



March 22, 2024

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

**Subject: Remediation Report and Closure Request  
Maverick Permian, LLC  
Vacuum ABO 13-3 Flowline Release  
Unit Letter L, Section 4, Township 18 South, Range 35 East  
Lea County, New Mexico  
Incident ID# nPAC0716533924**

Dear Sir or Madam,

Tetra Tech, Inc. (Tetra Tech) was initially contracted by the previous operator, ConocoPhillips, to assess a historical release that occurred from a flowline associated with the Vacuum ABO Unit 13-3 flowline (associated API No. 30-025-03045) in Public Land Survey System (PLSS) Unit Letter L, Section 4, Township 18 South, Range 35 East, in Lea County, New Mexico (Site). The approximate release point occurred at coordinates 32.780614°, -103.463791°, as 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.

## BACKGROUND

According to the State of New Mexico C-141 Initial Report, the release was discovered on May 31, 2007. The release occurred as the result of external erosion to a 2 7/8-inch flowline encompassing an area of approximately 23,900 square feet. The release consisted of approximately 33 barrels (bbls) of produced water and 7 bbls of oil. During immediate response actions, 10 bbls of produced water and 2 bbls of oil were recovered. The New Mexico Oil Conservation District (NMOCD) received the C-141 report form for the release on June 4, 2007, and subsequently assigned the release Incident ID nPAC0716533924. This release is included in an Agreed Compliance Order-Releases (ACO-R) between COP and the NMOCD signed on May 7 and 9, 2019.

The original C-141 Form associated with this release was previously submitted to the NMOCD in the NMOCD-approved COP *Release Characterization and Remediation Work Plan* (Remediation Work Plan) dated February 8, 2021, submitted to the NMOCD on September 2, 2021, and is available in the NMOCD Permitting portal under Incident ID nPAC0716533924.

## SITE CHARACTERIZATION

### Receptors

Tetra Tech performed a site characterization 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). Based on a review of the NMOCD Oil and Gas Map online, the site is in an area of low karst potential. Receptor site characterization data is included in **Attachment 1**.

**Tetra Tech, Inc.**

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## Depth to Groundwater

According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are three (3) water wells within ½ mile of the Site. The average depth to groundwater is 60 feet below ground surface (bgs). The depth to water characterization was approved by the NMOCD in the Remediation Work Plan on March 17, 2023. groundwater data is included in **Attachment 1**.

## Soils

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the Site is mapped as Kimbrough-Lea complex, dry, 0 to 3 percent slopes, which is classified as a loam soil. The USDA NCRS Soil Map and soil profile are provided in **Attachment 1**.

## 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 site characterization approved by the NMOCD Remediation Work Plan, 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

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

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## SITE ASSESSMENT SUMMARY

At the request of COP, Tetra Tech performed a desktop review of available historical aerial imagery revealing evidence of a release extent and apparent remedial activities in the vicinity of the reported release location obtained from the C-141. Tetra Tech subsequently mobilized to the site and performed a visual Site inspection in June 2020 where surface areas in the pasture were observed to have been partially excavated or scraped, and partial vegetative cover was observed in the observed release footprint. Photographic documentation of the visual Site inspection is available from the NMOCD Permitting portal in the previously submitted Remediation Work Plan under Incident ID nPAC0716533924.

## Soil Sampling

Tetra Tech personnel returned to Site on behalf of COP in November and December 2020 to conduct assessment soil sampling and delineate the observed release extent. Three (3) borings (BH-1 through BH-3) were installed using an air rotary drilling rig to depths of 20 feet bgs within the interior of the observed release extent to achieve vertical delineation. Four (4) borings (BH-4 through BH-7) were installed with the air rotary drilling rig along the perimeter of the release extent to a depth of 4 feet bgs. Additionally, one (1) hand auger boring (AH-1) was advanced along the perimeter of the release to a depth of 1 foot bgs to complete horizontal delineation of the release. Soils at the Site consist of approximately 1.5 feet of brown silty clay underlain by a caliche cap rock. **Figure 3** depicts the release extent and the 2020 soil boring locations, and soil boring locations coordinates are presented in **Table 1**.

Soils were field screened for salinity using an ExTech EC400 ExStik and for volatile organics using a photoionization detector (PID) to determine sampling intervals. A total of 30 soil samples were collected from the seven (7) borings (BH-1 through BH-6, and AH-1) and submitted to Pace Analytical Laboratory in Mount Juliet, Tennessee (Pace) for analysis of BTEX by Method 8021B, TPH by Method 8015M, and chloride by Method 300.0. Laboratory analytical data packages including chain-of-custody documentation are available from the NMOCD Permitting portal in the previously submitted Remediation Work Plan under Incident ID nPAC0716533924.

## Assessment Sampling Results

The laboratory analytical results from the November and December 2020 soil sampling events are summarized in **Table 2** screened against Reclamation Requirements. The laboratory analytical results reported chloride at a concentration greater than the Reclamation Requirements at interior soil boring BH-2 in the 2-3 foot sample interval and TPH at concentrations greater than TPH Reclamation Requirements in the 0-1 foot and 2-3 foot sample intervals. Laboratory analytical results for all other assessment soil samples reported constituent concentrations as less than BTEX, TPH, and chloride Reclamation Requirements. Vertical and horizontal delineation was achieved during the November and December 2020 assessment sampling events.

## NMOCD-APPROVED REMEDIATION WORK PLAN

On March 17, 2023, NMOCD approved the COP-submitted Remediation Work Plan which proposed to remove the remaining impacted material in the area around sample location BH-2 using heavy equipment to a maximum depth of 4 feet below the surrounding surface or until a representative sample from the walls and bottom of the excavation reported constituent concentrations as less than Reclamation Requirements.

Excavated soils were proposed to be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation bottom and sidewall samples to be collected for verification of remedial activities and analyzed for BTEX, TPH, and chloride. Upon receipt of laboratory analytical results, NMOCD to be notified and then the excavation to be backfilled with clean material to surface grade. The estimated volume of material to be remediated was approximately 2,500 cubic yards.

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## CULTURAL RESOURCES SURVEY

To comply with 1.10.15 NMAC and New Mexico State Land Office (NMSLO) requirements, Tetra Tech contracted SWCA Environmental Consultants to perform a Class III Cultural Resources Survey for the remediation area under New Mexico Cultural Resources Investigation System (NMCRIIS) Activity No. 84275. Ms. Alissa Healy of SWCA conducted the survey on September 27, 2023, which included an intensive pedestrian survey of the Vacuum ABO 13-3 Flowline Release remediation site and immediate vicinity covering 5.03 acres, which included a 100-ft cultural resources buffer around the location.

No archaeological sites or historic properties were observed during the investigation. No additional investigation or treatment is recommended regarding the current undertaking. No subsurface cultural materials were encountered during remediation. The cover page from the Class III Cultural Resources Survey is included in **Attachment 3**.

## ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, COP proposed an alternative confirmation sampling plan including floor and sidewall confirmation sidewall samples to verify remedial activities over the proposed excavation. On March 17, 2023, the NMOCD approved the Remediation Work Plan with conditions for the sampling variance of a sampling density of one sample per every 500 square feet of sidewall and base area.

## REMEDIATION AND CONFIRMATION SAMPLING

Excavation activities commenced on February 26, 2024, and concluded on March 15, 2024. Maverick's subcontractor, McNabb used heavy equipment to excavate impacted soil from the remediation areas to maximum depths of 4 feet bgs as shown in **Figure 5**. 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. McNabb excavated a total of 2,562 cubic yards of contaminated soil from an approximately 14,800 square foot area and transported the soil to R360 Halfway landfill in Lea County, New Mexico for offsite disposal.

### Confirmation Sampling Notification

On February 23, 2024, Tetra Tech notified the NMOCD of the initial confirmation sampling through the submission of a C-141N Sampling Notification submission in the NMOCD Permitting portal and provided subsequent sampling notification updates through email to ocd.enviro@emnrd.nm.gov and via submissions of C-141N Sampling Notification submissions in the NMOCD Permitting portal. On February 13, 2024, Tetra Tech notified the NMOCD of final sampling for the final confirmation sampling at the Site performed on February 15, 2024, in accordance with 19.15.29.12(D)(1)(a) NMAC and the Energy, Minerals and Natural Resources Department (EMNRD) Notice *Process Updates re: Submissions of Form C-141 Release Notification and Corrective Actions* dated December 1, 2023. Sample notifications are available in the NMOCD Portal under Incident ID nPAC0716533924.

### Confirmation Sampling

Upon reaching the final lateral and vertical excavation extents of the excavation, Tetra Tech collected 56 confirmation samples including 31 floor samples and 25 side wall samples from the excavated areas. The remediation excavation confirmation sampling area was comprised of an approximately 14,750 square foot base and 1,900 square feet of sidewall for a total area of 16,650 square feet and a sampling density of approximately one confirmation sample per 300 square feet.

Confirmation 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. Laboratory analytical results for submitted confirmation samples reported concentrations of BTEX, TPH, and chloride as less than respective Reclamation



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Requirements for samples collected from depths shallower than 4 feet bgs. For all samples obtained at or below a depth of 4 feet bgs, laboratory analytical results reported constituent concentrations as less than Remediation RRALs and clean margins were demonstrated. Confirmation sampling locations and excavation extents are shown in **Figure 5**.

Confirmation sample laboratory analytical results screened against Reclamation Requirements and RRALs are summarized in **Table 3** and **Table 4** and laboratory analytical data packages including chain of custody documentation are included in **Attachment 4**.

## Excavation Backfill

Between March 15 and 18, 2024, subsequent to the receipt of confirmation sample results, McNabb completed backfilling of the excavated areas with 2,373 cubic yards of clean soil, 66 cubic yards sourced from Sutton Pit, 658 cubic yards sourced from Blevins Pit, 630 cubic yards sourced from Berry Pit, and 1,019 cubic yards sourced from Boyd Pit. Photographic Documentation showing the excavated areas and final grading after backfilling is provided in **Attachment 5**.

## Reclamation and Revegetation

To restore the impacted surface areas to the condition that existed prior to the release, the excavated areas have been backfilled with clean topsoil, and backfilled and disturbed areas of impacted pastureland have been graded back to match the surrounding topography and the pre-existing condition 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 areas of the Site were seeded with New Mexico State Land Office (NMSLO) Loamy (L) Sites Seed Mixture in accordance with the Site soil profile detailed above in the Site Characterization Section, to aid in vegetation growth to complete reclamation. 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 5**.

## CONCLUSION

Based on the results of the confirmation sampling, the impacted soil within the release footprint with chloride 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; 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. If you have any questions concerning the remediation activities for the Site, please contact Chris Straub by email at [Chris.Straub@tetratech.com](mailto:Chris.Straub@tetratech.com) or by phone at (832) 251-5180.

