

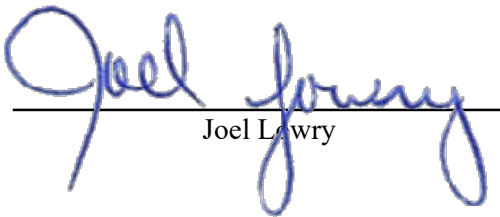
# Remediation Summary & Soil Closure Request

## 3R Operating, LLC Shell State Tank Battery

Lea County, New Mexico  
Unit Letter "A", Section 18, Township 11 South, Range 33 East  
Latitude 33.369742° North, Longitude 103.647038° West  
NMOCD Reference No. nPRS0413152570

Prepared By:

**Etech Environmental & Safety Solutions, Inc.**  
2617 W. Marland  
Hobbs, New Mexico 88240

  
Joel Lowry

  
Matthew Grieco



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## 1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of 3R Operating, LLC, has prepared this *Remediation Summary & Soil Closure Request* for the release site known as the Shell State Tank Battery ("Site"). Details of the release are summarized below:

### Location of Release Source

Latitude: 33.369742° Longitude: -103.647038°

Provided GPS are in WGS84 format.

Site Name:	Shell State Tank Battery	Site Type:	Tank Battery
Date Release Discovered:	3/16/2004	API # (if applicable):	N/A

Unit Letter	Section	Township	Range	County
"A"	18	11S	33E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name \_\_\_\_\_)

### Nature and Volume of Release

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 8	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water > 10,000 mg/L?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released	Volume/Weight Recovered
Cause of Release: The release was attributed to corrosion, possibly of the dump valve.		

### Initial Response

<input checked="" type="checkbox"/> The source of the release has been stopped.
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.
<input checked="" type="checkbox"/> Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.

Previously submitted portions of the New Mexico Oil Conservation Division (NMOCD) Form C-141 are available in the NMOCD Permitting System.

## 2.0 SITE CHARACTERIZATION

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (bgs)?	Between 51 and 75 (ft.)
What method was used to determine the depth to groundwater?	NM OSE iWaters Database Search
Did the release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
What is the minimum distance between the closest lateral extents of the release and the following surface areas?	
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 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution or church?	Between 1000 (ft.) and ½ (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	Between 1,000 (ft.) and ½ (mi.)
Any other fresh water well or spring?	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field?	Greater than 5 (mi.)
A wetland?	Between 1 and 5 (mi.)
A subsurface mine?	Greater than 5 (mi.)
A (non-karst) unstable area?	Between 1 and 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half-mile radius of the Site. Probable groundwater depth was determined using data generated by numeric models based on available water well data and published information. Depth to groundwater information is provided as Appendix A.

Additional NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) and Fish and Wildlife Services (FWS) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted in Figures 1, 2A, 2B, and 4.

In accordance with the New Mexico State Land Office (NMSLO) Cultural Properties Protection Rule (19.2.24 NMAC), an archaeological survey was conducted at the Site. As per the survey memorandum, "An archaeological survey of the entire area of potential effect has been completed (NMCRIS Activity No. 158512) and no cultural properties were identified. Pursuant to NMSLO 19.2.24.8 (C) NMAC, remediation may proceed." Cultural Properties Protection Rule documentation is provided as Appendix F.

## 3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

Based on the volume and nature of the release, inferred depth to groundwater, and NMOCD Siting Criteria, the NMOCD Closure Criteria and NMOCD Reclamation Standards for the Site are as follows:



Probable Depth to Groundwater	Constituent	Laboratory Analytical Method	Closure Criteria**†	Reclamation Standard*‡
Between 51 and 75 (ft.)	Chloride (Cl-)	EPA** 300.0 or SM4500 Cl B	10,000	600
	Total Petroleum Hydrocarbons (TPH)	EPA SW-846 Method 8015M Ext	2,500	100
	Gas Range Organics + Diesel Range Organics (GRO+DRO)	EPA SW-846 Method 8015M	1,000	N/A
	Benzene	EPA SW-846 Methods 8021b or 8260b	N/A	10
	Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA SW-846 Methods 8021b or 8260b	50	50

\* Measured in milligrams per kilogram (mg/kg)

\*\* Environmental Protection Agency

† Table I, Section 19.15.29.12 of the New Mexico Administrative Code (NMAC).

‡ The NMOCD Reclamation Standard applies only to the top 4' of soil in non-production areas. Section 19.15.29.13 D.(1) NMAC.

## 4.0 REGULATORY APPROVALS AND STIPULATIONS

On June 11, 2025, 3R submitted a *Site Assessment Summary & Proposed Remediation Plan (Proposed Remediatoin Plan)* to the NMOCD and NMSLO proposed remediation and reclamation activities designed to bring the Site into compliance with both agencies. The *Proposed Remediation Plan* was subsequently approved by both agencies.

## 5.0 REMEDIATION ACTIVITIES SUMMARY

Requesting a remediation plan approval with this submission?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Have the lateral and vertical extents of contamination been fully delineated?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Was this release entirely contained within a lined containment area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
On what estimated date will (or did) the remediation commence?	8/22/2025	
On what date will (or did) the final sampling or liner inspection occur?	9/4/2025	
On what date will (or was) the remediation complete(d)?	9/8/2025	
What is the total surface area (sq. ft.) in need of or that will <i>eventually</i> be reclaimed?	2,980	
What is the total volume (cy) in need of or that will <i>eventually</i> be reclaimed?	900	
What was the total surface area (sq. ft.) that has or will be remediated?	2,980	
What was the total volume (cy) that has or will be remediated?	900	
This remediation utilized the following processes to remediate/reduce contaminants:		
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(In Situ) Soil Vapor Extraction	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(In Situ) Biological processing (i.e. Microbes/Fertilizer, etc.)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Ground Water Abatement pursuant to 19.15.30 NMAC	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Other (Non-listed remedial process)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Which OCD approved facility was or will be used for off-site disposal?	Gandy Marley Inc.	
NMOCD Disposal Facility ID?	fEEM0112338393	
Summarize any additional remediation activities not included by answers above.	See Below	

On August 22, 2025, Etech commenced remediation activities at the Site. In accordance with the approved workplan, impacted

soil affected above the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standards identified during the initial assessment was excavated and stockpiled on-site, pending transfer to an NMOCD-permitted surface waste facility for disposal. Olfactory/visual senses and/or a chloride test kit were utilized to field-screen the horizontal and vertical extent of impacted soil and to guide the excavation. The sidewalls and floors of the excavated areas were advanced until field tests and field observations suggested that benzene, BTEX, TPH, and chloride concentrations were below the Closure Criteria. Representative five-point composite confirmation soil samples were collected every 200 square feet from the sidewalls and floors of the excavated areas to be submitted for laboratory analysis. A summary of soil sampling events is provided below:

Constituent	Highest Observable Concentration	Sample ID	Sample Date	Sample Depth (ft bgs)	Soil Status
Chloride	848	FL 14 @ 10'	8/28/2025	10	In-Situ
TPH	17,600	FL 1 @ 4'	8/22/2025	4	Excavated
GRO+DRO	14,700	FL 1 @ 4'	8/22/2025	4	Excavated
BTEX	0.800	FL 1 @ 4'	8/22/2025	4	Excavated
Benzene	<0.050	All submitted samples	8/22 - 9/4/2025	0 - 10	Excavated and In-Situ

Please reference Table 1 for additional information.

On August 22, 2025, Etech collected 26 confirmation soil samples (FL 1 @ 4' through FL 10 @ 4', EW 1 through EW 4, NW 1 through NW 4, SW 1 through SW 4, and WW 1 through WW 4) from the floor and sidewalls of the excavated areas. The soil samples were submitted to a certified, commercial laboratory ("the laboratory") for analysis of benzene, BTEX, TPH, and chloride. Laboratory analytical results indicated that benzene and BTEX concentrations were below the applicable Closure Criteria in each of the submitted soil samples. Chloride concentrations were below the applicable Closure Criteria in each of the soil samples, with the exception of sample EW 2 at 608 mg/kg. TPH and/or GRO+DRO concentrations were above the applicable Closure Criteria in the majority of soil samples, with exceedances ranging from 114 mg/kg in sample FL 3 @ 3' to 17,600 mg/kg in sample FL 1 @ 4'. Based on these laboratory analytical results, the excavations were subsequently further advanced in the areas exhibiting Closure Criteria exceedances.

On August 28, 2025, Etech collected 19 confirmation soil samples (FL 1 @ 10', FL 3 @ 4', FL 6 @ 4' through FL 14 @ 10', NW 1B, NW 2B, EW 2B, EW 3B, SW 4B, WW 1B, WW 2B, and WW 5) from the floors and sidewalls of the excavated areas. The soil samples were submitted to the laboratory for analysis of benzene, BTEX, TPH, and chloride. Laboratory analytical results indicated that benzene, BTEX, and chloride concentrations were below the applicable Closure Criteria in each of the submitted soil samples. TPH and/or GRO+DRO concentrations were below the applicable Closure Criteria in the majority of soil samples, with the exception of samples NW 1B (8,180 mg/kg TPH, 5,750 GRO+DRO) and WW 1B (8,060 mg/kg TPH, 5,660 GRO+DRO). Based on these laboratory analytical results, the excavation was subsequently further advanced in the areas represented by samples NW 1B and WW 1B.

On September 4, 2025, Etech collected three (3) confirmation soil samples (FL 15, NW 1C, and WW 1C) from the floor and sidewalls of the excavated areas. The soil samples were submitted to the laboratory for analysis of benzene, BTEX, TPH, and chloride. Laboratory analytical results indicated that benzene, BTEX, TPH, and chloride concentrations were below the applicable Closure Criteria in each of the submitted soil samples.

On October 23, 2025, Etech collected six (6) additional soil samples (EH 2 @ Surf., EH 2 @ 1', SH @ Surf., SH @ 1', SH @ WH 2 @ Surf. and WH 2 @ 1') in an effort to further characterize the horizontal extent of impacted soil affected above the NMOCD Reclamation Standard. The collected soil samples were submitted to the laboratory for analysis of benzene, BTEX,

TPH, and chloride concentrations. Laboratory analytical results indicated that benzene, BTEX, TPH, and chloride concentrations were below the NMOCD Reclamation Standard in each of the submitted soil samples.

The final dimensions of the excavated areas were approximately: 11 feet in length, 18 feet in width, and 4 feet in depth for the west excavation; 15 feet in length, 13 feet in width, and 4 feet in depth for the center excavation; 27 feet in length, 14 feet in width, and 2 feet in depth for the south excavation; and 44 to 62 feet in length, 27 to 45 feet in width, and 4 to 10 feet in depth for the north excavation. During the course of remediation activities, Etech transported approximately 900 cubic yards of impacted soil to an NMOCD-permitted surface waste facility for disposal and imported approximately 900 cubic yards of locally sourced, non-impacted material to the Site for use as backfill.

Soil sample locations and the extent of the excavated area are depicted in Figure 3, "Site and Sample Location Map". Soil chemistry data is summarized in Table 1. Field data is provided in Appendix B. General photographs of the Site are provided in Appendix C. Laboratory analytical reports are provided in Appendix D. Copies of all regulatory correspondence are provided in Appendix E.

## 6.0 SOIL CLOSURE REQUEST

Requesting a deferral of remediation closure due date with the approval of this submission?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Requesting a remediation closure approval with this submission?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Have the lateral and vertical extents of contamination been fully delineated?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Was this release entirely contained within a lined containment area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the site's existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
What was the total surface area (sq. ft.) remediated?	2,980	
What was the total volume (cy) remediated?	900	

Remediation activities were conducted in accordance with NMOCD and NMLSO regulatory guidelines. Impacted soil affected above the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standard was excavated and transported to an NMOCD-permitted disposal facility. Laboratory analytical results from confirmation soil samples indicate that in-situ concentrations of benzene, BTEX, TPH, and chloride are below the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standard.

Based on laboratory analytical results and field activities conducted to date, Etech recommends 3R Operating, LLC, provide copies of this *Remediation Summary & Soil Closure Request* to the appropriate agencies and request remediation closure approval be granted to the Site.

## 7.0 RESTORATION, RECLAMATION & RE-VEGETATION PLAN

All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste containing earthen material with concentrations of less than 600 mg/kg chloride, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg benzene?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Requesting a reclamation approval with this submission?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Requesting a restoration complete approval with this submission?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
What was the total surface area (in square feet) reclaimed?	135	
What was the total volume (in cubic yards) reclaimed?	20	

From August 28 through September 10, 2025, upon receiving laboratory analytical results from confirmation soil samples, the excavated areas were backfilled with non-impacted "like" material imported from the Pearce Trust Borrow pit represented by composite soil sample "Pearce Trust Stockpile". Excavation backfill was placed at or near original relative positions. The affected areas were contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable.

The reclaimed pasture area will be revegetated during the first favorable growing season following closure of the Site. Final reclamation of the production pad of the active tank battery will be conducted upon decommissioning and abandonment of the facility. The reclaimed areas will be revegetated with the State Coarse seed mix certified to be free from noxious weeds. The seed will be installed at the prescribed rate utilizing either a seed drill or a broadcaster and harrow.

## 8.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this *Remediation Summary & Soil Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of 3R Operating, LLC. Use of the information contained in this report is prohibited without the consent of Etech and/or 3R Operating, LLC.

## 9.0 DISTRIBUTION

***3R Operating, LLC***

*20405 State Highway 249*

*Ste 820*

*Houston, TX 77070*

***New Mexico Energy, Minerals and Natural Resources Department***

*Oil Conservation Division, District 1*

*1220 South St. Francis Drive*

*Santa Fe, NM 87505*

***Hobbs Field Office***

*New Mexico State Land Office*

*2827 North Dal Paso Street*

*Suite 117*

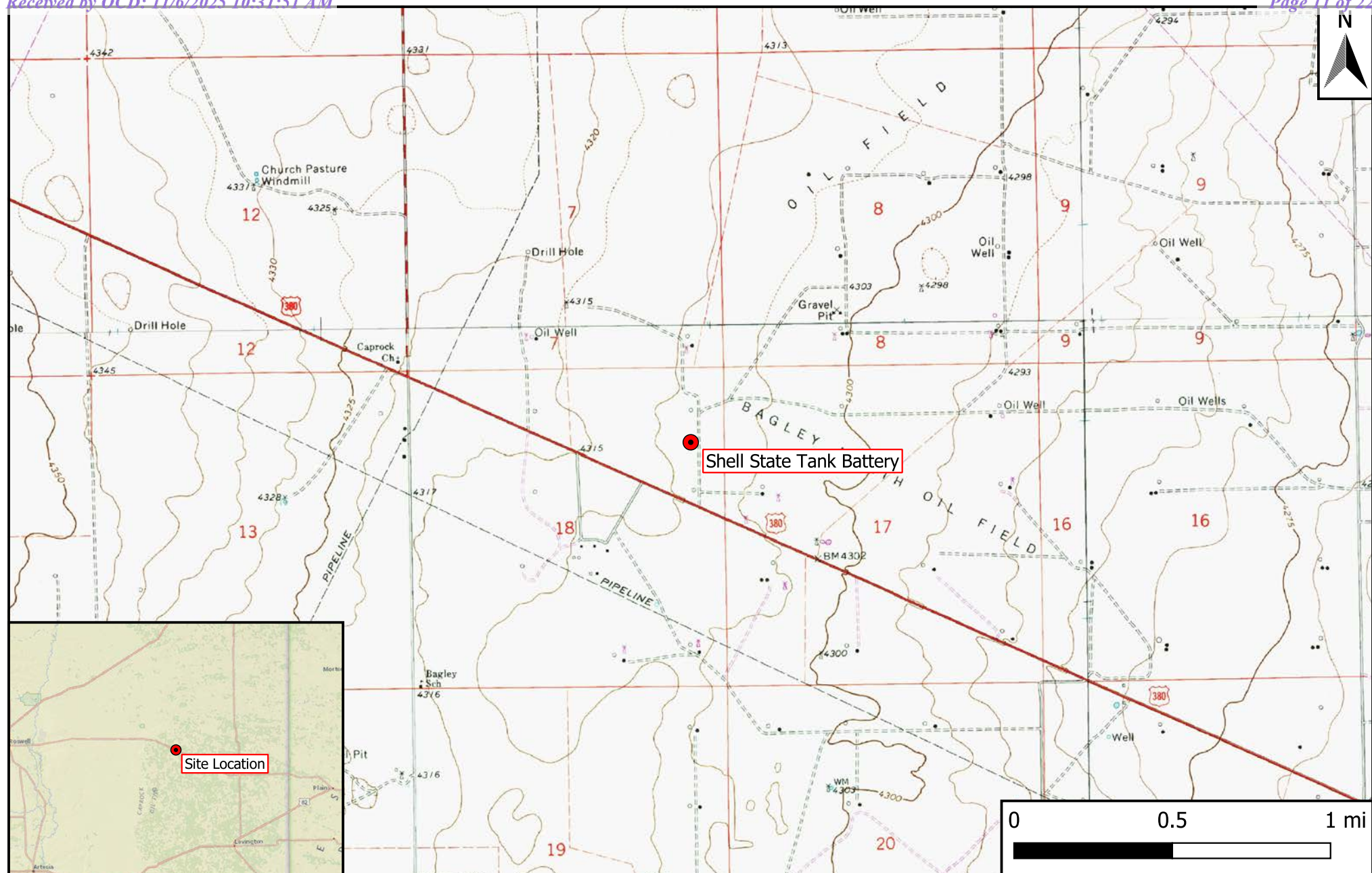
*Hobbs, NM 88240*

*(Electronic Submission)*

## **Figure 1**

### **Site Location Map**





## Legend

- Site Location

**Figure 1**  
 Site Location Map  
 3 R Operating  
 Shell State Tank Battery  
 GPS: 33.369742, -103.647038  
 Lea County, New Mexico



