page](#)

Search Results -- 1 sites found

Agency code = usgs  
site\_no list =

- 324745103251501

Minimum number of levels = 1  
Date range = 01/01/2000 . 05/22/2024  
[Save file of selected sites](#) to local disk for future upload

USGS 324745103251501 17S.35E.35.213132

Available data for this site 

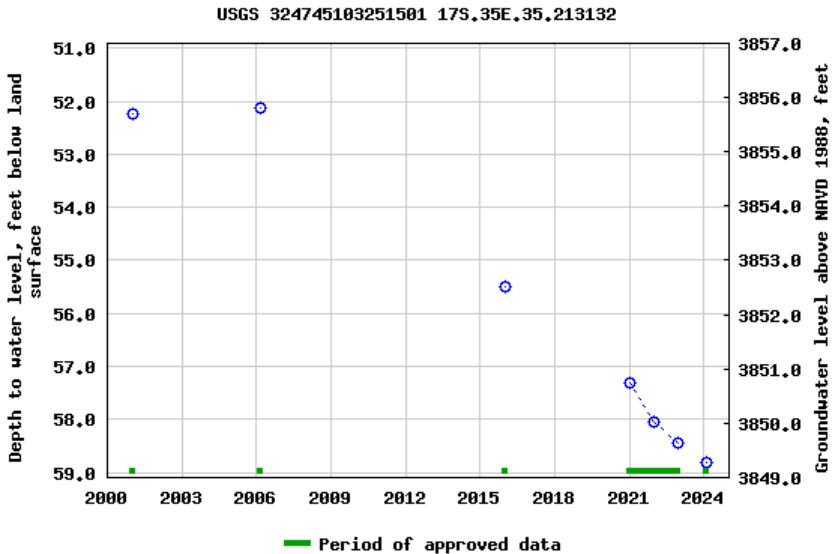
Groundwater: Field measurements

GO

Lea County, New Mexico  
Hydrologic Unit Code 12080003  
Latitude 32°47'46.3", Longitude 103°25'39.7" NAD83  
Land-surface elevation 3,908 feet above NAVD88  
The depth of the well is 121 feet below land surface.  
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.  
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>



Breaks in the plot represent a gap of at least one year between field measurements.

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



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Page Last Modified: 2024-05-22 15:46:45 EDT

0.75 0.49 nadww01

Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum Abo Battery #4 Trunkline Releases  
Incident IDs: nJXK1616547061 & nRM2003534693

June 14, 2024

## ATTACHMENT 2 – BORING LOGS



212C-MD-02110		<b>TETRA TECH</b>		<b>LOG OF BORING BH-1</b>				Page 1 of 1	
Project Name: Vacuum Abo Battery #4 Trunkline Release									
Borehole Location: GPS Coordinates: 32.798154°, -103.434782°				Surface Elevation: 3920 ft					
Borehole Number: BH-1				Borehole Diameter (in.): 8		Date Started: 10/13/2020		Date Finished: 10/13/2020	

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	WATER LEVEL OBSERVATIONS		DEPTH (ft)	REMARKS	
												While Drilling	Upon Completion of Drilling			
												While Drilling <u>▽</u> DRY ft    Upon Completion of Drilling <u>▽</u> DRY ft Remarks:				
			ExStik	PID				LL	PI				MATERIAL DESCRIPTION			
5			308								-- FILL MATERIAL; White, poorly cemented, with no odor, with no staining. -SM- SILTY SAND; White, heavily cemented, with heavy gravel, with no odor, with no staining. With interbedded caliche and calcrete.		1	BH-1 (0'-1')		
														BH-1 (2'-3')		
														BH-1 (4'-5')		
10			143								-SM- SILTY SAND; White, heavily cemented, with moderate gravel, with no odor, with no staining. With interbedded caliche and calcrete.		5.5	BH-1 (6'-7')		
													BH-1 (9'-10')			
15													BH-1 (14'-15')			
														17		
													-SM- SILTY SAND; White, moderately cemented, with heavy gravel, with no odor, with no staining. With interbedded caliche and calcrete.			
20			204											20	BH-1 (19'-20')	
Bottom of borehole at 20.0 feet.																

<b>Sampler Types:</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Split Spoon   Shelby   Bulk Sample   Grab Sample         </div> <div style="width: 50%;">  Acetate Liner   Vane Shear   California   Test Pit         </div> </div>	<b>Operation Types:</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Mud Rotary   Continuous Flight Auger   Wash Rotary         </div> <div style="width: 50%;">  Hand Auger   Air Rotary   Direct Push   Core Barrel         </div> </div>	<b>Notes:</b> Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.
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Logger: Joe Tyler	Drilling Equipment: Air Rotary	Driller: Scarborough Drilling
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212C-MD-02110		<b>TETRA TECH</b>		<b>LOG OF BORING BH-2</b>				Page 1 of 2	
Project Name: Vacuum Abo Battery #4 Trunkline Release									
Borehole Location: GPS Coordinates: 32.798512°, -103.434283°				Surface Elevation: 3917 ft					
Borehole Number: BH-2				Borehole Diameter (in.): 8		Date Started: 10/13/2020		Date Finished: 10/13/2020	

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	WATER LEVEL OBSERVATIONS		DEPTH (ft)	REMARKS
												While Drilling	Upon Completion of Drilling		
												While Drilling <u>▽</u> DRY ft    Upon Completion of Drilling <u>▽</u> DRY ft Remarks:			
												MATERIAL DESCRIPTION			
5												-- FILL MATERIAL; White, poorly cemented, with no odor, with no staining.	1	BH-2 (0'-1')	
												-SM- SILTY SAND; White, heavily cemented, with heavy gravel, with no odor, with no staining.		BH-2 (2'-3')	
												With interbedded caliche and calcrete.		BH-2 (4'-5')	
			488									-SM- SILTY SAND; White, heavily cemented, with moderate gravel, with no odor, with no staining.	5.5	BH-2 (6'-7')	
												With interbedded caliche and calcrete.		BH-2 (9'-10')	
10			360												
15			604												BH-2 (14'-15')
20			843									-SM- SILTY SAND; White, moderately cemented, with heavy gravel, with no odor, with no staining.	17		
												With interbedded caliche and calcrete.		BH-2 (19'-20')	
25			541									-SM- SILTY SAND; Tan, poorly cemented, with no gravel, with no odor, with no staining.	22		
												With interbedded caliche and calcrete.		BH-2 (24'-25')	

<b>Sampler Types:</b> <input checked="" type="checkbox"/> Split Spoon <input type="checkbox"/> Shelby <input type="checkbox"/> Bulk Sample <input type="checkbox"/> Grab Sample	<input type="checkbox"/> Acetate Liner <input type="checkbox"/> Vane Shear <input checked="" type="checkbox"/> California <input type="checkbox"/> Test Pit	<b>Operation Types:</b> <input type="checkbox"/> Mud Rotary <input type="checkbox"/> Continuous Flight Auger <input type="checkbox"/> Wash Rotary	<input type="checkbox"/> Hand Auger <input type="checkbox"/> Air Rotary <input type="checkbox"/> Direct Push <input checked="" type="checkbox"/> Core Barrel	<b>Notes:</b> Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.
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Logger: Joe Tyler	Drilling Equipment: Air Rotary	Driller: Scarborough Drilling
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212C-MD-02110							TETRA TECH						LOG OF BORING BH-2								Page 2 of 2												
Project Name: Vacuum Abo Battery #4 Trunkline Release																																	
Borehole Location:												GPS Coordinates: 32.798512°, -103.434283°									Surface Elevation: 3917 ft												
Borehole Number: BH-2												Borehole Diameter (in.): 8				Date Started: 10/13/2020						Date Finished: 10/13/2020											
DEPTH (ft)		OPERATION TYPE		SAMPLE		CHLORIDE FIELD SCREENING (ppm)		VOC FIELD SCREENING (ppm)		SAMPLE RECOVERY (%)		MOISTURE CONTENT (%)		DRY DENSITY (pcf)		LIQUID LIMIT		PLASTICITY INDEX		MINUS NO. 200 (%)		GRAPHIC LOG		WATER LEVEL OBSERVATIONS									
																								While Drilling    ∇    DRY    ft    Upon Completion of Drilling    ▼    DRY    ft									
																								Remarks:									
																								MATERIAL DESCRIPTION						DEPTH (ft)		REMARKS	
30						490																										BH-2 (29'-30')	
35						401																								35		BH-2 (34'-35')	
Bottom of borehole at 35.0 feet.																																	
<div> <b>Sampler Types:</b>   Split Spoon      Acetate Liner   Shelby         Vane Shear   Bulk Sample       California   Grab Sample      Test Pit         </div> <div> <b>Operation Types:</b>   Mud Rotary                   Hand Auger   Continuous Flight Auger     Air Rotary   Wash Rotary                  Direct Push   Core Barrel         </div> <div> <b>Notes:</b>            Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.         </div>																																	
Logger: Joe Tyler												Drilling Equipment: Air Rotary								Driller: Scarborough Drilling													