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 3 – Release Extent and Site Assessment Map
- Figure 4 – Proposed Remediation Extent
- Figure 5 – Remediation Excavation Extent & Confirmation Sampling

### Tables

- Table 1 – Assessment Soil Boring Locations
- Table 2 – Summary of Analytical Results – Soil Assessment Sampling
- Table 3 – Summary of Shallow Soil Analytical Results – Confirmation Sampling
- Table 4 – Summary of Deep Soil Analytical Results – Confirmation Sampling

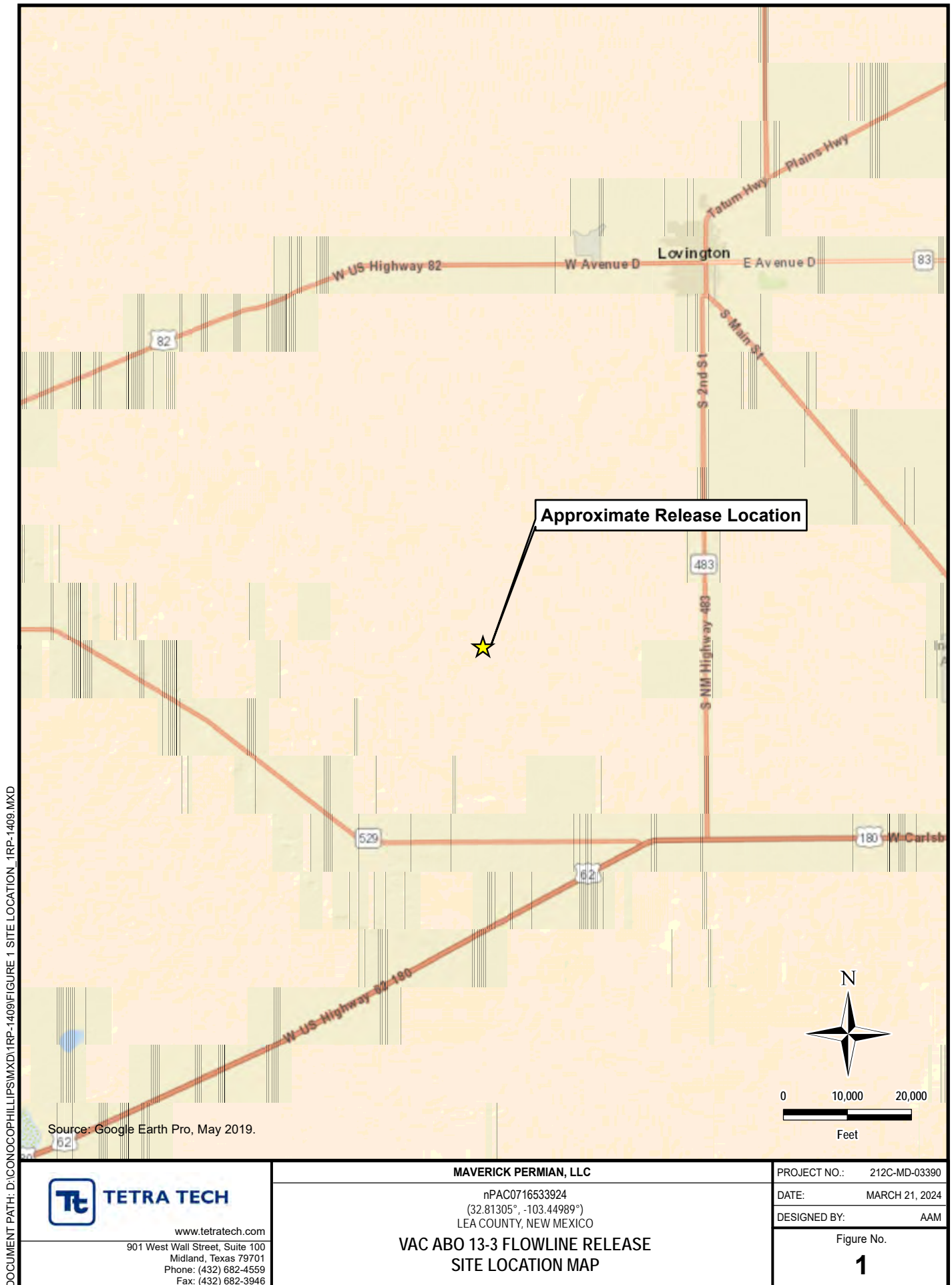
### Attachments

- Attachment 1 – Site Characterization Data
- Attachment 2 – Cultural Resource Survey Cover Sheet
- Attachment 3 – Laboratory Analytical Data
- Attachment 4 – Photographic Documentation
- Attachment 5 – Seed Mixture Details

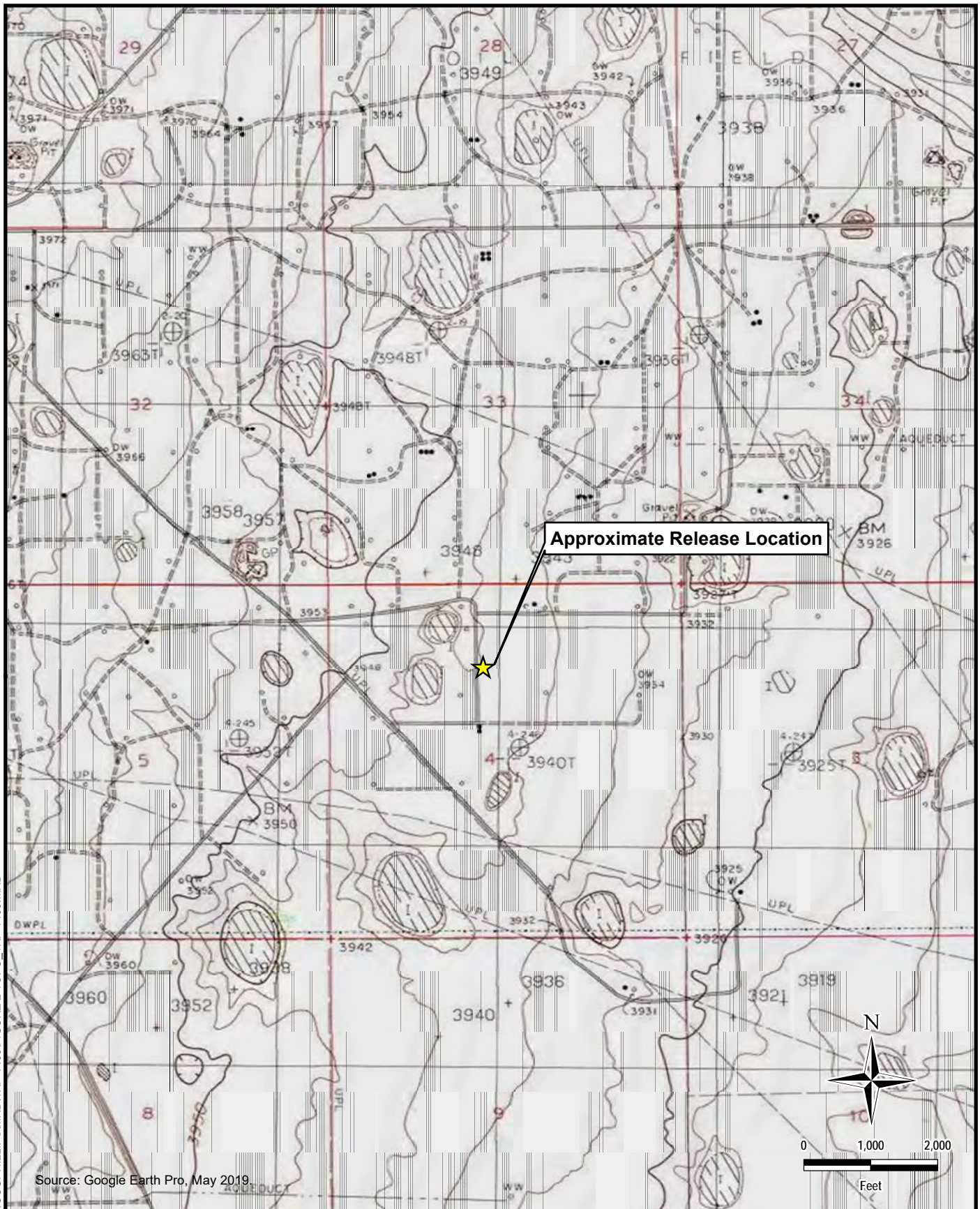
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March 22, 2024

## FIGURES







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**TETRA TECH**
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**MAVERICK PERMIAN, LLC**

 nPAC0716533924  
 (32.81305°, -103.44989°)  
 LEA COUNTY, NEW MEXICO

**VAC ABO 13-3 FLOWLINE RELEASE  
 TOPOGRAPHIC MAP**

PROJECT NO.: 212C-MD-03390

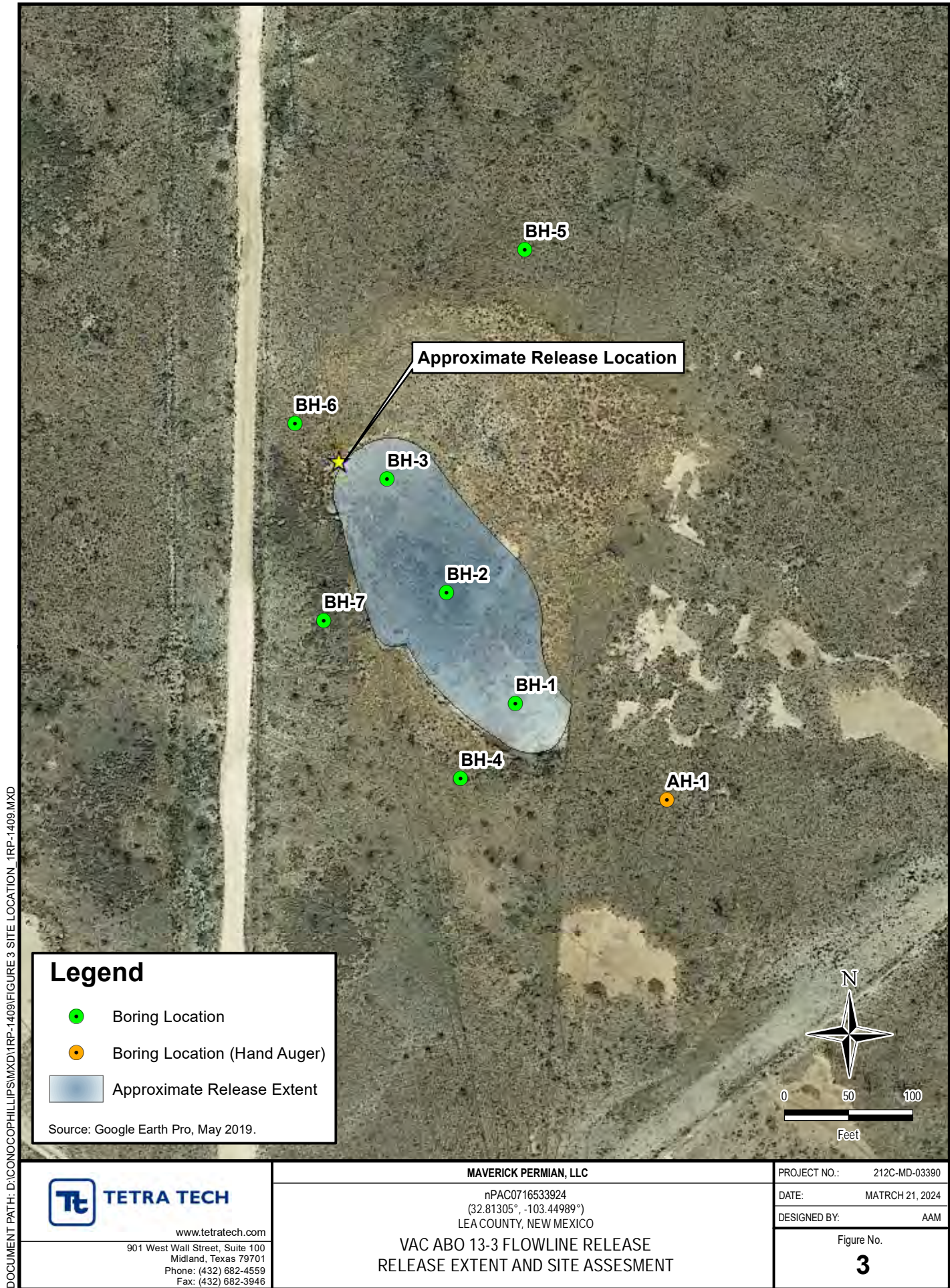
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DESIGNED BY: AAM