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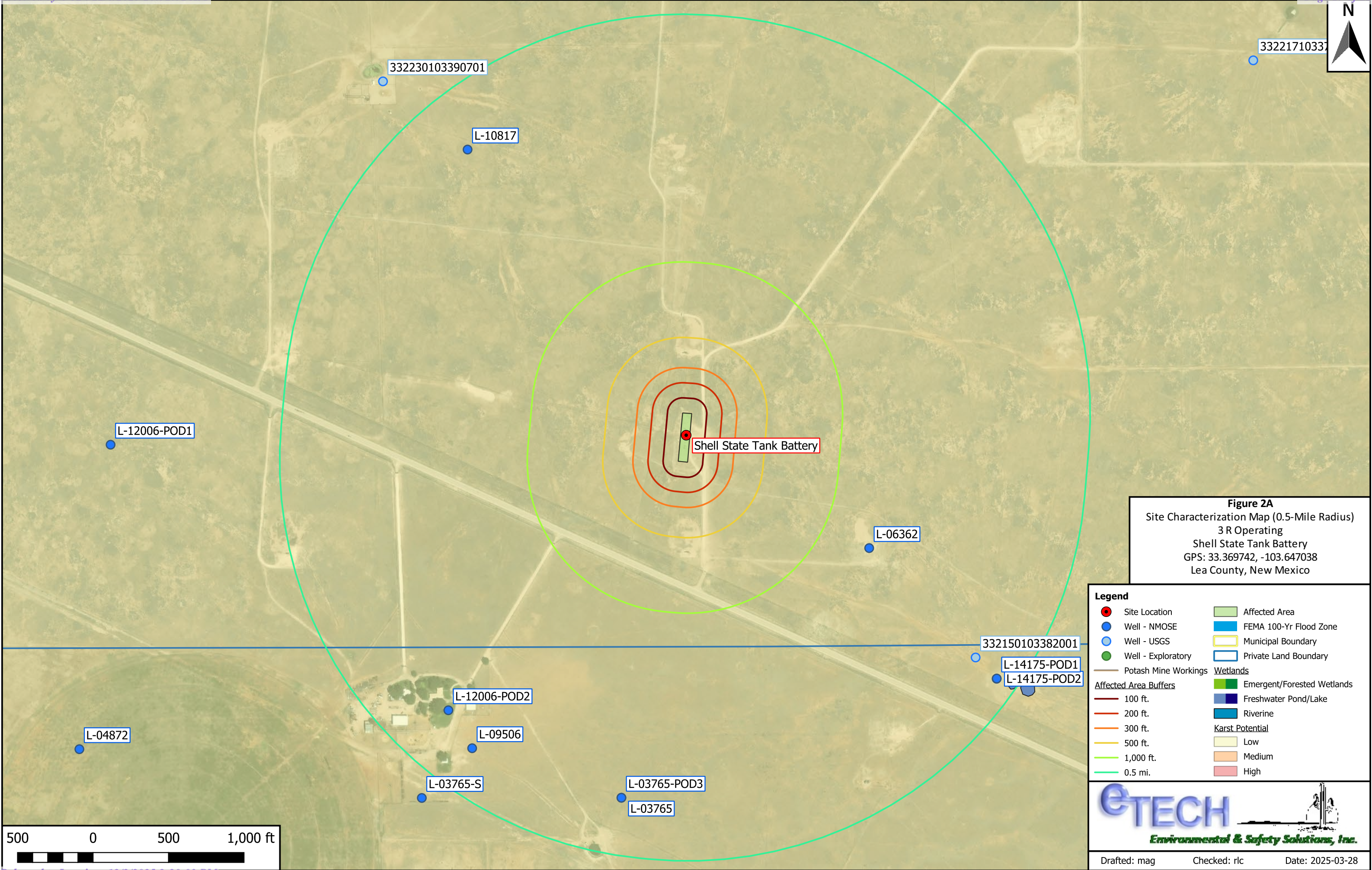
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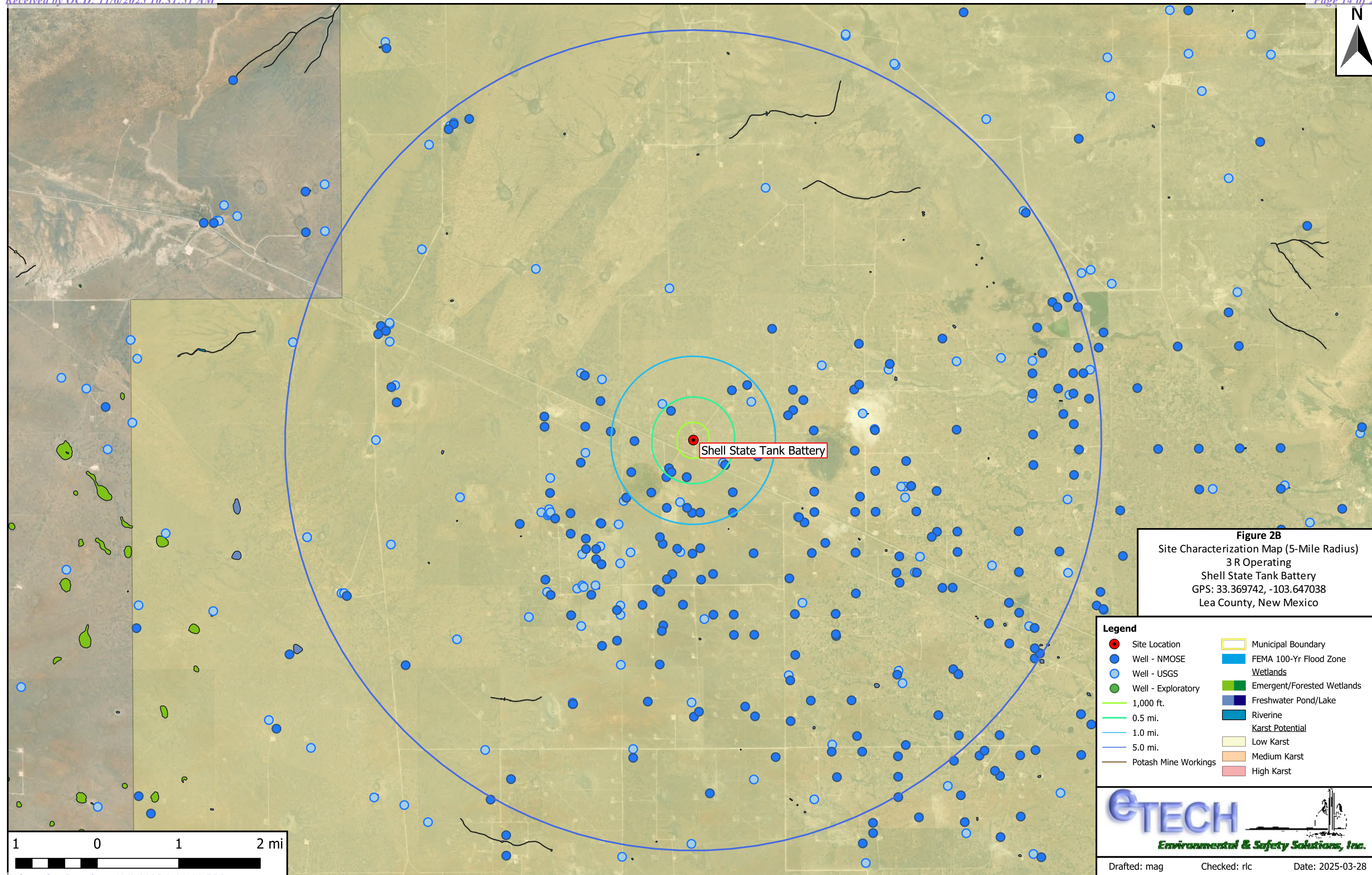
## **Figures 2A & 2B**

### **Site Characterization Maps**









**Figure 2B**  
Site Characterization Map (5-Mile Radius)  
3 R Operating  
Shell State Tank Battery  
GPS: 33.369742, -103.647038  
Lea County, New Mexico

- Legend**
- |                      |                            |
|----------------------|----------------------------|
| Site Location        | Municipal Boundary         |
| Well - NMOSE         | FEMA 100-Yr Flood Zone     |
| Well - USGS          | Wetlands                   |
| Well - Exploratory   | Emergent/Forested Wetlands |
| 1,000 ft.            | Freshwater Pond/Lake       |
| 0.5 mi.              | Riverine                   |
| 1.0 mi.              | Karst Potential            |
| 5.0 mi.              | Low Karst                  |
| Potash Mine Workings | Medium Karst               |
|                      | High Karst                 |

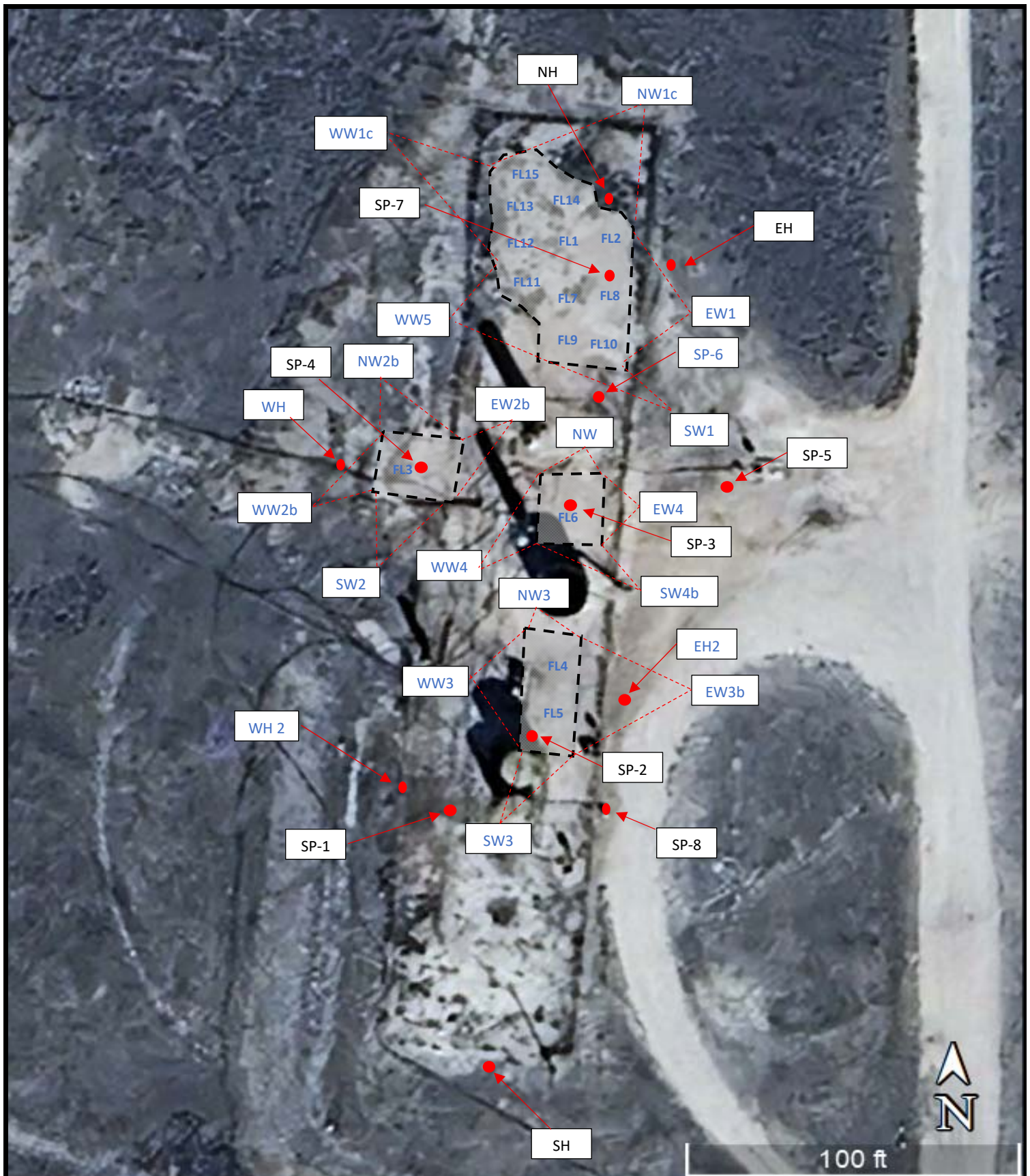
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Environmental & Safety Solutions, Inc.

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## **Figure 3**

### **Sample Location Map**



**Legend:**

- Sample Point
- Excavated Area
- FL5 Confirmation Soil Sample

**Figure 3**  
 Site and Sample Location Map  
 3R Operating, LLC  
 Shell State Tank Battery  
 GPS: 33.369742, -103.647038  
 Eddy County

**eTECH**  
 Environmental & Safety Solutions, Inc.

Drafted:  
 Checked: jwl Date: 11/3/25

**Table 1**  
**Concentrations of BTEX, TPH & Chloride in Soil**

**Table 1**  
**Concentrations of BTEX, TPH, and Chloride in Soil**  
**3R Operating, LLC**  
**Shell State Tank Battery**  
**NMOCD Ref. #: nPRS0413152570**

NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	10,000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
SP 1 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	300	300	104	404	144
SP 1 @ 1'	5/30/2025	1	In-Situ	<0.050	<0.300	<10.0	209	209	83.8	293	32.0
SP 2 @ SUR	5/30/2025	0	Excavated	<0.050	<0.300	<10.0	1,120	<b>1,120</b>	267	1,390	64.0
SP 2 @ 2'	5/30/2025	2	In-Situ	<0.050	<0.300	<10.0	142	142	55.8	198	112
SP 3 @ SUR	5/30/2025	0	Excavated	<0.050	<0.300	<10.0	15.0	15.0	<10.0	15.0	<b>10,300</b>
SP 3 @ 2'- R	5/30/2025	2	In-Situ	<0.050	<0.300	<10.0	271	271	59.9	331	3,440
SP 4 @ SUR	5/30/2025	0	Excavated	<0.050	<0.300	<10.0	722	722	210	932	640
SP 4 @ 2'	5/30/2025	2	Excavated	<0.050	2.27	81.5	940	<b>1,020</b>	113	1,130	752
SP 5 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	21.8	21.8	29.1	50.9	672
SP 5 @ 1'	5/30/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	480
SP 6 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,640
SP 6 @ 1'- R	5/30/2025	1	In-Situ	<0.050	<0.300	<10.0	206	206	66.8	273	2,360
SP 7 @ SUR	5/30/2025	0	Excavated	<0.050	<0.300	<10.0	9,820	<b>9,820</b>	2,040	<b>11,900</b>	2,140
SP 7 @ 2'- R	5/30/2025	1	In-Situ	<0.050	<0.300	<10.0	248	248	59.6	308	2,130
SP 8 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	186	186	121	307	80.0
SP 8 @ 2'	5/30/2025	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
NH @ 1'	6/27/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
NH @ S	6/27/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
EH @ 1'	6/27/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
EH @ S	6/27/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
EH 2 @ Surf	10/23/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
EH 2 @ 1'	10/23/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SH @ 1'	10/23/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SH @ Surf	10/23/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
WH @ 1'	6/27/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
WH @ S	6/27/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
WH 2 @ Surf	10/23/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
WH 2 @ 1'	10/23/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 1 @ 4'	8/22/2025	4	Excavated	<0.050	0.800	129	14,700	<b>14,800</b>	2,750	<b>17,600</b>	208
FL 1 @ 10'	8/28/2025	10	In-Situ	<0.050	<0.300	<10.0	105	105	57.4	162	96.0
FL 2 @ 4'	8/22/2025	4	In-Situ	<0.050	<0.300	<10.0	105	105	37.8	143	448
FL 3 @ 3'	8/22/2025	3	Excavated	<0.050	<0.300	<10.0	82.7	82.7	31.0	114	480
FL 3 @ 4'	8/28/2025	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 4 @ 2'	8/22/2025	2	In-Situ	<0.050	<0.300	<10.0	328	328	166	494	144
FL 5 @ 2'	8/22/2025	2	In-Situ	<0.050	<0.300	<10.0	229	229	112	341	144
FL 6 @ 3'	8/22/2025	3	Excavated	<0.050	0.555	55.9	4,590	<b>4,650</b>	1,780	<b>6,430</b>	192
FL 6 @ 4'	8/28/2025	4	In-Situ	<0.050	<0.300	<10.0	221	221	135	356	160
FL 7 @ 4'	8/22/2025	4	Excavated	<0.050	<0.300	<10.0	1,690	<b>1,690</b>	687	2,380	96.0
FL 7 @ 10'	8/28/2025	10	In-Situ	<0.050	<0.300	<10.0	460	460	235	695	192
FL 8 @ 4'	8/22/2025	4	Excavated	<0.050	<0.300	<10.0	2,180	<b>2,180</b>	884	<b>3,060</b>	128
FL 8 @ 5'	8/28/2025	5	In-Situ	<0.050	<0.300	<10.0	270	270	153	423	192

Dash (-): Sample not analyzed for that constituent.

Bold: NMOCD Closure Criteria exceedance.

Red: NMOCD Reclamation Standard exceedance.

Red Border with Shading: Highest observed concentration.

