TETRA TECH

June 30, 2023

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

Re: Release Characterization and Remediation Report
Maverick Permian, LLC
SEMU Permian Upper Battery Release
Unit Letter K, Section 19, Township 20 South, Range 38 East
Lea County, New Mexico
Incident ID# nAPP2207049431

Dear Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contracted by the previous site owner (ConocoPhillips) to assess a Heritage Concho release and subsequent remedial actions taken at the Southeast Monument Unit (SEMU) Permian Upper Battery. The release footprint is located in Public Land Survey System (PLSS) Unit Letter K, Section 19, Township 20 South, Range 38 East, in Lea County, New Mexico (Site). There were two releases that occurred on the same day, with adjacent footprints. The approximate release point for the Mist occurred at coordinates 32.558347°, -103.190526°, and the approximate release point for the Vent occurred at coordinates 32.558113°, -103.190504°, as shown in **Figures 1** and **2**.

BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report, the releases were discovered on February 24, 2022. The C-141 documentation reports that the releases occurred due to a mechanical failure of a two-phase horizontal separator. Overpressure at the separator caused the relief valve to pop-off and mist the pad area to the south and west. The separator failure caused a vent release to occur on the gas sales line, concurrent with the two-phase separator release. The vent release point is located south of the SEMU Permian Upper Battery pad. This release vented an area south and east in the pastureland. Approximately 8.14 barrels (bbls) of produced water and 0.7 bbls of crude oil were reported released. Fluid released from the combined two locations affected an area of approximately 7,750 square feet of pad and pastureland. The NMOCD received the initial C-141 on March 11, 2022, and subsequently assigned the release Incident ID nAPP2207049431. The initial C-141 form is included in **Attachment 1**.

Tetra Tech, Inc.
1500 CityWest Boulevard, Suite 1000, Houston, TX 77042
Tel +1.832.281.5160 | tetratech.com/oga | tetratech.com

SITE CHARACTERIZATION

Tetra Tech performed a site characterization was performed which identified no watercourses, sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains within the distances specified in 19.15.09 New Mexico Administrative Code (NMAC). The Site is in an area of low karst potential. According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are no water wells located within an 800-meter (approximately ½ mile) radius of the release location. The NMOSE identifies one (1) water well with water level data approximately 1.7 miles from the Site with a depth to groundwater at 70 feet below ground surface (bgs).

The remediation action levels proposed for the Site are largely dependent upon depth to groundwater. As such, the OCD focuses upon depth to water estimation. Thus, 19.15.11(A)(2) NMAC allows for various means of determining the depth to groundwater. For this release, as the available water level information was from wells further than ½ mile away from the site, ConocoPhillips and Maverick reviewed adjacent release sites with approved Work Plans for the possibility of associated borings which could provide a means for determining depth to groundwater in the vicinity of nAPP2207049431 release area. As such, subsurface data from the SEMU Burger B 108 Release Site (nAPP2228376108) and SEMU BMT Battery Tank Release Site (nOY1727735399) were reviewed.

One boring (L-15414-POD1) was drilled as part of the SEMU Burger B 108 release characterization identified on September 27, 2022, at the SEMU Burger B 108 well pad, identified approximately 0.7-miles east of the Sites release footprint. The boring was drilled to a total depth of 103 feet bgs where a temporary monitoring well was installed which reported a static groundwater level of 110.0 feet bgs. The borehole was plugged. The borehole coordinates are 32.556523°, -103.178215°

One boring (BH-2A/2R) drilled as a portion of the SEMU BMT Battery Tank release characterization was identified as located within a roughly 0.7-mile radius of the SEMU Permian Upper Battery release footprint. A review of the associated boring logs indicates boring BH-2A/2R does not define the depth to groundwater but was dry to a depth of 51 feet bgs. The borehole was plugged with 3/8” bentonite chips on September 23, 2021. The borehole coordinates are 32.553388°, -103.175938°.

Thus, based on the above available data ConocoPhillips proposed to use the 51 feet – 100 feet criteria listed in Table I of 19.15.29.12 NMAC as remediation criteria for the Site which was presented in the Site Characterization and Remediation Work Plan for the Site approved by the NMOCD. The boring logs from the SEMU Burger B 108 Release and SEMU BMT Battery Tank Release investigations are included in **Attachment 2** along with the other site characterization data.

REGULATORY FRAMEWORK

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

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

Remediation RRALs

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

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

Reclamation Requirements

Constituent	Site Reclamation Requirements
Chloride	600 mg/kg
TPH	100 mg/kg

INITIAL RESPONSE ACTIVITIES

In accordance with 19.15.29.8.B.(4) NMAC that states "the responsible party may commence remediation immediately after discovery of a release", ConocoPhillips elected to begin remediation of the impacted area footprint in 2022. The release extents consisted of approximately 3,000 square feet of oil and gas lease pad and roughly 1,600 square feet of pastureland.

Initial response remedial actions were performed at the release site between April 7 and 11, 2022. Visually stained areas of the pastureland were scraped to remove impacted materials to approximately 1-foot bgs, resulting in approximately 46 cubic yards of contaminated soil being removed and transported to the R360 Halfway Facility in Hobbs, New Mexico for disposal. The initial response area is indicated in **Figure 3**.

SITE ASSESSMENT SUMMARY

In order to achieve vertical and horizontal delineation of the release extents, Tetra Tech personnel mobilized to the Site and conducted soil sampling on May 4, 2022. A total of nine (9) boreholes were advanced in the vicinity of the release area. Six (6) borings (AH-1 through AH-6) were installed around the perimeters of the release extents to a depth of 1-foot bgs to determine the lateral extent of impacted soil. The remaining three (3) borings (AH-7 through AH-9) were installed within the release footprints to depths ranging from 1 to 3 feet bgs to determine the extent of vertical impacts of the release. Assessment boring locations are presented in **Figure 4**.

A total of eleven (11) samples were collected from the nine (9) borings and submitted to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico to be analyzed for total petroleum hydrocarbons (TPH) Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Oil Range Organics (ORO) by EPA Methods 8015 and 8015D, benzene, toluene, ethylbenzene, and total xylenes, BTEX by EPA Method 8260B, and chloride by EPA Method 4500.0.

Results from the May 4, 2022, soil sampling event are summarized in **Table 1**. The analytical results associated with boring locations AH-8 and AH-9 exceeded the reclamation requirement and Site RRALs for TPH to the total boring depth of 3 feet. The results associated with the remainder of the analyzed samples were below the Site proposed RRALs and/or reclamation requirements for BTEX, TPH, and chloride. Neither vertical nor horizontal delineation of the "Vent" release was achieved during the May 4 assessment activities. Analytical results associated with the "Mist" release were below Site RRALs and reclamation requirements.

ADDITIONAL DELINEATION ACTIVITIES AND RESULTS

Tetra Tech personnel returned to the Site on May 20, 2022, to complete vertical and horizontal delineation of the "Vent" release extent. A total of two (2) borings (AH-10 and AH-11) were advanced in the vicinity of the release area. One (1) boring (AH-10) was installed southeast of the perimeter of the release extent to a depth of 1-foot bgs to determine the lateral extent of the impacted soil. One (1) boring (AH-11) was installed within the release extent to a depth of 6 feet bgs to determine the vertical impact of the release. These additional boring locations are presented in **Figure 4**.

A total of three (3) samples were collected from the two (2) borings and submitted to Cardinal for analysis of BTEX, TPH (GRO, DRO, and ORO), and chloride.

Results from the May 20, 2022, soil sampling event are summarized in **Table 1**. The analytical results associated with boring location AH-11 exceeded the reclamation requirement and Site RRALs for TPH in the 3'-4' interval. The results associated with the remainder of the samples analyzed reported concentrations of BTEX, TPH, and chloride as less than the Site RRALs and/or reclamation requirements achieving both horizontal and vertical delineation of the "Vent" release.

REMEDIATION WORK PLAN

The Release Characterization and Remediation Work Plan (Work Plan) was prepared by Tetra Tech on behalf of ConocoPhillips. It was submitted and received by NMOCD on May 29, 2022, with fee application payment with PO Number YOL8A-220529-C-1410. The Work Plan described the results of the release assessment and provided a characterization of the impact at the site. The Work Plan was approved via email by Jennifer Nobui on 6/7/2022.

REMEDIATION AND CONFIRMATION SAMPLING

Based on the soil assessment and delineation results for the release and the approved remediation work plan, excavation activities commenced on May 31, 2023, and concluded on June 22, 2023. Maverick's subcontractor, SDR Enterprises, used heavy equipment to excavate 580 cubic yards of impacted soil from the remediation areas as shown in **Figure 5** to maximum depths of 4 feet below the surrounding ground surface. To avoid any potential contact by heavy equipment with the pressurized lines, heavy equipment was maintained at a distance of at least 2 feet from pressurized lines and hydro excavation was utilized to excavate around active lines in the remediation footprint. Excavated soil was transported offsite and disposed of at Sundance Disposal in Eunice, New Mexico.

Upon reaching the final lateral and vertical excavation extents, twelve (12) confirmation samples were collected, including 4 from the floors and 8 from the side walls of the excavated areas and submitted to Cardinal Laboratory in Hobbs, NM for analysis of chloride (SM4500 CL-B), TPH (8015M), and BTEX (8021B). Laboratory analytical results for submitted confirmation samples reported chloride, TPH, and BTEX concentrations below respective Reclamation Requirements for all samples. On June 22, 2023, subsequent to the receipt of

confirmation sample results, SDR completed backfilling of the excavated areas with 560 cubic yards of clean topsoil sourced from the Bob McCassland pit.

The remediation was performed in stages beginning with hydro excavation to expose known and potential production lines within the remediation area. Then, working from the north side of the remediation excavation to the south, a porting of the excavation was completed around and beneath exposed production lines before confirmation sampling was conducted, and upon receipt of confirmation sampling results, backfilling with clean material was conducted as excavation moved southward to before moving to the next portion of the excavation. The NMOCD was notified ahead of backfilling via email to OCDOnline@state.nm.us on June 15, 2023.

Confirmation sampling results are summarized in **Table 2** and laboratory analytical data packages including chain of custody documentation are included in **Attachment 3**. Photographic Documentation showing the excavated areas and final grading after backfilling is provided in **Attachment 4**.

CONCLUSIONS

Based on the results of the confirmation sampling, the impacted soil within the release footprint with BTEX, TPH, or chloride at concentrations greater than Reclamation Requirements has been removed and properly disposed of; therefore, Site remediation is complete. The excavated area has been backfilled with clean material and backfilled areas have been graded back to match the surrounding topography. The disturbed areas resulting from remediation will be seeded in the next growing season to aid in vegetation growth and to complete reclamation. The seed mixture to be used is provided in **Attachment 5**. If you have any questions concerning the remediation activities for the Site, please call me at (832) 251-2093 or Steve at (713) 806-8871.

Sincerely,

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

Stephen Jester
Program Manager
Tetra Tech, Inc.