212C-MD-02110		<b>TETRA TECH</b>		<b>LOG OF BORING BH-3</b>				Page 1 of 1	
Project Name: Vacuum Abo Battery #4 Trunkline Release									
Borehole Location: GPS Coordinates: 32.798486°, -103.434748°				Surface Elevation: 3917 ft					
Borehole Number: BH-3				Borehole Diameter (in.): 8		Date Started: 10/13/2020		Date Finished: 10/13/2020	

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	WATER LEVEL OBSERVATIONS		DEPTH (ft)	REMARKS
												While Drilling	Upon Completion of Drilling		
												While Drilling <u>▽</u> DRY ft    Upon Completion of Drilling <u>▽</u> DRY ft Remarks:			
			ExStik	PID				LL	PI				MATERIAL DESCRIPTION		
5			1390								-- FILL MATERIAL; White, poorly cemented, with no odor, with no staining. -SM- SILTY SAND; White, heavily cemented, with heavy gravel, with no odor, with no staining. With interbedded caliche and calcrete.		1	BH-3 (0'-1')	
														BH-3 (2'-3')	
														BH-3 (4'-5')	
10			161								-SM- SILTY SAND; White, heavily cemented, with moderate gravel, with no odor, with no staining. With interbedded caliche and calcrete.		5.5	BH-3 (6'-7')	
													BH-3 (9'-10')		
15			204											BH-3 (14'-15')	
20			101										-SM- SILTY SAND; White, moderately cemented, with heavy gravel, with no odor, with no staining. With interbedded caliche and calcrete.	17	
														20	BH-3 (19'-20')
Bottom of borehole at 20.0 feet.															

<b>Sampler Types:</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Split Spoon   Shelby   Bulk Sample   Grab Sample         </div> <div style="width: 50%;">  Acetate Liner   Vane Shear   California   Test Pit         </div> </div>	<b>Operation Types:</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Mud Rotary   Continuous Flight Auger   Wash Rotary         </div> <div style="width: 50%;">  Hand Auger   Air Rotary   Direct Push   Core Barrel         </div> </div>	<b>Notes:</b> Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.
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Logger: Joe Tyler	Drilling Equipment: Air Rotary	Driller: Scarborough Drilling
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212C-MD-02110		TETRA TECH		LOG OF BORING BH-5						Page 1 of 1				
Project Name: Vacuum Abo Battery #4 Trunkline Release														
Borehole Location: GPS Coordinates: 32.798454°, -103.434928°								Surface Elevation: 3918 ft						
Borehole Number: BH-5						Borehole Diameter (in.): 2		Date Started: 10/13/2020		Date Finished: 10/13/2020				
<div>WATER LEVEL OBSERVATIONS</div> <div>While Drilling ∇ DRY ft Upon Completion of Drilling ∇ DRY ft</div> <div>Remarks:</div>														
DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			ExStik	PID					LL					
			99									-SM- SILTY SAND; Brown, dry, with no odor, with no staining.	1	BH-5 (0'-1')
Bottom of borehole at 1.0 feet.														
<div>Sampler Types:<div><div> Split Spoon</div><div> Shelby</div><div> Bulk Sample</div><div> Grab Sample</div><div> Acetate Liner</div><div> Vane Shear</div><div> California</div><div> Test Pit</div></div></div> <div>Operation Types:<div><div> Mud Rotary</div><div> Continuous Flight Auger</div><div> Wash Rotary</div><div> Hand Auger</div><div> Air Rotary</div><div> Direct Push</div><div> Core Barrel</div></div></div>												<div>Notes:</div> <div>Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.</div>		
Logger: Adrian Garcia						Drilling Equipment: Hand Auger			Driller: Tetra Tech					

212C-MD-02110		TETRA TECH		LOG OF BORING BH-6				Page 1 of 1																																																								
Project Name: Vacuum Abo Battery #4 Trunkline Release																																																																
Borehole Location: GPS Coordinates: 32.798108°, -103.434929°				Surface Elevation: 3920 ft																																																												
Borehole Number: BH-6				Borehole Diameter (in.): 2		Date Started: 10/13/2020		Date Finished: 10/13/2020																																																								
<div>WATER LEVEL OBSERVATIONS</div> <div>While Drilling <u>▽ DRY</u> ft Upon Completion of Drilling <u>▽ DRY</u> ft</div> <div>Remarks:</div>																																																																
<table><thead><tr><th rowspan="2">DEPTH (ft)</th><th rowspan="2">OPERATION TYPE</th><th rowspan="2">SAMPLE</th><th>CHLORIDE FIELD SCREENING (ppm)</th><th>VOC FIELD SCREENING (ppm)</th><th rowspan="2">SAMPLE RECOVERY (%)</th><th rowspan="2">MOISTURE CONTENT (%)</th><th rowspan="2">DRY DENSITY (pcf)</th><th colspan="2">LIQUID LIMIT</th><th colspan="2">PLASTICITY INDEX</th><th rowspan="2">MINUS NO. 200 (%)</th><th rowspan="2">GRAPHIC LOG</th><th rowspan="2">MATERIAL DESCRIPTION</th><th rowspan="2">DEPTH (ft)</th><th rowspan="2">REMARKS</th></tr><tr><th>ExStik</th><th>PID</th><th>LL</th><th>PI</th></tr></thead><tbody><tr><td></td><td></td><td></td><td>130</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-SM- SILTY SAND; Brown, dry, with no odor, with no staining.</td><td>1</td><td>BH-6 (0'-1')</td></tr><tr><td colspan="17">Bottom of borehole at 1.0 feet.</td></tr></tbody></table>										DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT		PLASTICITY INDEX		MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS	ExStik	PID	LL	PI				130											-SM- SILTY SAND; Brown, dry, with no odor, with no staining.	1	BH-6 (0'-1')	Bottom of borehole at 1.0 feet.																
DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT					PLASTICITY INDEX					MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)						REMARKS																																					
			ExStik	PID				LL	PI																																																							
			130											-SM- SILTY SAND; Brown, dry, with no odor, with no staining.	1	BH-6 (0'-1')																																																
Bottom of borehole at 1.0 feet.																																																																
<div>Sampler Types:</div> <div><div><div> Split Spoon</div><div> Shelby</div><div> Bulk Sample</div><div> Grab Sample</div></div><div><div> Acetate Liner</div><div> Vane Shear</div><div> California</div><div> Test Pit</div></div></div> <div><div>Operation Types:</div><div><div> Mud Rotary</div><div> Continuous Flight Auger</div><div> Wash Rotary</div></div><div><div> Hand Auger</div><div> Air Rotary</div><div> Direct Push</div><div> Core Barrel</div></div></div> <div>Notes: Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.</div>																																																																
Logger: Adrian Garcia				Drilling Equipment: Hand Auger				Driller: Tetra Tech																																																								

212C-MD-02110		<b>TETRA TECH</b>		<b>LOG OF BORING BH-7</b>				Page 1 of 1	
Project Name: Vacuum Abo Battery #4 Trunkline Release									
Borehole Location: GPS Coordinates: 32.797971°, -103.434718°				Surface Elevation: 3919 ft					
Borehole Number: BH-7				Borehole Diameter (in.): 8		Date Started: 10/13/2020		Date Finished: 10/13/2020	

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	WATER LEVEL OBSERVATIONS		DEPTH (ft)	REMARKS
												While Drilling	Upon Completion of Drilling		
													While Drilling <u>▽</u> DRY ft    Upon Completion of Drilling <u>▽</u> DRY ft  Remarks:		
			ExStik	PID				LL	PI				MATERIAL DESCRIPTION		
5												-- FILL MATERIAL; White, poorly cemented, with no odor, with no staining.  -SM- SILTY SAND; White, heavily cemented, with heavy gravel, with no odor, with no staining.  With interbedded caliche and calcrete.	1	BH-7 (0'-1')	
														5.5	BH-7 (2'-3')
															BH-7 (4'-5')
10												-SM- SILTY SAND; White, heavily cemented, with moderate gravel, with no odor, with no staining.  With interbedded caliche and calcrete.		BH-7 (6'-7')	
															BH-7 (9'-10')
15														17	BH-7 (14'-15')
												-SM- SILTY SAND; White, moderately cemented, with heavy gravel, with no odor, with no staining.  With interbedded caliche and calcrete.			
20														20	BH-7 (19'-20')
Bottom of borehole at 20.0 feet.															