<b>Table 1</b> <b>Concentrations of BTEX, TPH, and Chloride in Soil</b> <b>3R Operating, LLC</b> <b>Shell State Tank Battery</b> <b>NMOCD Ref. #: nPRS0413152570</b>											
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	10,000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
FL 9 @ 4'	8/22/2025	4	Excavated	<0.050	<0.300	<10.0	1,520	<b>1,520</b>	635	2,160	128
FL 9 @ 5'	8/28/2025	5	In-Situ	<0.050	<0.300	<10.0	178	178	87.9	266	112
FL 10 @ 4'	8/22/2025	4	Excavated	<0.050	<0.300	<10.0	1,600	<b>1,600</b>	671	2,270	128
FL 10 @ 5'	8/28/2025	5	In-Situ	<0.050	<0.300	<10.0	192	192	93.3	285	144
FL 11 @ 10'	8/28/2025	10	In-Situ	<0.050	<0.300	<10.0	545	545	246	791	208
FL 12 @ 10'	8/28/2025	10	In-Situ	<0.050	<0.300	<10.0	447	447	256	703	160
FL 13 @ 10'	8/28/2025	10	In-Situ	<0.050	<0.300	<10.0	562	562	151	713	576
FL 14 @ 10'	8/28/2025	10	In-Situ	<0.050	<0.300	<10.0	806	806	186	992	848
FL 15	9/4/2025	10	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
EW 1	8/22/2025	0-5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	464
EW 2	8/22/2025	0-4	Excavated	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	608
EW 2B	8/28/2025	0-4	In-Situ	<0.050	<0.300	<10.0	29.7	29.7	14.3	44.0	64.0
EW 3	8/22/2025	0-2	Excavated	<0.050	<0.300	<10.0	1,220	<b>1,220</b>	1,400	<b>2,620</b>	48.0
EW 3B	8/28/2025	0-2	In-Situ	<0.050	<0.300	<10.0	446	446	273	719	144

Dash (-): Sample not analyzed for that constituent.

Bold: NMOCD Closure Criteria exceedance.

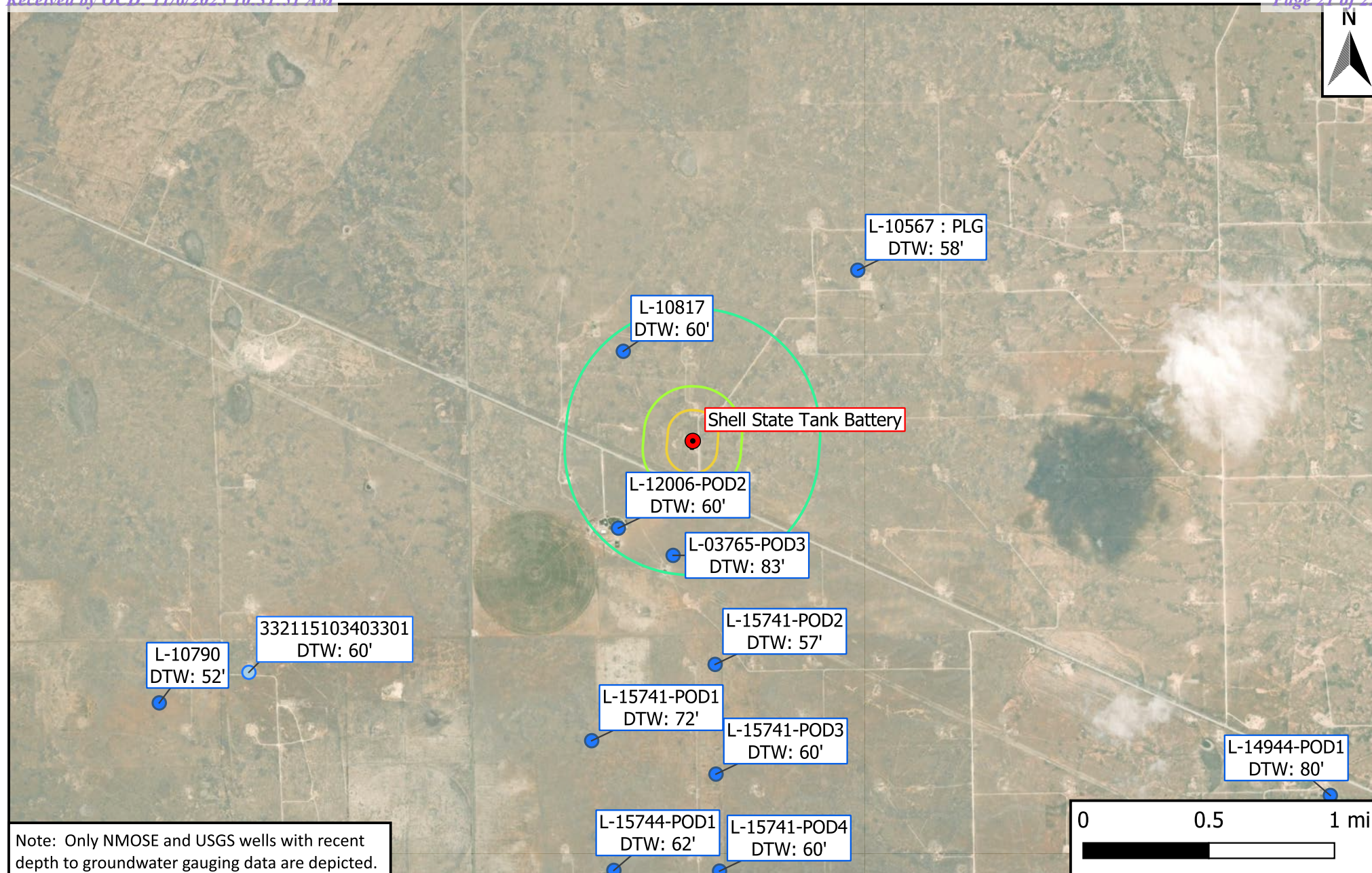
Red: NMOCD Reclamation Standard exceedance.

Red Border with Shading: Highest observed concentration.

## **Appendix A**

### **Depth to Groundwater Information**





## Legend

- |                         |                 |
|-------------------------|-----------------|
| ● Active Site Locations | ■ Affected Area |
| ● Well - NMOSE          | — 500 ft.       |
| ● Well - USGS           | — 1,000 ft.     |
| ● Well - Exploratory    | — 0.5 mi.       |

**Figure 4**  
Inferred Depth to Groundwater Map  
3 R Operating  
Shell State Tank Battery  
GPS: 33.369742, -103.647038  
Lea County, New Mexico




Drafted: mag

Checked: rlc

Date: 2025-03-28

# Point of Diversion Summary

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

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
L 10817			SW	SE	07	11S	33E	625418.0	3693669.0 *	

\* UTM location was derived from PLSS - see Help

Driller License:	421	Driller Company:	GLENN'S WATER WELL SERVICE		
Driller Name:	GLENN, CLARK A. "CORKY" (LD)				
Drill Start Date:	1998-06-05	Drill Finish Date:	1998-06-05	Plug Date:	
Log File Date:	1998-06-17	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	40
Casing Size:	5.50	Depth Well:	125	Depth Water:	60

## Water Bearing Stratifications:

Top	Bottom	Description
65	122	Other/Unknown

## Casing Perforations:

Top	Bottom
65	125

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.

STATE ENGINEER OFFICE

WELL RECORD

Revised June 1972

Section 1. GENERAL INFORMATION

118170

(A) Owner of well Pearce Ranch Owner's Well No. \_\_\_\_\_

Street or Post Office Address West Star Box 52

City and State Tatum, New Mexico 88267

Well was drilled under Permit No. #1-10,817 and is located in the:

a. \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  of Section 7 Township 11-S. Range 33-E. N.M.P.M.

b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_

c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_

Subdivision, recorded in \_\_\_\_\_ County.

d. X= \_\_\_\_\_ feet, Y= \_\_\_\_\_ feet, N.M. Coordinate System \_\_\_\_\_ Zone in the \_\_\_\_\_ Grant.

(B) Drilling Contractor Glenn's Wager Well Service License No. WD-421

Address P.O. Box 692 Tatum, New Mexico 88267

Drilling Began 6/5/98 Completed 6/5/98 Type tools rotary Size of hole 9 7/8 in.

Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 125 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 60 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
65	122	57	Sand	40 GPM

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5 $\frac{1}{2}$ "	.250	T&C			125	none	65	125

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_

Address \_\_\_\_\_

Plugging Method \_\_\_\_\_

Date Well Plugged \_\_\_\_\_

Plugging approved by: \_\_\_\_\_

State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

Date Received 06/17/98

FOR USE OF STATE ENGINEER ONLY

Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_

File No. L-10,817 Use Stock Location No. 11.33.7.4330

507088



[illegible]

## Section 7. REMARKS AND ADDITIONAL INFORMATION

98 JUN 17 AM 10 23

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Corley Henry  
Driller

**INSTRUCTIONS:** This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

STATE ENGINEER OFFICE  
WELL RECORD

June 15 '98  
Revised June 1972

Section 1. GENERAL INFORMATION

(A) Owner of well Pearce Ranch Owner's Well No. \_\_\_\_\_  
Street or Post Office Address West Star Box 52  
City and State Tatum, New Mexico 88267

Well was drilled under Permit No. #1-10,817 and is located in the:  
a. \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  of Section 7 Township 11-S. Range 33-E. N.M.P.M.  
b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
Subdivision, recorded in \_\_\_\_\_ County.  
d. X= \_\_\_\_\_ feet, Y= \_\_\_\_\_ feet, N.M. Coordinate System \_\_\_\_\_ Zone in  
the \_\_\_\_\_ Grant.

(B) Drilling Contractor Glenn's Wafer Well Service License No. WD-421  
Address P.O. Box 692 Tatum, New Mexico 88267  
Drilling Began 6/5/98 Completed 6/5/98 Type tools rotary Size of hole 9 7/8 in.  
Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 125 ft.  
Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 60 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
65	122	57	Sand	40 GPM

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5 1/2"	.250	T&C			125	none	65	125

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_  
Address \_\_\_\_\_  
Plugging Method \_\_\_\_\_  
Date Well Plugged \_\_\_\_\_  
Plugging approved by: \_\_\_\_\_  
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

#148130

Date Received 11/7/00

Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_

[illegible]

## Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.


Cosky Blum  
Driller

**INSTRUCTIONS:** This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired, or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

# Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
L 12006	POD2	SE	NW	NW	18	11S	33E	625386.5	3692537.3	

\* UTM location was derived from PLSS - see Help

Driller License:	421	Driller Company:	GLENN'S WATER WELL SERVICE		
Driller Name:	CORKY GLENN				
Drill Start Date:	2008-08-27	Drill Finish Date:	2008-08-27	Plug Date:	
Log File Date:	2008-09-04	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	
Casing Size:	6.63	Depth Well:	155	Depth Water:	60

## Casing Perforations:

Top	Bottom
60	152

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.

9/3/08

OSE FILE NUMBER \_\_\_\_\_

For OSE Use Only

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD and DRILLING LOG

## 1. PERMIT HOLDER(S)

Name: PEARCE TRUST

Name: \_\_\_\_\_

Address: 1717 JACKSON

Address: \_\_\_\_\_

City: PECOS

City: \_\_\_\_\_

State: TX Zip: 79772

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Phone: \_\_\_\_\_

Contact: \_\_\_\_\_

Contact Phone: \_\_\_\_\_

## 2. STATE ENGINEER REFERENCE NUMBERS:

File # L-12006, Well # 1

## 3. LOCATION OF WELL (The Datum Is Assumed To Be WGS 84 Unless Otherwise Specified)

Latitude: N 33° Deg 21 Min 53.16 Sec

Longitude: W 103° Deg 39 Min 8.05 Sec

(Enter Lat/Long To At Least 1/10<sup>th</sup> Of A Second)

Datum If Not WGS 84: SE 1/4 NW 1/4 SEC. 18, T11-S, R33-EAST

## 4. DRILLING CONTRACTOR

License Number: WD 421

Name: GLENN'S WATER WELL SERVICE, Work Phone: 505-398-2424

Drill Rig Serial Number: 0582

List The Name Of Each Drill Rig Supervisor That Managed On-Site Operations During The Drilling Process:

CORKY GLENN

## 5. DRILLING RECORD

Drilling Began: 8/27/08; Completed: 8/27/08; Drilling Method: ROTARY MUD

Diameter Of Bore Hole: \_\_\_\_\_ (in);

Total Depth Of Well: 155 (ft);

Completed Well Is (Circle One) Shallow Artesian;

Depth To Water First Encountered: 60' (ft);

Depth To Water Upon Completion Of Well: 60' (ft).

Do Not Write Below This Line

TRN Number: 485546

File Number: L-12206

Form: wr-20 May 07

L-12006

page 1 of 4

CLW

28

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO

2008 SEP -4 P 12:01



OSE FILE NUMBER \_\_\_\_\_  
For OSE Use Only

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD and DRILLING LOG

6. RECORD OF CASING

Diameter (inches)	Pounds (per ft.)	Threads (per inch)	Depth (feet)	Length Top to Bottom (feet)	Type of Shoe	Perforations (from to)
10 3/4	1/4 WELL	PE		21	NONE	NONE
6 5/8	.188	PE		152	NONE	60-152

RECORD OF MUDDING AND CEMENTING

Depth (feet)	Hole (diameter)	Mud Used (# of sacks)	Cement (cubic feet)	Method of Placement
0-21	14 3/4		14 SACKS	POUR

Do Not Write Below This Line

Trn Number: \_\_\_\_\_  
Form: wr-20 May 07

File Number: \_\_\_\_\_

page 2 of 4

For OS& Use Only

**8. LOG OF HOLE.** For Each Water Bearing Strata, Estimate The Yield Of The Formation In Gallons Per Minute.

[illegible]

Do Not Write Below This Line

File Number:

OSE FILE NUMBER \_\_\_\_\_

For OSE Use Only

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

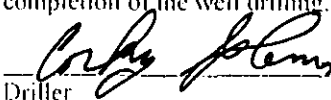
## 9. ADDITIONAL STATEMENTS OR EXPLANATIONS:

DRILLED 14 3/4" HOLE TO 21' AND SET 21' OF 10 3/4"  
CASING AND CEMENTED TO TOP OF WELL

STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER  
WELL RECORD

The undersigned hereby certifies that, to the best of his or her knowledge and belief, the foregoing is a true and correct record of the above described bore hole. The undersigned further certifies that he or she will file this well record with the Office Of The State Engineer and permit holder within 20 days after completion of the well drilling.

Driller

9/3/08  
(mm/dd/year)

Do Not Write Below This Line

Trn Number: \_\_\_\_\_

Form wr-20 May 07


page 4 of 4

File Number: \_\_\_\_\_

# Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tw	Rng	X	Y	Map
	L 03765 POD3	SW	NE	SE	18	11S	33E	625737.0	3692363.0	

\* UTM location was derived from PLSS - see Help

Driller License:	1058	Driller Company:	KEY'S DRILLING & PUMP SERVICE
Driller Name:	KEY, CLINTON		
Drill Start Date:	2011-10-20	Drill Finish Date:	2011-10-28
Log File Date:	2011-11-16	PCW Rcv Date:	
		Source:	Shallow
Pump Type:		Pipe Discharge Size:	
		Estimated Yield:	
Casing Size:	13.25	Depth Well:	160
		Depth Water:	83

## Water Bearing Stratifications:

Top	Bottom	Description
83	90	Sandstone/Gravel/Conglomerate
90	120	Sandstone/Gravel/Conglomerate
130	155	Sandstone/Gravel/Conglomerate

## Casing Perforations:

Top	Bottom
45	125

## Meter Information

Meter Number:	17331	Meter Make:	MCCROMETER
Meter Serial Number:	18-03392-06	Meter Multiplier:	100.0000
Number of Dials:	6	Meter Type:	Diversion
Unit of Measure:	Gallons	Reading Frequency:	Monthly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
2012-01-01	2012	0.000	A	RPT		0.000	
2012-04-01	2012	163274.000	A	RPT		50.107	
2012-07-01	2012	289711.000	A	RPT		38.802	
2012-12-03	2012	589764.000	A	RPT		92.083	
2013-04-08	2013	892561.000	A	RPT		92.925	
2013-11-08	2013	169906.000	R	RPT	Meter Rollover	85.114	
2014-04-01	2014	326143.000	A	RPT		47.947	
2014-07-01	2014	360719.000	A	RPT		10.611	
2014-10-01	2014	372652.000	A	RPT		3.662	
2015-01-01	2015	373282.000	A	RPT		0.193	
2015-04-01	2015	469793.000	A	RPT		29.618	
2015-07-01	2015	586490.000	A	RPT		35.813	
2015-10-01	2015	597347.000	A	RPT		3.332	
2016-01-01	2016	605145.000	A	RPT		2.393	
2016-07-01	2016	642600.000	A	RPT		11.495	
2016-10-01	2016	742827.000	A	RPT		30.759	
2017-01-02	2017	769841.000	A	RPT		8.290	
2017-04-01	2017	801270.000	A	RPT		9.645	
2018-01-01	2018	801270.000	A	ap		0.000	
2018-04-13	2018	0.000	A	ap		0.000	
2018-07-01	2018	150468.000	A	ap		46.177	
2019-01-01	2019	337273.000	A	ap		57.328	
2019-04-01	2019	444952.000	A	ap		33.045	
2019-07-01	2019	535886.000	A	ap		27.907	
2020-04-01	2020	730920.000	A	ap		59.854	
2020-07-01	2020	952059.000	A	dd		67.865	
2020-10-01	2020	133020.000	R	dd	Meter Rollover	55.535	
2021-01-01	2020	203424.000	A	dd		21.606	
2021-04-01	2021	229906.000	A	dd		8.127	

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
2021-07-01	2021	275780.000	A	dd		14.078	
2021-10-01	2021	426379.000	A	dd		46.217	
2022-01-01	2021	490297.000	A	dd		19.616	
2022-04-01	2022	509551.000	A	dd		5.909	
2022-07-01	2022	666601.000	A	dd		48.197	
2022-10-01	2022	764835.000	A	dd		30.147	
2023-01-01	2022	805862.000	A	dd		12.591	
2023-08-13	2023	36378.000	R	jb	Meter Rollover	70.743	

YTD Meter Amounts:

Year	Amount
2012	180.992
2013	178.039
2014	62.220
2015	68.956
2016	44.647
2017	17.935
2018	46.177
2019	118.280
2020	204.860
2021	88.038
2022	96.844
2023	70.743

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.