Cc:
Mr. Bryce Wagoner – Maverick Natural Resources

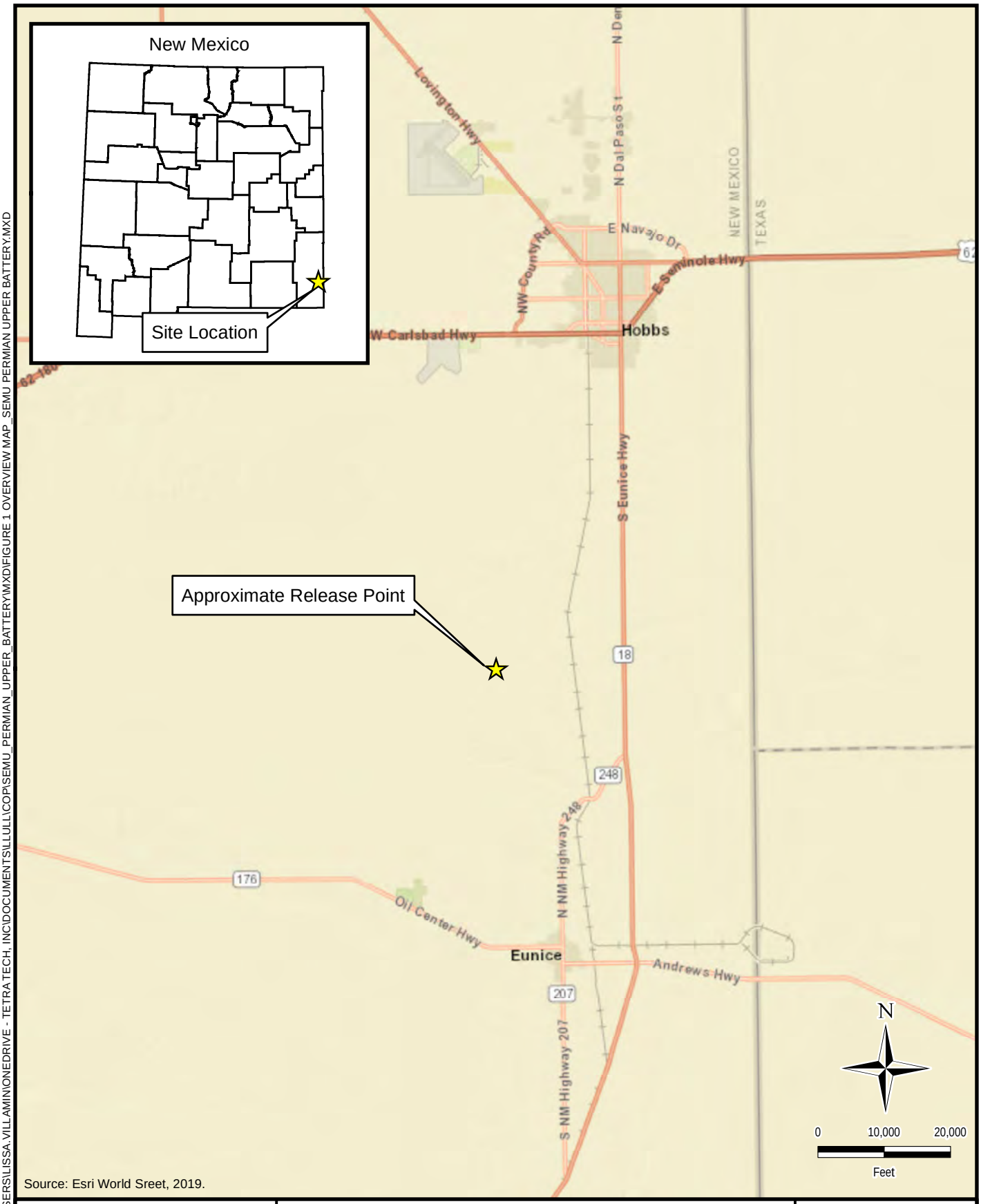
LIST OF ATTACHMENTS

Figures

Tables

Appendices

FIGURES



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LULL\COP\SEMU_PERMIAN_UPPER_BATTERY\MXD\FIGURE 1 OVERVIEW MAP_SEMU PERMIAN UPPER BATTERY.MXD

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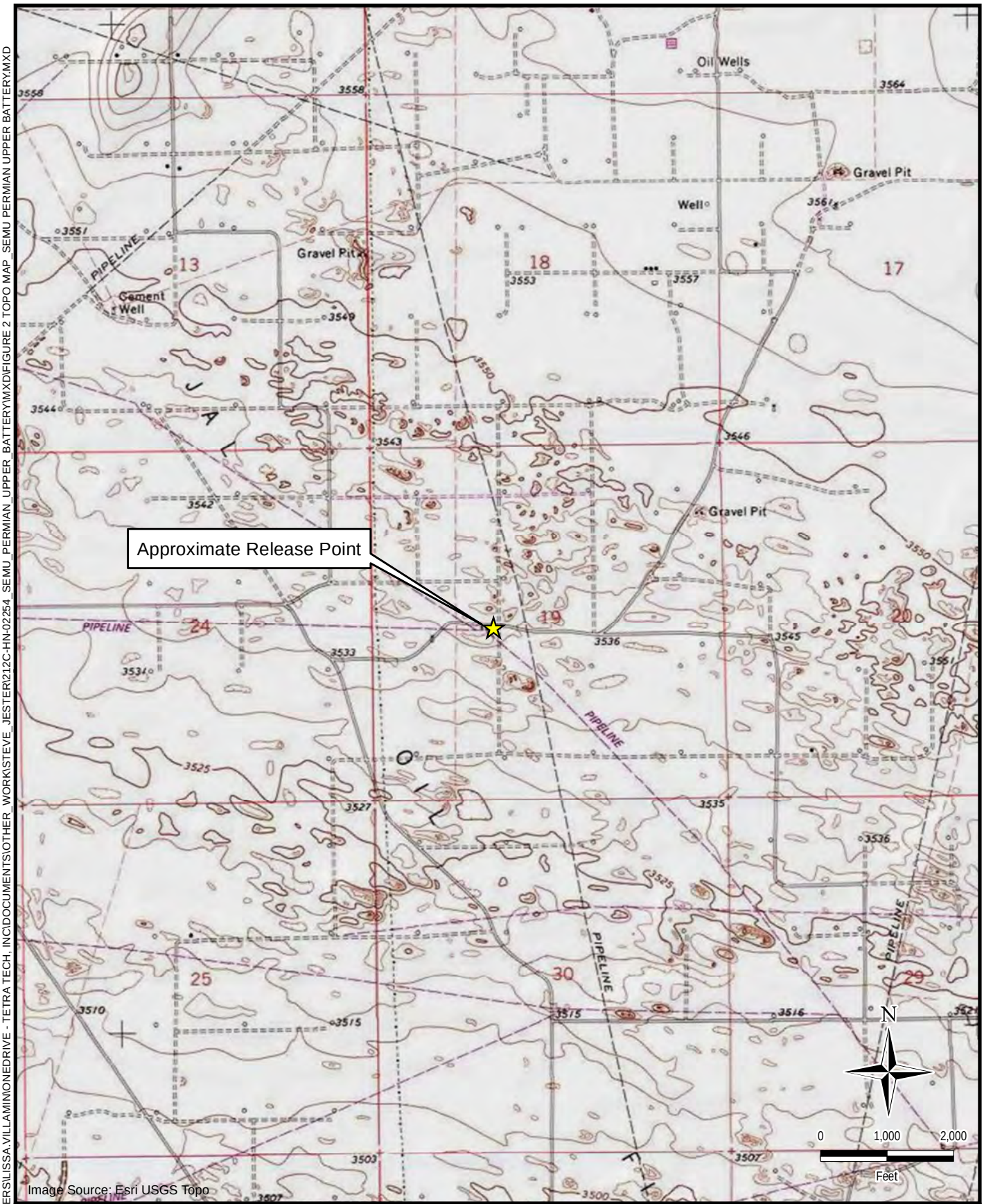
CONOCOPHILLIPS

NAPP2207049431
(32.558347°, -103.190526°)
LEA COUNTY, NEW MEXICO

SEMU PERMIAN UPPER BATTERY RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-02745
DATE:	MAY 18, 2022
DESIGNED BY:	LMV

Figure No.
1



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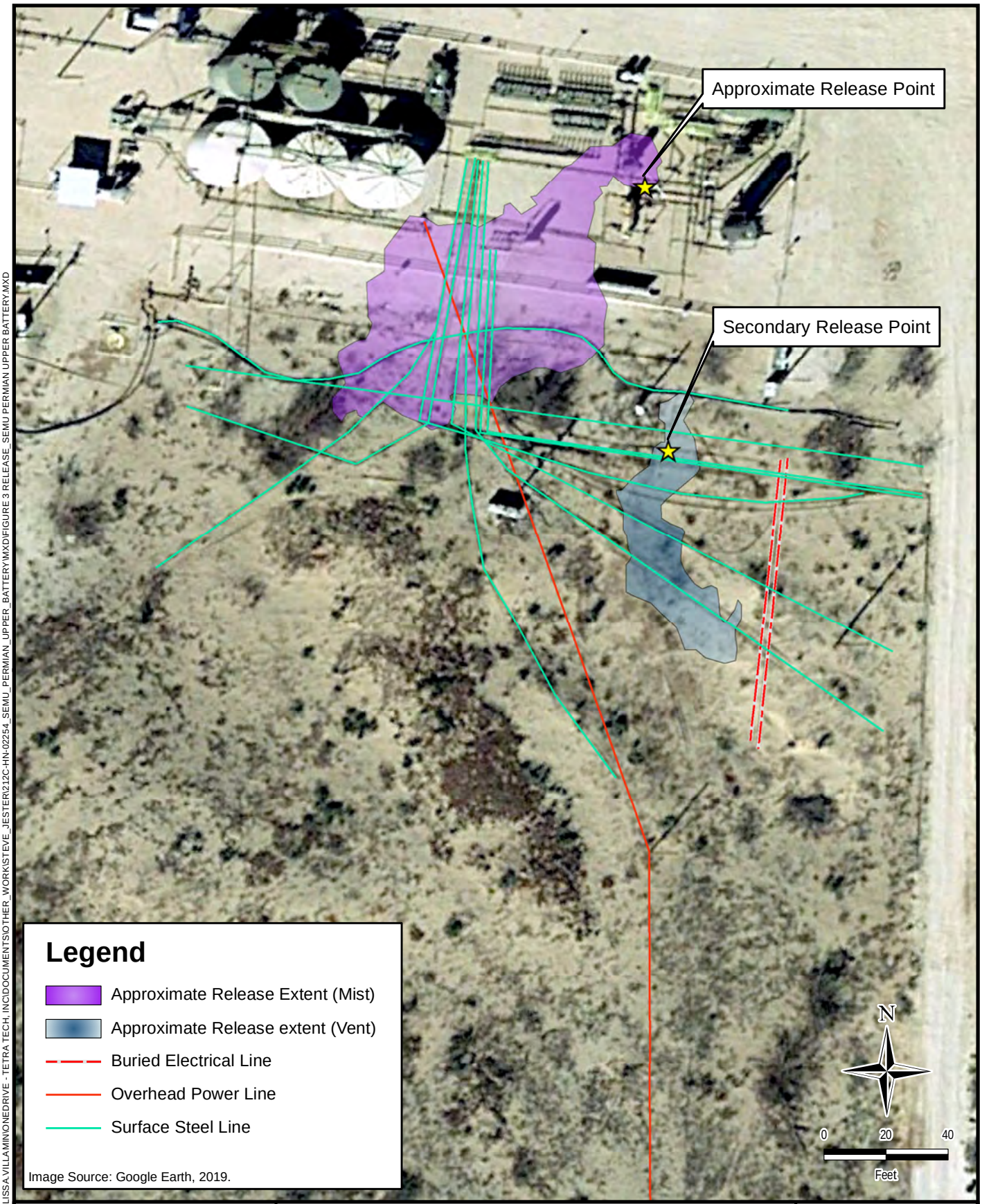
MACERICK NATURAL RESOURCES

NAPP2207049431
(32.558347°, -103.190526°)
LEA COUNTY, NEW MEXICO

SEMU PERMIAN UPPER BATTERY RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-HN-02254
DATE:	JUNE 28, 2023
DESIGNED BY:	LMV