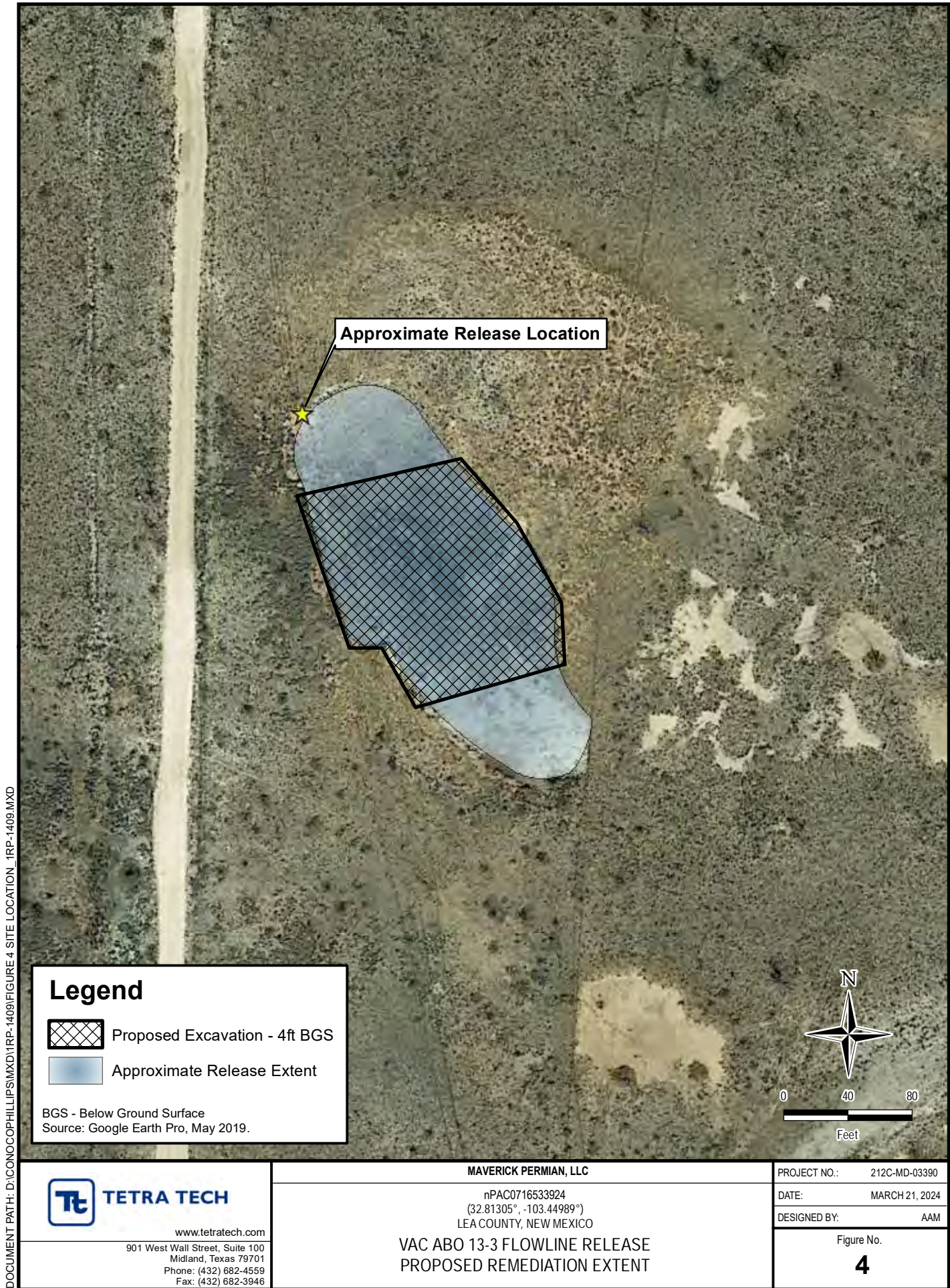
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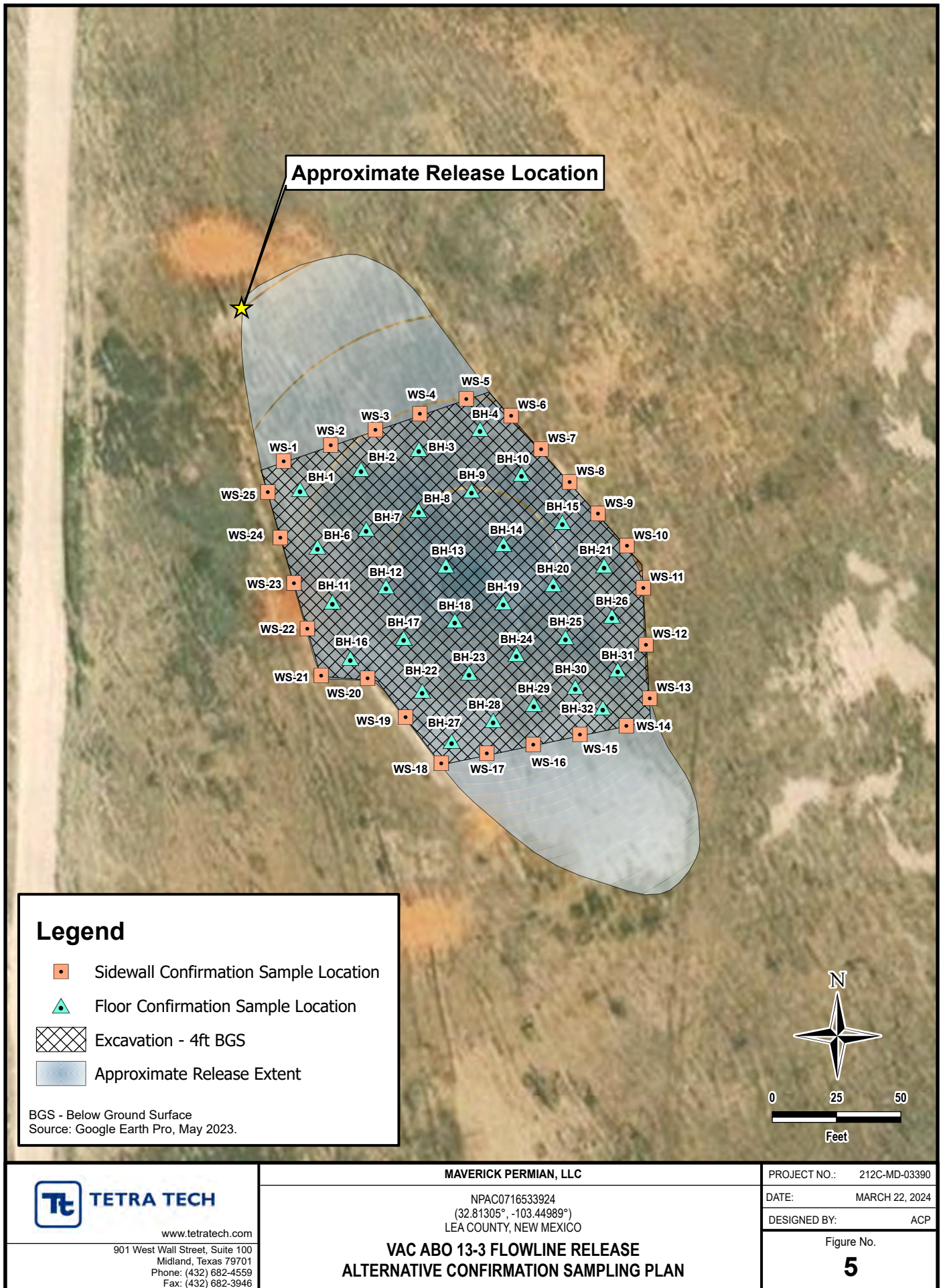








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TABLES



**TABLE 1**  
**SOIL ASSESSMENT BORING LOCATIONS**  
**INCIDENT NPAC0716533924**  
**MAVERICK PERMIAN, LLC**  
**Vacuum ABO 13-3 FLOWLINE RELEASE**  
**LEA COUNTY, NEW MEXICO**

Boring ID	Date	Latitude	Longitude
AH - 1	12/2/2020	32.779881	-103.462966
BH-1	11/17/2020	32.780090	-103.463347
BH-2	11/17/2020	32.780329	-103.463520
BH-3	11/17/2020	32.780573	-103.463669
BH-4	11/17/2020	32.779931	-103.463489
BH-5	11/17/2020	32.781060	-103.463314
BH-6	11/17/2020	32.780693	-103.463901
BH-7	11/17/2020	32.780270	-103.463832



**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**SOIL ASSESSMENT SAMPLING - INCIDENT NPAC0716533924**  
**MAVERICK PERMIAN, LLC**  
**VACCUM ABO 13-3 FLOWLINE RELEASE**  
**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 (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		
Reclamation Requirements (19.15.29 NMAC)			600	Q	10	Q		Q		Q	50	Q		Q		Q		Q	100		
AH-1	12/2/2020	0.0 - 1.0	< 20.4		0.000495	J	<0.00521		<0.00260		0.00156	J	0.002055		<0.102		3.35	B J	17.5		21
BH-1	11/17/2020	0.0 - 1.0	< 20.7		<0.00107		<0.00537		<0.00269		<0.00698		-		0.0228	B J	< 4.15		0.684	J	0.7068
	11/17/2020	2.0 - 3.0	< 20.9		<0.00109		<0.00543		<0.00271		<0.00705		-		0.0237	B J	< 4.17		0.611	J	0.6347
	11/17/2020	4.0 - 5.0	28.1		<0.00113		<0.00565		<0.00283		<0.00735		-		< 0.107		< 4.26		0.647	J	0.647
	11/17/2020	6.0 - 7.0	65.9		<0.00111		<0.00557		<0.00279		<0.00724		-		0.0295	B J	< 4.23		0.457	J	0.4865
	11/17/2020	9.0 - 10.0	254		<0.00121		<0.00607		<0.00303		<0.00789		-		0.027	B J	< 4.43		< 4.43		0.027
	11/17/2020	14.0 - 15.0	61.5		<0.00115		<0.00577		<0.00288		<0.0075		-		0.0276	B J	< 4.31		0.437	J	0.4646
	11/17/2020	19.0 - 20.0	60.6		<0.00118		<0.00592		<0.00296		<0.0077		-		0.0268	B J	< 4.37		< 4.37		0.0268
BH-2	11/17/2020	0.0 - 1.0	187		<0.00104		<0.00521		<0.00261		<0.00678		-		0.0275	B J	34.7		108		142.7275
	11/17/2020	2.0 - 3.0	605		<0.00111		<0.00557		<0.00278		<0.00724		-		0.031	B J	38.3		118		156.331
	11/17/2020	4.0 - 5.0	344		<0.00107		<0.00534		<0.00267		<0.00694		-		0.031	B J	17.1		55.6		72.731
	11/17/2020	6.0 - 7.0	501		<0.00112		<0.00561		<0.00281		<0.0073		-		0.031	B J	< 4.24		< 4.24		0.031
	11/17/2020	9.0 - 10.0	104		<0.00116		<0.00581		<0.00291		<0.00755		-		0.0299	B J	< 4.32		0.476	J	0.5059
	11/17/2020	14.0 - 15.0	45.3		<0.00117		<0.00584		<0.00292		<0.00759		-		0.0285	B J	< 4.33		0.926	J	0.9545
	11/17/2020	19.0 - 20.0	55.3		<0.00108		<0.00538		<0.00269		<0.00699		-		0.0244	B J	< 4.15		3.44	J	3.4644
BH-3	11/17/2020	0.0 - 1.0	71.8		<0.00108		<0.00539		<0.0027		<0.00701		-		0.0265	B J	6.1		21		27.1265
	11/17/2020	2.0 - 3.0	85.7		<0.00104		<0.00522		<0.00261		<0.00678		-		0.029	B J	< 4.09		2.97	J	2.999
	11/17/2020	4.0 - 5.0	403		<0.00111		<0.00557		<0.00278		<0.00724		-		0.0929	B J	< 4.23		0.753	J	0.8459
	11/17/2020	6.0 - 7.0	54.1		<0.0012		<0.00599		<0.00299		<0.00778		-		0.104	B J	< 4.39		0.5	J	0.604
	11/17/2020	9.0 - 10.0	43.4		<0.00112		<0.00561		<0.00281		<0.00730		-		0.0791	B J	< 4.24		0.491	J	0.5701
	11/17/2020	14.0 - 15.0	22.4		<0.00107		<0.00534		<0.00267		<0.00694		-		0.148	B	< 4.14		0.562	J	0.71
	11/17/2020	19.0 - 20.0	70.4		<0.00101		<0.00506		<0.00253		<0.00658		-		0.102	B	< 4.02		< 4.02		0.102
BH-4	11/17/2020	0.0 - 1.0	< 21.4		<0.00114		<0.00569		<0.00285		<0.00740		-		0.124	B	3.38	J	8.47		11.974
	11/17/2020	3.0 - 4.0	10.7		<0.00112		<0.0056		<0.0028		<0.00728		-		0.167	B	5.7		9		14.867
BH-5	11/17/2020	0.0 - 1.0	< 20.6		<0.00106		<0.00529		<0.00264		<0.00687		-		0.135	B	2.75	J	11.8		14.685
	11/17/2020	3.0 - 4.0	< 20.7		<0.00107		<0.00535		<0.00267		<0.00695		-		0.236	B	< 4.14		1.16	J	1.396
BH-6	11/17/2020	0.0 - 1.0	< 20.4		<0.00104		<0.00518		<0.00259		<0.00674		-		0.104	B	6.44		21.5		28.044
	11/17/2020	3.0 - 4.0	14.7		<0.00104		<0.0052		<0.00260		<0.00676		-		0.0433	B J	< 4.08		5.94		5.9833
BH-6	11/17/2020	0.0 - 1.0	< 20.5		<0.00105		<0.00526		<0.00263		<0.00683		-		0.11	B	< 4.10		5.2		5.31
	11/17/2020	3.0 - 4.0	< 21.4		<0.00114		<0.00571		<0.00285		<0.00742		-		0.382	B	< 4.28		1.19	J	1.572