## **Appendix B**

### **Field Data**



## Sample Log

Date: \_\_\_\_\_

Project: Shell State Tank Battery

Project Number: 22036 Latitude: 33.369742 Longitude: -103.647038

Sample ID	PID/Odor	Chloride Conc.	GPS
SP-1 @ Sur	-	172	
SP-1 @ 1'	-	N/A	
SP-2 @ Sur	Yes	N/A	
SP-2 @ 1'	Yes	240	
SP-2 @ 2'	N/A	172	
SP-3 @ Sur	Yes	8,460	
SP-3 @ 1'	Yes	6,120	
SP-3 @ 2'	N/A	2,516	Refusal
SP-4 @ Sur	Yes	1,672	
SP-4 @ 1'	Yes	1,372	
SP-4 @ 2'	N/A	1,372	Refusal
SP-7 @ Sur	Yes	1,908	
SP-7 @ 1'	light	1,672	
SP-7 @ 2'	light	1,188	Refusal
SP-4 @ Sur	Yes	828	
SP-4 @ 1'	N/A	764	
SP-4 @ 2'	Yes	704	Refusal
SP-5 @ Sur	Yes	768	
SP-5 @ 1'	N/A	592	
SP-8 @ Sur	-	N/A	
SP-8 @ 1'	-	N/A	
NW1		116	
NW1		144	
NW1		204	
EW2		352	
FL-1 @ 2'	2.2	396	
FL-2 @ 7'	3.6	488	
NW2	3.0	357	
SW2	2.8	312	
NW2	3.0	352	
FW2			
FL-3 @ 3'	4.4	704	
NW3	1.4	116	
SW3	<1.0	<116	
NW3	2.0	172	

Sample Point = SP #1 @ ## etc

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples = SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

GPS Sample Points, Center of Comp Areas



Sample Log

Date: \_\_\_\_\_

Project: Shell State Tank Battery

Project Number: 22036      Latitude: 33.369742      Longitude: -103.647038

Sample ID	PID/Odor	Chloride Conc.	GPS
EW3		172	
FL-4@2' 3.0		352	
FL-5@2' 1.4		116	
NW4		256	
SW4		312	
NW4		468	
EW4		312	
FL-6@2'		352	
FL-7@4'		408	
FL-8@4'		376	
FL-9@4'		376	
FL-10@4'		462	
<del>NW1B</del> NW1B 1.8	<del>—</del>	144	
<del>NW2B</del> NW2B <1.0	—	<116	
SW4B 1.6		<116	
NW1B <1.0		<116	
NW2B <1.0	—	<116	
EW2B 3.0		352	
EW3B 1.2		<116	
FL-1@10' 1.2		<116	
FL-6@4' 1.8		144	
FL-7@10' 1.4		<116	
FL-8@5' 2.2		204	
FL-9@5' 2.2		204	
FL-10@5' 2.0		172	
FL-11@10' 1.6		<116	
FL-12@10' 2.0		172	
FL-13@10' 1.8		144	
FL-14@10' 1.6		116	
<del>NW5</del>			
NW5 1.2		<116	

Sample Point = SP #1 @ ## etc  
Floor = FL #1 etc  
Sidewall = SW #1 etc

Test Trench = TT #1 @ ##  
Refusal = SP #1 @ 4'-R  
Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples= SP #1 @ 5b or SW #1b  
Stockpile = Stockpile #1  
GPS Sample Points, Center of Comp Areas

## **Appendix C**

### **Photographic Log**





## Photographic Log





## Photographic Log

<b>Photo Number:</b> 3	 <p>Aug 22, 2025 at 9:43:16 AM +33.369647,-103.646870 305° NW</p> <p>View of southern excavation.</p>
<b>Photo Direction:</b> Northwest	
<b>Photo Description:</b>	

<b>Photo Number:</b> 4	 <p>Aug 22, 2025 at 9:43:14 AM +33.369647,-103.646870 305° NW</p> <p>View of southern excavation.</p>
<b>Photo Direction:</b> Northwest	
<b>Photo Description:</b>	



## Photographic Log

<b>Photo Number:</b> 5	
<b>Photo Direction:</b> West	
<b>Photo Description:</b>  View of southern excavation.	

<b>Photo Number:</b> 6	
<b>Photo Direction:</b> Northwest	
<b>Photo Description:</b>  View of western excavation.	




## Photographic Log






## Photographic Log

<b>Photo Number:</b> 9	 <p>Sep 10, 2025 at 3:44:52 PM +33.369900,-103.647170 NM</p>
<b>Photo Direction:</b> East	
<b>Photo Description:</b>  View of western remediated area after backfill and regrading.	

<b>Photo Number:</b> 10	 <p>Sep 10, 2025 at 3:46:44 PM +33.369796,-103.646945 NM</p>
<b>Photo Direction:</b> South	
<b>Photo Description:</b>  View of southern remediated area after backfill and regrading.	



## Photographic Log

<b>Photo Number:</b> 11	<div>Sep 10, 2025 at 3:40:38 PM +33.370263,-103.647005 NM</div> 
<b>Photo Direction:</b> South	
<b>Photo Description:</b>  View of northern remediated area backfill and regrading.	

<b>Photo Number:</b> 12	<div>Sep 10, 2025 at 3:46:24 PM +33.369902,-103.646925 NM</div> 
<b>Photo Direction:</b> Southwest	
<b>Photo Description:</b>  View of center remediated area after backfill and regrading.	

## **Appendix D**

### **Laboratory Analytical Reports**



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

August 26, 2025

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: SHELL STATE TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 08/25/25 15:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. 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 fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 1 @ 4' (H255277-01)**

BTX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/25/2025	ND	1.81	90.6	2.00	0.663	
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00	GC-NC
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77	GC-NC
<b>Total Xylenes*</b>	<b>0.800</b>	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00	GC-NC1
<b>Total BTX</b>	<b>0.800</b>	0.300	08/25/2025	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 178 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>208</b>	16.0	08/26/2025	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>129</b>	50.0	08/26/2025	ND	183	91.5	200	7.13	
<b>DRO &gt;C10-C28*</b>	<b>14700</b>	50.0	08/26/2025	ND	194	97.1	200	6.27	
<b>EXT DRO &gt;C28-C36</b>	<b>2750</b>	50.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 122 % 44.4-145

Surrogate: 1-Chlorooctadecane 424 % 40.6-153

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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 2 @ 4' (H255277-02)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	08/26/2025	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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	105	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	37.8	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 85.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 87.9 % 40.6-153

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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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 3 @ 3' (H255277-03)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	82.7	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	31.0	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 84.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 86.3 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 4 @ 2' (H255277-04)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	08/26/2025	ND	400	100	400	3.92		

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	328	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	166	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 88.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 81.8 % 40.6-153

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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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 5 @ 2' (H255277-05)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	08/26/2025	ND	400	100	400	3.92		

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	229	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	112	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 88.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 84.7 % 40.6-153

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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 6 @ 3' (H255277-06)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663	
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77	GC-NC
Total Xylenes*	0.555	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00	GC-NC1
Total BTEX	0.555	0.300	08/25/2025	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 125 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	08/26/2025	ND	400	100	400	3.92		

TPH 8015M	mg/kg		Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	55.9	50.0	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	4590	50.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	1780	50.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 116 % 44.4-145

Surrogate: 1-Chlorooctadecane 159 % 40.6-153

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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 7 @ 4' (H255277-07)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	08/26/2025	ND	400	100	400	3.92		

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	1690	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	687	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 93.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 105 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 8 @ 4' (H255277-08)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	08/26/2025	ND	400	100	400	3.92		

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	2180	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	884	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 93.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 119 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 9 @ 4' (H255277-09)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	1520	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	635	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 88.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 104 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 10 @ 4' (H255277-10)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.3 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	08/26/2025	ND	400	100	400	3.92		

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	1600	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	671	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 85.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 103 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 1 (H255277-11)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	08/26/2025	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	4230	50.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	1190	50.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 102 % 44.4-145

Surrogate: 1-Chlorooctadecane 208 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 2 (H255277-12)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	1120	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	423	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 92.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 105 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 3 (H255277-13)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663	
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00	
Total BTX	<0.300	0.300	08/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	246	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	156	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 87.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 84.0 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 4 (H255277-14)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	232	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	82.1	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 90.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 88.3 % 40.6-153

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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: EW 1 (H255277-15)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	183	91.5	200	7.13	
DRO >C10-C28*	<10.0	10.0	08/26/2025	ND	194	97.1	200	6.27	
EXT DRO >C28-C36	<10.0	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 82.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 82.1 % 40.6-153

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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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: EW 2 (H255277-16)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	<10.0	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 92.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 92.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: EW 3 (H255277-17)**

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	08/25/2025	ND	1.81	90.6	2.00	0.663		
Toluene*	<0.050	0.050	08/25/2025	ND	1.88	93.9	2.00	2.00		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.88	94.2	2.00	3.77		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.54	92.3	6.00	4.00		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	1220	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	1400	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 128 % 44.4-145

Surrogate: 1-Chlorooctadecane 145 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: EW 4 (H255277-18)**

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	08/25/2025	ND	1.82	91.0	2.00	0.816	
Toluene*	<0.050	0.050	08/25/2025	ND	1.92	96.0	2.00	2.71	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.94	96.8	2.00	4.06	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.88	98.0	6.00	4.03	
Total BTEX	<0.300	0.300	08/25/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/25/2025	ND	203	102	200	0.138	
DRO >C10-C28*	46.0	10.0	08/25/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	51.5	10.0	08/25/2025	ND					

Surrogate: 1-Chlorooctane 112 % 44.4-145

Surrogate: 1-Chlorooctadecane 111 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 1 (H255277-19)**

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	08/25/2025	ND	1.82	91.0	2.00	0.816	
Toluene*	<0.050	0.050	08/25/2025	ND	1.92	96.0	2.00	2.71	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.94	96.8	2.00	4.06	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.88	98.0	6.00	4.03	
Total BTX	<0.300	0.300	08/25/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	130	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	113	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 110 % 44.4-145

Surrogate: 1-Chlorooctadecane 116 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 2 (H255277-20)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.82	91.0	2.00	0.816		
Toluene*	<0.050	0.050	08/25/2025	ND	1.92	96.0	2.00	2.71		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.94	96.8	2.00	4.06		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.88	98.0	6.00	4.03		
Total BTEX	<0.300	0.300	08/25/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	08/26/2025	ND	400	100	400	3.92		

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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	15.5	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	12.6	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 106 % 44.4-145

Surrogate: 1-Chlorooctadecane 110 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 3 (H255277-21)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/25/2025	ND	1.82	91.0	2.00	0.816	
Toluene*	<0.050	0.050	08/25/2025	ND	1.92	96.0	2.00	2.71	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.94	96.8	2.00	4.06	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.88	98.0	6.00	4.03	
Total BTEX	<0.300	0.300	08/25/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	08/26/2025	ND	400	100	400	3.92	

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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	119	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	111	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 105 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 4 (H255277-22)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/26/2025	ND	1.82	91.0	2.00	0.816		
Toluene*	<0.050	0.050	08/26/2025	ND	1.92	96.0	2.00	2.71		
Ethylbenzene*	<0.050	0.050	08/26/2025	ND	1.94	96.8	2.00	4.06		
Total Xylenes*	<0.150	0.150	08/26/2025	ND	5.88	98.0	6.00	4.03		
Total BTEx	<0.300	0.300	08/26/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	08/26/2025	ND	400	100	400	3.92		

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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	1640	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	1040	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 122 % 44.4-145

Surrogate: 1-Chlorooctadecane 149 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 1 (H255277-23)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/26/2025	ND	1.82	91.0	2.00	0.816		
Toluene*	<0.050	0.050	08/26/2025	ND	1.92	96.0	2.00	2.71		
Ethylbenzene*	<0.050	0.050	08/26/2025	ND	1.94	96.8	2.00	4.06		
Total Xylenes*	<0.150	0.150	08/26/2025	ND	5.88	98.0	6.00	4.03		
Total BTEx	<0.300	0.300	08/26/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	08/26/2025	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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	1560	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	796	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 120 % 44.4-145

Surrogate: 1-Chlorooctadecane 152 % 40.6-153

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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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 2 (H255277-24)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/26/2025	ND	1.82	91.0	2.00	0.816		
Toluene*	<0.050	0.050	08/26/2025	ND	1.92	96.0	2.00	2.71		
Ethylbenzene*	<0.050	0.050	08/26/2025	ND	1.94	96.8	2.00	4.06		
Total Xylenes*	<0.150	0.150	08/26/2025	ND	5.88	98.0	6.00	4.03		
Total BTEX	<0.300	0.300	08/26/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	08/26/2025	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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	323	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	137	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 123 % 44.4-145

Surrogate: 1-Chlorooctadecane 131 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 3 (H255277-25)**

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	08/26/2025	ND	1.82	91.0	2.00	0.816		
Toluene*	<0.050	0.050	08/26/2025	ND	1.92	96.0	2.00	2.71		
Ethylbenzene*	<0.050	0.050	08/26/2025	ND	1.94	96.8	2.00	4.06		
Total Xylenes*	<0.150	0.150	08/26/2025	ND	5.88	98.0	6.00	4.03		
Total BTX	<0.300	0.300	08/26/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	08/26/2025	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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	858	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	680	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 116 % 44.4-145

Surrogate: 1-Chlorooctadecane 114 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/25/2025  
 Reported: 08/26/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/22/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 4 (H255277-26)**

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	08/26/2025	ND	1.82	91.0	2.00	0.816		
Toluene*	<0.050	0.050	08/26/2025	ND	1.92	96.0	2.00	2.71		
Ethylbenzene*	<0.050	0.050	08/26/2025	ND	1.94	96.8	2.00	4.06		
Total Xylenes*	<0.150	0.150	08/26/2025	ND	5.88	98.0	6.00	4.03		
Total BTX	<0.300	0.300	08/26/2025	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	08/26/2025	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	08/26/2025	ND	203	102	200	0.138	
DRO >C10-C28*	534	10.0	08/26/2025	ND	195	97.5	200	1.11	
EXT DRO >C28-C36	235	10.0	08/26/2025	ND					

Surrogate: 1-Chlorooctane 103 % 44.4-145

Surrogate: 1-Chlorooctadecane 112 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

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

Page 1 of 3

Company Name: Etech Environmental & Safety Solutions, Inc.										BILL TO		ANALYSIS REQUEST										
Project Manager: Joel Lowry										P.O. #:		Chloride	TPH (8015M)	BTEX (8021B)								
Address: 2617 West Marland										Company: Etech												
City: Hobbs State: NM Zip: 88240										Attn: Joel Lowry												
Phone #: (575) 264-9884 Fax #:										Address:												
Project #: 22036 Project Owner: 3R Operating, LLC										City:												
Project Name: Shell State Tank Battery										State: Zip:												
Project Location: 33.369742, -103.647038										Phone #:												
Sampler Name: Addison Elston										Fax #:												
FOR LAB USE ONLY																						
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX					PRESERV.	SAMPLING												
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME								
1	FL 1 @ 4'	C	1			X				X			8/22/25		X	X	X					
2	FL 2 @ 4'	C	1			X				X			8/22/25		X	X	X					
3	FL 3 @ 3'	C	1			X				X			8/22/25		X	X	X					
4	FL 4 @ 2'	C	1			X				X			8/22/25		X	X	X					
5	FL 5 @ 2'	C	1			X				X			8/22/25		X	X	X					
6	FL 6 @ 3'	C	1			X				X			8/22/25		X	X	X					
7	FL 7 @ 4'	C	1			X				X			8/22/25		X	X	X					
8	FL 8 @ 4'	C	1			X				X			8/22/25		X	X	X					
9	FL 9 @ 4'	C	1			X				X			8/22/25		X	X	X					
10	FL 10 @ 4'	C	1			X				X			8/22/25		X	X	X					

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Relinquished By: <i>M. M. M.</i>		Date: <i>8-25-25</i>		Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Relinquished By:		Time: <i>1500</i>		Date:		All Results are emailed. Please provide Email address: <a href="mailto:pm@etechnv.com">pm@etechnv.com</a>	
		Time:		Received By: <i>apenas</i>		REMARKS:	
						<i>24H Rush</i>	
Delivered By: (Circle One)		Observed Temp. °C <i>-38.0</i>		Sample Condition		CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:		Corrected Temp. °C <i>-3.5</i>		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<i>AD</i>	
				<input type="checkbox"/> Yes <input type="checkbox"/> No		Turnaround Time: <b>Standard</b> <input type="checkbox"/> <b>Rush</b> <input checked="" type="checkbox"/>	
						Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No	
						Thermometer ID #140 Correction Factor -0.6°C <input type="checkbox"/> Yes <input type="checkbox"/> No	
						Corrected Temp. °C	

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(575) 393-2326 FAX (575) 393-2476

Page 2 of 3

Company Name: Etech Environmental & Safety Solutions, Inc.										BILL TO		ANALYSIS REQUEST												
Project Manager: Joel Lowry										P.O. #:		Chloride	TPH (8015M)	BTEX (8021B)										
Address: 2617 West Marland										Company: Etech														
City: Hobbs State: NM Zip: 88240										Attn: Joel Lowry														
Phone #: (575) 264-9884 Fax #:										Address:														
Project #: 22036 Project Owner: 3R Operating, LLC										City:														
Project Name: Shell State Tank Battery										State: Zip:														
Project Location: 33.369742, -103.647038										Phone #:														
Sampler Name: Addison Elston										Fax #:														
FOR LAB USE ONLY										PRESERV.		SAMPLING												
Lab I.D.	Sample I.D.	(GIRAB OR C)COMP.	# CONTAINERS	MATRIX						ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME										
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :															
11	NW 1	C	1			X				X			8/22/25		X	X	X							
12	NW 2	C	1			X				X			8/22/25		X	X	X							
13	NW 3	C	1			X				X			8/22/25		X	X	X							
14	NW 4	C	1			X				X			8/22/25		X	X	X							
15	EW 1	C	1			X				X			8/22/25		X	X	X							
16	EW 2	C	1			X				X			8/22/25		X	X	X							
17	EW 3	C	1			X				X			8/22/25		X	X	X							
18	EW 4	C	1			X				X			8/22/25		X	X	X							
19	SW 1	C	1			X				X			8/22/25		X	X	X							
20	SW 2	C	1			X				X			8/22/25		X	X	X							