Figure No.
2



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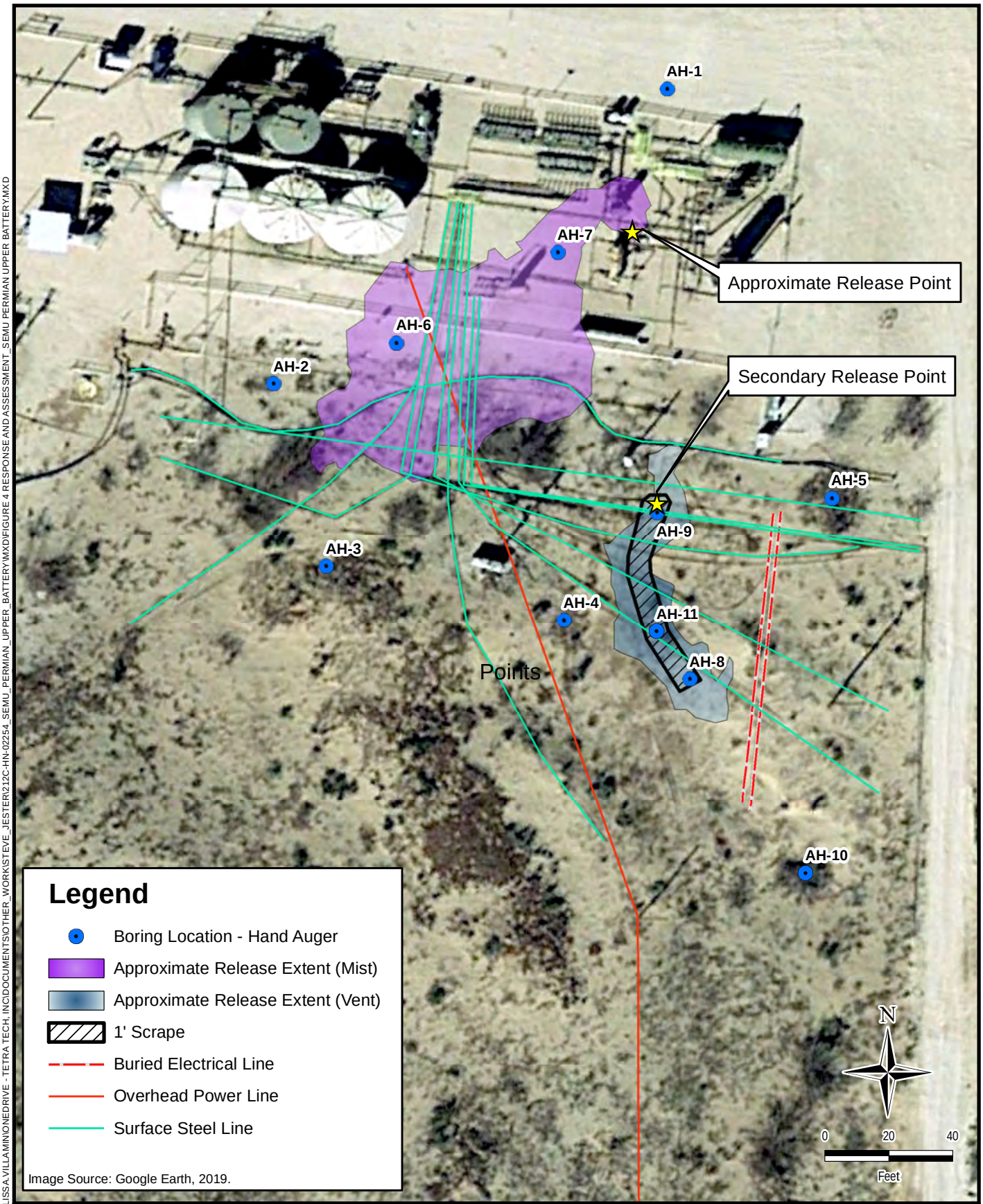
MAVERICK NATURAL RESOURCES

NAPP2207049431
(32.558347°, -103.190526°)
LEA COUNTY, NEW MEXICO

SEMU PERMIAN UPPER BATTERY RELEASE
APPROXIMATE RELEASE EXTENT

PROJECT NO.:	212C-HN-02254
DATE:	JUNE 30, 2023
DESIGNED BY:	LMV

Figure No.
3



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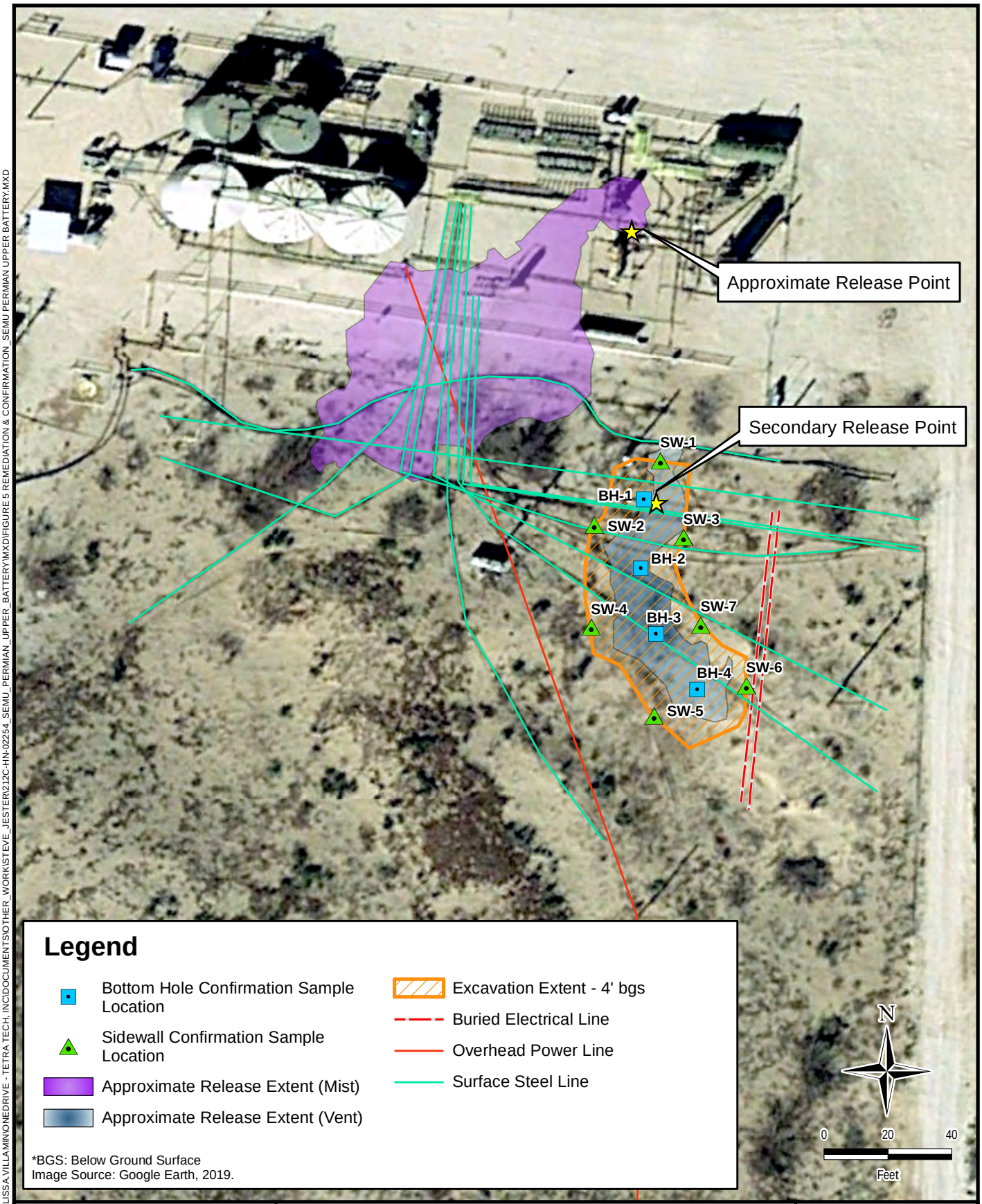
MAVERICK NATURAL RESOURCES

NAPP2207049431
(32.558347°, -103.190526°)
LEA COUNTY, NEW MEXICO

SEMU PERMIAN UPPER BATTERY RELEASE
INITIAL RESPONSE AND SITE ASSESSMENT

PROJECT NO.:	212C-HN-02254
DATE:	JUNE 30, 2023
DESIGNED BY:	LMV

Figure No.
4



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MAVERICK NATURAL RESOURCES

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LEA COUNTY, NEW MEXICO

SEMU PERMIAN UPPER BATTERY RELEASE
REMEDIATION EXTENT AND CONFIRMATION SAMPLES

PROJECT NO.:	212C-HN-02254
DATE:	JUNE 30, 2023
DESIGNED BY:	LMV

Figure No.
5

TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
SOIL ASSESSMENT SAMPLING - INCIDENT ID NAPP2207049431
MAVERICK PERMIAN, LLC
SEMU PERMIA UPPER BATTERY RELEASE
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]										TPH[3]							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C_6 - C_{10}		DRO > C_{10} - C_{28}		EXT DRO > C_{28} - C_{36}		Total TPH (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	
Reclamation Requirements (19.15.29 NMAC)			**600**		**10**								**50**								**100**	
AH-1	5/4/2022	0 - 1	208		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
AH-2	5/4/2022	0 - 1	48		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
AH-3	5/4/2022	0 - 1	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
AH-4	5/4/2022	0 - 1	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
AH-5	5/4/2022	0 - 1	< 16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
AH-6	5/4/2022	0 - 1	160		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
AH-7	5/4/2022	0 - 1	64		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
AH-8	5/4/2022	1 - 2	32		< 0.050		< 0.050		< 0.050	GC-NC	< 0.150		< 0.300		< 100		4,960		1,440		**6,400**	
	5/4/2022	2 - 3	< 16		< 0.050		< 0.050	GC-NC	< 0.050	GC-NC	< 0.150	GC-NC	< 0.300		430		15,700		3,930		**20,060**	
AH-9	5/4/2022	1 - 2	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		1,530		677		**2,207**	
	5/4/2022	2 - 3	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		10.7		2,510		1,080		**3,601**	
AH-10	5/20/2022	0 - 1	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
AH-11	5/20/2022	3 - 4	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		32.4		4,280		1,160		**5,472**	
	5/20/2022	5 - 6	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		10.3		14.7		25	

NOTES:

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

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

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

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
SOIL CONFIRMATION SAMPLING - INCIDENT ID NAPP2207049431
MAVERICK PERMIAN, LLC
SEMU PERMIA UPPER BATTERY RELEASE
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]								TPH[3]							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C_6 - C_{10}		DRO > C_{10} - C_{28}		EXT DRO > C_{28} - C_{36}		Total TPH (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	
Reclamation Requirements (19.15.29 NMAC)			**600**		**10**								**50**								**100**	
SW-1	6/9/2023	0.5 - 3.5	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
SW-2	6/9/2023	0.5 - 3.5	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
SW-3	6/9/2023	0.5 - 3.5	<16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
SW - 4	6/21/2023	0.5 - 3.5	<16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
SW - 5	6/21/2023	0.5 - 3.5	32		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
SW - 6	6/21/2023	0.5 - 3.5	<16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
SW - 7	6/21/2023	0.5 - 3.5	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
SW - 8	6/21/2023	0.5 - 3.5	<16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
BH - 1 (4')	6/9/2023	4.0 - 4.5	<16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
BH - 2 (4')	6/13/2023	4.0 - 4.5	<16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
BH - 3 (4')	6/21/2023	4.0 - 4.5	16		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	
BH - 4 (4')	6/21/2023	4.0 - 4.5	<16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		< 30	

NOTES:

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

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

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

ATTACHMENT 1: C-141 FORM

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2207049431
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	ConocoPhillips	OGRID	217817
Contact Name	Rahul Kaushik	Contact Telephone	(432) 238-3781
Contact email	Rahul.Kaushik@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2207049431
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.55826 Longitude -103.19058
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	SEMU Permian Battery	Site Type	Tank Battery
Date Release Discovered	February 24, 2022	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
K	19	20S	38E	Lea

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 0.7	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 8.14	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
Mechanical failure of 2 phase horizontal separator caused fluid release on and off pad.