Sampler Types: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Split Spoon   Shelby   Bulk Sample   Grab Sample         </div> <div style="width: 50%;">  Acetate Liner   Vane Shear   California   Test Pit         </div> </div>	Operation Types: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Mud Rotary   Continuous Flight Auger   Wash Rotary         </div> <div style="width: 50%;">  Hand Auger   Air Rotary   Direct Push   Core Barrel         </div> </div>	Notes: Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.
Logger: Joe Tyler	Drilling Equipment: Air Rotary	Driller: Scarborough Drilling

212C-MD-02110		<b>TETRA TECH</b>		<b>LOG OF BORING BH-9</b>				Page 1 of 1	
Project Name: Vacuum Abo Battery #4 Trunkline Release									
Borehole Location: GPS Coordinates: 32.798285°, -103.433895°				Surface Elevation: 3917 ft					
Borehole Number: BH-9				Borehole Diameter (in.): 8		Date Started: 10/13/2020		Date Finished: 10/13/2020	

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	WATER LEVEL OBSERVATIONS		DEPTH (ft)	REMARKS
												While Drilling	Upon Completion of Drilling		
			ExStik	PID				LL	PI			-- FILL MATERIAL; White, poorly cemented, with no odor, with no staining. <b>-SM-</b> SILTY SAND; White, heavily cemented, with heavy gravel, with no odor, with no staining. With interbedded caliche and calcrete.		1	BH-9 (0'-1')
															BH-9 (2'-3')
5															BH-9 (4'-5')
														5.5	BH-9 (6'-7')
10															BH-9 (9'-10')
															BH-9 (14'-15')
15														17	
															BH-9 (19'-20')
20														20	

Bottom of borehole at 20.0 feet.

<b>Sampler Types:</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Split Spoon   Shelby   Bulk Sample   Grab Sample         </div> <div style="width: 50%;">  Acetate Liner   Vane Shear   California   Test Pit         </div> </div>	<b>Operation Types:</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Mud Rotary   Continuous Flight Auger   Wash Rotary         </div> <div style="width: 50%;">  Hand Auger   Air Rotary   Direct Push   Core Barrel         </div> </div>	<b>Notes:</b> Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.
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Logger: Joe Tyler	Drilling Equipment: Air Rotary	Driller: Scarborough Drilling
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212C-MD-02110		<b>TETRA TECH</b>		<b>LOG OF BORING BH-10</b>				Page 1 of 1	
Project Name: Vacuum Abo Battery #4 Trunkline Release									
Borehole Location: GPS Coordinates: 32.798495°, -103.433834°				Surface Elevation: 3915 ft					
Borehole Number: BH-10				Borehole Diameter (in.): 8		Date Started: 10/13/2020		Date Finished: 10/13/2020	

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	WATER LEVEL OBSERVATIONS		DEPTH (ft)	REMARKS
												While Drilling	Upon Completion of Drilling		
												While Drilling <u>▽</u> DRY ft    Upon Completion of Drilling <u>▽</u> DRY ft Remarks:			
												MATERIAL DESCRIPTION			
5												-- FILL MATERIAL; White, poorly cemented, with no odor, with no staining.	1	BH-10 (0'-1')	
												-SM- SILTY SAND; White, heavily cemented, with heavy gravel, with no odor, with no staining.  With interbedded caliche and calcrete.	5.5	BH-10 (2'-3')  BH-10 (4'-5')	
10												-SM- SILTY SAND; White, heavily cemented, with moderate gravel, with no odor, with no staining.  With interbedded caliche and calcrete.	17	BH-10 (6'-7')  BH-10 (9'-10')	
15												-SM- SILTY SAND; White, moderately cemented, with heavy gravel, with no odor, with no staining.  With interbedded caliche and calcrete.	20	BH-10 (14'-15')  BH-10 (19'-20')	
20												Bottom of borehole at 20.0 feet.			

Sampler Types: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Split Spoon   Shelby   Bulk Sample   Grab Sample         </div> <div style="width: 50%;">  Acetate Liner   Vane Shear   California   Test Pit         </div> </div>	Operation Types: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  Mud Rotary   Continuous Flight Auger   Wash Rotary         </div> <div style="width: 50%;">  Hand Auger   Air Rotary   Direct Push   Core Barrel         </div> </div>	Notes: Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.
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





































Logger: Joe Tyler	Drilling Equipment: Air Rotary	Driller: Scarborough Drilling
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212C-MD-02110		TETRA TECH		LOG OF BORING BH-11				Page 1 of 1																																																				
Project Name: Vacuum Abo Battery #4 Trunkline Release																																																												
Borehole Location: GPS Coordinates: 32.798498°, -103.433410°				Surface Elevation: 3913 ft																																																								
Borehole Number: BH-11				Borehole Diameter (in.): 2		Date Started: 10/13/2020		Date Finished: 10/13/2020																																																				
<div>WATER LEVEL OBSERVATIONS</div> <div>While Drilling <u>▽ DRY</u> ft Upon Completion of Drilling <u>▽ DRY</u> ft</div> <div>Remarks:</div>																																																												
<table><thead><tr><th rowspan="2">DEPTH (ft)</th><th rowspan="2">OPERATION TYPE</th><th rowspan="2">SAMPLE</th><th>CHLORIDE FIELD SCREENING (ppm)</th><th>VOC FIELD SCREENING (ppm)</th><th rowspan="2">SAMPLE RECOVERY (%)</th><th rowspan="2">MOISTURE CONTENT (%)</th><th rowspan="2">DRY DENSITY (pcf)</th><th colspan="2">LIQUID LIMIT</th><th rowspan="2">PLASTICITY INDEX</th><th rowspan="2">MINUS NO. 200 (%)</th><th rowspan="2">GRAPHIC LOG</th><th rowspan="2">MATERIAL DESCRIPTION</th><th rowspan="2">DEPTH (ft)</th><th rowspan="2">REMARKS</th></tr><tr><th>ExStik</th><th>PID</th><th>LL</th><th>PI</th></tr></thead><tbody><tr><td></td><td></td><td></td><td>125</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td rowspan="2"><b>-SM-</b> SILTY SAND; Brown, dry, with no odor, with no staining.</td><td></td><td>BH-11 (0'-1')</td></tr><tr><td></td><td></td><td></td><td>225</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td><td>BH-11 (0'-1')</td></tr></tbody></table>										DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT		PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS	ExStik	PID	LL	PI				125										<b>-SM-</b> SILTY SAND; Brown, dry, with no odor, with no staining.		BH-11 (0'-1')				225										2	BH-11 (0'-1')
DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT					PLASTICITY INDEX	MINUS NO. 200 (%)				GRAPHIC LOG	MATERIAL DESCRIPTION							DEPTH (ft)	REMARKS																																	
			ExStik	PID				LL	PI																																																			
			125										<b>-SM-</b> SILTY SAND; Brown, dry, with no odor, with no staining.		BH-11 (0'-1')																																													
			225											2	BH-11 (0'-1')																																													
Bottom of borehole at 2.0 feet.																																																												
<div><div><div>Sampler Types:</div><div><div> Split Spoon</div><div> Shelby</div><div> Bulk Sample</div><div> Grab Sample</div><div> Acetate Liner</div><div> Vane Shear</div><div> California</div><div> Test Pit</div></div></div><div><div>Operation Types:</div><div><div> Mud Rotary</div><div> Continuous Flight Auger</div><div> Wash Rotary</div><div> Hand Auger</div><div> Air Rotary</div><div> Direct Push</div><div> Core Barrel</div></div></div><div>Notes: Surface elevation is an estimated value based on Google Earth. Laboratory analytical sample IDs and intervals are shown in the "Remarks" column.</div></div>																																																												
Logger: Adrian Garcia			Drilling Equipment: Hand Auger			Driller: Tetra Tech																																																						

212C-MD-02110		TETRA TECH		LOG OF BORING BH-12				Page 1 of 1																																																							
Project Name: Vacuum Abo Battery #4 Trunkline Release																																																															
Borehole Location: GPS Coordinates: 32.798667°, -103.432599°				Surface Elevation: 3910 ft																																																											
Borehole Number: BH-12				Borehole Diameter (in.): 2		Date Started: 10/13/2020		Date Finished: 10/13/2020																																																							
<div>WATER LEVEL OBSERVATIONS</div> <div>While Drilling <u>▽</u> DRY ft Upon Completion of Drilling <u>▽</u> DRY ft</div> <div>Remarks:</div>																																																															
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DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT					PLASTICITY INDEX					MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)						REMARKS																																				
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212C-MD-02110		TETRA TECH		LOG OF BORING BH-13				Page 1 of 1																																																				
Project Name: Vacuum Abo Battery #4 Trunkline Release																																																												
Borehole Location: GPS Coordinates: 32.798504°, -103.432030°				Surface Elevation: 3910 ft																																																								
Borehole Number: BH-13				Borehole Diameter (in.): 2		Date Started: 10/13/2020		Date Finished: 10/13/2020																																																				
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DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT					PLASTICITY INDEX	MINUS NO. 200 (%)				GRAPHIC LOG	MATERIAL DESCRIPTION							DEPTH (ft)	REMARKS																																	
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212C-MD-02110		 TETRA TECH		LOG OF BORING BH-14		Page 1 of 1																																											
Project Name: Vacuum Abo Battery #4 Trunkline Release																																																	
Borehole Location: GPS Coordinates: 32.798707°, -103.431531°				Surface Elevation: 3910 ft																																													
Borehole Number: BH-14			Borehole Diameter (in.): 2	Date Started: 10/13/2020		Date Finished: 10/13/2020																																											
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Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum Abo Battery #4 Trunkline Releases  
Incident IDs: nJXK1616547061 & nRM2003534693

June 14, 2024

## **ATTACHMENT 3 – CULTURAL RESOURCE SURVEY**



Stephanie Garcia Richard, Commissioner of Public Lands  
State of New Mexico

## NMSLO Cultural Resources Cover Sheet Exhibit

**NMCRIS Activity Number:**

(if applicable)

**Exhibit Type** (select one)

**ARMS Inspection/Review** - Summarize the results (select one):

- (A) The entire area of potential effect or project area has been previously surveyed to current standards and **no cultural properties** were found within the survey area.
- (B) The entire area of potential effect or project area has been previously surveyed to current standards and **cultural properties were found** within the survey area.
- (C) The entire area of potential effect or project area has **not** been previously surveyed or **has not been surveyed** to current standards. A complete archaeological survey will be conducted and submitted for review.