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Relinquished By: <i>Mth</i>		Date: <i>8-25-25</i>		Received By: <i>apenas</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Relinquished By:		Time: <i>1500</i>		Received By:		All Results are emailed. Please provide Email address: <a href="mailto:pm@etechnv.com">pm@etechnv.com</a>	
Date:		Time:		REMARKS:			
Delivered By: (Circle One)		Observed Temp. °C <i>-3.8</i>		Sample Condition		Turnaround Time: <i>AP</i> Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C <i>-3.5</i>		Cool Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No		Thermometer ID #140 Correction Factor <i>0.6°C</i> <i>to -3-</i>	
				CHECKED BY: (Initials) <i>AP</i>		Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C	



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Page 3 of 3

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Relinquished By: <i>Matt</i>		Date: <i>8-25-25</i>		Received By: <i>apawoo</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Time: <i>1500</i>		Time:		All Results are emailed. Please provide Email address: <a href="mailto:pm@etechenv.com">pm@etechenv.com</a>			
Relinquished By:		Date:		Received By:		REMARKS:	
Time:		Time:				<i>24H Rush</i>	
Delivered By: (Circle One)		Observed Temp. °C <i>-3.8</i>		Sample Condition		CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:		Corrected Temp. °C <i>-3.5</i>		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<i>AP</i>	
				<input type="checkbox"/> Yes <input type="checkbox"/> No			
						Turnaround Time: <b>Standard</b> <input type="checkbox"/> <b>Rush</b> <input checked="" type="checkbox"/>	
						Thermometer ID #140	
						Correction Factor <i>-0.5°C to 0.3</i>	
						Bacteria (only) Sample Condition	
						Cool Intact Observed Temp. °C	
						<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C	





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

September 02, 2025

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: SHELL STATE TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 08/29/25 14:41.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. 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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 1 @ 10' (H255416-01)**

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	08/30/2025	ND	1.75	87.4	2.00	11.0	
Toluene*	<0.050	0.050	08/30/2025	ND	1.85	92.6	2.00	10.9	
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.85	92.7	2.00	10.7	
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.45	90.9	6.00	11.0	
Total BTX	<0.300	0.300	08/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	09/02/2025	ND	432	108	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	08/29/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	105	10.0	08/29/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	57.4	10.0	08/29/2025	ND					

Surrogate: 1-Chlorooctane 92.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 94.5 % 40.6-153

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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 3 @ 4' (H255416-02)**

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	08/30/2025	ND	1.75	87.4	2.00	11.0		
Toluene*	<0.050	0.050	08/30/2025	ND	1.85	92.6	2.00	10.9		
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.85	92.7	2.00	10.7		
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.45	90.9	6.00	11.0		
Total BTEX	<0.300	0.300	08/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/02/2025	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	09/02/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	<10.0	10.0	09/02/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	09/02/2025	ND					

Surrogate: 1-Chlorooctane 96.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 87.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 6 @ 4' (H255416-03)**

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	08/30/2025	ND	1.75	87.4	2.00	11.0		
Toluene*	<0.050	0.050	08/30/2025	ND	1.85	92.6	2.00	10.9		
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.85	92.7	2.00	10.7		
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.45	90.9	6.00	11.0		
Total BTEX	<0.300	0.300	08/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/02/2025	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	08/29/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	221	10.0	08/29/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	135	10.0	08/29/2025	ND					

Surrogate: 1-Chlorooctane 90.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.1 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 7 @ 10' (H255416-04)**

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	08/30/2025	ND	1.75	87.4	2.00	11.0		
Toluene*	<0.050	0.050	08/30/2025	ND	1.85	92.6	2.00	10.9		
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.85	92.7	2.00	10.7		
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.45	90.9	6.00	11.0		
Total BTX	<0.300	0.300	08/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/02/2025	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	08/29/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	460	10.0	08/29/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	235	10.0	08/29/2025	ND					

Surrogate: 1-Chlorooctane 87.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.2 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 8 @ 5' (H255416-05)**

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	08/30/2025	ND	1.75	87.4	2.00	11.0		
Toluene*	<0.050	0.050	08/30/2025	ND	1.85	92.6	2.00	10.9		
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.85	92.7	2.00	10.7		
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.45	90.9	6.00	11.0		
Total BTEX	<0.300	0.300	08/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/02/2025	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	08/29/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	270	10.0	08/29/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	153	10.0	08/29/2025	ND					

Surrogate: 1-Chlorooctane 107 % 44.4-145

Surrogate: 1-Chlorooctadecane 114 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 9 @ 5' (H255416-06)**

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	08/30/2025	ND	1.75	87.4	2.00	11.0	
Toluene*	<0.050	0.050	08/30/2025	ND	1.85	92.6	2.00	10.9	
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.85	92.7	2.00	10.7	
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.45	90.9	6.00	11.0	
Total BTX	<0.300	0.300	08/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/02/2025	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	08/29/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	178	10.0	08/29/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	87.9	10.0	08/29/2025	ND					

Surrogate: 1-Chlorooctane 99.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 102 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 10 @ 5' (H255416-07)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1	QM-07
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1	
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5	
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7	
Total BTEX	<0.300	0.300	08/29/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/02/2025	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	08/29/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	192	10.0	08/29/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	93.3	10.0	08/29/2025	ND					

Surrogate: 1-Chlorooctane 103 % 44.4-145

Surrogate: 1-Chlorooctadecane 107 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 11 @ 10' (H255416-08)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1		
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1		
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5		
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7		
Total BTEX	<0.300	0.300	08/29/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	09/02/2025	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	08/29/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	545	10.0	08/29/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	246	10.0	08/29/2025	ND					

Surrogate: 1-Chlorooctane 103 % 44.4-145

Surrogate: 1-Chlorooctadecane 121 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 12 @ 10' (H255416-09)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1	
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1	
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5	
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7	
Total BTEX	<0.300	0.300	08/29/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/02/2025	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	08/29/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	447	10.0	08/29/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	256	10.0	08/29/2025	ND					

Surrogate: 1-Chlorooctane 115 % 44.4-145

Surrogate: 1-Chlorooctadecane 121 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 13 @ 10' (H255416-10)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1	
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1	
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5	
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7	
Total BTX	<0.300	0.300	08/29/2025	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	09/02/2025	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	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	562	10.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	151	10.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 98.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 118 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 14 @ 10' (H255416-11)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1		
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1		
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5		
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7		
Total BTX	<0.300	0.300	08/29/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	848	16.0	09/02/2025	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	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	806	10.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	186	10.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 108 % 44.4-145

Surrogate: 1-Chlorooctadecane 131 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 1B (H255416-12)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1		
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1		
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5	GC-NC	
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7		
Total BTEX	<0.300	0.300	08/29/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 122 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	09/02/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	5750	50.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	2430	50.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 126 % 44.4-145

Surrogate: 1-Chlorooctadecane 224 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 2B (H255416-13)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1	
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1	
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5	
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7	
Total BTEX	<0.300	0.300	08/29/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/02/2025	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	09/02/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	<10.0	10.0	09/02/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	09/02/2025	ND					

Surrogate: 1-Chlorooctane 85.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 75.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: EW 2B (H255416-14)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1	
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1	
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5	
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7	
Total BTEX	<0.300	0.300	08/29/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/02/2025	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	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	29.7	10.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	14.3	10.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 117 % 44.4-145

Surrogate: 1-Chlorooctadecane 118 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: EW 3B (H255416-15)**

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2025	ND	1.69	84.4	2.00	12.1	
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1	
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5	
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7	
Total BTX	<0.300	0.300	08/29/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/02/2025	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	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	446	10.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	273	10.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 110 % 44.4-145

Surrogate: 1-Chlorooctadecane 118 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 4B (H255416-16)**

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	08/29/2025	ND	1.69	84.4	2.00	12.1	
Toluene*	<0.050	0.050	08/29/2025	ND	1.82	91.1	2.00	12.1	
Ethylbenzene*	<0.050	0.050	08/29/2025	ND	1.88	94.1	2.00	11.5	
Total Xylenes*	<0.150	0.150	08/29/2025	ND	5.76	96.0	6.00	10.7	
Total BTEX	<0.300	0.300	08/29/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/02/2025	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	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	544	10.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	333	10.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 108 % 44.4-145

Surrogate: 1-Chlorooctadecane 118 % 40.6-153

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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 1B (H255416-17)**

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	08/30/2025	ND	1.69	84.4	2.00	12.1		
Toluene*	<0.050	0.050	08/30/2025	ND	1.82	91.1	2.00	12.1		
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.88	94.1	2.00	11.5		
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.76	96.0	6.00	10.7		
Total BTEx	<0.300	0.300	08/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 125 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	09/02/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	5660	50.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	2400	50.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 122 % 44.4-145

Surrogate: 1-Chlorooctadecane 214 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 2B (H255416-18)**

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	08/30/2025	ND	1.69	84.4	2.00	12.1		
Toluene*	<0.050	0.050	08/30/2025	ND	1.82	91.1	2.00	12.1		
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.88	94.1	2.00	11.5		
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.76	96.0	6.00	10.7		
Total BTEX	<0.300	0.300	08/30/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/02/2025	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	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	<10.0	10.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 109 % 44.4-145

Surrogate: 1-Chlorooctadecane 108 % 40.6-153

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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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 08/29/2025  
 Reported: 09/02/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 08/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 5 (H255416-19)**

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	08/30/2025	ND	1.69	84.4	2.00	12.1	
Toluene*	<0.050	0.050	08/30/2025	ND	1.82	91.1	2.00	12.1	
Ethylbenzene*	<0.050	0.050	08/30/2025	ND	1.88	94.1	2.00	11.5	
Total Xylenes*	<0.150	0.150	08/30/2025	ND	5.76	96.0	6.00	10.7	
Total BTEX	<0.300	0.300	08/30/2025	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/02/2025	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	08/30/2025	ND	198	98.9	200	0.269	
DRO >C10-C28*	532	10.0	08/30/2025	ND	201	101	200	1.24	
EXT DRO >C28-C36	295	10.0	08/30/2025	ND					

Surrogate: 1-Chlorooctane 95.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 104 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

---

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 1 of 2

<b>Company Name:</b> Etech Environmental & Safety Solutions, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																									
<b>Project Manager:</b> Joel Lowry				<b>P.O. #:</b>				<div style="display: flex; justify-content: space-around;"> <div>Chloride</div> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> </div>																									
<b>Address:</b> 2617 West Marland				<b>Company:</b> Etech																													
<b>City:</b> Hobbs <b>State:</b> NM <b>Zip:</b> 88240				<b>Attn:</b> Joel Lowry																													
<b>Phone #:</b> (575) 264-9884 <b>Fax #:</b>				<b>Address:</b>																													
<b>Project #:</b> 22036 <b>Project Owner:</b> 3R Operating, LLC				<b>City:</b>																													
<b>Project Name:</b> Shell State Tank Battery				<b>State:</b> <b>Zip:</b>																													
<b>Project Location:</b> 33.369742, -103.647038				<b>Phone #:</b>																													
<b>Sampler Name:</b> Addison Elston				<b>Fax #:</b>																													
<b>FOR LAB USE ONLY</b>		<b>Lab I.D.</b>		<b>Sample I.D.</b>		<b>(G)RAB OR (C)OMP.</b>		<b># CONTAINERS</b>		<b>MATRIX</b>				<b>PRESERV.</b>		<b>SAMPLING</b>																	
										GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:				ACID/BASE: ICE / COOL OTHER:																			





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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 of 2

Page 23 of 23

<b>Company Name:</b> Etech Environmental & Safety Solutions, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																															
<b>Project Manager:</b> Joel Lowry				<b>P.O. #:</b>				<div style="display: flex; justify-content: space-around;"> <div>Chloride</div> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> </div>																															
<b>Address:</b> 2617 West Marland				<b>Company:</b> Etech																																			
<b>City:</b> Hobbs <b>State:</b> NM <b>Zip:</b> 88240				<b>Attn:</b> Joel Lowry																																			
<b>Phone #:</b> (575) 264-9884 <b>Fax #:</b>				<b>Address:</b>																																			
<b>Project #:</b> 22036 <b>Project Owner:</b> 3R Operating, LLC				<b>City:</b>																																			
<b>Project Name:</b> Shell State Tank Battery				<b>State:</b> <b>Zip:</b>																																			
<b>Project Location:</b> 33.369742, -103.647038				<b>Phone #:</b>																																			
<b>Sampler Name:</b> Addison Elston				<b>Fax #:</b>																																			
<b>FOR LAB USE ONLY</b>		<b>Lab I.D.</b>		<b>Sample I.D.</b>		<b>(G)RAB OR (C)OMP. # CONTAINERS</b>		<b>MATRIX</b>		<b>PRESERV.</b>		<b>SAMPLING</b>																											
								GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		<b>DATE</b>		<b>TIME</b>											
		H255416		FL 14 @ 10'		C 1																X				8/28/25				X X X									
		11		NW 1B		C 1																X				8/28/25				X X X									
		12		NW 2B		C 1																X				8/28/25				X X X									
		13		EW 2B		C 1																X				8/28/25				X X X									
		14		EW 3B		C 1																X				8/28/25				X X X									
		15		SW 4B		C 1																X				8/28/25				X X X									
		16		WW 1B		C 1																X				8/28/25				X X X									
		17		WW 2B		C 1																X				8/28/25				X X X									
		18		WW 5		C 1																X				8/28/25				X X X									
		19																																					

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<b>Relinquished By:</b>		<b>Date:</b> 8-29-20		<b>Received By:</b>		<b>Verbal Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Phone #:</b>	
		<b>Time:</b> 1441				All Results are emailed. Please provide Email address: <a href="mailto:pm@etechenv.com">pm@etechenv.com</a>	
<b>Relinquished By:</b>		<b>Date:</b>		<b>Received By:</b>		<b>REMARKS:</b>	
		<b>Time:</b>				24H Rush	
<b>Delivered By: (Circle One)</b>		<b>Observed Temp. °C</b> -10.0		<b>Sample Condition</b>		<b>TURNAROUND TIME:</b> Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>	
<b>Sampler - UPS - Bus - Other:</b>		<b>Corrected Temp. °C</b> -9.72		Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		<b>Bacteria (only) Sample Condition</b>	
				<b>CHECKED BY:</b> (Initials)		Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	
						Observed Temp. °C	
						Corrected Temp. °C	
						Thermometer ID #140	
						Correction Factor -0.6°C	





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

September 08, 2025

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: SHELL STATE TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 09/05/25 8:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. 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:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 09/05/2025  
 Reported: 09/08/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 09/04/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: NW 1C (H255527-01)**

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	09/05/2025	ND	2.02	101	2.00	1.92	
Toluene*	<0.050	0.050	09/05/2025	ND	1.99	99.7	2.00	0.204	
Ethylbenzene*	<0.050	0.050	09/05/2025	ND	1.94	97.1	2.00	1.49	
Total Xylenes*	<0.150	0.150	09/05/2025	ND	6.11	102	6.00	2.10	
Total BTX	<0.300	0.300	09/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 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	09/05/2025	ND	432	108	400	7.69		

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	09/05/2025	ND	211	106	200	3.19	
DRO >C10-C28*	<10.0	10.0	09/05/2025	ND	200	100	200	3.31	
EXT DRO >C28-C36	<10.0	10.0	09/05/2025	ND					

Surrogate: 1-Chlorooctane 88.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 87.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 09/05/2025  
 Reported: 09/08/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 09/04/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: WW 1C (H255527-02)**

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	09/05/2025	ND	2.02	101	2.00	1.92	
Toluene*	<0.050	0.050	09/05/2025	ND	1.99	99.7	2.00	0.204	
Ethylbenzene*	<0.050	0.050	09/05/2025	ND	1.94	97.1	2.00	1.49	
Total Xylenes*	<0.150	0.150	09/05/2025	ND	6.11	102	6.00	2.10	
Total BTEx	<0.300	0.300	09/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/05/2025	ND	432	108	400	7.69	

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	09/05/2025	ND	211	106	200	3.19	
DRO >C10-C28*	<10.0	10.0	09/05/2025	ND	200	100	200	3.31	
EXT DRO >C28-C36	<10.0	10.0	09/05/2025	ND					

Surrogate: 1-Chlorooctane 79.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 77.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 09/05/2025  
 Reported: 09/08/2025  
 Project Name: SHELL STATE TANK BATTERY  
 Project Number: 22036  
 Project Location: 3R OP 32.369742, -103.647038

Sampling Date: 09/04/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL 15 (H255527-03)**

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	09/05/2025	ND	2.02	101	2.00	1.92		
Toluene*	<0.050	0.050	09/05/2025	ND	1.99	99.7	2.00	0.204		
Ethylbenzene*	<0.050	0.050	09/05/2025	ND	1.94	97.1	2.00	1.49		
Total Xylenes*	<0.150	0.150	09/05/2025	ND	6.11	102	6.00	2.10		
Total BTEX	<0.300	0.300	09/05/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/05/2025	ND	432	108	400	7.69		

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	09/05/2025	ND	211	106	200	3.19	
DRO >C10-C28*	<10.0	10.0	09/05/2025	ND	200	100	200	3.31	
EXT DRO >C28-C36	<10.0	10.0	09/05/2025	ND					

Surrogate: 1-Chlorooctane 76.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 74.4 % 40.6-153

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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 cursive script, appearing to read "Celey D. Keene", written in black ink.