State of New Mexico
Oil Conservation Division

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

Initial Response

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

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

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

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

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

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 3/11/2022

email: Brittany.Esparza@ConocoPhillips.com Telephone: (432) 221-0398

OCD Only

Received by: Jocelyn Harimon Date: 03/14/2022

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

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

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 89703
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	3/15/2022

State of New Mexico
Oil Conservation Division

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Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☐ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☐ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☐ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☐ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

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

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State of New Mexico
Oil Conservation Division

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Printed Name: _____ Title: _____

Signature: Charles R. Beauvais II Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Shelly Wells Date: 7/10/2023

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Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: _____ Title: _____

Signature: Charles R. Beauvais II Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Shelly Wells Date: 7/10/2023

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

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Closure

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

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

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Shelly Wells Date: 7/10/2023

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

Closure Approved by: Nelson Velez Date: 10/02/2023

Printed Name: Nelson Velez Title: Environmental Specialist - Adv

ATTACHMENT 2: SITE CHARACTERIZATION DATA

OCD Waterbodies

5/19/2022, 12:02:21 PM

OSW Water Bodys

1:9,028

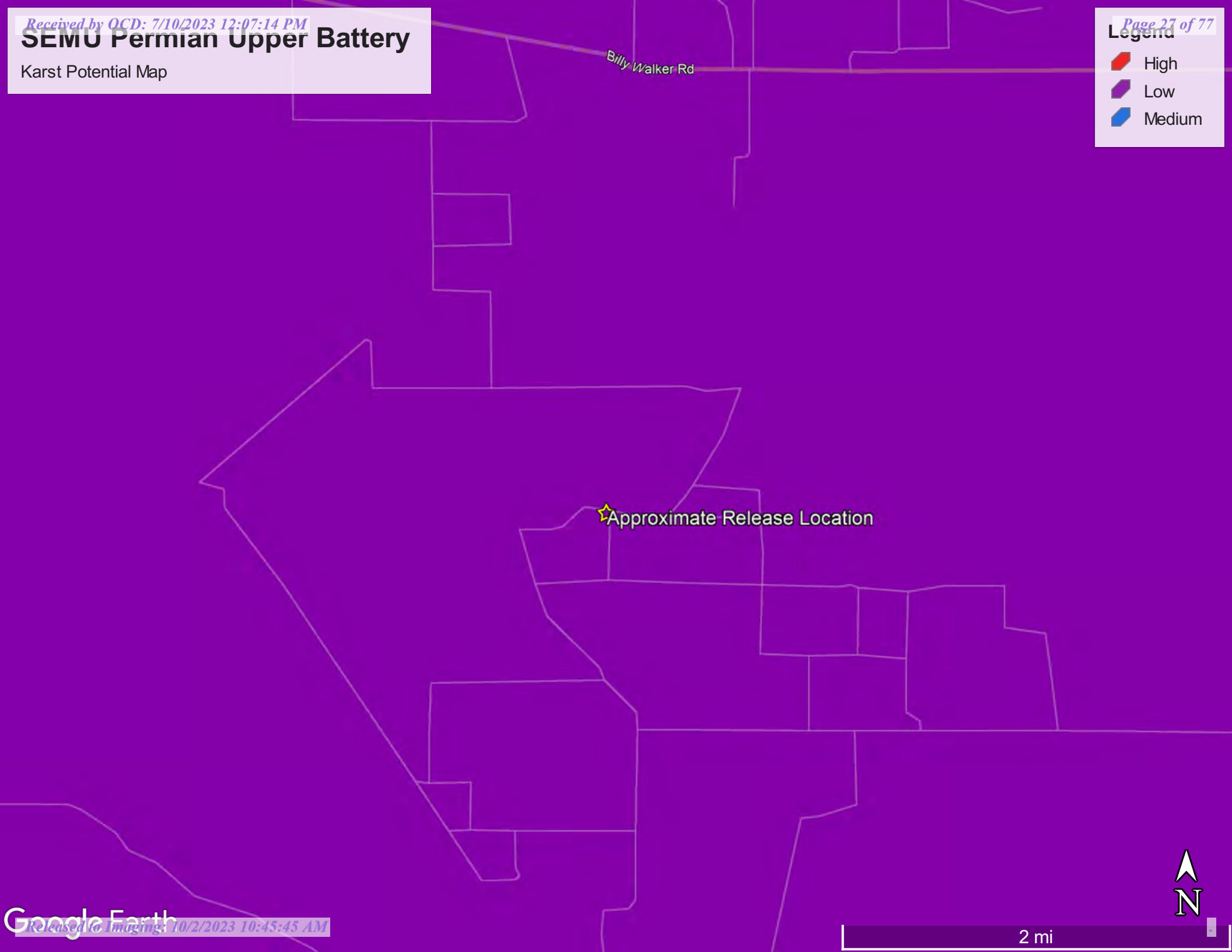
0 0.07 0.15 0.3 mi

0 0.15 0.3 0.6 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, NM OSE

SEMU Permian Upper Battery

Karst Potential Map



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

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 04412 S	L	LE	4	4	2	13	20S	37E	669189	3605491*	1854	155	84	71
L 02109	L	LE	2	4	2	18	20S	38E	670803	3605719*	2154	124	50	74
L 04412	L	LE	4	2	2	13	20S	37E	669181	3605894*	2236	140	85	55
L 05351	L	LE		2	2	13	20S	37E	669082	3605995*	2363	115		
L 10117	L	LE	1	1	2	13	20S	37E	668580	3606086*	2656	130	70	60
L 01675 POD1	L	LE		3	3	07	20S	38E	669476	3606405*	2665	130	80	50

Average Depth to Water: **73 feet**
Minimum Depth: **50 feet**
Maximum Depth: **85 feet**

Record Count: 6

UTMNAD83 Radius Search (in meters):

Easting (X): 669882.64 **Northing (Y):** 3603770.92 **Radius:** 2700

***UTM location was derived from PLSS - see Help**

212C-MD-02101 | TETRA TECH | **LOG OF BORING BH-2R/2A** | Page 1 of 2

Project Name: SEMU BMT Battery Tank Release

Borehole Location: 32.553388°, -103.175938° | Surface Elevation: 3544 ft

Borehole Number: BH-2R/2A | Borehole Diameter (in.): 6 | Date Started: 8/6/2020 | Date Finished: 9/23/2020

WATER LEVEL OBSERVATIONS
While Drilling ▽ Dry ft Upon Completion of Drilling ▼ Dry ft
Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
5												**-SM-** SILTY SAND; Light brown to reddish brown, loose, fine to very fine-grained, with abundant hydrocarbon staining, heavy hydrocarbon odor.		BH-2R (0'-1') BH-2R (2'-3') BH-2R (4'-5') BH-2R (6'-7')
10														BH-2R (9'-10')
15														BH-2R (14'-15')
20													19	BH-2R (20'-21') BH-2R (21'-22') BH-2R (22'-23') BH-2R (23'-24')
25												**-ML-** SANDY SILT; Light tan to white, dense, medium to fine-grained, with caliche and calcrete layers throughout. Trace hydrocarbon odor, no hydrocarbon staining. -- Cemented 19'-19.5' -- Moderately cemented 19.5'-22' -- Well cemented with caliche layers 22'-39'		
30				1240								-- Upper 25' of boring 2R completed with DPT rig by HCI drilling. Scarborough drilling reamed out upper 25' at BH-2A and installed 8" PVC Surface casing to preserve borehole integrity. 25'-65' drilled with air rotary methods.		BH-2A (29'-30')
35				993										BH-2A (34'-35')

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

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

Notes:
Analytical samples are shown in the remarks column above.
Surface elevations are estimated from Google Earth data.

Logger: Joe Tyler | Drilling Equipment: Direct Push/Air Rotary | Driller: HCI Drilling & Scarborough Drilling

212C-MD-02101	TETRA TECH	LOG OF BORING BH-2R/2A	Page 2 of 2

Project Name: SEMU BMT Battery Tank Release

Borehole Location: 32.553388°, -103.175938° | Surface Elevation: 3544 ft

Borehole Number: BH-2R/2A | Borehole Diameter (in.): 6 | Date Started: 8/6/2020 | Date Finished: 9/23/2020

WATER LEVEL OBSERVATIONS

While Drilling ▽ Dry ft Upon Completion of Drilling ▼ Dry ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
													39	
40				462								**-SP-** SILTY SAND; Tan, loose to medium-dense, with high hydrocarbon odor, with no hydrocarbon staining. -- well-cemented and lithified in layers.		BH-2A (39'-40')
45				321										BH-2A (44'-45')
50				230										BH-2A (49'-50')
													54	
55				153								**-SM-** SILTY SAND; Dark tan, loose to medium-dense, with trace hydrocarbon odor, with no hydrocarbon staining.		BH-2A (54'-55')
													59	
60				121								**-SM-** SILTY SAND; Dark tan, loose to medium-dense, with no hydrocarbon odor, with no hydrocarbon staining.		BH-2A (59'-60')
65				11.2									65	BH-2A (64'-65')

Bottom of borehole at 65.0 feet.

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

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

Notes:
Analytical samples are shown in the remarks column above.
Surface elevations are estimated from Google Earth data.

Logger: Joe Tyler | Drilling Equipment: Direct Push/Air Rotary | Driller: HCI Drilling & Scarborough Drilling

ENSOLUM

Sample Name: L-15414-POD1	Date: 11/10/2022	
Site Name: SEMU Burger B 108		
Incident Number: nAPP2228376108		
Job Number: 03D2057013		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS / PV	Method: Air Rotary
Coordinates: 32.556516, -103.178207	Hole Diameter: 6"	Total Depth: 103'

Comments: Soil boring was advanced to a total depth of 103' bgs. No water was observed within the soil boring after at least 72 hours. On 11/14/2022 the soil boring was plugged and abandoned using hydrated bentonite chips.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SM	(0-30'), SAND, dry, tan to brown, medium to fine grain, poorly graded with silt, no stain, no odor.
Dry	-	-	N	-	-	10		
Dry	-	-	N	-	-	20		@20' color change to tan.
Dry	-	-	N	-	-	30	SP-SC	(30-50'), SAND, dry, tan, medium to fine grain, poorly graded with clay, non-plastic, noncohesive, some subround small gravel, no stain, no odor.
Dry	-	-	N	-	-	40		
Dry	-	-	N	-	-	50	SP-SM	(50-103'), SAND, dry, reddish brown, medium to fine grain, poorly graded with silt, no stain, no odor.
Dry	-	-	N	-	-	60		@60' color change to light green to brown, some reddish brown quartzite clasts.
Dry	-	-	N	-	-	70		@70' color change to reddish brown, few caliche nodules,
Dry	-	-	N	-	-	80		@80' no caliche nodules.
Dry	-	-	N	-	-	90		
Dry	-	-	N	-	-	100		
Dry	-	-	N	-	-	103		NOTE: refusal @ 103' using air rotary drill rig due to abundant sand.

Total Depth @ 103 feet bgs

WELL PLUGGING PLAN OF OPERATIONS

NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nmt.edu/resources/water/cgmn/ if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email nmbg-waterlevels@nmt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP: ☐ Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: ~~BH01~~ L-15414-POD1

Name of well owner: Maverick Natural Resources, LLC

Mailing address: 1410 NW County Road County:

City: Hobbs State: New Mexico Zip code: 88240

Phone number: 928-241-1862 E-mail: bryce.wagoner@mavresources.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: West Texas Drilling Services

New Mexico Well Driller License No.: WD# 1184 Expiration Date: 10/31/2023

IV. WELL INFORMATION: ☐ **Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.**

Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 32 deg, 33 min, 23.46 sec
Longitude: 103 deg, 10 min, 41.55 sec, NAD 83

2) Reason(s) for plugging well(s):

Soil boring

3) Was well used for any type of monitoring program? No If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? N/A If yes, provide additional detail, including analytical results and/or laboratory report(s):

5) Static water level: >100 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 110 feet

OSE DIT NOV 8 2022 PM3:32

7) Inside diameter of innermost casing: 2 inches.

8) Casing material: Temporary PVC SCH 40

9) The well was constructed with:

☐ an open-hole production interval, state the open interval: N/A

☐ a well screen or perforated pipe, state the screened interval(s): N/A

10) What annular interval surrounding the artesian casing of this well is cement-grouted? N/A

11) Was the well built with surface casing? No If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? _____ If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING: ☐

If plugging method differs between multiple wells on same site, a separate form must be completed for each method.

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.

Also, if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.

1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:

The temporary 2" well material will be removed. If no water is encountered, drill cuttings will be used to ten feet below ground surface (bgs) and plugged using hydrated bentonite. If groundwater is encountered the boring will be plugged, tremie from bottom to a slurry of Portland Type I/II cement in lifts.

2) Will well head be cut-off below land surface after plugging? N/A

VI. PLUGGING AND SEALING MATERIALS:

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe from the cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.

1) For plugging intervals that employ cement grout, complete and attach Table A.

2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.

3) Theoretical volume of grout required to plug the well to land surface: 287

4) Type of Cement proposed: Type I/II

5) Proposed cement grout mix: <6.0 gallons of water per 94 pound sack of Portland cement.