**Archaeological Survey**

**Findings:**

**Negative** - No further archaeological review is required.

**Positive** - Have avoidance and protection measures been devised? Select one:

**Comments:**

**Project Details:**

NMSLO Lease Number (if available):

Cultural Resources Consultant:

Project Proponent (Applicant):

Project Title/Description:

**Project Location:**

County(ies):

PLSS/Section/Township/Range):

---

**For NMSLO Agency Use Only:**

NMSLO Lease Number:

Acknowledgment-Only:

Lease Analyst:

Date Exhibit Routed to Cultural Resources Office:

---

*No person may alter the wording of the questions or layout of the cover sheet. The completion of this cover sheet by itself does not authorize anyone to engage in new surface disturbing activity before the review and approvals required by the Cultural Properties Protections Rule.*

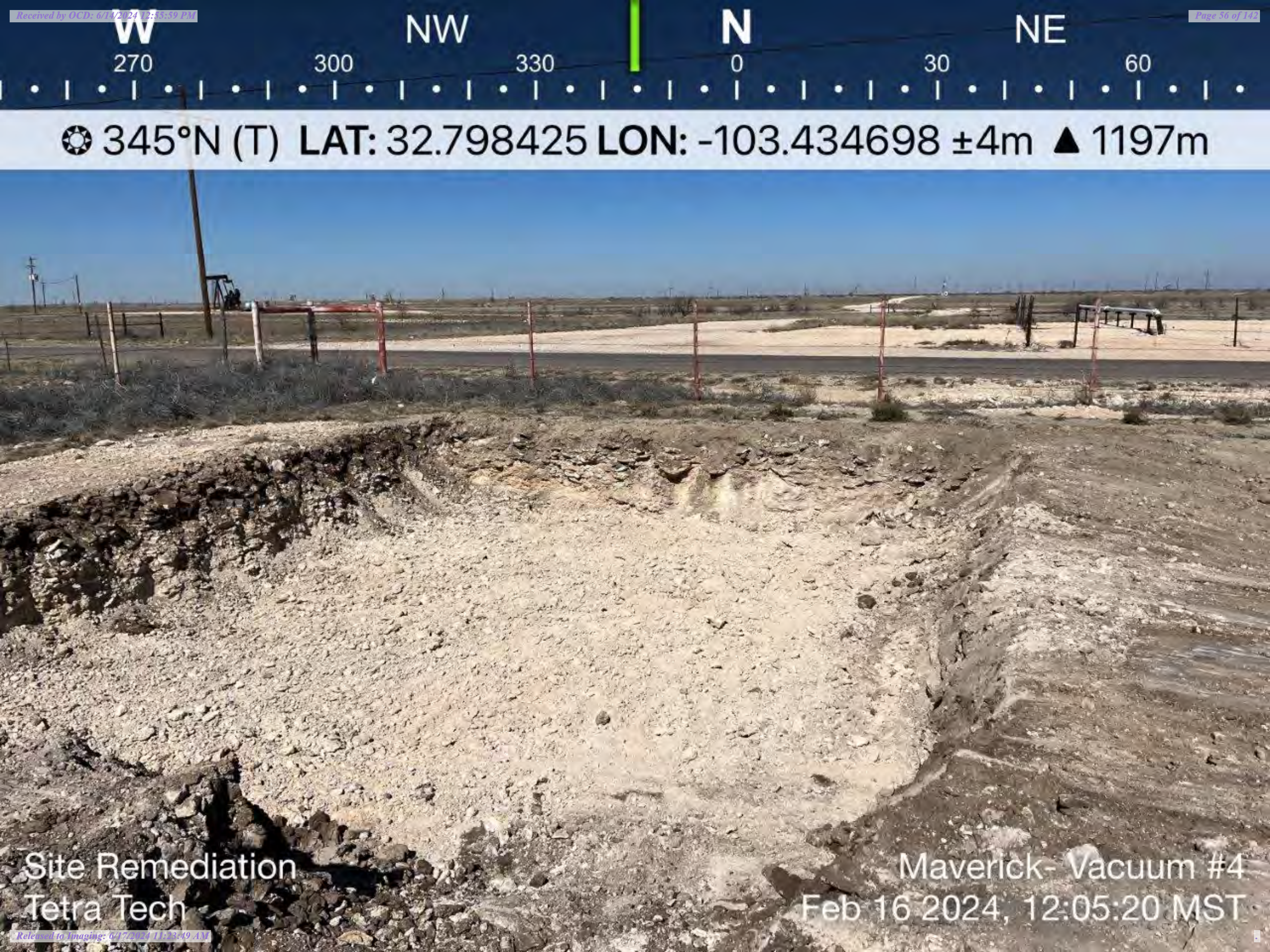
Form Revised 12 22

Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum Abo Battery #4 Trunkline Releases  
Incident IDs: nJXK1616547061 & nRM2003534693

June 14, 2024

## **ATTACHMENT 4 – PHOTOGRAPHIC DOCUMENTATION**





W

NW

N

NE

270

300

330

0

30

60

☉ 345°N (T) LAT: 32.798425 LON: -103.434698 ±4m ▲ 1197m

Site Remediation  
Tetra Tech

Maverick- Vacuum #4  
Feb 16 2024, 12:05:20 MST





☀ 35°NE (T) LAT: 32.798446 LON: -103.434775 ±4m ▲ 1197m



Site Remediation  
Tetra Tech

Maverick- Vacuum #4  
Feb 16 2024 12:06:12 MST





☉ 349°N (T) LAT: 32.797908 LON: -103.434708 ±4m ▲ 1197m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:31:27 MST





NW

N

NE

E

300

330

0

30

60

90

1

☀ 24°NE (T) LAT: 32.797917 LON: -103.434784 ±4m ▲ 1198m

Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:31:35 MST



NW

N

NE

E

300

330

0

30

60

90

☀ 17°N (T) LAT: 32.797962 LON: -103.434784 ±4m ▲ 1197m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:31:51 MST