---

Celey D. Keene, Lab Director/Quality Manager





# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Etech Environmental				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>															
Project Manager: Joel Lowry				P.O. #:																			
Address: 2617 W Marland Blvd				Company: Etech Environmental																			
City: Hobbs State: NM Zip: 88240				Attn: Joel Lowry																			
Phone #: (575) 264-9884 Fax #:				Address:																			
Project #: 22036 Project Owner: 3R Operating, LLC				City:																			
Project Name: Shell State Tank Battery				State: Zip:																			
Project Location: GPS:(33.369742, -103.647038)				Phone #:																			
Sampler Name: Zach Conder				Fax #:																			
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING															
Lab I.D.	Sample I.D.	GRAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	TPH	BTEX 8021						
H255527																							
1	NW1c	C	1			X					X		9/4/25	2:00	X	X	X						
2	WW1c	C	1			X					X		9/4/25	2:05	X	X	X						
3	FL 15	C	1			X					X		9/4/25	2:10	X	X	X						

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Relinquished By:	Date: 9-5-25 Time: 08:50	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
Delivered By: (Circle One) -0.1: C+0.3: 0.2: #140			REMARKS: Email copy of COC and results to: <a href="mailto:PM@etechenv.com">PM@etechenv.com</a>
Sampler - UPS - Bus - Other:			24HR RUSH
Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials)	

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



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

---

April 04, 2025

LANCE CRENSHAW

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: SHELL STATE 4 FLOWLINE

Enclosed are the results of analyses for samples received by the laboratory on 03/31/25 14:53.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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:**

Etech Environmental & Safety Solutions  
 LANCE CRENSHAW  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 03/31/2025  
 Reported: 04/04/2025  
 Project Name: SHELL STATE 4 FLOWLINE  
 Project Number: 21644  
 Project Location: 3R OPERATING 33.369742-103.647038

Sampling Date: 03/28/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: PEARCE TRUST STOCKPILE (H251888-01)**

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	04/01/2025	ND	2.11	106	2.00	0.0570	
Toluene*	<0.050	0.050	04/01/2025	ND	2.21	110	2.00	2.71	
Ethylbenzene*	<0.050	0.050	04/01/2025	ND	2.50	125	2.00	4.42	
Total Xylenes*	<0.150	0.150	04/01/2025	ND	7.65	127	6.00	4.85	
Total BTX	<0.300	0.300	04/01/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	04/01/2025	ND	432	108	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	04/01/2025	ND	205	102	200	2.59	
DRO >C10-C28*	<10.0	10.0	04/01/2025	ND	203	101	200	1.02	
EXT DRO >C28-C36	<10.0	10.0	04/01/2025	ND					

Surrogate: 1-Chlorooctane 55.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 53.4 % 40.6-153

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 1 of 1

Page 4 of 4

Company Name: Etech Environmental & Safety Solutions, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																															
Project Manager: Lance Crenshaw				P.O. #:				<div style="display: flex; justify-content: space-around;"> <div>Chloride</div> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> </div>																															
Address: 2617 West Marland				Company: Etech																																			
City: Hobbs State: NM Zip: 88240				Attn: Joel Lowry																																			
Phone #: (575) 264-9884 Fax #:				Address:																																			
Project #: 21644 Project Owner: 3R Operating				City:																																			
Project Name: Shell State 4 Flowline				State: Zip:																																			
Project Location: 33.369742, -103.647038				Phone #:																																			
Sampler Name: Robbie Runnels				Fax #:																																			
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING																							
						GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME													
H251888		1		Pearce Trust Stockpile		C		1				X						X						3/28/25				<div style="display: flex; justify-content: space-around;"> <div>X</div> <div>X</div> <div>X</div> </div>											

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 the client for the 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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:		Date: 3-31-25		Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Time: 1453		Time:		Time:		All Results are emailed. Please provide Email address: <a href="mailto:pm@etechenv.com">pm@etechenv.com</a>	
Relinquished By:		Date:		Received By:		REMARKS:	
Time:		Time:		Time:		Time:	
Delivered By: (Circle One)		Observed Temp. °C		Sample Condition		CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:		Corrected Temp. °C		Cool Intact		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	
		-17.0		<input type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID #140	
		-14.0		<input type="checkbox"/> No <input type="checkbox"/> No		Correction Factor -0.6°C	
						Bacteria (only) Sample Condition	
						Cool Intact Observed Temp. °C	
						<input type="checkbox"/> Yes <input type="checkbox"/> No	
						Corrected Temp. °C	

FORM-006 R 3.5 08/05/24

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)



## **Appendix E**

### **Regulatory Correspondence**



Date	Detail
09/04/2025	The variance request for the 2-business day notice on incident NPRS0413152570 is approved. Please make sure the (C-141N) gets filled out. Please include this e-mail correspondence in the remediation closure report.
09/04/2025	We were in the process of remediating the 3R Operating Shell State Tank Battery in accordance with an approved workplan. On 8/19/2025 we submitted electronic sampling notifications for 8/22, 8/25, 8/26, 8/27, 8/28 and 8/29 and have collected at total 45 excavation confirmation soil samples to date. We just received the analytical data for the final soil samples collected on 8/29 and we had 2 unexpected exceedances. We have already advanced the excavation, as necessary, but do not have an active sampling notification. Etech would like to request a Variance from the 2-day sampling notification requirement so that we can keep the remediation project moving forward. The soil samples can/will be collected this afternoon to tomorrow and submitted to the laboratory on a rush to limit downtime.
08/19/2025	The (08/19/2025, C-141N) application <a href="#">[497229]</a> was assigned to this incident.
08/19/2025	The (08/19/2025, C-141N) application <a href="#">[497222]</a> was assigned to this incident.
08/19/2025	The (08/19/2025, C-141N) application <a href="#">[497216]</a> was assigned to this incident.
08/19/2025	The (08/19/2025, C-141N) application <a href="#">[497211]</a> was assigned to this incident.
08/19/2025	The (08/19/2025, C-141N) application <a href="#">[497207]</a> was assigned to this incident.
08/19/2025	The (08/19/2025, C-141N) application <a href="#">[497200]</a> was assigned to this incident.
08/15/2025	The Remediation Plan is Conditionally Approved. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site assessment/characterization/proven depth to water determination. All sidewall samples should be taken from the sidewall of the excavation. Please make sure that the edge of the release extent is accurately defined. Sidewall/edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Please collect confirmation samples, representing no more than 200 ft2. If fluid reached tanks/equipment, sample up against tanks/equipment to ensure contaminants didn't go underneath. If the removal of contaminants under tanks/equipment could cause a major facility deconstruction, a formal deferral request will need to be submitted to the OCD Permitting Portal. All off-pad areas must meet reclamation standards in the OCD Spill Rule. The work will need to be completed in 90 days after the report has been reviewed.
08/15/2025	The (08/15/2025, C-141) application <a href="#">[484084]</a> was accepted by OCD. The operator was emailed with details of this event.
08/15/2025	An application <a href="#">[484084]</a> was submitted to OCD for review. It was submitted, indicating that it was an: [C-141] Application for administrative approval of a release notification and corrective action The operator was emailed confirmation of this event.
07/11/2025	The (08/15/2025, C-141) application <a href="#">[484084]</a> was assigned to this incident.
11/15/2024	The (11/15/2024, C-141N) application <a href="#">[403610]</a> was assigned to this incident.
07/26/2004	W. Palmer sent chloride contaminated soil to landfarm. No sample data submitted.

OCD Permitting

Home

Searches

Incidents

Incident Details

nPRS0413152570 SHELL STATE #001

General Incident Information

Well:

[30-025-22409] SHELL STATE #001

Facility:

Operator:

[331569] 3R Operating, LLC

Status:

Active

Stage:

Remediation Plan Approved, Pending submission of Remediation Closure Report from the operator

Type:

Produced Water Release

Severity:

Incident Location:

A-18-11S-33E 660 FNL 510 FEL

Lat/Long:

33.3713417,-103.6469498 NAD83

District:

Hobbs

Surface Owner:

State

County:

Lea (25)

Severity Indicators

Resulted In Fire:

☐

Endangered Public Health:

☐

Fresh Water Contamination:

☐

Resulted In Injury:

☐

Will or Has Reached Watercourse:

☐

Property Or Environmental Damage:

☐

Notes

Source of Referral:

Industry Rep

Action / Escalation:

Other - Specify in Notes

Contact Details

Contact Name:

Contact Title:

Event Dates

Date of Discovery:

03/16/2004

Initial C-141 Report Due:

3/31/2004

Remediation Closure Report Due:

11/13/2025

Incident Dates

19.15.29 NMAC - RELEASES

Type	Action	Received	Denied	Approved
Variance Request		09/04/2025		09/04/2025
Remediation Closure Report Extension		08/15/2018		08/15/2018
Sampling Notice	[497229]	08/19/2025		08/19/2025
Sampling Notice	[497222]	08/19/2025		08/19/2025
Sampling Notice	[497216]	08/19/2025		08/19/2025

19.15.30 NMAC - REMEDIATION

Type	Action	Received	Denied	Approved
------	--------	----------	--------	----------

- Quic
- [Gene](#)
  - [Mater](#)
  - [Event](#)
  - [Order](#)
  - [Actior](#)

- Assoc
- [Facilit](#)
  - [Incide](#)
  - [Well f](#)

- New
- [New I](#)
  - [New I](#)
  - [New I](#)
  - [New I](#)
  - [New I](#)

Searches    Operator Data    Hearing Fee Application

Sampling Notice	<a href="#">[497200]</a>	08/19/2025		08/19/2025
Sampling Notice	<a href="#">[403610]</a>	11/15/2024		11/15/2024
Remediation Plan	<a href="#">[484084]</a>	07/11/2025		08/15/2025
Site Characterization	<a href="#">[484084]</a>	07/11/2025		08/15/2025
Initial C-141 Report	<a href="#">[484084]</a>	07/11/2025		08/15/2025

Compositional Analysis of Vented and/or Flared Natural Gas

No Compositional Analysis Found

Incident Materials

Cause	Source	Material	Volume				Units
			Unk.	Released	Recovered	Lost	
Corrosion	Dump Valve	Produced Water	<input type="checkbox"/>	8	0	8	BBL
The concentration of dissolved chloride in the produced water >10,000 mg/l: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							

Incident Events

Date	Detail
09/04/2025	The variance request for the 2-business day notice on incident NPRS0413152570 is approved. Please make sure the (C-141N) gets filled out. Please include this e-mail correspondence in the remediation closure report.
09/04/2025	We were in the process of remediating the 3R Operating Shell State Tank Battery in accordance with an approved workplan. On 8/19/2025 we submitted electronic sampling notifications for 8/22, 8/25, 8/26, 8/27, 8/28 and 8/29 and have collected at total 45 excavation confirmation soil samples to date. We just received the analytical data for the final soil samples collected on 8/29 and we had 2 unexpected exceedances. We have already advanced the excavation, as necessary, but do not have an active sampling notification. Etech would like to request a Variance from the 2-day sampling notification requirement so that we can keep the remediation project moving forward. The soil samples can/will be collected this afternoon to tomorrow and submitted to the laboratory on a rush to limit downtime.
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08/15/2025	The Remediation Plan is Conditionally Approved. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site assessment/characterization/proven depth to water determination. All sidewall samples should be taken from the sidewall of the excavation.

	Portal. All off-pad areas must meet reclamation standards in the OCD Spill Rule. The work will need to be completed in 90 days after the report has been reviewed.	
08/15/2025	The (08/15/2025, C-141) application [484084] was accepted by OCD. The operator was emailed with details of this event.	
08/15/2025	An application [484084] was submitted to OCD for review. It was submitted, indicating that it was an: [C-141] Application for administrative approval of a release notification and corrective action The operator was emailed confirmation of this event.	
07/11/2025	The (08/15/2025, C-141) application [484084] was assigned to this incident.	
11/15/2024	The (11/15/2024, C-141N) application [403610] was assigned to this incident.	
07/26/2004	W. Palmer sent chloride contaminated soil to landfarm. No sample data submitted.	

Incident Severity

Major release as defined by 19.15.29.7(A) NMAC?

☐ Yes ☒ No

Incident Corrective Actions

Initial Response

☒ 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:

Site Characterization

What is the shallowest depth to groundwater beneath the area affected by the release?	Between 51 and 75 (ft.) bgs
What method was used to determine the depth to ground water?	NM OSE iWaters Database Search
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	Between 1 and 5 (mi.)
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	Between 1 and 5 (mi.)
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	Between 1000 (ft.) and ½ (mi.)
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?	Between 1000 (ft.) and ½ (mi.)
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	Between 1000 (ft.) and ½ (mi.)
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	Greater than 5 (mi.)
Are the lateral extents of the release within 300 feet of a wetland?	Between 1 and 5 (mi.)
Are the lateral extents of the release overlying a subsurface mine?	Greater than 5 (mi.)
Are the lateral extents of the release overlying an (non-karst) unstable area?	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology?	Low



Have the lateral and vertical extents of contamination been fully delineated?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Was this release entirely contained within a lined containment area?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Chloride ***	(EPA 300.0 or SM4500 Cl B)	10300 (mg/kg)
	TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	11900 (mg/kg)
	GRO+DRO	(EPA SW-846 Method 8015M)	9820 (mg/kg)
	BTEX	(EPA SW-846 Method 8021B or 8260B)	2.3 (mg/kg)
	Benzene	(EPA SW-846 Method 8021B or 8260B)	0 (mg/kg)
On what estimated date will the remediation commence?			09/26/2025
On what date will (or did) the final sampling occur?			10/26/2025
On what date will (or was) the remediation complete(d)			11/07/2025
What is the estimated surface area (in square feet) that will be reclaimed?			16200 (sq ft)
What is the estimated volume (in cubic yards) that will be reclaimed?			2225 (cu yds)
What is the estimated surface area (in square feet) that will be remediated?			6400 (sq ft)
What is the estimated volume (in cubic yards) that will be remediated?			22800 (cu yds)

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

<input checked="" type="checkbox"/> (Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)
Which OCD approved facility will be used for <b>off-site</b> disposal? <a href="#">[FEEM0112338393]</a> GANDY MARLEY LANDFARM/LANDFILL
<input type="checkbox"/> OTHER (Non-listed remedial process)?

No active remediation deferral request was found for this incident.

No remediation closure report data was found for this incident.

No reclamation report data was found for this incident.

No re-vegetation report data was found for this incident.

Orders

No Orders Found

## Site Assessment Summary & Proposed Remediation Plan

### 3R Operating, LLC Shell State Tank Battery

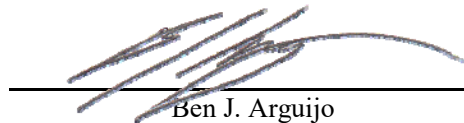
Eddy County, New Mexico  
Unit Letter A , Section 18, Township 11 South, Range 33 East  
Latitude 33.369742 North, Longitude 103.647038 West  
**NMOCD Reference No. nPRS0413152570**

Prepared By:

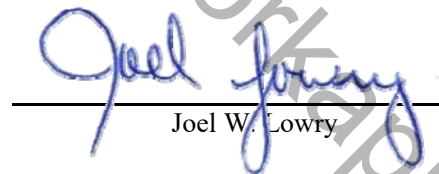
#### Etech Environmental & Safety Solutions, Inc.

6309 Indiana Ave, Ste. D  
Lubbock, Texas 79413

July 2, 2025



Ben J. Arguijo



Joel W. Lowry



Midland • San Antonio • Lubbock • Hobbs • Lafayette

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SITE ASSESSMENT.....	5.0
PROPOSED REMEDIAL ACTIVITIES.....	6.0
RESTORATION, RECLAMATION & RE-VEGETATION PLAN.....	7.0
LIMITATIONS.....	8.0
DISTRIBUTION.....	9.0

### FIGURES

Figure 1 - Site Location Map  
Figure 2A - Site Characterization Map (0.5-Mile Radius)  
Figure 2B - Site Characterization Map (5-Mile Radius)  
Figure 3 - Site and Sample Location Map

### TABLES

Table 1 - Concentrations of BTEX, TPH & Chloride in Soil

### APPENDICES

Appendix A - Depth to Groundwater Information  
Appendix B - Field Data & Soil Profile Logs  
Appendix C - Photographic Log  
Appendix D - Laboratory Analytical Reports  
Appendix E - Regulatory Correspondence  
Appendix F - Cultural Properties Protection Rule Documentation

## 1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of 3R Operating, LLC, has prepared this Site Assessment Summary & Proposed Remediation Plan for the release site known as the Shell State Tank Battery (henceforth, "Site"). Details of the release are summarized below:

### Location of Release Source

Latitude: 33.369742 Longitude: -103.647038

Provided GPS are in WGS84 format.

Site Name: <u>Shell State Tank Battery</u>	Site Type: <u>Tank Battery</u>
Date Release Discovered: <u>3/16/2004</u>	API # (if applicable):

Unit Letter	Section	Township	Range	County
A	18	11S	33E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name \_\_\_\_\_)

### Nature and Volume of Release

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>8</u>	Volume Recovered (bbls) <u>0</u>
	Is the concentration of dissolved chloride in the produced water > 10,000 mg/L?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released	Volume/Weight Recovered
Cause of Release: The release was attributed to corrosion, possibly of the dump valve.		

### Initial Response

<input checked="" type="checkbox"/> The source of the release has been stopped.
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.
<input checked="" type="checkbox"/> Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.

Previously submitted portions of the New Mexico Oil Conservation Division (NMOCD) Form C-141 are available in the NMOCD Permitting system.

## 2.0 SITE CHARACTERIZATION

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (bgs)?	Between 51 and 75 (ft.)
What method was used to determine the depth to groundwater?	NM OSE iWaters Database Search
Did the release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
What is the minimum distance between the closest lateral extents of the release and the following surface areas?	
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 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution or church?	Between 1000 (ft.) and ½ (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	Between 1,000 (ft.) and ½ (mi.)
Any other fresh water well or spring?	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field?	Greater than 5 (mi.)
A wetland?	Between 1 and 5 (mi.)
A subsurface mine?	Greater than 5 (mi.)
A (non-karst) unstable area?	Between 1 and 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half-mile radius of the Site. Probable groundwater depth was determined using data generated by numeric models based on available water well data and published information. Depth to groundwater information is provided as Appendix A.