## 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 8021B  
3: Method 8015M

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

B: The same analyte was detected in the associated blank, result is biased high

J: The identification of the analyte is acceptable and the reported concentration is an estimate





**TABLE 3**  
**SUMMARY OF ANALYTICAL RESULTS**  
**SHALLOW SOIL CONFIRMATION SAMPLING - INCIDENT NPAC0716533924**  
**MAVERICK PERMIAN, LLC**  
**VACCUM ABO 13-3 FLOWLINE RELEASE**  
**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		
Reclamation Requirements (19.15.29 NMAC)			600	Q	10	Q		Q		Q		Q	50	Q		Q		Q		Q	100	
WS - 1	3/13/2024	0.0-4.0	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 2	3/13/2024	0.0-4.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 3	3/13/2024	0.0-4.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 4	3/13/2024	0.0-4.0	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 5	3/8/2024	0.0-4.0	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 6	3/8/2024	0.0-4.0	80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 7	3/8/2024	0.0-4.0	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 8	3/8/2024	0.0-4.0	80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 9	3/8/2024	0.0-4.0	64		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 10	3/1/2024	0.0-4.0	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 11	3/1/2024	0.0-4.0	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 12	3/1/2024	0.0-4.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 13	3/1/2024	0.0-4.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 14	3/1/2024	0.0-4.0	48		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 15	3/1/2024	0.0-4.0	64		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 16	3/1/2024	0.0-4.0	48		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 17	3/1/2024	0.0-4.0	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 18	3/1/2024	0.0-4.0	64		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 19	3/7/2024	0.0-4.0	208		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 20	3/12/2024	0.0-4.0	64		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 21	3/12/2024	0.0-4.0	112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 22	3/12/2024	0.0-4.0	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 23	3/12/2024	0.0-4.0	48		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 24	3/12/2024	0.0-4.0	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
WS - 25	3/12/2024	0.0-4.0	<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 SM4500CI-B

2: Method 8021B

3: Method 8015M

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





**TABLE 4**  
**SUMMARY OF ANALYTICAL RESULTS**  
**DEEP CONFIRMATION SAMPLING - INCIDENT NPAC0716533924**  
**MAVERICK PERMIAN, LLC**  
**Vacuum ABO 13-3 FLOWLINE RELEASE**  
**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		TPH	Total TPH
		C <sub>6</sub> - C <sub>10</sub>	> C <sub>10</sub> - C <sub>28</sub>	> C <sub>28</sub> - C <sub>36</sub>	GRO+DRO	GRO+DRO+EXT DRO																
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	mg/kg
RRALs (Table I 19.15.29.12 NMAC)			10,000		10								50								1,000	2,500
BH - 1 (4')	3/12/2024	4.0 - 4.5	864		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		40.3		<10.0		40.3	40.3
BH - 2 (4')	3/12/2024	4.0 - 4.5	96		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 3 (4.0')	3/8/2024	4.0 - 4.5	224		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		21.7		<10.0		21.7	21.7
BH - 4 (4.0')	3/8/2024	4.0 - 4.5	800		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 5	-	-	Sampling number skipped in sampling scheme																			
BH - 6 (4')	3/12/2024	4.0 - 4.5	272		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		115		58.5		115	173.5
BH - 7 (4')	3/12/2024	4.0 - 4.5	608		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 8 (4.0')	3/8/2024	4.0 - 4.5	496		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 9 (4.0')	3/8/2024	4.0 - 4.5	256		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 10	3/12/2024	4.0 - 4.5	320		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 11	3/12/2024	4.0 - 4.5	1,760		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 12	3/12/2024	4.0 - 4.5	432		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 13	3/12/2024	4.0 - 4.5	976		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		31.5		<10.0		31.5	31.5
BH - 14	3/12/2024	4.0 - 4.5	448		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 15 (4.0')	2/29/2024	4.0 - 4.5	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 16	3/12/2024	4.0 - 4.5	48		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 17	3/12/2024	4.0 - 4.5	160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 18 (4.0')	3/7/2024	4.0 - 4.5	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 19 (4.0')	3/7/2024	4.0 - 4.5	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 20 (4.0')	2/29/2024	4.0 - 4.5	480		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 21	3/12/2024	4.0 - 4.5	400		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		21.7		<10.0		21.7	21.7
BH - 22 (4')	3/12/2024	4.0 - 4.5	368		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		26.3		<10.0		26.3	26.3
BH - 23 (4.0')	3/7/2024	4.0 - 4.5	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 24 (4.0')	3/7/2024	4.0 - 4.5	304		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 25 (4')	3/4/2024	4.0 - 4.5	464		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 26 (4.0')	2/29/2024	4.0 - 4.5	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 27 (4.0')	3/7/2024	4.0 - 4.5	80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 28 (4.0')	3/1/2024	4.0 - 4.5	64		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 29 (4.0')	3/1/2024	4.0 - 4.5	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 30 (4.0')	3/1/2024	4.0 - 4.5	48		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 31 (4')	3/4/2024	4.0 - 4.5	304		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-
BH - 32 (4')	3/4/2024	4.0 - 4.5	16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	-

## NOTES:

bgs: Below ground surface

GRO: Gasoline Range Organics

1: Method SM4500CI-B

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

mg/kg: Milligrams per kilogram

DRO: Diesel Range Organics

2: Method 8021B

**Areas that were over excavated and resampled to achieve clean margins.**

TPH: Total Petroleum Hydrocarbons

ORO: Oil Range Organics

3: Method 8015M




Site Remediation Report and Closure Request  
Vacuum ABO 13-3 Flowline Release  
Incident ID# nPAC0716533924

Maverick Permian, LLC  
March 22, 2024

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

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

(In feet)

POD Number	Code	POD	County	Q Q Q					Sec	Tws	Rng	X	Y	Distance	Depth	Well	Depth	Water	Column
		Sub-basin		64	16	4													
<a href="#">L_04631</a>		L	LE	2	1	1	04	18S	35E	643465	3628292*		511	140	60	80			
<a href="#">L_04586</a>		L	LE	3	3	4	33	17S	35E	644065	3628502*		518	125	50	75			
<a href="#">L_04498</a>		L	LE		3	1	04	18S	35E	643373	3627790*		566	128	70	58			

Average Depth to Water: **60 feet**

Minimum Depth: **50 feet**

Maximum Depth: **70 feet**

**Record Count:** 3

**UTMNAD83 Radius Search (in meters):**

Easting (X): 643893.93

**Northing (Y):** 3628012.93

**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.

10/27/20 3:27 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<a href="#">L 04206</a>	L	LE		3	4	04	18S	35E		644194	3626992*	125	50	75
<a href="#">L 04498</a>	L	LE		3	1	04	18S	35E		643373	3627790*	128	70	58
<a href="#">L 04631</a>	L	LE		2	1	1	04	18S	35E	643465	3628292*	140	60	80