☀ 353°N (T) LAT: 32.798386 LON: -103.434718 ±4m ▲ 1197m



Site Remediation  
Tetra Tech

Maverick Vacuum ABO #4  
Feb 19 2024, 13:33:01 MST





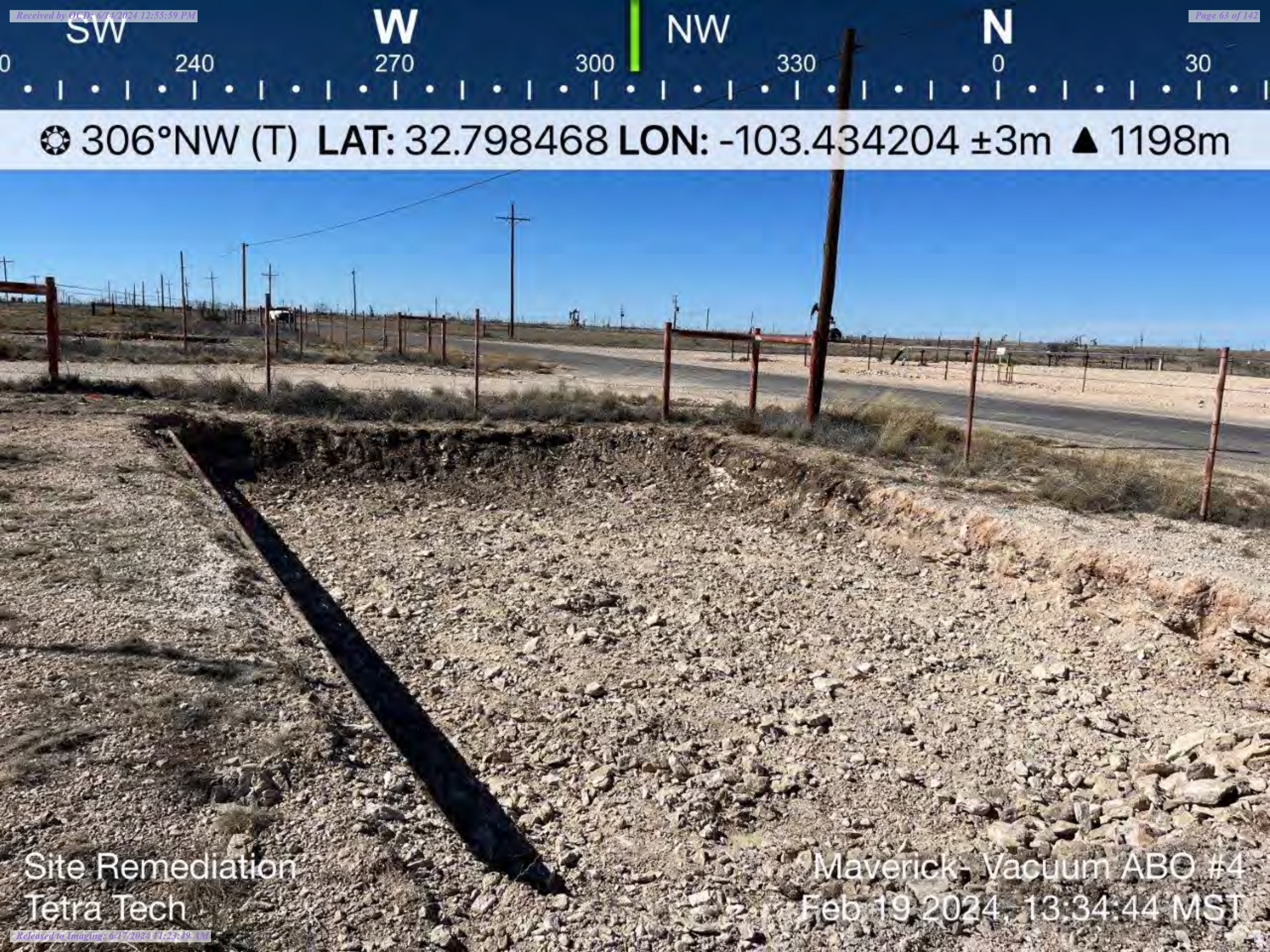
☉ 68°E (T) LAT: 32.798454 LON: -103.434800 ±4m ▲ 1197m



Site Remediation  
Tetra Tech

Maverick-Vacuum ABO #4  
Feb 19 2024, 13:33:50 MST





☀ 306°NW (T) LAT: 32.798468 LON: -103.434204 ±3m ▲ 1198m

Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:34:44 MST





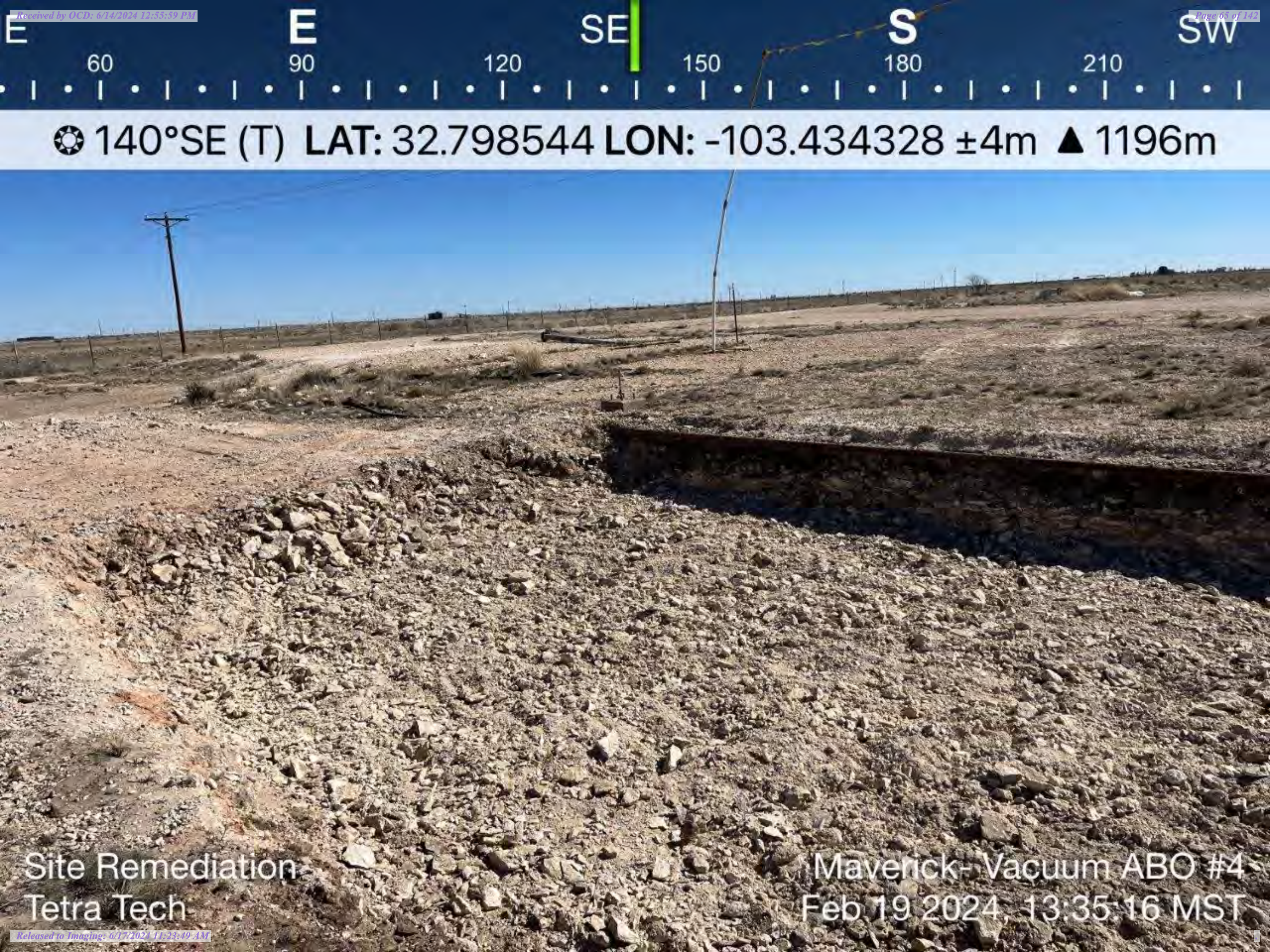
☀ 66°NE (T) LAT: 32.798473 LON: -103.434379 ±4m ▲ 1198m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:35:04 MST





☀ 140°SE (T) LAT: 32.798544 LON: -103.434328 ±4m ▲ 1196m

Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:35:16 MST



S

SW

W

NW

180

210

240

270

300

330

☉ 252°W (T) LAT: 32.798542 LON: -103.434241 ±4m ▲ 1197m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:35:26 MST



NE

E

SE

S

30

60

90

120

150

180

☉ 97°E (T) LAT: 32.798684 LON: -103.431844 ±4m ▲ 1193m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:50:21 MST





☉ 263°W (T) LAT: 32.798680 LON: -103.431721 ±4m ▲ 1194m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:50:39 MST