Additional NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) and Fish and Wildlife Services (FWS) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted in Figures 1, 2A, 2B, and 4.

## 3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

Based on the volume and nature of the release, inferred depth to groundwater, and NMOCD Siting Criteria, the NMOCD Closure Criteria and NMOCD Reclamation Standards for the Site are as listed in the following table:

Probable Depth to Groundwater	Constituent	Laboratory Analytical Method	Closure Criteria**†	Reclamation Standards**‡
Between 51 and 75 (ft.)	Chloride (Cl-)	EPA** 300.0 or SM4500 Cl B	10,000	600
	Total Petroleum Hydrocarbons (TPH)	EPA SW-846 Method 8015M Ext	2,500	100
	Gas Range Organics + Diesel Range Organics (GRO+DRO)	EPA SW-846 Method 8015M	1,000	N/A
	Benzene	EPA SW-846 Methods 8021b or 8260b	10	10
	Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA SW-846 Methods 8021b or 8260b	50	50

\* Measured in milligrams per kilogram (mg/kg)

\*\* Environmental Protection Agency

† Table I, Section 19.15.29.12 of the New Mexico Administrative Code (NMAC).

‡ The NMOCD Reclamation Standards apply only to the top 4' of soil in non-production areas. Subsection 19.15.29.13 D.(1) NMAC.



## 4.0 BACKGROUND INFORMATION

The Site can be described as an approximate 0.7-acre active tank battery facility with good access via state highways and traditional caliche oilfield access roads. Prior to being acquired by 3R, the tank battery and associated lease was operated by Read & Steven's, Inc. In response to the lease transfer, a historical aerial imagery review was conducted by the NMSLO's realty group, where they identified evidence of a historical release in the north-central portion of the tank battery facility that would require further investigation. Further review suggested impacts may be related to an open reportable release (nPRS0413152570) that had occurred under previous ownership. Review of environmental records indicates that on May 16, 2004, the failure of a dump valve resulted in the release of eight (8) barrels of produced water. Environmental records suggests that by July 26, 2004, limited remediation activities were conducted, including the excavation and disposition of chloride contaminated soil. Based on a review of available records and aerial imagery, it appears limited remediation activities have been conducted, although environmental records are not readily available and the incident remains open.

On April 30, 2025, 3R submitted a *Site Assessment and Proposed Interim Reclamation Plan* to the NMSLO detailing site characteristics and the results of the environmental review including the discovery of the open environmental incident. The *Site Assessment and Proposed Interim Reclamation Plan* proposed the collection of soil samples from select locations in an effort to investigate historical impacts discovered during the historical aerial review along with the open environmental incident. The *Site Assessment and Proposed Interim Reclamation Plan* was approved with the condition that an additional soil sample be collected proximate to the drip bucket on the load line and that sample locations be moved or added based on field observations. A copy of the *Site Assessment and Proposed Interim Reclamation Plan* is provided in Appendix E - Regulatory Correspondence.

## 5.0 SITE ASSESSMENT

On May 30, 2025, upon conducting the necessary archeological survey, Etech conducted an initial assessment at the Site. During the initial site assessment, a hand-auger was utilized to advance eight (8) investigative soil borings (SP 1 through SP 8) within and proximate to the active tank battery facility. During the advancement of the hand-augered soil bores, soil samples were collected and field-screened for the presence of Volatile Organic Compounds (VOCs) utilizing olfactory/visual senses and/or concentrations of chloride utilizing a Hach Quantab® chloride test kit. The hand-augered soil bores were advanced until field test results suggested BTEX, TPH and chloride concentrations were below the NMOCD Reclamation Standard, or the maximum extent practicable given the presence of a resilient rock layer. Photographs of the Site are provided in Appendix C. Cultural Properties Protection Rule Documentation is provided as Appendix F.

Based on field observations and field test data, sixteen (16) delineation soil samples (SP 1 @ SUR, SP 1 @ 1', SP 2 @ SUR, SP 2 @ 2', SP 3 @ SUR, SP 3 @ 2'- R, SP 4 @ SUR, SP 4 @ 2', SP 5 @ SUR, SP 5 @ 1', SP 6 @ SUR, SP 6 @ 1'- R, SP 7 @ SUR, SP 7 @ 2'- R, SP 8 @ SUR and SP 8 @ 2') were submitted to a certified, commercial laboratory (henceforth, "the laboratory") for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples with the exception of SP 2 @ SUR (1,120 mg/kg GRO+DRO), SP 3 @ SUR (10,300 mg/kg chloride), SP 4 @ 2' (1,020 mg/kg GRO+DRO) and SP 7 @ SUR (11,900 mg/kg). Based on a review of laboratory analytical results it appears limited remediation activities were conducted but they did not meet the objectives of the NMOCD and NMSLO.

During a site visit, a hand-auger was utilized to collect six (6) soil samples (NH @ S, NH @ 1', EH @ S, EH @ 1', WH @ S and WH @ 1') from the inferred edges of the affected area. The collected soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Reclamation Standards in each of the submitted soil samples. A Site and Sample Location Map is provided as Figure 3. Soil chemistry data is summarized in Table 1. Field data is provided in Appendix B. Laboratory analytical reports are provided in Appendix D.

## 6.0 PROPOSED REMEDIAL ACTIVITIES

Based on laboratory analytical results, site characteristics, and field observations made during the initial site assessment, 3R Operating, LLC, proposes the following remediation activities designed to advance the Site toward regulatory compliance:

- Excavate impacted material affected above the NMOCD Closure Criteria in the areas characterized by soil samples SP 2 @ SUR, SP 3 @ SUR, SP 4 @ 2' and SP 7 @ SUR. The floor and sidewalls of the excavated areas will be advanced until laboratory analytical results from excavation confirmation soil samples indicate concentrations of BTEX, TPH and chloride are below the applicable NMOCD Closure Criteria and/or Reclamation Standards.
- Excavated material will be temporarily stockpiled on-site, atop an impermeable liner pending final disposition at an NMOCD-permitted surface waste facility.
- Upon completion of excavation activities, collect the requisite excavation confirmation soil samples on approximate 200 sq. ft. increments for BTEX, TPH and chloride analysis.
  - It should be noted that in the event excavation activities encroach to within an unsafe distance from active tank battery equipment including but not limited to the above ground storage tanks and heater treaters, deferral characterization soil samples will be collected as necessary.
- Upon receiving laboratory analytical results from excavation confirmation soil samples, backfill the excavated area with locally sourced, non-impacted "like" material. Excavated areas within the affected pasture will be compacted to achieve erosion control, stability and the preservation of surface water flow to the extent practicable. Excavated areas within the active tank battery facility will be backfilled, compacted and contoured to achieve erosion control, stability, prevent ponding and meet the needs of the facility.
- Upon completion of remediation activities, a *Remediation Summary and Soil Closure* (or *Deferral Request*) will be prepared detailing field activities and laboratory analytical results from confirmation soil samples.

Requesting a remediation plan approval with this submission?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Requesting a deferral of remediation closure due date with the approval of this submission?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Have the lateral and vertical extents of contamination been fully delineated?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Was this release entirely contained within a lined containment area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
On what estimated date will (or did) the remediation commence?	9/26/2025	
On what date will (or did) the final sampling or liner inspection occur?	10/26/2025	
On what date will (or was) the remediation complete(d)?	11/7/2025	
What is the total surface area (sq. ft.) in need of or that will <i>eventually</i> be reclaimed?	16,200	
What is the total volume (cy) in need of or that will <i>eventually</i> be reclaimed?	2,225	
What was the total surface area (sq. ft.) that has or will be remediated?	6,400	
What was the total volume (cy) that has or will be remediated?		
This remediation utilized the following processes to remediate/reduce contaminants:		
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(In Situ) Soil Vapor Extraction	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(In Situ) Biological processing (i.e. Microbes/Fertilizer, etc.)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Ground Water Abatement pursuant to 19.15.30 NMAC	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Other (Non-listed remedial process)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Which OCD approved facility was or will be used for off-site disposal?	Gandy Marley Inc.	
NMOCD Disposal Facility ID?	fEEM0112338393	
Summarize any additional remediation activities not included by answers above.	N/A	

## 7.0 RESTORATION, RECLAMATION & RE-VEGETATION PLAN

Upon completion of the proposed remedial activities and receipt of laboratory analytical results from confirmation soil samples, affected areas will be substantially restored to the condition that existed prior to the release, to the extent practicable. Excavated areas will be backfilled with locally sourced, non-impacted, "like" material emplaced at or near original relative positions. The affected areas will be compacted and contoured to achieve erosion control, stability, and preservation of surface water flow, to the extent practicable.

Disturbed areas within the affected pasture will be revegetated with the NMSLO State Coarse seed mix during the first favorable growing season following closure of incident. The seed mix will be certified as weed-free and installed at the prescribed rate utilizing either a seed drill or a broadcaster and harrow. Final reclamation and revegetation of the affected facility will be conducted upon decommissioning and abandonment of the location in accordance with Sections 19.15.29.12 and 19.15.29.13 NMAC.

All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the site's existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste containing earthen material with concentrations of less than 600 mg/kg chloride, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg benzene?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Requesting a remediation closure approval with this submission?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Requesting a reclamation approval with this submission?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Requesting a restoration complete approval with this submission?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
What was the total surface area (sq. ft.) remediated?	<u>0 (To be completed)</u>	
What was the total volume (cy) remediated?	<u>0 (To be completed)</u>	
What was the total surface area (in square feet) reclaimed?	<u>0 (To be completed)</u>	
What was the total volume (in cubic yards) reclaimed?	<u>0 (To be completed)</u>	

## 8.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this Site Assessment Summary & Proposed Remediation Plan to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of 3R Operating, LLC. Use of the information contained in this report is prohibited without the consent of Etech and/or 3R Operating, LLC.

## 9.0 DISTRIBUTION

**3R Operating, LLC**

20405 State Highway 249

Ste 820

Houston, TX 77070

**New Mexico Energy, Minerals and Natural Resources Department**

Oil Conservation Division, District 1

1220 South St. Francis Drive

Santa Fe, NM 87505

**Hobbs Field Office**

New Mexico State Land Office

2827 North Dal Paso Street

Suite 117

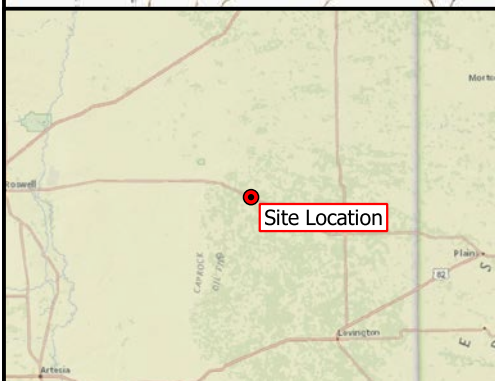
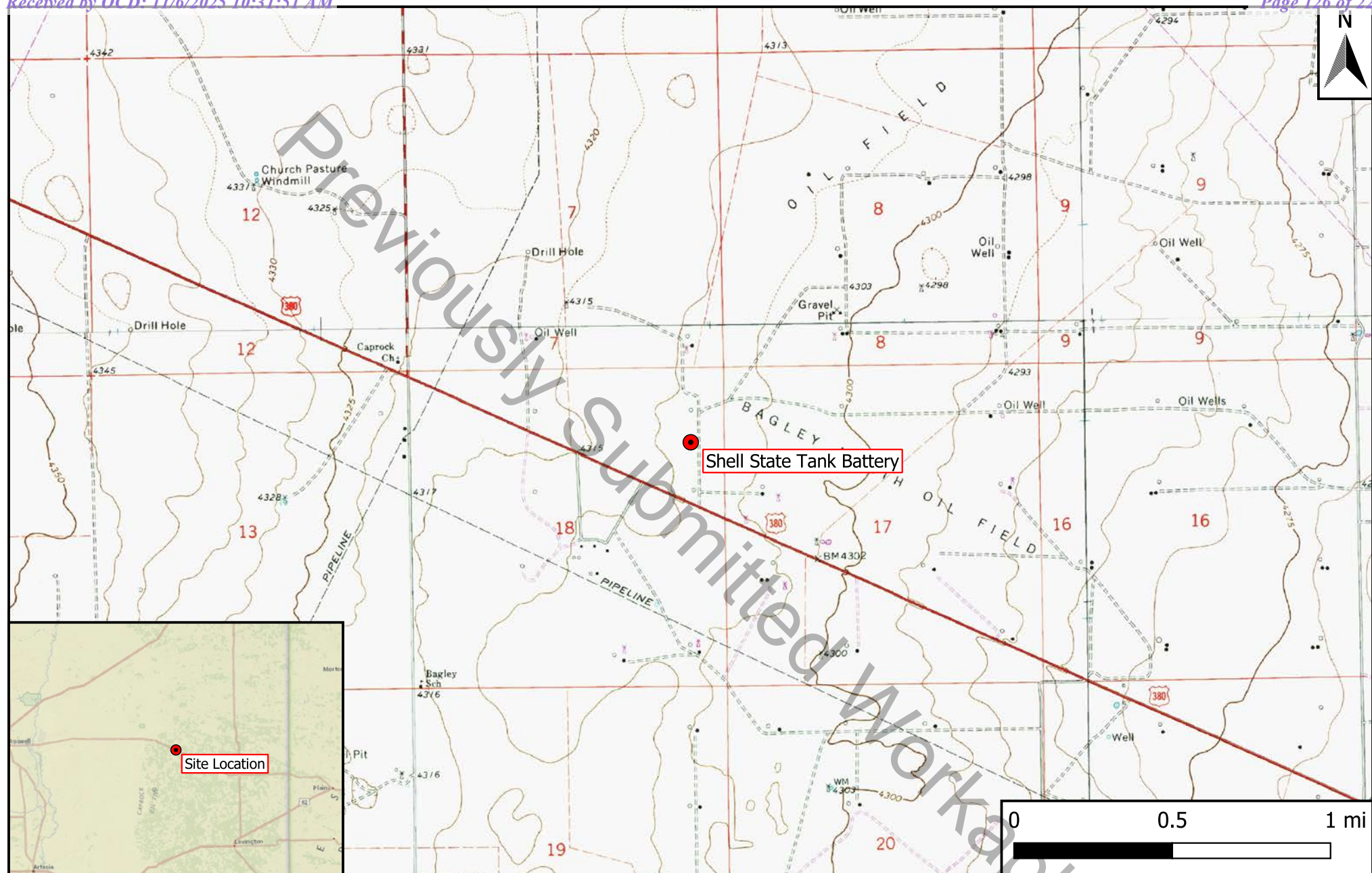
Hobbs, NM 88240

(Electronic Submission)

**Figure 1**  
**Site Location Map**

Previously Submitted Workapln





## Legend

- Site Location

**Figure 1**  
 Site Location Map  
 3 R Operating  
 Shell State Tank Battery  
 GPS: 33.369742, -103.647038  
 Lea County, New Mexico



Drafted: mag

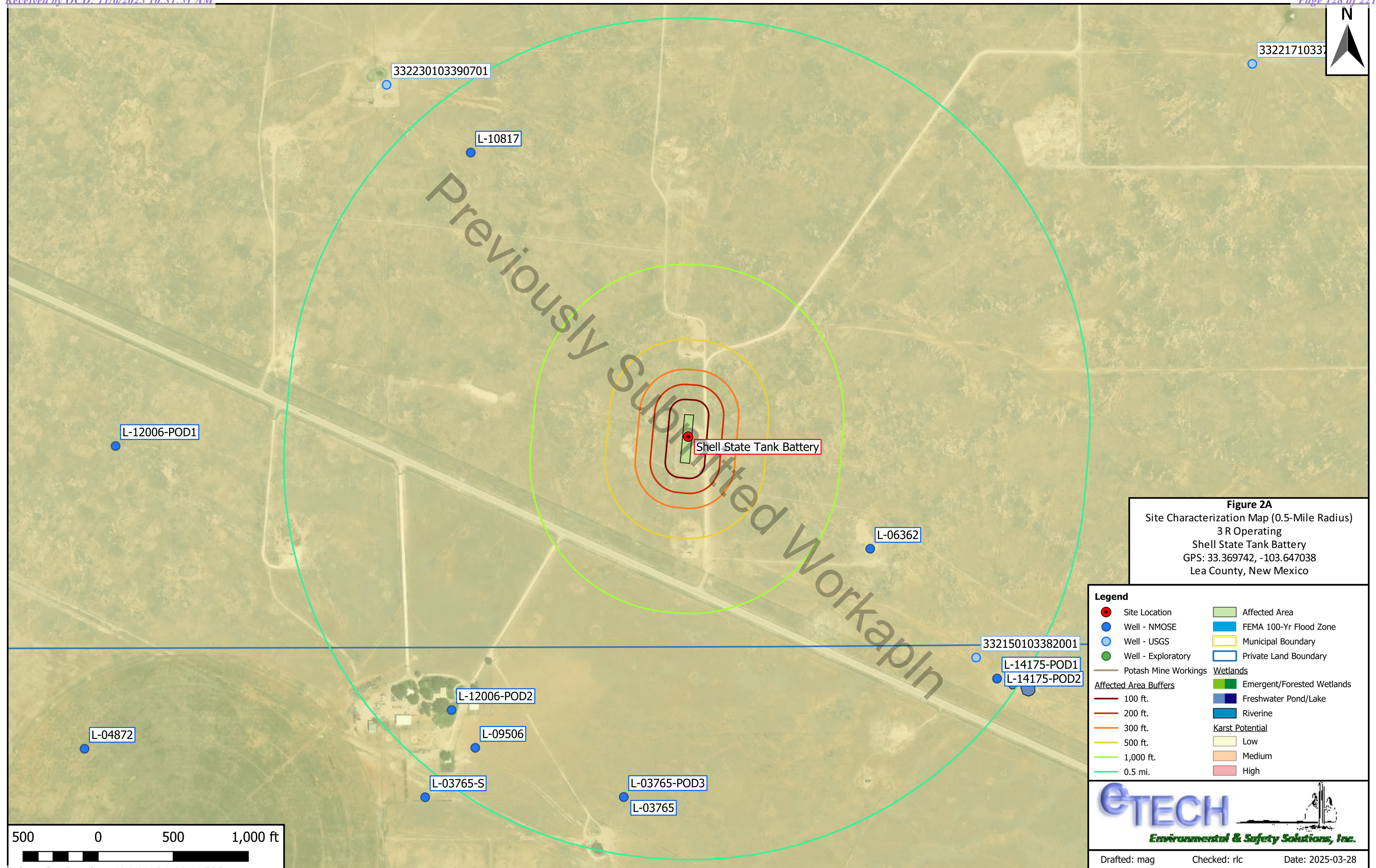
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Date: 2025-03-28