6) Will the grout be: _____ batch-mixed and delivered to the site

X mixed on site

OSE DIT NOV 8 2022 PM3:32

7) Grout additives requested, and percent by dry weight relative to cement:

N/A

8) Additional notes and calculations:

N/A

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s):

N/A

VIII. SIGNATURE:

I, Kalei Jennings, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Kalei Jennings — Signature of Applicant

10/27/2022 — Date

IX. ACTION OF THE STATE ENGINEER:

This Well Plugging Plan of Operations is:

X Approved subject to the attached conditions.

_____ Not approved for the reasons provided on the attached letter.

OSE DIT NOV 8 2022 PM3:32

Witness my hand and official seal this 9th day of November, 2022

Mike A. Hamman

~~John R. D'Antonio Jr.~~, P.E., New Mexico State Engineer

By: K. Parekh

KASHYAP PAREKH

W.R.M.I

GREAT SEAL OF THE STATE OF NEW MEXICO 1912

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)	N/A	N/A	0
Bottom of proposed interval of grout placement (ft bgl)	N/A	N/A	100
Theoretical volume of grout required per interval (gallons)	N/A	N/A	287
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement	N/A	N/A	<6.0
Mixed on-site or batch-mixed and delivered?	N/A	N/A	onsite
Grout additive 1 requested	N/A	N/A	N/A
Additive 1 percent by dry weight relative to cement	N/A	N/A	N/A
Grout additive 2 requested	N/A	N/A	N/A
Additive 2 percent by dry weight relative to cement	N/A	N/A	N/A

OSE DIT NOV 8 2022 PM3:32

TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)	N/A	N/A	0
Bottom of proposed sealant of grout placement (ft bgl)	N/A	N/A	10
Theoretical volume of sealant required per interval (gallons)	N/A	N/A	26
Proposed abandonment sealant (manufacturer and trade name)	N/A	N/A	Baroid Hold Plug

OSE DIT NOV 8 2022 PM3:32

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220-6292

In Reply Refer To:
3162.4 (NM-080)
NMLC031670B

November 2, 2022

NM Office of the State Engineer
1900 W. Second St.
Roswell, NM 88201

Re: SEMU Burger B 108
30-025-26269
Section 20, T20S-R38E
32.556715,-103.178192
Lea County, New Mexico

To Whom It May Concern:

The above well location and the immediate area mentioned above requires advanced soil boring to take place at approximately 110 feet below ground surface via an air rotary rig with hallow stem auger equipment. The boring will be secured and left open for 72 hours at which time Maverick Permian LLC will assess for the presence or absence of groundwater. An oil-water interface probe will be utilized to confirm depth to groundwater in the soil boring. The Bureau of Land Management (landowner) authorizes the access of the area to accomplish depth to groundwater determination of this site.

If you have any questions contact Crisha Morgan, at 575-234-5987.

Sincerely,

Crisha Morgan

Crisha A. Morgan
Certified Environmental Protection Specialist

OSE OIT NOV 8 2022 PM3:32

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL

Mike A. Hamman, P.E.
State Engineer

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623-8559

November 9, 2022

Maverick Natural Resources LLC
1410 NW County Road
Hobbs, NM 88240

RE: Well Plugging Plan of Operations for well no. L-15414-POD1

Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced well subject to the attached Conditions of Approval. The proposed method of operation is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 30, 2017 by the State Engineer. subject to the attached Conditions of Approval.

Well Plugging Plan of Operations form (WD-08) has been updated. Current form can be found on the OSE website at the following link https://www.ose.state.nm.us/Statewide/wdForms.php.

Within 30 days after the well is plugged, the well driller is required to file a complete plugging record with the OSE and the permit holder.

Sincerely,

K. Parekh

Kashyap Parekh
Water Resources Manager I

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623- 8559

Applicant has identified wells, listed below, to be plugged. West Texas Drilling Services (WD-1184) will perform the plugging.

Permittee: Maverick Natural Resources, LLC
NMOSE Permit Number: L-15414-POD1

NMOSE File	Casing diameter (inches)	Well depth (feet bgl)	Approximate static water level (feet bgl)	Latitude	Longitude
L-15414-POD1	2.0	110.0	100	32° 33' 23.46"	103° 10' 41.55''

Specific Plugging Conditions of Approval for well located in Lea County.

1. Water well drilling and well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.

2. The total Theoretical volume of sealant required for abandonment of 2.0 inch diameter (I.D.) casing is approximately 287 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 110 feet.

3. **Ground Water encountered:** Type I/II Portland cement mixed with 5.2 to 6.0 gallons of fresh water per 94-lb sack of cement is approved for the plugging the well.

4. **Dry Hole:** (a) Drill cuttings up to ten feet of land surface. (b) 10 feet to 0 feet – Hydrated bentonite. The bentonite shall be hydrated separately with its required increments of water prior to being mixed into the cement slurry.

5. Sealant shall be placed by pumping through a tremie pipe extended to near well bottom and kept below top of the slurry column as the well is plugged from bottom-upwards in a manner that displaces the standing water column upwards from below. Tremie pipe may be pulled as necessary to retain minimal submergence in the advancing column of sealant.

6. Should cement "shrinks-back" occur in the well, use of a tremie for topping off is required for cement placement deeper than 20 feet below land surface or if water is present in the casing. The approved sealant for topping off is identified in condition 3. of these Specific Conditions of Approval.

7. Any open annulus encountered surrounding the casing shall also be sealed by the placement of the approved sealant. When plugging shallow wells with no construction or environmental concerns, and if the well record on a well to be plugged shows a proper 20-foot annular seal, a plugging plan can propose the use of clean fill material to a nominal 30 feet bgs, then placing an OSE approved sealant to surface. Lacking that information, we would require an excavation of at least 2-feet which shall then be filled in its entirety with sealant to surface.

8. Should the NMED, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.

9. NMOSE witnessing of the plugging of the shallow well will not be required.

10. Any deviation from this plan must obtain an approved variance from this office prior to implementation.

11. A Well Plugging Record itemizing actual abandonment process and materials used shall be filed with the State Engineer within 30 days after completion of well plugging. For the plugging record, please resurvey coordinate location for well and note coordinate system for GPS unit. Please attach a copy of these plugging conditions.

The NMOSE Well Plugging Plan of Operations is hereby approved with the aforesaid conditions applied.

Witness my hand and seal this 9th day of November 2022

Mike A. Hamman, P.E. State Engineer

By: K. Parekh

Kashyap Parekh
Water Resources Manager I

ATTACHMENT 3: LABORATORY ANALYTICAL DATA

CARDINAL Laboratories

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

June 14, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: SEMU UPPER BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 06/13/23 15:42.

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

Cardinal Laboratories is accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/13/2023	Sampling Date:	06/09/2023
Reported:	06/14/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

Sample ID: BH - 1 (4') (H233036-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2023	ND	2.13	106	2.00	3.30	
Toluene*	<0.050	0.050	06/14/2023	ND	2.20	110	2.00	3.06	
Ethylbenzene*	<0.050	0.050	06/14/2023	ND	2.09	105	2.00	3.25	
Total Xylenes*	<0.150	0.150	06/14/2023	ND	6.52	109	6.00	2.52	
Total BTEX	<0.300	0.300	06/14/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/14/2023	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/14/2023	ND	189	94.7	200	5.35	
DRO >C10-C28*	<10.0	10.0	06/14/2023	ND	208	104	200	5.45	
EXT DRO >C28-C36	<10.0	10.0	06/14/2023	ND					

Surrogate: 1-Chlorooctane *87.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *108 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/13/2023	Sampling Date:	06/13/2023
Reported:	06/14/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

Sample ID: BH - 2 (4') (H233036-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2023	ND	2.13	106	2.00	3.30	
Toluene*	<0.050	0.050	06/14/2023	ND	2.20	110	2.00	3.06	
Ethylbenzene*	<0.050	0.050	06/14/2023	ND	2.09	105	2.00	3.25	
Total Xylenes*	<0.150	0.150	06/14/2023	ND	6.52	109	6.00	2.52	
Total BTEX	<0.300	0.300	06/14/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/14/2023	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/14/2023	ND	189	94.7	200	5.35	
DRO >C10-C28*	<10.0	10.0	06/14/2023	ND	208	104	200	5.45	
EXT DRO >C28-C36	<10.0	10.0	06/14/2023	ND					

Surrogate: 1-Chlorooctane *106 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *129 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/13/2023	Sampling Date:	06/09/2023
Reported:	06/14/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

Sample ID: SW - 1 (H233036-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2023	ND	2.13	106	2.00	3.30	
Toluene*	<0.050	0.050	06/14/2023	ND	2.20	110	2.00	3.06	
Ethylbenzene*	<0.050	0.050	06/14/2023	ND	2.09	105	2.00	3.25	
Total Xylenes*	<0.150	0.150	06/14/2023	ND	6.52	109	6.00	2.52	
Total BTEX	<0.300	0.300	06/14/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/14/2023	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/14/2023	ND	189	94.7	200	5.35	
DRO >C10-C28*	<10.0	10.0	06/14/2023	ND	208	104	200	5.45	
EXT DRO >C28-C36	<10.0	10.0	06/14/2023	ND					

Surrogate: 1-Chlorooctane *110 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *136 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/13/2023	Sampling Date:	06/09/2023
Reported:	06/14/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

Sample ID: SW - 2 (H233036-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2023	ND	2.13	106	2.00	3.30	
Toluene*	<0.050	0.050	06/14/2023	ND	2.20	110	2.00	3.06	
Ethylbenzene*	<0.050	0.050	06/14/2023	ND	2.09	105	2.00	3.25	
Total Xylenes*	<0.150	0.150	06/14/2023	ND	6.52	109	6.00	2.52	
Total BTEX	<0.300	0.300	06/14/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/14/2023	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/14/2023	ND	189	94.7	200	5.35	
DRO >C10-C28*	<10.0	10.0	06/14/2023	ND	208	104	200	5.45	
EXT DRO >C28-C36	<10.0	10.0	06/14/2023	ND					

Surrogate: 1-Chlorooctane *109 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *131 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/13/2023	Sampling Date:	06/09/2023
Reported:	06/14/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Shalyn Rodriguez
Project Location:	MAVERICK - LEA CO NM		

Sample ID: SW - 3 (H233036-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2023	ND	2.13	106	2.00	3.30	
Toluene*	<0.050	0.050	06/14/2023	ND	2.20	110	2.00	3.06	
Ethylbenzene*	<0.050	0.050	06/14/2023	ND	2.09	105	2.00	3.25	
Total Xylenes*	<0.150	0.150	06/14/2023	ND	6.52	109	6.00	2.52	
Total BTEX	<0.300	0.300	06/14/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/14/2023	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/14/2023	ND	189	94.7	200	5.35	
DRO >C10-C28*	<10.0	10.0	06/14/2023	ND	208	104	200	5.45	
EXT DRO >C28-C36	<10.0	10.0	06/14/2023	ND					

Surrogate: 1-Chlorooctane *106 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *127 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of

Tetra Tech, Inc.

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

Client Name:	Maverick	Site Manager:	Chuck Terhune
Project Name:	SEMU Upper Battery		(281) 755-8965 chuck.terhune@tetratech.com
Project Location: (county, state)	Lea County, NM	Project #:	212C-HN-02254
Invoice to:	chuck.terhune@tetratech.com		
Receiving Laboratory:	Cardinal Labs		Miguel A. Flores

ANALYSIS REQUEST
(Circle or Specify Method No.)

H233036

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2023 DATE	TIME	MATRIX WATER	SOIL		PRESERVATIVE METHOD HCL	HNO3	ICE		# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance			Hold
1	BH-1 (4')	6/9/2023			x				x				x		x												X						
2	BH-2 (4')	6/13/2023			x				x				x		x												x						
3	SW-1	6/9/2023			x				x				x		x												x						
4	SW-2	6/9/2023			x				x				x		x												x						
5	SW-3	6/9/2023			x				x				x		x												x						

Relinquished by: Miguel A Flores	Date:	Time:	Received by: Slodriguez	Date: 6-13-23	Time: 1542
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature
0.6°C 0.6°C
#113

REMARKS: Standard

☒ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

CARDINAL Laboratories

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

June 22, 2023

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: SEMU UPPER BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 06/21/23 15:40.