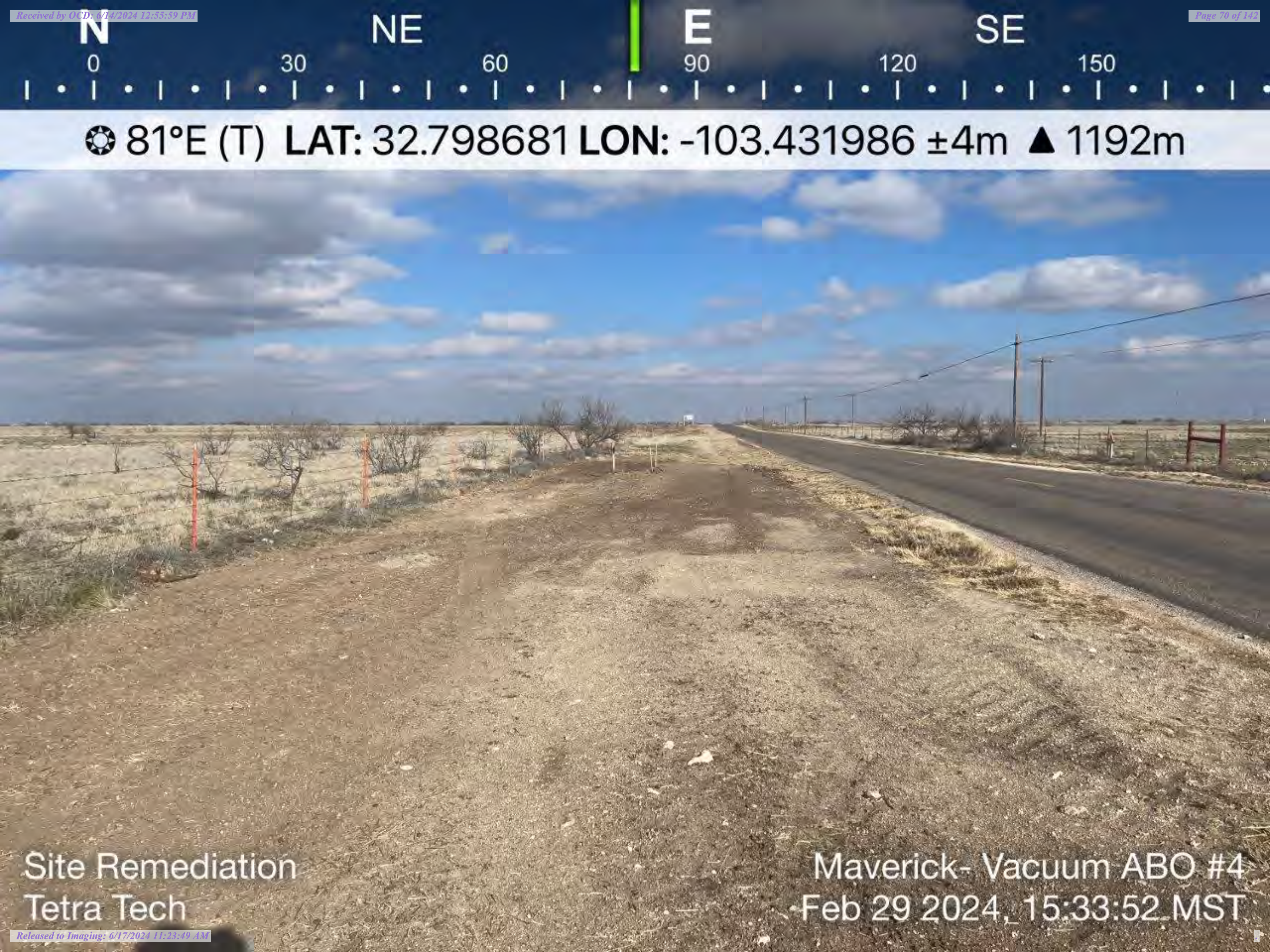
☉ 263°W (T) LAT: 32.798686 LON: -103.431715 ±4m ▲ 1195m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 19 2024, 13:50:44 MST





☉ 81°E (T) LAT: 32.798681 LON: -103.431986 ±4m ▲ 1192m

Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 29 2024, 15:33:52 MST





☉ 303°NW (T) LAT: 32.798645 LON: -103.431563 ±4m ▲ 1192m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO #4  
Feb 29 2024, 15:34:40 MST



Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum Abo Battery #4 Trunkline Releases  
Incident IDs: nJXK1616547061 & nRM2003534693

June 14, 2024

## ATTACHMENT 5 – LABORATORY DATA





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

February 19, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: THROUGH - VACUUM ABO BATTERY #4

Enclosed are the results of analyses for samples received by the laboratory on 02/16/24 12:58.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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](http://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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 9 (H240759-01)**

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	02/17/2024	ND	2.24	112	2.00	1.38	
Toluene*	<0.050	0.050	02/17/2024	ND	2.23	111	2.00	1.31	
Ethylbenzene*	<0.050	0.050	02/17/2024	ND	2.21	110	2.00	1.16	
Total Xylenes*	<0.150	0.150	02/17/2024	ND	6.64	111	6.00	1.04	
Total BTEX	<0.300	0.300	02/17/2024	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	352	16.0	02/19/2024	ND	416	104	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	02/16/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 10 (H240759-02)**

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	02/17/2024	ND	2.24	112	2.00	1.38	
Toluene*	<0.050	0.050	02/17/2024	ND	2.23	111	2.00	1.31	
Ethylbenzene*	<0.050	0.050	02/17/2024	ND	2.21	110	2.00	1.16	
Total Xylenes*	<0.150	0.150	02/17/2024	ND	6.64	111	6.00	1.04	
Total BTEX	<0.300	0.300	02/17/2024	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	112	16.0	02/19/2024	ND	416	104	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	02/16/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 95.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 11 (H240759-03)**

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	02/17/2024	ND	2.24	112	2.00	1.38	
Toluene*	<0.050	0.050	02/17/2024	ND	2.23	111	2.00	1.31	
Ethylbenzene*	<0.050	0.050	02/17/2024	ND	2.21	110	2.00	1.16	
Total Xylenes*	<0.150	0.150	02/17/2024	ND	6.64	111	6.00	1.04	
Total BTEx	<0.300	0.300	02/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	80.0	16.0	02/19/2024	ND	416	104	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	02/16/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 99.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 12 (H240759-04)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	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	80.0	16.0	02/19/2024	ND	416	104	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	02/16/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 13 (H240759-05)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	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	96.0	16.0	02/19/2024	ND	416	104	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	02/16/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 96.1 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 14 (H240759-06)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	02/19/2024	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	02/16/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 15 (H240759-07)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	544	16.0	02/19/2024	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	02/16/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 102 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 16 (H240759-08)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/19/2024	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	02/16/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 102 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 12 ( 4.0' ) (H240759-09)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	02/19/2024	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	02/17/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/17/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/17/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 13 ( 4.0' ) (H240759-10)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	02/19/2024	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	02/17/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/17/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/17/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 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

**Analytical Results For:**

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

Received:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 14 ( 4.0' ) (H240759-11)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	02/19/2024	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	02/17/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/17/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/17/2024	ND					

Surrogate: 1-Chlorooctane 96.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 15 ( 4.0' ) (H240759-12)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	02/19/2024	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	02/17/2024	ND	202	101	200	0.192	
DRO >C10-C28*	<10.0	10.0	02/17/2024	ND	214	107	200	0.782	
EXT DRO >C28-C36	<10.0	10.0	02/17/2024	ND					

Surrogate: 1-Chlorooctane 97.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 16 ( 3.0' ) (H240759-13)**

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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTEX	<0.300	0.300	02/16/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	02/19/2024	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	02/16/2024	ND	196	97.8	200	1.29	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	203	102	200	5.85	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 94.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 17 ( 3.0' ) (H240759-14)**

BTX 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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTX	<0.300	0.300	02/16/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	02/19/2024	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	02/16/2024	ND	196	97.8	200	1.29	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	203	102	200	5.85	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 93.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 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:	02/16/2024	Sampling Date:	02/16/2024
Reported:	02/19/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 18 ( 3.0' ) (H240759-15)**

BTX 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	02/16/2024	ND	2.07	104	2.00	5.37		
Toluene*	<0.050	0.050	02/16/2024	ND	2.17	108	2.00	5.61		
Ethylbenzene*	<0.050	0.050	02/16/2024	ND	2.14	107	2.00	5.80		
Total Xylenes*	<0.150	0.150	02/16/2024	ND	6.70	112	6.00	7.50		
Total BTX	<0.300	0.300	02/16/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	480	16.0	02/19/2024	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	02/16/2024	ND	196	97.8	200	1.29	
DRO >C10-C28*	<10.0	10.0	02/16/2024	ND	203	102	200	5.85	
EXT DRO >C28-C36	<10.0	10.0	02/16/2024	ND					

Surrogate: 1-Chlorooctane 99.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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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.
- 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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager













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

February 20, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: THROUGH - VACUUM ABO BATTERY #4

Enclosed are the results of analyses for samples received by the laboratory on 02/19/24 15:33.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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](http://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 with a large, stylized 'C' and 'K'.

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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 1 (1.0) (H240793-01)**

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	02/19/2024	ND	2.16	108	2.00	6.86	
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76	
Total BTEx	<0.300	0.300	02/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 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	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 79.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.8 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 2 (1.0) (H240793-02)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEX	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 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	240	16.0	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 70.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 65.3 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 3 (1.0) (H240793-03)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEX	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 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	208	16.0	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 75.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.3 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 4 (1.0) (H240793-04)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEx	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 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	448	16.0	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 75.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.7 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 5 (1.0) (H240793-05)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEx	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 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	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 76.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.7 % 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: 02/19/2024  
 Reported: 02/20/2024  
 Project Name: THROUGH - VACUUM ABO BATTERY #4  
 Project Number: 212C-MD - 03372  
 Project Location: MAVERICK - LEA CO NM

Sampling Date: 02/19/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS - 6 (1.0) (H240793-06)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEx	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 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	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 73.8 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 7 (1.0) (H240793-07)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEx	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 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	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 69.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 62.9 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 8 (1.0) (H240793-08)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEx	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 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	224	16.0	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 73.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.2 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 9 (1.0) (H240793-09)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEx	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 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	48.0	16.0	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 61.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 57.4 % 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: 02/19/2024  
 Reported: 02/20/2024  
 Project Name: THROUGH - VACUUM ABO BATTERY #4  
 Project Number: 212C-MD - 03372  
 Project Location: MAVERICK - LEA CO NM