Average Depth to Water: **60 feet**

Minimum Depth: **50 feet**

Maximum Depth: **70 feet**

**Record Count: 3**

**PLSS Search:**

**Section(s): 4**

**Township: 18S**

**Range: 35E**

\*UTM location was derived from PLSS - see Help

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

7/24/20 12:02 PM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER

# KARST POTENTIAL MAP

1RP-1409

## Legend

-  1RP-1409
-  High
-  Low
-  Medium



Lovington

Lea

1RP-1409

Hobbs

Google Earth

© 2020 Google

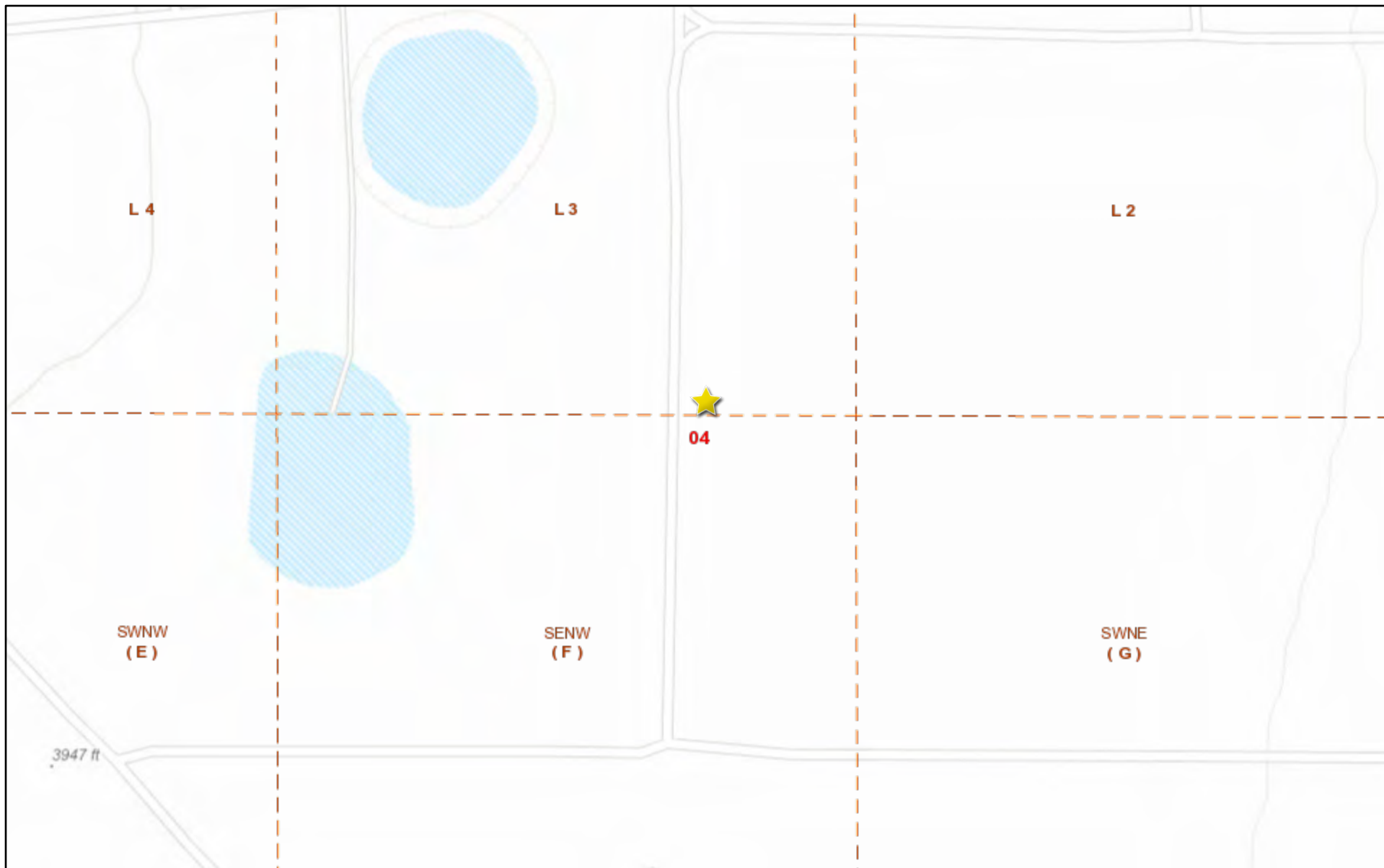
Image Landsat / Copernicus

Released to Imaging: 3/28/2024 1:36:06 PM

20 mi



1RP-1409



2/8/2021, 2:26:48 PM



### Override 1



☐ PLSS First Division



## PLJV Probable Playas



 PLSS Second Division

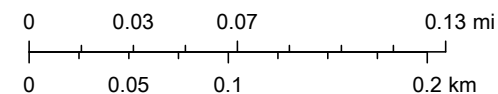


## OSE Streams



 OSE Water-bodies

1:4,514



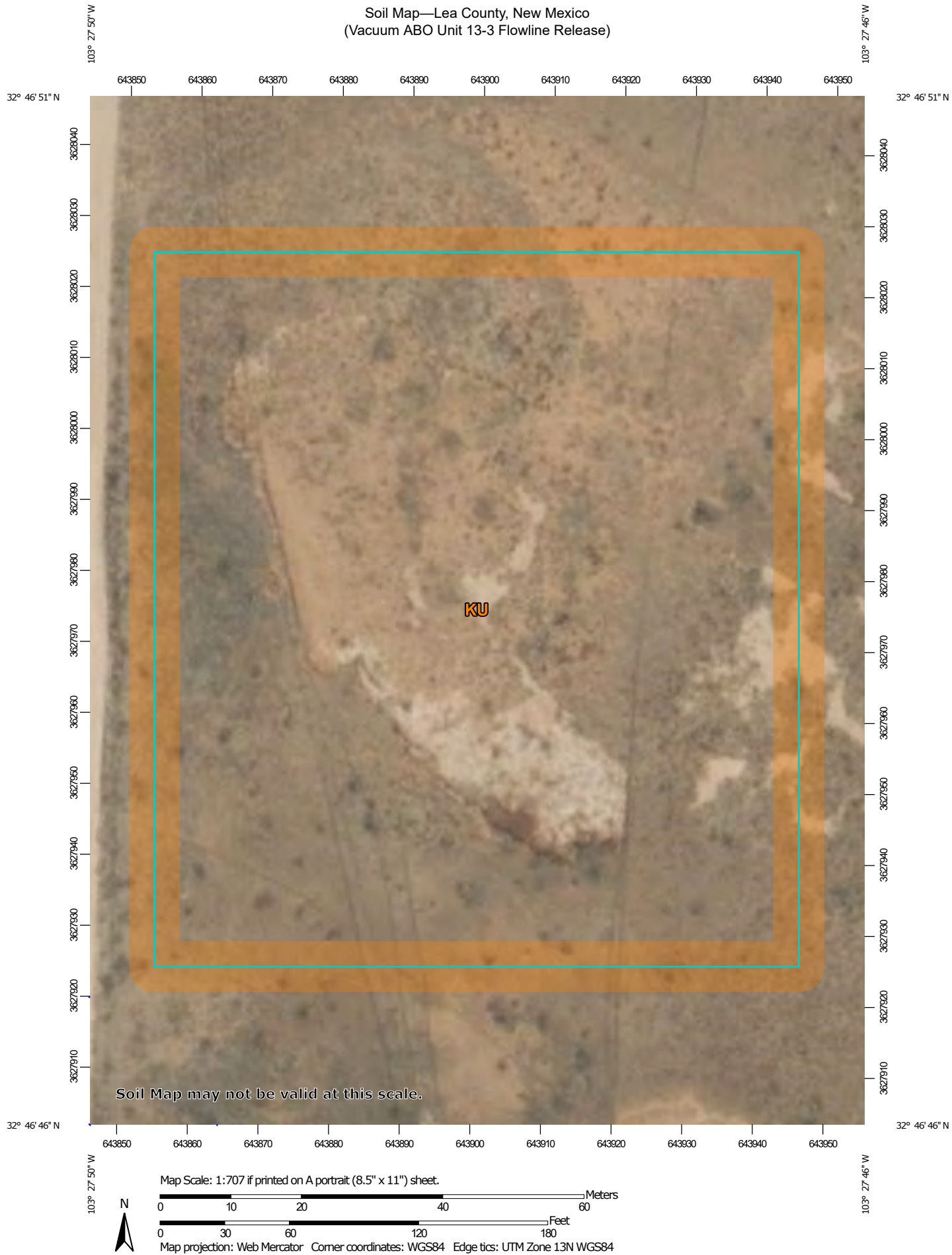
OCD, Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE,

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



Soil Map—Lea County, New Mexico  
(Vacuum ABO Unit 13-3 Flowline Release)



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

3/21/2024  
Page 1 of 3

Soil Map—Lea County, New Mexico  
(Vacuum ABO Unit 13-3 Flowline Release)

## 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
KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	2.3	100.0%
Totals for Area of Interest		2.3	100.0%

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

Vacuum ABO Unit 13-3 Flowline  
Release

## Lea County, New Mexico

### KU—Kimbrough-Lea complex, dry, 0 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2tw46

*Elevation:* 2,500 to 4,800 feet

*Mean annual precipitation:* 14 to 16 inches

*Mean annual air temperature:* 57 to 63 degrees F

*Frost-free period:* 180 to 220 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Kimbrough and similar soils:* 45 percent

*Lea and similar soils:* 25 percent

*Minor components:* 30 percent

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

#### Description of Kimbrough

##### Setting

*Landform:* 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



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

Vacuum ABO Unit 13-3 Flowline Release

*Land capability classification (nonirrigated): 7s*  
*Hydrologic Soil Group: D*  
*Ecological site: R077DY049TX - Very Shallow 12-17" PZ*  
*Hydric soil rating: No*

## Description of Lea

### Setting

*Landform: Plains*  
*Down-slope shape: Convex*  
*Across-slope shape: Linear*  
*Parent material: Calcareous, loamy eolian deposits from the blackwater draw formation of pleistocene age over indurated caliche of pliocene age*

### Typical profile

*A - 0 to 10 inches: loam*  
*Bk - 10 to 18 inches: loam*  
*Bkk - 18 to 26 inches: gravelly fine sandy loam*  
*BkkM - 26 to 80 inches: cemented material*

### Properties and qualities

*Slope: 0 to 3 percent*  
*Depth to restrictive feature: 22 to 30 inches to petrocalcic*  
*Drainage class: Well drained*  
*Runoff class: High*  
*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 90 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Sodium adsorption ratio, maximum: 3.0*  
*Available water supply, 0 to 60 inches: Very low (about 2.9 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 7s*  
*Hydrologic Soil Group: D*  
*Ecological site: R077DY047TX - Sandy Loam 12-17" PZ*  
*Hydric soil rating: No*

## Minor Components

### Kenhill

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

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

Vacuum ABO Unit 13-3 Flowline  
Release

### **Douro**

*Percent of map unit:* 12 percent

*Landform:* Plains

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* R077DY047TX - Sandy Loam 12-17" PZ

*Other vegetative classification:* Unnamed (G077DH000TX)

*Hydric soil rating:* No

### **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

*Other vegetative classification:* Unnamed (G077DH000TX)

*Hydric soil rating:* No

## **Data Source Information**

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 20, Sep 6, 2023



Site Remediation Report and Closure Request  
Vacuum ABO 13-3 Flowline Release  
Incident ID# nPAC0716533924

Maverick Permian, LLC  
March 22, 2024

## **ATTACHMENT 2 – CULTURAL RESOURCE SURVEY COVER SHEET**

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 153942

HPD Log No(s).

Registration

Lead Agency: NM State Land Office

Performing Agency: SWCA Environmental Consultants

Activity ID: 84275

Performing Agency Report No: 23-668

Other Agencies:

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

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

Total Survey Acreage: 5.03

Total Tribal Acreage: 0.00

Total Resources Visited: 0

Site Remediation Report and Closure Request  
Vacuum ABO 13-3 Flowline Release  
Incident ID# nPAC0716533924

Maverick Permian, LLC  
March 22, 2024

## **ATTACHMENT 3 – LABORATORY ANALYTICAL DATA**



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

---

March 04, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VACUUM ABO BATTERY 13-3

Enclosed are the results of analyses for samples received by the laboratory on 02/29/24 14:04.

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".

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:	02/29/2024	Sampling Date:	02/29/2024
Reported:	03/04/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO BATTERY 13-3	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03390	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK NR - LEA CO NM		

**Sample ID: BH - 15 ( 4.0' ) (H241018-01)**

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	03/01/2024	ND	2.02	101	2.00	7.29	
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84	
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09	
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73	
Total BTEX	<0.300	0.300	03/01/2024	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	128	16.0	03/01/2024	ND	416	104	400	3.77	

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	03/01/2024	ND	185	92.7	200	3.29	
DRO >C10-C28*	<10.0	10.0	03/01/2024	ND	198	99.0	200	6.16	
EXT DRO >C28-C36	<10.0	10.0	03/01/2024	ND					

Surrogate: 1-Chlorooctane 65.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.1 % 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: 02/29/2024  
 Reported: 03/04/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 02/29/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 20 ( 4.0' ) (H241018-02)**

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	03/01/2024	ND	2.02	101	2.00	7.29		
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84		
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09		
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73		
Total BTEx	<0.300	0.300	03/01/2024	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	03/01/2024	ND	416	104	400	3.77		

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	03/01/2024	ND	185	92.7	200	3.29	
DRO >C10-C28*	<10.0	10.0	03/01/2024	ND	198	99.0	200	6.16	
EXT DRO >C28-C36	<10.0	10.0	03/01/2024	ND					

Surrogate: 1-Chlorooctane 72.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.3 % 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: 02/29/2024  
 Reported: 03/04/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 02/29/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 26 ( 4.0' ) (H241018-03)**

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	03/01/2024	ND	2.02	101	2.00	7.29		
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84		
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09		
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73		
Total BTEX	<0.300	0.300	03/01/2024	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	128	16.0	03/01/2024	ND	416	104	400	3.77		

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	03/01/2024	ND	185	92.7	200	3.29	
DRO >C10-C28*	<10.0	10.0	03/01/2024	ND	198	99.0	200	6.16	
EXT DRO >C28-C36	<10.0	10.0	03/01/2024	ND					

Surrogate: 1-Chlorooctane 72.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.3 % 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

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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 "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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

---

March 06, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VACUUM ABO BATTERY 13-3

Enclosed are the results of analyses for samples received by the laboratory on 03/01/24 12:00.