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

Cardinal Laboratories is accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/21/2023	Sampling Date:	06/21/2023
Reported:	06/22/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

Sample ID: BH - 3 (4') (H233225-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2023	ND	2.15	108	2.00	2.30	
Toluene*	<0.050	0.050	06/21/2023	ND	2.11	106	2.00	2.16	
Ethylbenzene*	<0.050	0.050	06/21/2023	ND	2.10	105	2.00	2.44	
Total Xylenes*	<0.150	0.150	06/21/2023	ND	6.40	107	6.00	3.21	
Total BTEX	<0.300	0.300	06/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *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	06/22/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/22/2023	ND	180	89.9	200	1.60	
DRO >C10-C28*	<10.0	10.0	06/22/2023	ND	165	82.6	200	0.186	
EXT DRO >C28-C36	<10.0	10.0	06/22/2023	ND					

Surrogate: 1-Chlorooctane *129 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *123 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/21/2023	Sampling Date:	06/21/2023
Reported:	06/22/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

Sample ID: BH - 4 (4') (H233225-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2023	ND	2.15	108	2.00	2.30	
Toluene*	<0.050	0.050	06/21/2023	ND	2.11	106	2.00	2.16	
Ethylbenzene*	<0.050	0.050	06/21/2023	ND	2.10	105	2.00	2.44	
Total Xylenes*	<0.150	0.150	06/21/2023	ND	6.40	107	6.00	3.21	
Total BTEX	<0.300	0.300	06/21/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/22/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/22/2023	ND	180	89.9	200	1.60	
DRO >C10-C28*	<10.0	10.0	06/22/2023	ND	165	82.6	200	0.186	
EXT DRO >C28-C36	<10.0	10.0	06/22/2023	ND					

Surrogate: 1-Chlorooctane *119 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *115 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/21/2023	Sampling Date:	06/21/2023
Reported:	06/22/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

Sample ID: SW - 4 (H233225-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2023	ND	2.15	108	2.00	2.30	
Toluene*	<0.050	0.050	06/21/2023	ND	2.11	106	2.00	2.16	
Ethylbenzene*	<0.050	0.050	06/21/2023	ND	2.10	105	2.00	2.44	
Total Xylenes*	<0.150	0.150	06/21/2023	ND	6.40	107	6.00	3.21	
Total BTEX	<0.300	0.300	06/21/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/22/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/22/2023	ND	180	89.9	200	1.60	
DRO >C10-C28*	<10.0	10.0	06/22/2023	ND	165	82.6	200	0.186	
EXT DRO >C28-C36	<10.0	10.0	06/22/2023	ND					

Surrogate: 1-Chlorooctane *120 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *117 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/21/2023	Sampling Date:	06/21/2023
Reported:	06/22/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

Sample ID: SW - 5 (H233225-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2023	ND	2.15	108	2.00	2.30	
Toluene*	<0.050	0.050	06/21/2023	ND	2.11	106	2.00	2.16	
Ethylbenzene*	<0.050	0.050	06/21/2023	ND	2.10	105	2.00	2.44	
Total Xylenes*	<0.150	0.150	06/21/2023	ND	6.40	107	6.00	3.21	
Total BTEX	<0.300	0.300	06/21/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/22/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/22/2023	ND	180	89.9	200	1.60	
DRO >C10-C28*	<10.0	10.0	06/22/2023	ND	165	82.6	200	0.186	
EXT DRO >C28-C36	<10.0	10.0	06/22/2023	ND					

Surrogate: 1-Chlorooctane *125 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *120 %* *49.1-148*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/21/2023	Sampling Date:	06/21/2023
Reported:	06/22/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

Sample ID: SW - 6 (H233225-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2023	ND	2.15	108	2.00	2.30	
Toluene*	<0.050	0.050	06/21/2023	ND	2.11	106	2.00	2.16	
Ethylbenzene*	<0.050	0.050	06/21/2023	ND	2.10	105	2.00	2.44	
Total Xylenes*	<0.150	0.150	06/21/2023	ND	6.40	107	6.00	3.21	
Total BTEX	<0.300	0.300	06/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *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	06/22/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/22/2023	ND	180	89.9	200	1.60	
DRO >C10-C28*	<10.0	10.0	06/22/2023	ND	165	82.6	200	0.186	
EXT DRO >C28-C36	<10.0	10.0	06/22/2023	ND					

Surrogate: 1-Chlorooctane *118 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *114 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/21/2023	Sampling Date:	06/21/2023
Reported:	06/22/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

Sample ID: SW - 7 (H233225-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2023	ND	2.15	108	2.00	2.30	
Toluene*	<0.050	0.050	06/21/2023	ND	2.11	106	2.00	2.16	
Ethylbenzene*	<0.050	0.050	06/21/2023	ND	2.10	105	2.00	2.44	
Total Xylenes*	<0.150	0.150	06/21/2023	ND	6.40	107	6.00	3.21	
Total BTEX	<0.300	0.300	06/21/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	06/22/2023	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/22/2023	ND	180	89.9	200	1.60	
DRO >C10-C28*	<10.0	10.0	06/22/2023	ND	165	82.6	200	0.186	
EXT DRO >C28-C36	<10.0	10.0	06/22/2023	ND					

Surrogate: 1-Chlorooctane *112 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *107 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	06/21/2023	Sampling Date:	06/21/2023
Reported:	06/22/2023	Sampling Type:	Soil
Project Name:	SEMU UPPER BATTERY	Sampling Condition:	Cool & Intact
Project Number:	212C - HN - 02254	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK - LEA CO NM		

Sample ID: SW - 8 (H233225-07)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2023	ND	2.15	108	2.00	2.30	
Toluene*	<0.050	0.050	06/21/2023	ND	2.11	106	2.00	2.16	
Ethylbenzene*	<0.050	0.050	06/21/2023	ND	2.10	105	2.00	2.44	
Total Xylenes*	<0.150	0.150	06/21/2023	ND	6.40	107	6.00	3.21	
Total BTEX	<0.300	0.300	06/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *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	06/22/2023	ND	400	100	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	06/22/2023	ND	180	89.9	200	1.60	
DRO >C10-C28*	<10.0	10.0	06/22/2023	ND	165	82.6	200	0.186	
EXT DRO >C28-C36	<10.0	10.0	06/22/2023	ND					

Surrogate: 1-Chlorooctane *116 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *110 %* *49.1-148*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of

Tetra Tech, Inc.

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

Client Name: Maverick	Site Manager: Chuck Terhune
Project Name: SEMU Upper Battery	(281) 755-8965 chuck.terhune@tetratech.com
Project Location: (county, state) Lea County, NM	Project #: 212C-HN-02254
Invoice to: chuck.terhune@tetratech.com	
Receiving Laboratory: Cardinal Labs	Sampler Signature: Miguel A. Flores
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
4233225		YEAR: 2023																											
1	BH-3 (4')	6/21/2023			x			x			x		x												x				
2	BH-4 (4')	6/21/2023			x			x			x		x												x				
3	SW-4	6/21/2023			x			x			x		x												x				
4	SW-5	6/21/2023			x			x			x		x												x				
5	SW-6	6/21/2023			x			x			x		x												x				
6	SW-7	6/21/2023			x			x			x		x												x				
7	SW-8	6/21/23			x			x			x		x												x				

Relinquished by: Miguel A Flores	Date: 6/21/23	Time: 15:39	Received by: [signature]
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 6-21-23 Time: 1540