Sampling Date: 02/19/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS - 10 (1.0) (H240793-10)**

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	02/19/2024	ND	2.16	108	2.00	6.86	
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76	
Total BTEX	<0.300	0.300	02/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 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	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 68.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 63.0 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 1 (H240793-11)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEX	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 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	256	16.0	02/20/2024	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 68.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 63.1 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 2 (H240793-12)**

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	02/19/2024	ND	2.16	108	2.00	6.86	
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76	
Total BTEX	<0.300	0.300	02/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 77.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.6 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 3 (H240793-13)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEX	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 75.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.1 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 4 (H240793-14)**

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	02/19/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76		
Total BTEX	<0.300	0.300	02/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/20/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/20/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/20/2024	ND					

Surrogate: 1-Chlorooctane 81.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.6 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 5 (H240793-15)**

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	02/19/2024	ND	2.16	108	2.00	6.86	
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76	
Total BTEX	<0.300	0.300	02/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/20/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/20/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/20/2024	ND					

Surrogate: 1-Chlorooctane 74.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.5 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 6 (H240793-16)**

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	02/19/2024	ND	2.16	108	2.00	6.86	
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76	
Total BTEX	<0.300	0.300	02/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/20/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/20/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/20/2024	ND					

Surrogate: 1-Chlorooctane 82.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.5 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 7 (H240793-17)**

BTX 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	02/19/2024	ND	2.16	108	2.00	6.86	
Toluene*	<0.050	0.050	02/19/2024	ND	2.13	107	2.00	7.11	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	6.97	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.15	103	6.00	6.76	
Total BTX	<0.300	0.300	02/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/20/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/20/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/20/2024	ND					

Surrogate: 1-Chlorooctane 68.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 61.1 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 8 (H240793-18)**

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	02/20/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/20/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/20/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/20/2024	ND	6.15	103	6.00	6.76		
Total BTEX	<0.300	0.300	02/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	02/20/2024	ND	448	112	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	02/20/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/20/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/20/2024	ND					

Surrogate: 1-Chlorooctane 76.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.4 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 17 (H240793-19)**

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	02/20/2024	ND	2.16	108	2.00	6.86	
Toluene*	<0.050	0.050	02/20/2024	ND	2.13	107	2.00	7.11	
Ethylbenzene*	<0.050	0.050	02/20/2024	ND	2.10	105	2.00	6.97	
Total Xylenes*	<0.150	0.150	02/20/2024	ND	6.15	103	6.00	6.76	
Total BTEX	<0.300	0.300	02/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/20/2024	ND	448	112	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	02/20/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/20/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	<10.0	10.0	02/20/2024	ND					

Surrogate: 1-Chlorooctane 72.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.8 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 18 (H240793-20)**

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	02/20/2024	ND	2.16	108	2.00	6.86		
Toluene*	<0.050	0.050	02/20/2024	ND	2.13	107	2.00	7.11		
Ethylbenzene*	<0.050	0.050	02/20/2024	ND	2.10	105	2.00	6.97		
Total Xylenes*	<0.150	0.150	02/20/2024	ND	6.15	103	6.00	6.76		
Total BTEX	<0.300	0.300	02/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/20/2024	ND	448	112	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	02/20/2024	ND	210	105	200	1.09	
DRO >C10-C28*	<10.0	10.0	02/20/2024	ND	202	101	200	4.92	
EXT DRO >C28-C36	30.3	10.0	02/20/2024	ND					

Surrogate: 1-Chlorooctane 76.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.0 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 19 (H240793-21)**

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	02/19/2024	ND	2.02	101	2.00	4.93		
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47		
Total BTEX	<0.300	0.300	02/19/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 78.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.7 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 20 (H240793-22)**

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	02/19/2024	ND	2.02	101	2.00	4.93	
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47	
Total BTEX	<0.300	0.300	02/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 82.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.0 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 21 (H240793-23)**

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	02/19/2024	ND	2.02	101	2.00	4.93	
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47	
Total BTEX	<0.300	0.300	02/19/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.3 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: WS - 22 (H240793-24)**

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	02/19/2024	ND	2.02	101	2.00	4.93	
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46	
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81	
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47	
Total BTEX	<0.300	0.300	02/19/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	17.8	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 90.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.7 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 19 (3.0) (H240793-25)**

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	02/19/2024	ND	2.02	101	2.00	4.93		
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47		
Total BTEx	<0.300	0.300	02/19/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1840	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 90.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.9 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 20 (3.0) (H240793-26)**

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	02/19/2024	ND	2.02	101	2.00	4.93		
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47		
Total BTEx	<0.300	0.300	02/19/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 77.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.8 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 21 (1.0) (H240793-27)**

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	02/19/2024	ND	2.02	101	2.00	4.93		
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47		
Total BTEx	<0.300	0.300	02/19/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2480	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 88.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.4 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 22 (1.0) (H240793-28)**

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	02/19/2024	ND	2.02	101	2.00	4.93		
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47		
Total BTEX	<0.300	0.300	02/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 77.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.9 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 23 (1.0) (H240793-29)**

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	02/19/2024	ND	2.02	101	2.00	4.93		
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47		
Total BTEX	<0.300	0.300	02/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 75.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.7 % 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:	02/19/2024	Sampling Date:	02/19/2024
Reported:	02/20/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 24 (1.0) (H240793-30)**

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	02/19/2024	ND	2.02	101	2.00	4.93		
Toluene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.46		
Ethylbenzene*	<0.050	0.050	02/19/2024	ND	2.10	105	2.00	5.81		
Total Xylenes*	<0.150	0.150	02/19/2024	ND	6.32	105	6.00	5.47		
Total BTEX	<0.300	0.300	02/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/20/2024	ND	448	112	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	02/19/2024	ND	189	94.4	200	0.0450	
DRO >C10-C28*	<10.0	10.0	02/19/2024	ND	184	92.0	200	0.591	
EXT DRO >C28-C36	<10.0	10.0	02/19/2024	ND					

Surrogate: 1-Chlorooctane 80.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.7 % 49.1-148

Cardinal Laboratories

\*=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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A handwritten signature in black ink, appearing to read "C. 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 Natural Resources

Site Manager:

Chuck Terhune

Project Name:

Through-Vacuum ABO Battery #4

281-755-8965

[chuck.terhune@tetratech.com](mailto:chuck.terhune@tetratech.com)

Project Location:

Lea County, NM

Project #:

212C-MD-03372

Invoice to:

Attn: Chuck Terhune

Receiving Laboratory:

Cardinal Labs

Sampler Signature:

Jorge Fernandez

Comments:

Include : Chris Straub [Chris.Straub@tetratech.com](mailto:Chris.Straub@tetratech.com)

LAB #  
LAB USE ONLY

SAMPLE IDENTIFICATION

		SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO <sub>3</sub>		
1	FS-1 (1.0')	2/19/2024		X				X	
2	FS-2 (1.0')	2/19/2024		X				X	
3	FS-3 (1.0')	2/19/2024		X				X	
4	FS-4 (1.0')	2/19/2024		X				X	
5	FS-5 (1.0')	2/19/2024		X				X	
6	FS-6 (1.0')	2/19/2024		X				X	
7	FS-7 (1.0')	2/19/2024		X				X	
8	FS-8 (1.0')	2/19/2024		X				X	
9	FS-9 (1.0')	2/19/2024		X				X	
10	FS-10 (1.0')	2/19/2024		X				X	

Relinquished by: *Chris Straub* Date: 2-19-24 Time: 1533

Relinquished by: *Chuck Terhune* Date: 2-19-24 Time: 1533

Relinquished by: *Chuck Terhune* Date: 2-19-24 Time: 1533

Relinquished by: *Chuck Terhune* Date: 2-19-24 Time: 1533

ANALYSIS REQUEST  
(Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B
TPH TX1005 (Ext to C35)	
TPH 8015M ( GRO - DRO - ORO - MRO)	
PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Volatiles	
TCLP Semi Volatiles	
RCI	
GC/MS Vol. 8260B / 624	
GC/MS Semi. Vol. 8270C/625	
PCB's 8082 / 608	
NORM	
PLM (Asbestos)	
Chloride	
Chloride Sulfate TDS	
General Water Chemistry (see attached list)	
Anion/Cation Balance	
Hold	

LAB USE ONLY

REMARKS: Standard TAT

Sample Temperature

☒ 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 Natural Resources

Site Manager:

Chuck Terhune

Project Name:

Through-Vacuum ABO Battery #4

281-755-8965

Project Location:

(county, state) Lea County, NM

Project #:

212C-MD-03372

Invoice to:

Attn: Chuck Terhune

Receiving Laboratory:

Cardinal Labs

Sampler Signature:

Jorge Fernandez

Comments:

Include : Chris Straub Chris.Straub@tetratech.com

SAMPLE IDENTIFICATION

LAB #  
LAB USE  
ONLY

DATE

TIME

WATER  
SOIL

HCL  
HNO<sub>3</sub>  
ICE

# CONTAINERS

FILTERED (Y/N)

BTEX 8021B BTEX 8260B

TPH TX1005 (Ext to C35)

TPH 8015M ( GRO - DRO - ORO - MRO)

PAH 8270C

Total Metals Ag As Ba Cd Cr Pb Se Hg

TCLP Metals Ag As Ba Cd Cr Pb Se Hg

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8260B / 624

GC/MS Semi. Vol. 8270C/625

PCB's 8082 / 608

NORM

PLM (Asbestos)

Chloride

Chloride Sulfate TDS

General Water Chemistry (see attached list)

Anion/Cation Balance

Hold

ANALYSIS REQUEST

(Circle or Specify Method No.)