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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: BH - 28 (4.0') (H241033-01)**

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	03/01/2024	ND	2.02	101	2.00	7.29	
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84	
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09	
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73	
Total BTX	<0.300	0.300	03/01/2024	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	64.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 89.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.2 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: BH - 30 (4.0') (H241033-02)**

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	03/01/2024	ND	2.02	101	2.00	7.29		
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84		
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09		
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73		
Total BTEx	<0.300	0.300	03/01/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	48.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 88.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.6 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: BH - 29 (4.0') (H241033-03)**

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	03/01/2024	ND	2.02	101	2.00	7.29		
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84		
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09		
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73		
Total BTEX	<0.300	0.300	03/01/2024	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	32.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 84.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.8 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 10 (H241033-04)**

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	03/01/2024	ND	2.02	101	2.00	7.29		
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84		
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09		
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73		
Total BTEX	<0.300	0.300	03/01/2024	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	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 83.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.6 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 11 (H241033-05)**

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	03/01/2024	ND	2.02	101	2.00	7.29	
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84	
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09	
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73	
Total BTEX	<0.300	0.300	03/01/2024	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	<16.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 96.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.7 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 12 (H241033-06)**

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	03/01/2024	ND	2.02	101	2.00	7.29	
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84	
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09	
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73	
Total BTEX	<0.300	0.300	03/01/2024	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	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 89.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.9 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 13 (H241033-07)**

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	03/01/2024	ND	2.02	101	2.00	7.29	
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84	
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09	
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73	
Total BTEX	<0.300	0.300	03/01/2024	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	16.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 84.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.6 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 14 (H241033-08)**

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	03/01/2024	ND	2.02	101	2.00	7.29	
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84	
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09	
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73	
Total BTEx	<0.300	0.300	03/01/2024	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	48.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 87.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.7 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 15 (H241033-09)**

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	03/06/2024	ND	2.02	101	2.00	7.29		
Toluene*	<0.050	0.050	03/06/2024	ND	2.09	104	2.00	5.84		
Ethylbenzene*	<0.050	0.050	03/06/2024	ND	2.04	102	2.00	5.09		
Total Xylenes*	<0.150	0.150	03/06/2024	ND	6.19	103	6.00	4.73		
Total BTEX	<0.300	0.300	03/06/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	64.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 87.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.9 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 16 (H241033-10)**

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	03/01/2024	ND	2.02	101	2.00	7.29	
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84	
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09	
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73	
Total BTEX	<0.300	0.300	03/01/2024	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	48.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 87.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.4 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 17 (H241033-11)**

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	03/01/2024	ND	2.02	101	2.00	7.29		
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84		
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09		
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73		
Total BTEX	<0.300	0.300	03/01/2024	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	32.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 92.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.0 % 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: 03/01/2024  
 Reported: 03/06/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: WS - 18 (H241033-12)**

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	03/01/2024	ND	2.02	101	2.00	7.29	
Toluene*	<0.050	0.050	03/01/2024	ND	2.09	104	2.00	5.84	
Ethylbenzene*	<0.050	0.050	03/01/2024	ND	2.04	102	2.00	5.09	
Total Xylenes*	<0.150	0.150	03/01/2024	ND	6.19	103	6.00	4.73	
Total BTEX	<0.300	0.300	03/01/2024	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	64.0	16.0	03/04/2024	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	03/04/2024	ND	204	102	200	3.65	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	191	95.5	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 89.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.0 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

---

### 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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Cardinal Laboratories

\*=Accredited Analyte

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

---

Celey D. Keene, Lab Director/Quality Manager

### Analysis Request of Chain of Custody Record



**Tetra Tech, Inc.**

901 W Wall Street, Ste 1700  
Midland, Texas 79701  
Tel (432) 682-4559  
Fax (432) 682-3946

Client Name:		Maverick Natural Resources		Site Manager:		Chuck Terhune							
Project Name:		Vacuum ABO Battery 13-3		281-755-8965									
Project Location: (county, state)		Lea County, NM		Project #:		212C-MD-03390							
Invoice to:		Attn: Chuck Terhune		Sampler Signature:		Jorge Fernandez							
Receiving Laboratory:		Cardinal Labs		Comments:		Include : Chris Straub Chris.Straub@tetratech.com							
LAB # (LAB USE ONLY)		SAMPLE IDENTIFICATION		SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS		FILTERED (Y/N)	
1		BH-28 (4.0')		3/1/2024		X		X					
2		BH-30 (4.0')		3/1/2024		X		X					
3		BH-29 (4.0')		3/1/2024		X		X					
4		WS-10		3/1/2024		X		X					
5		WS-11		3/1/2024		X		X					
6		WS-12		3/1/2024		X		X					
7		WS-13		3/1/2024		X		X					
8		WS-14		3/1/2024		X		X					
9		WS-15		3/1/2024		X		X					
10		WS-16		3/1/2024		X		X					
Relinquished by:		Date: Time:		Received by:		Date: Time:							
Relinquished by:		Date: Time:		Received by:		Date: Time:							

[illegible]



Analysis Request of Custody Record



Tetra Tech, Inc.

901 W Wall Street, Ste 100  
Midland, Texas 79701  
Tel (432) 682-4558  
Fax (432) 682-3946

Client Name:

Maverick Natural Resources

Site Manager:

Chuck Terhune

Project Name:

Vacuum ABO Battery 13-3

281-755-8965

Project Location:

(county, state)  
Lea County, NM

Project #:

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

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)

SAMPLING

YEAR: 2023

DATE

TIME

MATRIX

PRESERVATIVE METHOD

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:

1208

Relinquished by:

Date: Time:

3-1-24

Relinquished by:

Date: Time:

3/1/24

Received by:

Date: Time:

3/1/24

Received by:

Date: Time:

3/1/24

LAB USE ONLY

REMARKS: Standard TAT

Sample Temperature

20.0°C

☒ Rush: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

ORIGINAL COPY



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

---

March 05, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VACUUM ABO BATTERY 13-3

Enclosed are the results of analyses for samples received by the laboratory on 03/04/24 14:00.

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".

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:	03/04/2024	Sampling Date:	03/04/2024
Reported:	03/05/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO BATTERY 13-3	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-03390	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK NR - LEA CO NM		

**Sample ID: BH 24 (4') (H241063-01)**

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	03/04/2024	ND	2.13	107	2.00	9.56		
Toluene*	<0.050	0.050	03/04/2024	ND	2.10	105	2.00	9.50		
Ethylbenzene*	<0.050	0.050	03/04/2024	ND	2.04	102	2.00	9.44		
Total Xylenes*	<0.150	0.150	03/04/2024	ND	5.94	99.0	6.00	9.90		
Total BTX	<0.300	0.300	03/04/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 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	96.0	16.0	03/05/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2024	ND	241	121	200	0.0896	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	223	111	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 85.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.2 % 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: 03/04/2024  
 Reported: 03/05/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 25 (4') (H241063-02)**

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	03/04/2024	ND	2.13	107	2.00	9.56		
Toluene*	<0.050	0.050	03/04/2024	ND	2.10	105	2.00	9.50		
Ethylbenzene*	<0.050	0.050	03/04/2024	ND	2.04	102	2.00	9.44		
Total Xylenes*	<0.150	0.150	03/04/2024	ND	5.94	99.0	6.00	9.90		
Total BTEX	<0.300	0.300	03/04/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 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	464	16.0	03/05/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2024	ND	241	121	200	0.0896	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	223	111	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 93.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.0 % 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: 03/04/2024  
 Reported: 03/05/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 31 (4') (H241063-03)**

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	03/04/2024	ND	1.94	97.0	2.00	5.22		
Toluene*	<0.050	0.050	03/04/2024	ND	2.13	107	2.00	10.5		
Ethylbenzene*	<0.050	0.050	03/04/2024	ND	2.22	111	2.00	9.81		
Total Xylenes*	<0.150	0.150	03/04/2024	ND	6.59	110	6.00	9.58		
Total BTEx	<0.300	0.300	03/04/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	304	16.0	03/05/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2024	ND	241	121	200	0.0896	
DRO >C10-C28*	<10.0	10.0	03/04/2024	ND	223	111	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	03/04/2024	ND					

Surrogate: 1-Chlorooctane 77.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.7 % 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: 03/04/2024  
 Reported: 03/05/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH 32 (4') (H241063-04)**

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	03/04/2024	ND	1.94	97.0	2.00	5.22		
Toluene*	<0.050	0.050	03/04/2024	ND	2.13	107	2.00	10.5		
Ethylbenzene*	<0.050	0.050	03/04/2024	ND	2.22	111	2.00	9.81		
Total Xylenes*	<0.150	0.150	03/04/2024	ND	6.59	110	6.00	9.58		
Total BTEX	<0.300	0.300	03/04/2024	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	16.0	16.0	03/05/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2024	ND	241	121	200	0.0896	
DRO >C10-C28*	<10.0	10.0	03/05/2024	ND	223	111	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	03/05/2024	ND					

Surrogate: 1-Chlorooctane 77.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.8 % 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

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

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.

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

Celey D. Keene, Lab Director/Quality Manager



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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

March 08, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VACUUM ABO BATTERY 13-3

Enclosed are the results of analyses for samples received by the laboratory on 03/07/24 13:52.

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".