LAB USE ONLY
Sample Temperature
5.4°C
C-0.6°C
4.8°C #113

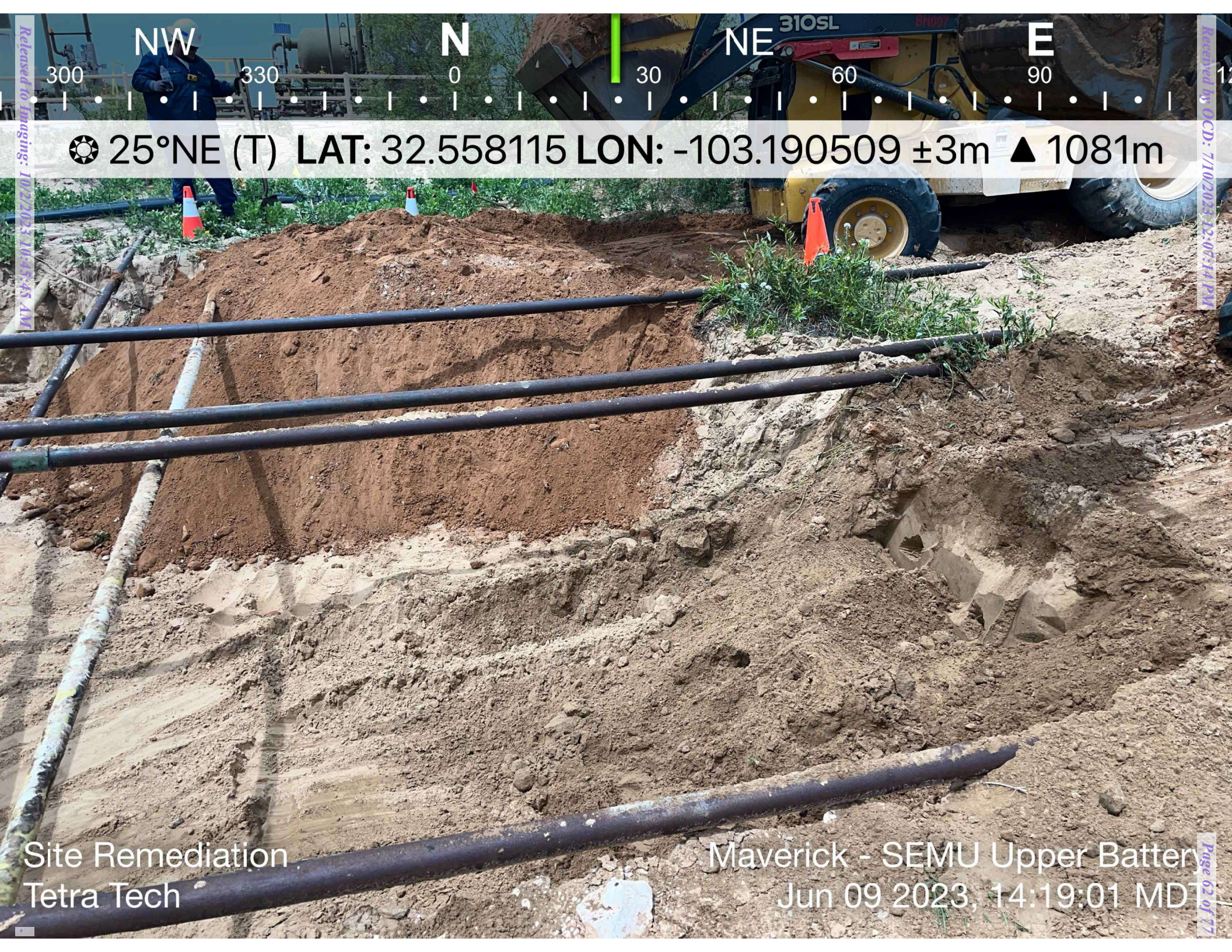
REMARKS: Standard

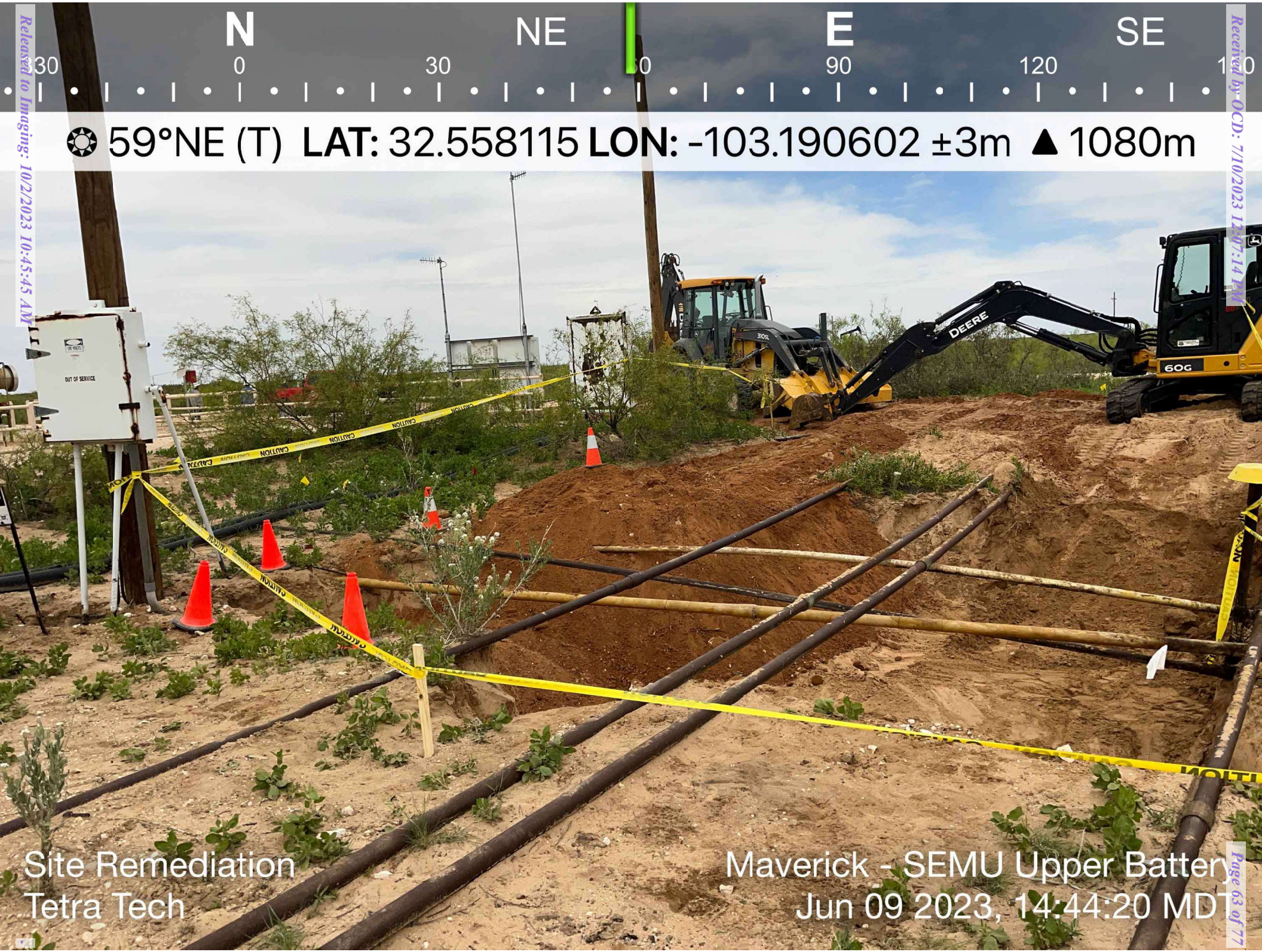
- [x] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

ATTACHMENT 4: PHOTOGRAPHIC DOCUMENTATION

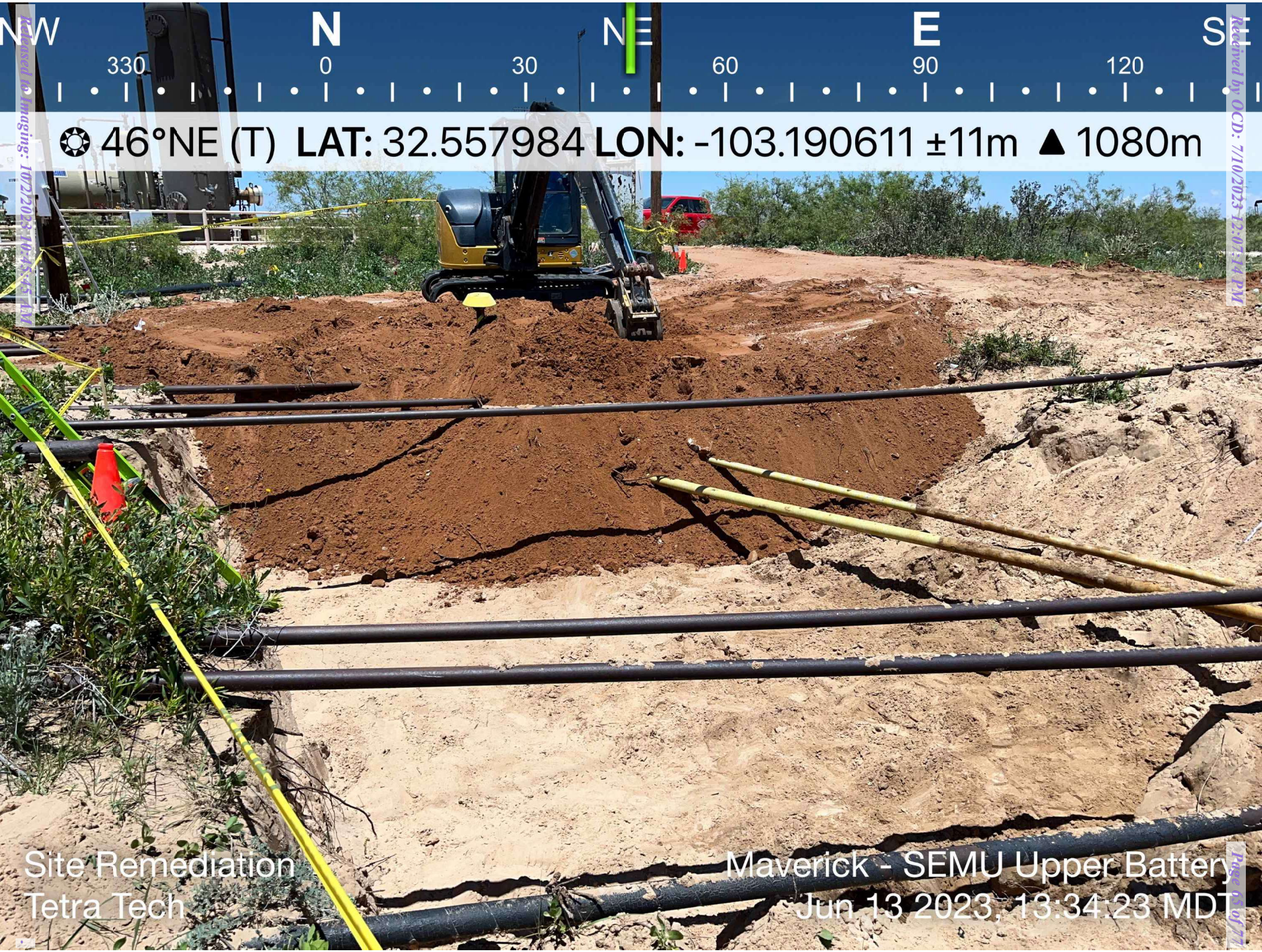

NW
N
NE
E
300
330
0
30
60
90
25°NE (T) LAT: 32.558115 LON: -103.190509 ±3m ▲1081m
Released to Imaging: 10/2/2023 10:45:45 AM
Received by OCD: 7/10/2023 12:07:14 PM
Site Remediation
Tetra Tech
Maverick - SEMU Upper Battery
Jun 09 2023, 14:19:01 MDT
Page 62 of 77