Relinquished by: Date: Time: 1537

Relinquished by: Date: Time: 2-19-24

Relinquished by: Date: Time:

Received by:

Date: Time:

Received by:

Date: Time:

REMARKS: Standard TAT

LAB USE  
ONLY

Sample Temperature

☒ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

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

February 23, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: THROUGH - VACUUM ABO BATTERY #4

Enclosed are the results of analyses for samples received by the laboratory on 02/22/24 11:26.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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](http://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:	02/22/2024	Sampling Date:	02/22/2024
Reported:	02/23/2024	Sampling Type:	Soil
Project Name:	THROUGH - VACUUM ABO BATTERY #4	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 03372	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

**Sample ID: FS - 21 (4.0') (H240874-01)**

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	02/22/2024	ND	2.14	107	2.00	4.65	
Toluene*	<0.050	0.050	02/22/2024	ND	2.12	106	2.00	4.74	
Ethylbenzene*	<0.050	0.050	02/22/2024	ND	2.08	104	2.00	4.82	
Total Xylenes*	<0.150	0.150	02/22/2024	ND	6.08	101	6.00	4.70	
Total BTEX	<0.300	0.300	02/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	02/23/2024	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	02/22/2024	ND	208	104	200	2.40	
DRO >C10-C28*	<10.0	10.0	02/22/2024	ND	202	101	200	7.69	
EXT DRO >C28-C36	<10.0	10.0	02/22/2024	ND					

Surrogate: 1-Chlorooctane 84.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.7 % 49.1-148

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---

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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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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

---

Celey D. Keene, Lab Director/Quality Manager

Page 1 of 1

Fax (432) 682-3946

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Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum Abo Battery #4 Trunkline Releases  
Incident IDs: nJXK1616547061 & nRM2003534693

June 14, 2024

## ATTACHMENT 6 – NMSLO SEED MIXTURE

**NMSLO Seed Mix****Loamy (L)****LOAMY (L) SITES SEED MIXTURE:**

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
<b>Grasses:</b>			
Black grama	VNS, Southern	1.0	D
Blue grama	Lovington	1.0	D
Sideoats grama	Vaughn, El Reno	4.0	F
Sand dropseed	VNS, Southern	2.0	S
Alkali sacaton	VNS, Southern	1.0	
Little bluestem	Cimarron, Pastura	1.5	F
<b>Forbs:</b>			
Firewheel ( <i>Gaillardia</i> )	VNS, Southern	1.0	D
<b>Shrubs:</b>			
Fourwing saltbush	Marana, Santa Rita	1.0	D
Common winterfat	VNS, Southern	0.5	F
<b>Total PLS/acre</b>		<b>18.0</b>	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box

VNS = Variety Not Stated, PLS = Pure Live Seed

- Seed mixes should be provided in bags separating seed types into the three categories: small (S), standard (D) and fluffy (F).
- VNS, Southern – Seed should be from a southern latitude collection of this species.
- Double seed application rate for broadcast or hydroseeding.
- If one species is not available, contact the SLO for an approved substitute; alternatively the SLO may require other species proportionately increased.
- Additional information on these seed species can be found on the USDA Plants Database website at <http://plants.usda.gov>.





## SLO Seed Mix

## SM Series

### 3 REVEGETATION PLANS & SEEDING

The following Revegetation Plans were developed for revegetation of sites in southeastern New Mexico. To determine which revegetation plan is appropriate follow procedures in the section titled Determining the Revegetation Plan.

Revegetation Plans contain seed mixtures, as well as seed bed preparation and planting requirements. The detailed instructions for seedbed preparation and planting can be found in the section Revegetation Techniques.

**Table 3 - Revegetation Plans, Codes, and Soil Types for Southeastern New Mexico**

REVEGETATION PLANS	CODE	SOIL TEXTURES
<b>Clay</b>	C	Clay, Silty Clay, Stony Silty Clay, Clay Loam, Silty Clay Loam (including saline and sodic Clay soils)
<b>Loam</b>	L	Silty Loam, Cobbly Silt Loam, Stony Silt Loam, Silt, Loam, Sandy, Clay Loam
<b>Sandy Loam</b>	SL	Very Fine Sandy Loam, Fine Sandy Loam, Cobbly Fine Sandy Loam, Sandy Loam, Cobbly Sandy Loam, Gravelly Fine Sandy Loam, Very Gravelly Fine Sand Loam, Stony Fine Sandy Loam, Stony Sandy Loam
<b>Gypsum</b>	LG	
<b>Shallow</b>	SH	Rocky Loam, Cobbly Loam
<b>Course</b>	CS	Gravelly Loam, very Gravelly Loam, Gravelly Sandy Loam, Very Gravelly Sandy Loam, Stony Loam, Stony Sandy Loam
<b>Sandy</b>	S	Loamy Fine Sand, Loam Sand, Very Gravelly Loamy Fine Sand
<b>Blow Sand</b>	BS	Fine Sand, Sand, Coarse Sand
<b>Mountain Meadow</b>	MM	Clay, Loam
<b>Mountain Upland</b>	MU	Clay Loam, Loam



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QUESTIONS  
  
Action 354285

QUESTIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	354285
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nJXK1616547061
Incident Name	NJXK1616547061 ABO 4 @ 30-025-08526
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-08526] VACUUM ABO UNIT #004

Location of Release Source	
Please answer all the questions in this group.	
Site Name	ABO 4
Date Release Discovered	06/11/2016
Surface Owner	State

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Flow Line - Production   Produced Water   Released: 38 BBL   Recovered: 25 BBL   Lost: 13 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.



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QUESTIONS, Page 2

Action 354285

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
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	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

**Initial Response**

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Chuck Terhune Title: Program Manager Email: chuck.terhune@tetrattech.com Date: 06/14/2024
--	--

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QUESTIONS, Page 3

Action 354285

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 354285
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 300 and 500 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

**Remediation Plan**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	4650
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	236
GRO+DRO (EPA SW-846 Method 8015M)	102
BTEX (EPA SW-846 Method 8021B or 8260B)	0.1
Benzene (EPA SW-846 Method 8021B or 8260B)	0.1

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	02/09/2024
On what date will (or did) the final sampling or liner inspection occur	02/22/2024
On what date will (or was) the remediation complete(d)	02/23/2024
What is the estimated surface area (in square feet) that will be reclaimed	1325
What is the estimated volume (in cubic yards) that will be reclaimed	110
What is the estimated surface area (in square feet) that will be remediated	3700
What is the estimated volume (in cubic yards) that will be remediated	331

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.



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QUESTIONS, Page 4

Action 354285

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	354285
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Chuck Terhune Title: Program Manager Email: chuck.terhune@tetrattech.com Date: 06/14/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5  
  
Action 354285

QUESTIONS (continued)

Operator:  Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:  331199
	Action Number:  354285
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

<b>Deferral Requests Only</b>	
<i>Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No



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Action 354285

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	354285
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	347431
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	02/22/2024
What was the (estimated) number of samples that were to be gathered	1
What was the sampling surface area in square feet	200

**Remediation Closure Request**

*Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.*

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	3700
What was the total volume (cubic yards) remediated	331
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	1325
What was the total volume (in cubic yards) reclaimed	110
Summarize any additional remediation activities not included by answers (above)	Submitted Remediation Report contains all details

*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 (in .pdf format) 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.*

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.

I hereby agree and sign off to the above statement	Name: Chuck Terhune Title: Program Manager Email: chuck.terhune@tetrattech.com Date: 06/14/2024
--	--

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QUESTIONS, Page 7

Action 354285

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 354285
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No



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CONDITIONS

Action 354285

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:
	331199
	Action Number:
	354285
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

CONDITIONS

Created By	Condition	Condition Date
bhall	Closure approved.	6/17/2024
bhall	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	6/17/2024
bhall	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	6/17/2024
bhall	Operator failed to provide proper Sampling Notification pursuant to 19.15.29.12.D.(1).(a) NMAC. Failure to provide proper sampling notice is a compliance issue and OCD may pursue compliance actions pursuant to 19.15.5 NMAC. Operator shall ensure future compliance with 19.15.29.12.D.(1).(a) NMAC. Variance request is approved. Ensure proper sampling notifications are given in future remediation projects.	6/17/2024