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: 03/07/2024  
 Reported: 03/08/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 18 ( 4.0' ) (H241168-01)**

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	03/07/2024	ND	2.16	108	2.00	1.58	
Toluene*	<0.050	0.050	03/07/2024	ND	2.12	106	2.00	1.55	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.05	103	2.00	1.47	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	5.96	99.3	6.00	1.48	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 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	03/08/2024	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	03/07/2024	ND	186	93.1	200	2.31	
DRO >C10-C28*	<10.0	10.0	03/07/2024	ND	196	98.1	200	3.47	
EXT DRO >C28-C36	<10.0	10.0	03/07/2024	ND					

Surrogate: 1-Chlorooctane 92.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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: 03/07/2024  
 Reported: 03/08/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 19 ( 4.0' ) (H241168-02)**

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	03/07/2024	ND	2.16	108	2.00	1.58	
Toluene*	<0.050	0.050	03/07/2024	ND	2.12	106	2.00	1.55	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.05	103	2.00	1.47	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	5.96	99.3	6.00	1.48	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.9 % 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	03/08/2024	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	03/07/2024	ND	186	93.1	200	2.31	
DRO >C10-C28*	<10.0	10.0	03/07/2024	ND	196	98.1	200	3.47	
EXT DRO >C28-C36	<10.0	10.0	03/07/2024	ND					

Surrogate: 1-Chlorooctane 84.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 03/07/2024  
 Reported: 03/08/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 23 ( 4.0' ) (H241168-03)**

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	03/07/2024	ND	2.16	108	2.00	1.58		
Toluene*	<0.050	0.050	03/07/2024	ND	2.12	106	2.00	1.55		
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.05	103	2.00	1.47		
Total Xylenes*	<0.150	0.150	03/07/2024	ND	5.96	99.3	6.00	1.48		
Total BTEX	<0.300	0.300	03/07/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 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	<16.0	16.0	03/08/2024	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	03/08/2024	ND	186	93.1	200	2.31	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	196	98.1	200	3.47	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 88.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 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: 03/07/2024  
 Reported: 03/08/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 24 ( 4.0' ) (H241168-04)**

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	03/07/2024	ND	2.16	108	2.00	1.58	
Toluene*	<0.050	0.050	03/07/2024	ND	2.12	106	2.00	1.55	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.05	103	2.00	1.47	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	5.96	99.3	6.00	1.48	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 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	304	16.0	03/08/2024	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	03/08/2024	ND	186	93.1	200	2.31	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	196	98.1	200	3.47	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 03/07/2024  
 Reported: 03/08/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 27 ( 4.0' ) (H241168-05)**

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	03/07/2024	ND	1.93	96.4	2.00	1.53	
Toluene*	<0.050	0.050	03/07/2024	ND	2.01	101	2.00	0.946	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	1.93	96.7	2.00	0.372	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	5.96	99.3	6.00	0.533	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	03/08/2024	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	03/07/2024	ND	192	95.9	200	5.61	
DRO >C10-C28*	<10.0	10.0	03/07/2024	ND	201	100	200	5.03	
EXT DRO >C28-C36	<10.0	10.0	03/07/2024	ND					

Surrogate: 1-Chlorooctane 78.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.5 % 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: 03/07/2024  
 Reported: 03/08/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SW - 19 (H241168-06)**

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	03/07/2024	ND	1.93	96.4	2.00	1.53	
Toluene*	<0.050	0.050	03/07/2024	ND	2.01	101	2.00	0.946	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	1.93	96.7	2.00	0.372	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	5.96	99.3	6.00	0.533	
Total BTEX	<0.300	0.300	03/07/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	03/08/2024	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	03/07/2024	ND	192	95.9	200	5.61	
DRO >C10-C28*	<10.0	10.0	03/07/2024	ND	201	100	200	5.03	
EXT DRO >C28-C36	<10.0	10.0	03/07/2024	ND					

Surrogate: 1-Chlorooctane 89.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

---

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

---

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

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

ANALYSIS REQUEST

(Circle or Specify Method No.)

Client Name: Maverick Natural Resources

Site Manager: Chuck Terhune

Project Name: Vacuum ABO Battery 13-3

281-755-8965  
chuck.terhune@tetratech.com

Project Location: Lea County, NM

Project #: 212C-MD-03390

Invoice to:

Attn: Chuck Terhune

Receiving Laboratory:

Cardinal Labs

Sampler Signature:

Jorge Fernandez

Comments:

Include : Chris Straub Chris.Straub@tetratech.com

SAMPLE IDENTIFICATION

LAB # H241168  
(LAB USE ONLY)

YEAR 2023	DATE	TIME	SAMPLING				MATRIX				PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)
			WATER	SOIL	HCL	HNO <sub>3</sub>	ICE									

1	BH-18 (4.0')	3/7/2024		X				X								
2	BH-19 (4.0')	3/7/2024		X				X								
3	BH-23 (4.0')	3/7/2024		X				X								
4	BH-24 (4.0')	3/7/2024		X				X								
5	BH-27 (4.0')	3/7/2024		X				X								
6	SW-19	3/7/2024		X				X								

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

Relinquished by: Date: Time: 1:50

Received by: Date: Time: 1:52

Relinquished by: Date: Time: 2-7-24

Received by: Date: Time: 3-7-24

Relinquished by: Date: Time:

Received by: Date: Time:

REMARKS: Standard TAT

LAB USE ONLY

Sample Temperature 5.9c

- ☒ RUSH Same Day 24 hr 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

#146

ORIGINAL COPY



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---

March 12, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VACUUM ABO BATTERY 13-3

Enclosed are the results of analyses for samples received by the laboratory on 03/11/24 12:21.

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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 5 (H241213-01)**

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	03/11/2024	ND	2.09	105	2.00	2.34	
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45	
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37	
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35	
Total BTX	<0.300	0.300	03/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	03/12/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/11/2024	ND	216	108	200	1.19	
DRO >C10-C28*	<10.0	10.0	03/11/2024	ND	205	103	200	3.39	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.6 % 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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 6 (H241213-02)**

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	03/11/2024	ND	2.09	105	2.00	2.34		
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45		
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37		
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35		
Total BTEX	<0.300	0.300	03/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	80.0	16.0	03/12/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/11/2024	ND	216	108	200	1.19	
DRO >C10-C28*	<10.0	10.0	03/11/2024	ND	205	103	200	3.39	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.1 % 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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 7 (H241213-03)**

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	03/11/2024	ND	2.09	105	2.00	2.34		
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45		
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37		
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35		
Total BTEX	<0.300	0.300	03/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	03/12/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/11/2024	ND	216	108	200	1.19	
DRO >C10-C28*	<10.0	10.0	03/11/2024	ND	205	103	200	3.39	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	ND					

Surrogate: 1-Chlorooctane 109 % 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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 8 (H241213-04)**

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	03/11/2024	ND	2.09	105	2.00	2.34		
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45		
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37		
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35		
Total BTEx	<0.300	0.300	03/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	80.0	16.0	03/12/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/11/2024	ND	216	108	200	1.65	
DRO >C10-C28*	<10.0	10.0	03/11/2024	ND	226	113	200	0.598	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	ND					

Surrogate: 1-Chlorooctane 97.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.7 % 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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 9 (H241213-05)**

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	03/11/2024	ND	2.09	105	2.00	2.34		
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45		
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37		
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35		
Total BTEX	<0.300	0.300	03/11/2024	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	64.0	16.0	03/12/2024	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	03/11/2024	ND	216	108	200	1.65	
DRO >C10-C28*	<10.0	10.0	03/11/2024	ND	226	113	200	0.598	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	ND					

Surrogate: 1-Chlorooctane 98.8 % 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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 3 (4.0') (H241213-06)**

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	03/11/2024	ND	2.09	105	2.00	2.34		
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45		
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37		
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35		
Total BTEX	<0.300	0.300	03/11/2024	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	224	16.0	03/12/2024	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	03/11/2024	ND	216	108	200	1.65	
DRO >C10-C28*	21.7	10.0	03/11/2024	ND	226	113	200	0.598	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	ND					

Surrogate: 1-Chlorooctane 98.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 4 (4.0') (H241213-07)**

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	03/11/2024	ND	2.09	105	2.00	2.34		
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45		
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37		
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35		
Total BTEx	<0.300	0.300	03/11/2024	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	800	16.0	03/12/2024	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	03/11/2024	ND	216	108	200	1.65	
DRO >C10-C28*	<10.0	10.0	03/11/2024	ND	226	113	200	0.598	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	ND					

Surrogate: 1-Chlorooctane 95.2 % 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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 8 (4.0') (H241213-08)**

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	03/11/2024	ND	2.09	105	2.00	2.34		
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45		
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37		
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35		
Total BTEx	<0.300	0.300	03/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	496	16.0	03/12/2024	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	03/11/2024	ND	216	108	200	1.65	
DRO >C10-C28*	<10.0	10.0	03/11/2024	ND	226	113	200	0.598	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 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: 03/11/2024  
 Reported: 03/12/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/08/2024  
 Sampling Type: Solid  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 9 (4.0') (H241213-09)**

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	03/11/2024	ND	2.09	105	2.00	2.34		
Toluene*	<0.050	0.050	03/11/2024	ND	2.08	104	2.00	2.45		
Ethylbenzene*	<0.050	0.050	03/11/2024	ND	2.04	102	2.00	2.37		
Total Xylenes*	<0.150	0.150	03/11/2024	ND	6.18	103	6.00	2.35		
Total BTEX	<0.300	0.300	03/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	256	16.0	03/12/2024	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	03/11/2024	ND	216	108	200	1.65	
DRO >C10-C28*	<10.0	10.0	03/11/2024	ND	226	113	200	0.598	
EXT DRO >C28-C36	<10.0	10.0	03/11/2024	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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### 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 "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

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

Page 1 of

Client Name:

Maverick Natural Resources

Site Manager:

Chuck Terhune

Project Name:

Vacuum ABO Battery 13-3

Project #:

281-755-8965

Project Location:

Lea County, NM

Project #:

212C-MD-03390

Invoice to:

Attn: Chuck Terhune

Receiving Laboratory:

Cardinal Labs

Sampler Signature:

Jorge Fernandez

Comments:

Include : Chris Straub Chris.Straub@tetratech.com

ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB #  
LAB USE ONLY

SAMPLE IDENTIFICATION

W5  
3-11-24

		SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO <sub>3</sub>		
1	SW-5	3/8/2024		X			X		
2	SW-6	3/8/2024		X			X		
3	SW-7	3/8/2024		X			X		
4	SW-8	3/8/2024		X			X		
5	SW-9	3/8/2024		X			X		
6	BH-3 (4.0')	3/8/2024		X			X		
7	BH-4 (4.0')	3/8/2024		X			X		
8	BH-8 (4.0')	3/8/2024		X			X		
9	BH-9 (4.0')	3/8/2024		X			X		

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	

Relinquished by:

Date: 3-11-24 Time: 12:20

Relinquished by:

Date: 3-11-24 Time: 12:21

Relinquished by:

Date: 3-11-24 Time: 12:21

Received by:

Date: 3-11-24 Time: 12:21

Received by:

Date: 3-11-24 Time: 12:21

Received by:

Date: 3-11-24 Time: 12:21

LAB USE ONLY

REMARKS: Standard TAT

Sample Temperature

2.6°C

☒ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

#140

ORIGINAL COPY



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

---

March 13, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VACUUM ABO BATTERY 13-3

Enclosed are the results of analyses for samples received by the laboratory on 03/12/24 14:22.

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".