W NW N NE

240 270 300 330 0 30

324°NW (T) **LAT:** 32.557911 **LON:** -103.190478 ±3m ▲ 1080m

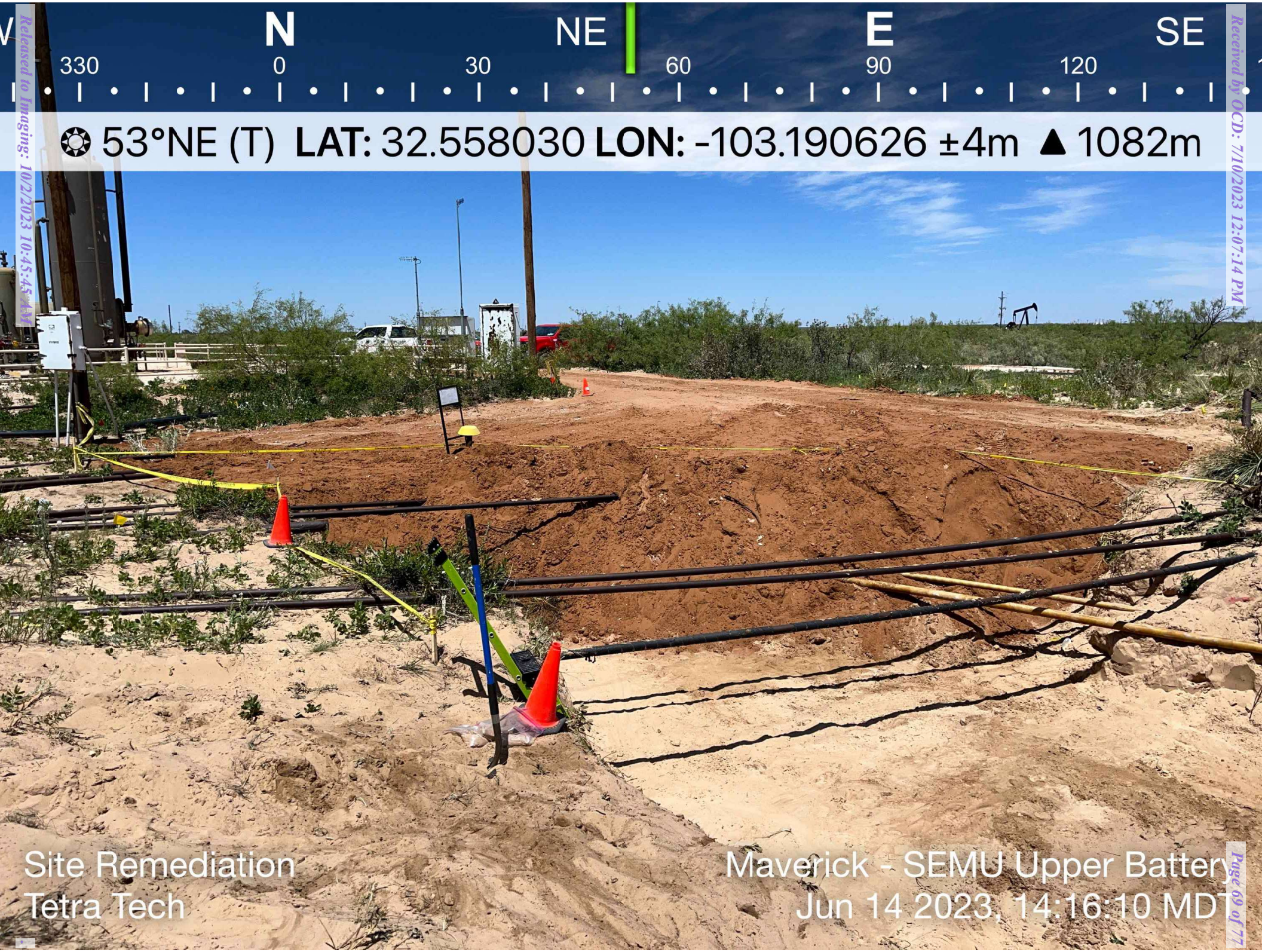


W 270 NW 300 330 N 0 NE 30 60

337°NW (T) **LAT:** 32.558124 **LON:** -103.190439 ±3m ▲ 1084m

Site Remediation
Tetra Tech

Maverick - SEMU Upper Battery
Jun 13 2023, 15:06:58 MDT

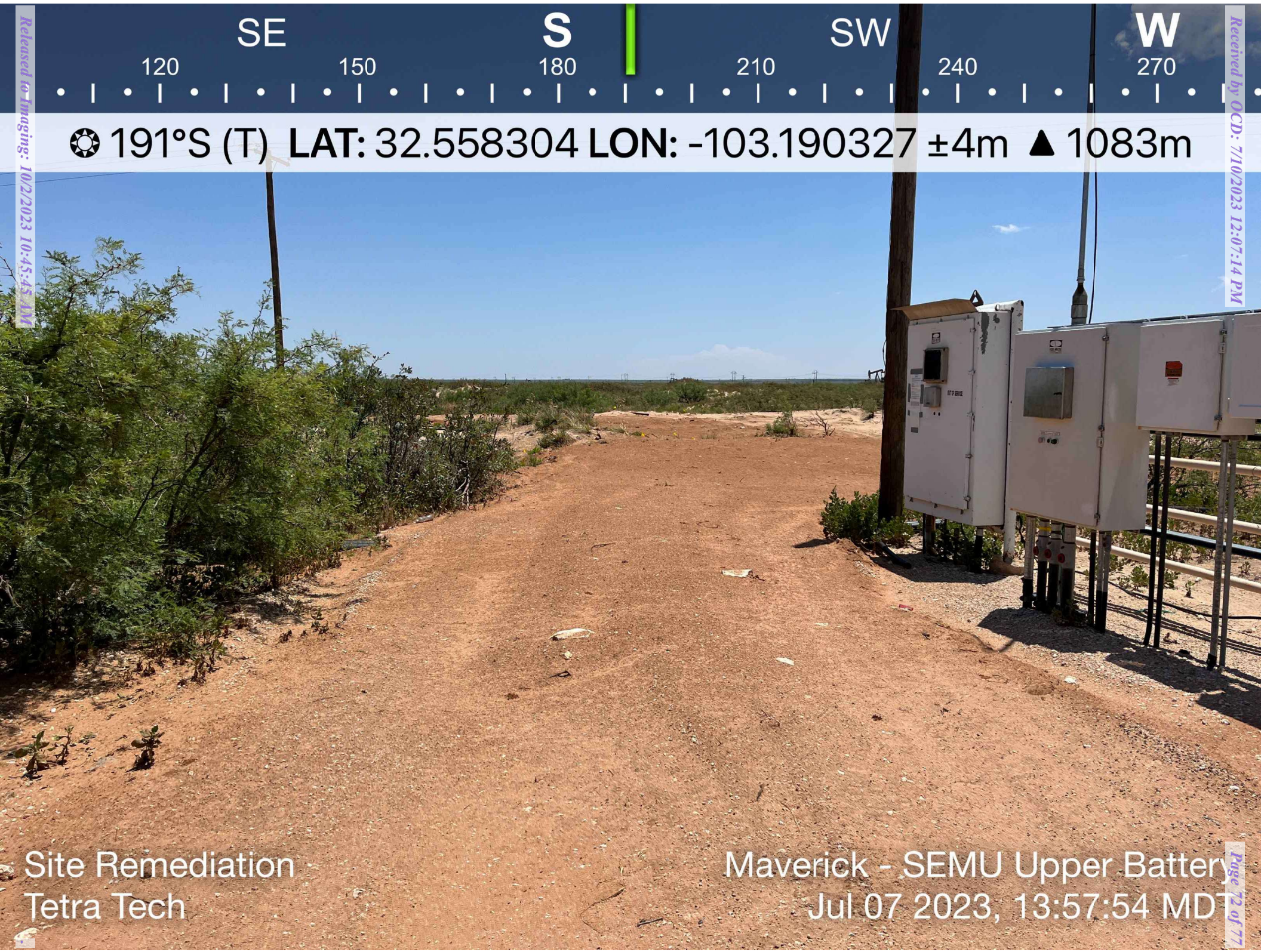


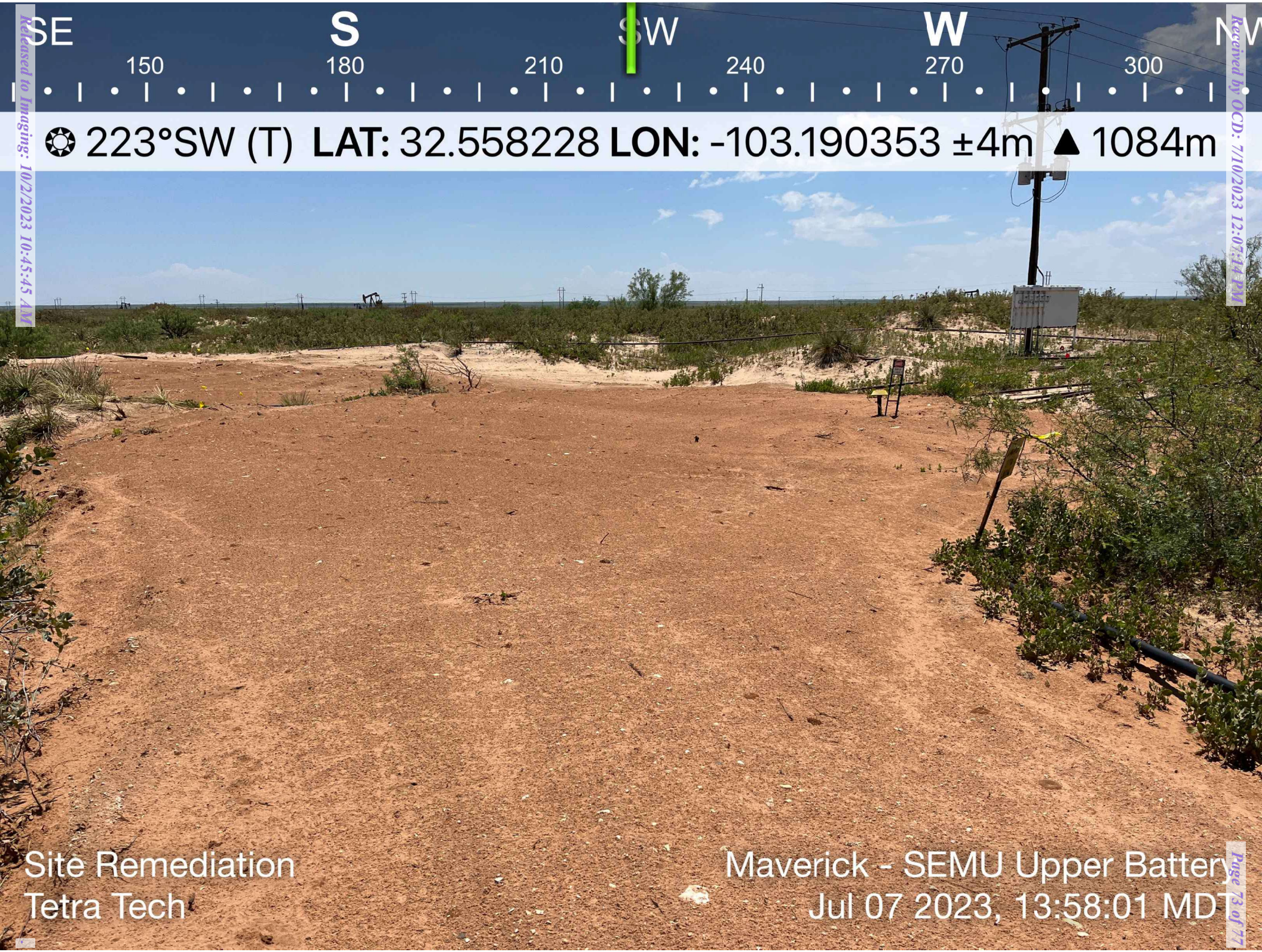
SE 120 150 S 180 210 SW 240 270 W

200°S (T) **LAT:** 32.558107 **LON:** -103.190521 ±4m ▲1083m

Site Remediation
Tetra Tech

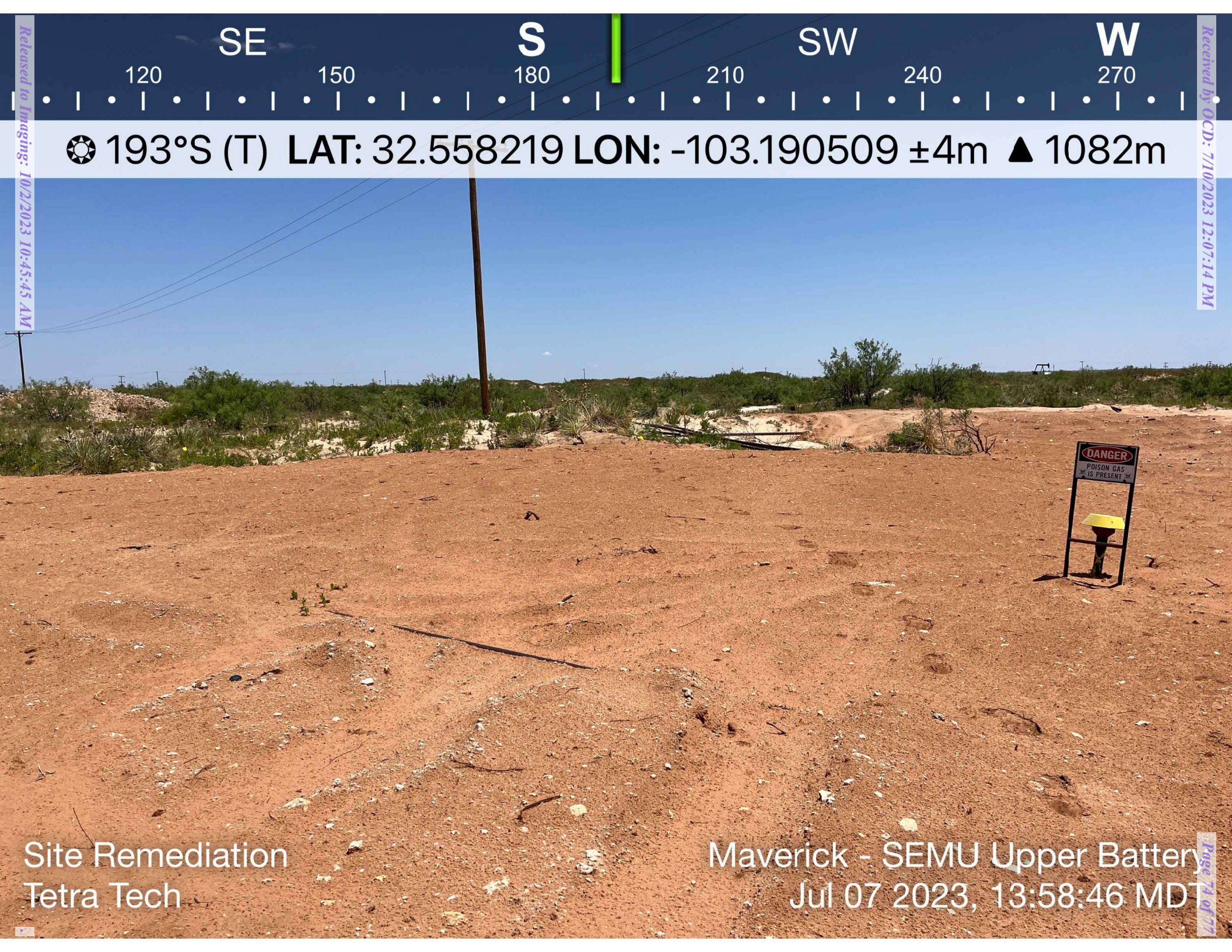
Maverick - SEMU Upper Battery
Jun 14 2023, 14:17:24 MDT





SE 120 150 S 180 210 SW 240 270 W

193°S (T) **LAT:** 32.558219 **LON:** -103.190509 ±4m ▲ 1082m



Site Remediation
Tetra Tech

Maverick - SEMU Upper Battery
Jul 07 2023, 13:58:46 MDT

ATTACHMENT 5: NMSLO SEED MIXTURE DETAILS

NMSLO Seed Mix Sandy (S)

SANDY (S) SITES SEED MIXTURE:

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sand bluestem	**Elida, VNS, So.**	**2.0**	**F**
Little bluestem	**Cimarron, Pastura**	**3.0**	**F**
Black grama	**VNS, Southern**	**1.0**	**D**
Sand dropseed	**VNS, Southern**	**4.0**	**S**
Plains bristlegrass	**VNS, Southern**	**2.0**	**D**
Forbs:			
Firewheel (Gaillardia)	**VNS, Southern**	**1.0**	**D**
Annual Sunflower	**VNS, Southern**	**1.0**	**D**
Shrubs:			
Fourwing Saltbush	**VNS, Southern**	**1.0**	**F**
	Total PLS/acre	**16.0**	

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.

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

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

CONDITIONS

Action 237953

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 237953
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	10/2/2023