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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 20 (H241249-01)**

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	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	64.0	16.0	03/13/2024	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	03/13/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 21 (H241249-02)**

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	03/12/2024	ND	2.14	107	2.00	0.920		
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	03/13/2024	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	03/13/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.2 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH-22 (4') (H241249-03)**

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	03/12/2024	ND	2.14	107	2.00	0.920		
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	368	16.0	03/13/2024	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	03/13/2024	ND	211	105	200	0.355	
DRO >C10-C28*	26.3	10.0	03/13/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 102 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 23 (H241249-04)**

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	03/12/2024	ND	2.14	107	2.00	0.920		
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	48.0	16.0	03/13/2024	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	03/13/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 24 (H241249-05)**

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	03/12/2024	ND	2.14	107	2.00	0.920		
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	03/13/2024	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	03/13/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 96.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.7 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 25 (H241249-06)**

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	03/12/2024	ND	2.14	107	2.00	0.920		
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	03/13/2024	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	03/13/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 1 ( 4' ) (H241249-07)**

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	03/12/2024	ND	1.93	96.6	2.00	5.43	
Toluene*	<0.050	0.050	03/12/2024	ND	2.01	100	2.00	4.42	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	1.97	98.7	2.00	4.58	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.00	99.9	6.00	4.41	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	864	16.0	03/13/2024	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	03/12/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	40.3	10.0	03/12/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 2 ( 4' ) (H241249-08)**

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	03/12/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/12/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/12/2024	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	96.0	16.0	03/13/2024	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	03/12/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 6 ( 4' ) (H241249-09)**

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	03/12/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/12/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	03/13/2024	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	03/12/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	115	10.0	03/12/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	58.5	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 87.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.7 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 7 ( 4' ) (H241249-10)**

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	03/12/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/12/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/12/2024	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	608	16.0	03/13/2024	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	03/12/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 91.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.3 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 10 (H241249-11)**

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	03/12/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/12/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	320	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 95.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.4 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 11 (H241249-12)**

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	03/13/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/13/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/13/2024	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	1760	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.9 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 12 (H241249-13)**

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	03/13/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/13/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/13/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	432	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 106 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 13 (H241249-14)**

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	03/13/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/13/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/13/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	976	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	31.5	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 97.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.3 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 14 (H241249-15)**

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	03/13/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/13/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/13/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	448	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 92.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.9 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 16 (H241249-16)**

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	03/13/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/13/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/13/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 96.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.8 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 17 (H241249-17)**

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	03/13/2024	ND	1.93	96.6	2.00	5.43		
Toluene*	<0.050	0.050	03/13/2024	ND	2.01	100	2.00	4.42		
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	1.97	98.7	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.00	99.9	6.00	4.41		
Total BTEX	<0.300	0.300	03/13/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 98.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.5 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 21 (H241249-18)**

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	03/13/2024	ND	1.93	96.6	2.00	5.43	
Toluene*	<0.050	0.050	03/13/2024	ND	2.01	100	2.00	4.42	
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	1.97	98.7	2.00	4.58	
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.00	99.9	6.00	4.41	
Total BTEX	<0.300	0.300	03/13/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	400	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	21.7	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 97.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.1 % 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: 03/12/2024  
 Reported: 03/13/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/12/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 22 (H241249-19)**

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	03/13/2024	ND	1.93	96.6	2.00	5.43	
Toluene*	<0.050	0.050	03/13/2024	ND	2.01	100	2.00	4.42	
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	1.97	98.7	2.00	4.58	
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.00	99.9	6.00	4.41	
Total BTEX	<0.300	0.300	03/13/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/13/2024	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	03/13/2024	ND	180	90.1	200	6.09	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	193	96.3	200	6.99	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 90.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



Take Tech

† Cardinal cannot accept verbal changes. Please email changes to [celey.reed@cardinal.edu](mailto:celey.reed@cardinal.edu).





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

March 14, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VACUUM ABO BATTERY 13-3

Enclosed are the results of analyses for samples received by the laboratory on 03/13/24 12:55.

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: 03/13/2024  
 Reported: 03/14/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 1 (H241283-01)**

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	03/13/2024	ND	2.29	115	2.00	0.318	
Toluene*	<0.050	0.050	03/13/2024	ND	2.25	113	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	2.21	111	2.00	0.131	
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.46	108	6.00	0.227	
Total BTX	<0.300	0.300	03/13/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 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	<16.0	16.0	03/14/2024	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	03/13/2024	ND	225	112	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	221	110	200	4.39	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 03/13/2024  
 Reported: 03/14/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 2 (H241283-02)**

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	03/13/2024	ND	2.29	115	2.00	0.318	
Toluene*	<0.050	0.050	03/13/2024	ND	2.25	113	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	2.21	111	2.00	0.131	
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.46	108	6.00	0.227	
Total BTEX	<0.300	0.300	03/13/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.0 % 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	03/14/2024	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	03/13/2024	ND	225	112	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	221	110	200	4.39	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 142 % 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: 03/13/2024  
 Reported: 03/14/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 3 (H241283-03)**

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	03/13/2024	ND	2.29	115	2.00	0.318		
Toluene*	<0.050	0.050	03/13/2024	ND	2.25	113	2.00	0.0420		
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	2.21	111	2.00	0.131		
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.46	108	6.00	0.227		
Total BTEX	<0.300	0.300	03/13/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.0 % 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	03/14/2024	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	03/14/2024	ND	225	112	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/14/2024	ND	221	110	200	4.39	
EXT DRO >C28-C36	<10.0	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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: 03/13/2024  
 Reported: 03/14/2024  
 Project Name: VACUUM ABO BATTERY 13-3  
 Project Number: 212C-MD-03390  
 Project Location: MAVERICK NR - LEA CO NM

Sampling Date: 03/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WS - 4 (H241283-04)**

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	03/13/2024	ND	2.29	115	2.00	0.318	
Toluene*	<0.050	0.050	03/13/2024	ND	2.25	113	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	03/13/2024	ND	2.21	111	2.00	0.131	
Total Xylenes*	<0.150	0.150	03/13/2024	ND	6.46	108	6.00	0.227	
Total BTEX	<0.300	0.300	03/13/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 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	32.0	16.0	03/14/2024	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	03/14/2024	ND	225	112	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/14/2024	ND	221	110	200	4.39	
EXT DRO >C28-C36	<10.0	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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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\*=Accredited Analyte

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

---

Celey D. Keene, Lab Director/Quality Manager



Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

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

Client Name:

Maverick Natural Resources

Site Manager:

Chuck Terhune

Project Name:

Vacuum ABO Battery 13-3

281-755-8965

Project Location:

Lea County, NM

Project #:

212C-MD-03390

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)

1841383

SAMPLING

YEAR: 2023

DATE

TIME

MATRIX

WATER

SOIL

HCL

HNO<sub>3</sub>

ICE

PRESERVATIVE METHOD

# CONTAINERS

FILTERED (Y/N)

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

Hold

ANALYSIS REQUEST

(Circle or Specify Method No.)

Relinquished by:

Date: Time: 1255

Relinquished by:

Date: Time: 3-13-24

Relinquished by:

Date: Time:

Received by:

Date: Time: 3-13-24

Received by:

Date: Time:

Received by:

Date: Time:

LAB USE ONLY

REMARKS:

Standard TAT

Sample Temperature

26.6

☒ 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 #:

#140

Site Remediation Report and Closure Request  
Vacuum ABO 13-3 Flowline Release  
Incident ID# nPAC0716533924

Maverick Permian, LLC  
March 22, 2024

## **ATTACHMENT 4 – PHOTOGRAPHIC DOCUMENTATION**





☀ 10°N (T) **LAT: 32.780212 LON: -103.463309 ±3m ▲ 1198m**



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO 13-3  
Mar 01 2024, 10:41:37 MST





☀ 47°NE (T) LAT: 32.780161 LON: -103.463407 ±4m ▲ 1203m

Site Remediation  
Tetra Tech

Maverick- Vacuum ABO 13-3  
Mar 01 2024, 10:41:54 MST





☀ 142°SE (T) LAT: 32.780195 LON: -103.463398 ±4m ▲ 1203m



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO 13-3  
Mar 01 2024, 10:42:02 MST





☉ 95°E (T) LAT: 32.780197 LON: -103.463391 ±4m ▲ 1204m

Site Remediation  
Tetra Tech

Maverick - Vacuum ABO 13-3  
Mar 01 2024, 10:42:06 MST





☀ 95°E (T) LAT: 32.780194 LON: -103.463396 ±4m ▲ 1203m

Site Remediation  
Tetra Tech

Maverick- Vacuum ABO 13-3  
Mar 01 2024, 10:42:11 MST



NE

E

SE

S

30

60

90

120

150

180

☉ 107°E (T) **LAT: 32.780221 LON: -103.463438 ±4m ▲ 1203m**



Site Remediation  
Tetra Tech

Maverick- Vacuum ABO 13-3  
Mar 07 2024, 11:56:42 MST





☉ 333°NW (T) LAT: 32.780182 LON: -103.463362 ±4m ▲ 1208m



Site Remediation  
Tetra Tech

Maverick- Vacuum 13-3  
Mar 13 2024, 10:45:39 MDT





☉ 234°SW (T) LAT: 32.780487 LON: -103.463484 ±3m ▲ 1210m

Site Remediation  
Tetra Tech

Maverick - Vacuum 13-3  
Mar 13 2024 10:46:24 MDT





☉ 211°SW (T) LAT: 32.780462 LON: -103.463427 ±3m ▲ 1210m

Site Remediation  
Tetra Tech

Maverick- Vacuum 13-3  
Mar 13 2024, 10:46:31 MDT





SE

S

SW

W

20

150

180

210

240

270

300

☉ 214°SW (T) LAT: 32.780358 LON: -103.463334 ±4m ▲ 1209m

Site Remediation  
Tetra Tech

Maverick- Vacuum 13-3  
Mar 13 2024; 10:46:42 MDT



Site Remediation Report and Closure Request  
Vacuum ABO 13-3 Flowline Release  
Incident ID# nPAC0716533924

Maverick Permian, LLC  
March 22, 2024

## ATTACHMENT 5 – SEED MIXTURE DETAILS



**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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**District III**  
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**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS  
  
Action 325400

QUESTIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:
	331199
	Action Number:
	325400
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nPAC0716533924
Incident Name	NPAC0716533924 VACUUM ABO UNIT #003 @ 30-025-03045
Incident Type	Oil Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-03045] VACUUM ABO UNIT #003

Location of Release Source	
Please answer all the questions in this group.	
Site Name	VACUUM ABO UNIT #003
Date Release Discovered	06/01/2007
Surface Owner	State

Incident Details	
Please answer all the questions in this group.	
Incident Type	Oil 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	Cause: Corrosion   Flow Line - Production   Crude Oil   Released: 7 BBL   Recovered: 2 BBL   Lost: 5 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion   Flow Line - Production   Produced Water   Released: 33 BBL   Recovered: 10 BBL   Lost: 23 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 325400

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	325400
	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 Email: <a href="mailto:chuck.terhune@tetrattech.com">chuck.terhune@tetrattech.com</a> Date: 03/22/2024
--	--

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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS, Page 3

Action 325400

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	325400
	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	NM OSE iWaters Database Search
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	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 500 and 1000 (ft.)
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 1 and 5 (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 500 and 1000 (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)	605
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	157.4
GRO+DRO	(EPA SW-846 Method 8015M)	38.3
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	02/26/2024
On what date will (or did) the final sampling or liner inspection occur	03/13/2024
On what date will (or was) the remediation complete(d)	03/15/2024
What is the estimated surface area (in square feet) that will be reclaimed	14800
What is the estimated volume (in cubic yards) that will be reclaimed	2562
What is the estimated surface area (in square feet) that will be remediated	14800
What is the estimated volume (in cubic yards) that will be remediated	2562

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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**Santa Fe, NM 87505**

QUESTIONS, Page 4

Action 325400

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	325400
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Remediation Plan (continued)**

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.

**This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:**

(Select all answers below that apply.)

(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.

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 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 Email: <a href="mailto:chuck.terhune@tetrattech.com">chuck.terhune@tetrattech.com</a> Date: 03/22/2024
--	--

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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**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 5

Action 325400

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 325400
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
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.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

**District I**

1625 N. French Dr., Hobbs, NM 88240  
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**District II**

811 S. First St., Artesia, NM 88210  
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**District III**

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QUESTIONS, Page 6

Action 325400

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	325400
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	322297
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	03/13/2024
What was the (estimated) number of samples that were to be gathered	6
What was the sampling surface area in square feet	3000

**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	14800
What was the total volume (cubic yards) remediated	2562
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	14800
What was the total volume (in cubic yards) reclaimed	2562
Summarize any additional remediation activities not included by answers (above)	None

*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 Email: chuck.terhune@tetrattech.com Date: 03/22/2024
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QUESTIONS, Page 7  
  
Action 325400

QUESTIONS (continued)

Operator:  Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:  331199
	Action Number:  325400
	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 325400

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:
	331199
	Action Number:
	325400
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation approved.	3/28/2024
amaxwell	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.	3/28/2024
amaxwell	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.	3/28/2024