**Figures 2A & 2B**  
**Site Characterization Maps**

Previously Submitted Workapln





**Figure 2A**  
Site Characterization Map (0.5-Mile Radius)  
3 R Operating  
Shell State Tank Battery  
GPS: 33.369742, -103.647038  
Lea County, New Mexico

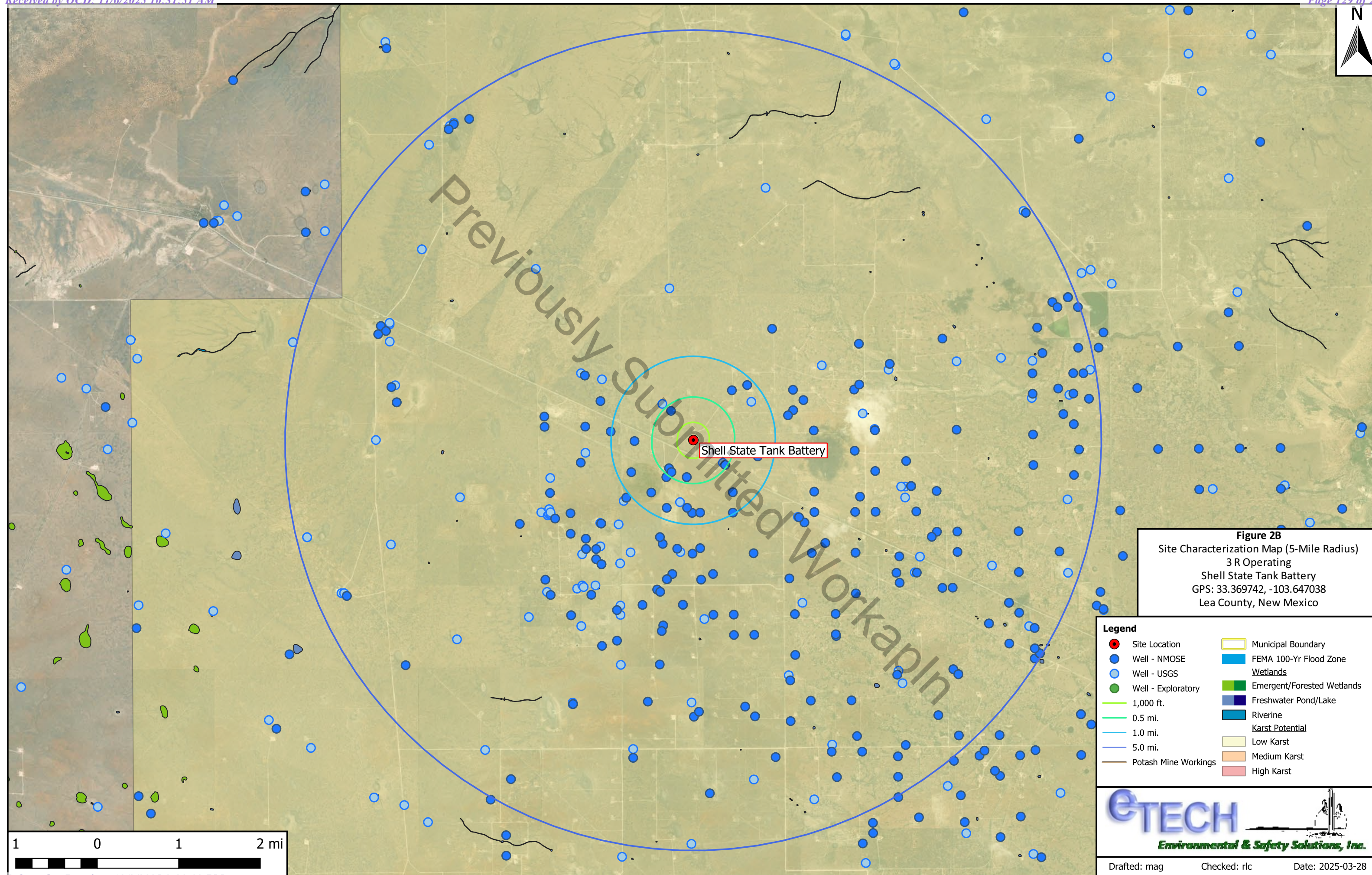
**Legend**

● Site Location	■ Affected Area
● Well - NMOSE	■ FEMA 100-Yr Flood Zone
● Well - USGS	■ Municipal Boundary
● Well - Exploratory	■ Private Land Boundary
— Potash Mine Workings	■ Wetlands
<b>Affected Area Buffers</b>	
— 100 ft.	■ Emergent/Forested Wetlands
— 200 ft.	■ Freshwater Pond/Lake
— 300 ft.	■ Riverine
— 500 ft.	<b>Karst Potential</b>
— 1,000 ft.	■ Low
— 0.5 mi.	■ Medium
	■ High

**ETECH**  
Environmental & Safety Solutions, Inc.

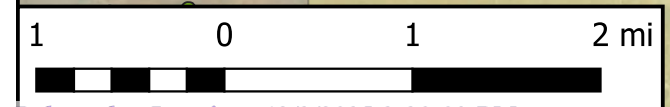
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**Figure 2B**  
Site Characterization Map (5-Mile Radius)  
3 R Operating  
Shell State Tank Battery  
GPS: 33.369742, -103.647038  
Lea County, New Mexico

- Legend**
- |                      |                            |
|----------------------|----------------------------|
| Site Location        | Municipal Boundary         |
| Well - NMOSE         | FEMA 100-Yr Flood Zone     |
| Well - USGS          | Wetlands                   |
| Well - Exploratory   | Emergent/Forested Wetlands |
| 1,000 ft.            | Freshwater Pond/Lake       |
| 0.5 mi.              | Riverine                   |
| 1.0 mi.              | Karst Potential            |
| 5.0 mi.              | Low Karst                  |
| Potash Mine Workings | Medium Karst               |
|                      | High Karst                 |



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Environmental & Safety Solutions, Inc.

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**Figure 3**  
**Site and Sample Location Map**

Previously Submitted Workapln





## Legend:

- Sample Point
- Affected Area
- Buried Pipeline
- Test Trench
- Excavated Area

**Figure 3**

Site and Sample Location Map  
 3R Operating, LLC  
 Shell State Tank Battery  
 GPS: 33.369742, -103.647038  
 Eddy County

**eTECH**   
 Environmental & Safety Solutions, Inc.

Drafted:

Checked: jwl

Date: 7/2/25

**Table 1**  
**Concentrations of BTEX, TPH & Chloride in Soil**

Previously Submitted Workapln

**Table 1**  
**Concentrations of BTEX, TPH, and Chloride in Soil**  
**3R Operating, LLC**  
**Shell State Tank Battery**  
**NMOCD Ref. #: nPRS0413152570**

NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	10,000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
EH @ 1'	6/27/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
EH @ S	6/27/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
NH @ 1'	6/27/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
NH @ S	6/27/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
WH @ 1'	6/27/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
WH @ S	6/27/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
SP 1 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	300	300	104	404	144
SP 1 @ 1'	5/30/2025	1	In-Situ	<0.050	<0.300	<10.0	209	209	83.8	293	32.0
SP 2 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	1,120	<b>1,120</b>	267	1,390	64.0
SP 2 @ 2'	5/30/2025	2	In-Situ	<0.050	<0.300	<10.0	142	142	55.8	198	112
SP 3 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	15.0	15.0	<10.0	15.0	<b>10,300</b>
SP 3 @ 2'- R	5/30/2025	2	In-Situ	<0.050	<0.300	<10.0	271	271	59.9	331	3,440
SP 4 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	722	722	210	932	640
SP 4 @ 2'	5/30/2025	2	In-Situ	<0.050	2.27	81.5	940	<b>1,020</b>	113	1,130	752
SP 5 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	21.8	21.8	29.1	50.9	672
SP 5 @ 1'	5/30/2025	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	480
SP 6 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,640
SP 6 @ 1'- R	5/30/2025	1	In-Situ	<0.050	<0.300	<10.0	206	206	66.8	273	2,360
SP 7 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	9,820	<b>9,820</b>	2,040	<b>11,900</b>	2,140
SP 7 @ 2' - R	5/30/2025	1	In-Situ	<0.050	<0.300	<10.0	248	248	59.6	308	2,130
SP 8 @ SUR	5/30/2025	0	In-Situ	<0.050	<0.300	<10.0	186	186	121	307	80.0
SP 8 @ 2'	5/30/2025	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128

Dash (-): Sample not analyzed for that constituent.

Bold: NMOCD Closure Criteria exceedance.

Red: NMOCD Reclamation Standard exceedance.

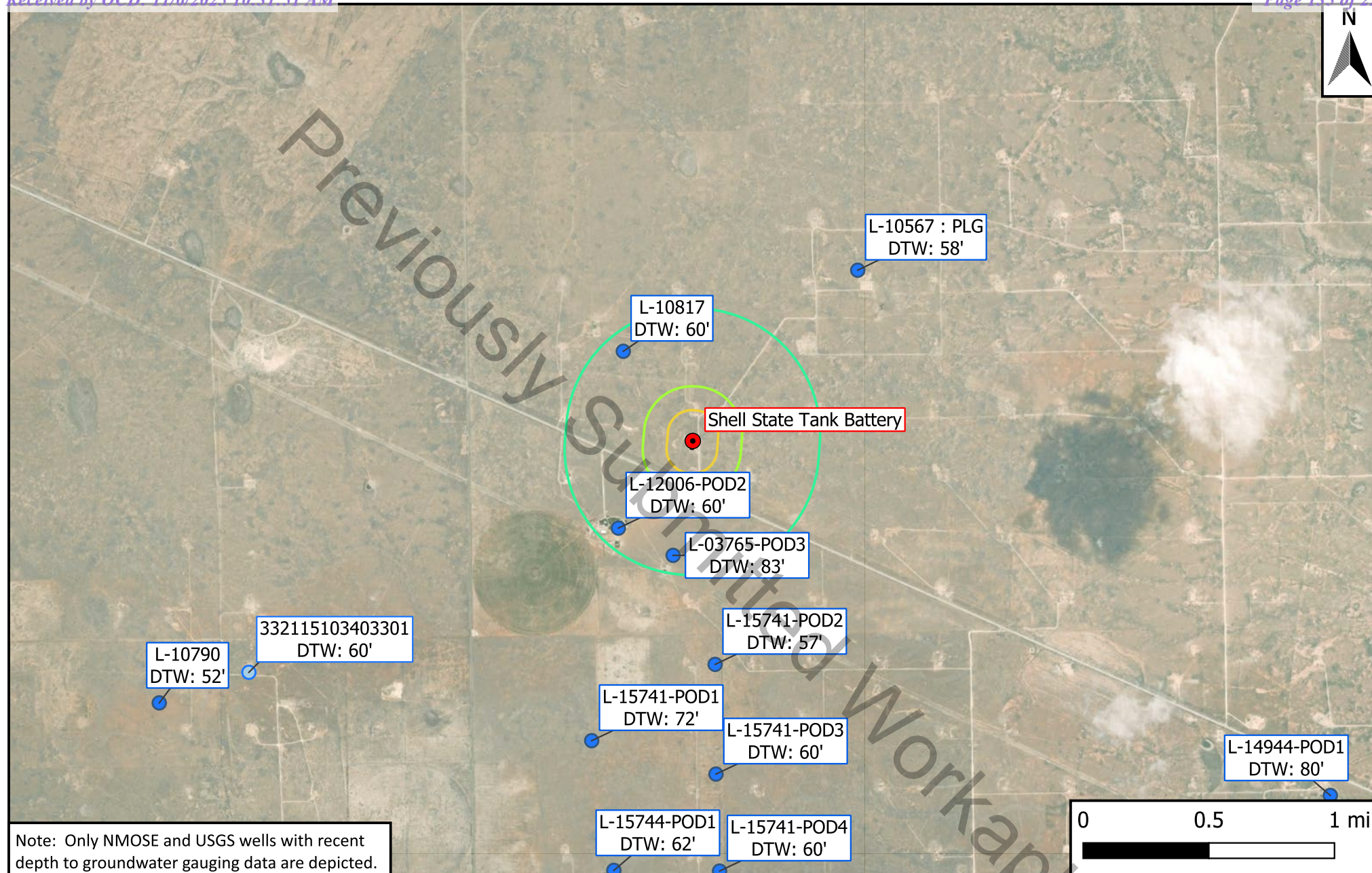
Red Border with Shading: Highest observed concentration.

## **Appendix A**

### **Depth to Groundwater Information**

Previously Submitted Workapln





## Legend

- |                         |                 |
|-------------------------|-----------------|
| ● Active Site Locations | ■ Affected Area |
| ● Well - NMOSE          | — 500 ft.       |
| ● Well - USGS           | — 1,000 ft.     |
| ● Well - Exploratory    | — 0.5 mi.       |

**Figure 4**  
 Inferred Depth to Groundwater Map  
 3 R Operating  
 Shell State Tank Battery  
 GPS: 33.369742, -103.647038  
 Lea County, New Mexico



Drafted: mag

Checked: rlc


Date: 2025-03-28



# Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	L 10817		SW	SE	07	11S	33E	625418.0	3693669.0 *	

\* UTM location was derived from PLSS - see Help

Driller License:	421	Driller Company:	GLENN'S WATER WELL SERVICE		
Driller Name:	GLENN, CLARK A."CORKY" (LD)				
Drill Start Date:	1998-06-05	Drill Finish Date:	1998-06-05	Plug Date:	
Log File Date:	1998-06-17	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	40
Casing Size:	5.50	Depth Well:	125	Depth Water:	60

## Water Bearing Stratifications:

Top	Bottom	Description
65	122	Other/Unknown

## Casing Perforations:

Top	Bottom
65	125

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.

STATE ENGINEER OFFICE

WELL RECORD

Revised June 1972

Section 1. GENERAL INFORMATION

148170

(A) Owner of well Pearce Ranch Owner's Well No. \_\_\_\_\_

Street or Post Office Address West Star Box 52

City and State Tatum, New Mexico 88267

Well was drilled under Permit No. #1-10,817 and is located in the:

a. \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  of Section 7 Township 11-S. Range 33-E. N.M.P.M.

b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_

c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_

Subdivision, recorded in \_\_\_\_\_ County.

d. X= \_\_\_\_\_ feet, Y= \_\_\_\_\_ feet, N.M. Coordinate System \_\_\_\_\_ Zone in the \_\_\_\_\_ Grant.

(B) Drilling Contractor Glenn's Wager Well Service License No. WD-421

Address P.O. Box 692 Tatum, New Mexico 88267

Drilling Began 6/5/98 Completed 6/5/98 Type tools rotary Size of hole 9 7/8 in.

Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 125 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 60 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
65	122	57	Sand	40 GPM

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5 $\frac{1}{2}$ "	.250	T&C			125	none	65	125

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_

Address \_\_\_\_\_

Plugging Method \_\_\_\_\_

Date Well Plugged \_\_\_\_\_

Plugging approved by: \_\_\_\_\_

State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

Date Received 06/17/98

FOR USE OF STATE ENGINEER ONLY

Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_

File No. L-10,817 Use Stock Location No. 11.33.7.4330

507088

[illegible]

98 JUN 17 AM 10 23

*Cosby* *Driller*  
Driller

Released to Imaging: 12/2/2025 2:20:03 PM

STATE ENGINEER OFFICE  
WELL RECORD

June 15 '98  
Revised June 1972

Section 1. GENERAL INFORMATION

(A) Owner of well Pearce Ranch Owner's Well No. \_\_\_\_\_  
Street or Post Office Address West Star Box 52  
City and State Tatum, New Mexico 88267

Well was drilled under Permit No. #1-10,817 and is located in the:  
a. 1/4 1/4 SW 1/4 SE 1/4 of Section 7 Township 11-S. Range 33-E. N.M.P.M.  
b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
Subdivision, recorded in \_\_\_\_\_ County.  
d. X= \_\_\_\_\_ feet, Y= \_\_\_\_\_ feet, N.M. Coordinate System \_\_\_\_\_ Zone in  
the \_\_\_\_\_ Grant.

(B) Drilling Contractor Glenn's Wafer Well Service License No. WD-421  
Address P.O. Box 692 Tatum, New Mexico 88267  
Drilling Began 6/5/98 Completed 6/5/98 Type tools rotary Size of hole 9 7/8 in.  
Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 125 ft.  
Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 60 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
65	122	57	Sand	40 GPM

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5 1/2"	.250	T&C			125	none	65	125

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_  
Address \_\_\_\_\_  
Plugging Method \_\_\_\_\_  
Date Well Plugged \_\_\_\_\_  
Plugging approved by: \_\_\_\_\_  
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 11/7/00

Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_

[illegible]

## Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Cosky Blum  
Driller


**INSTRUCTIONS:** This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired, or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.



# Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
L 12006	POD2	SE	NW	NW	18	11S	33E	625386.5	3692537.3	

\* UTM location was derived from PLSS - see Help

Driller License:	421	Driller Company:	GLENN'S WATER WELL SERVICE
Driller Name:	CORKY GLENN		
Drill Start Date:	2008-08-27	Drill Finish Date:	2008-08-27
Log File Date:	2008-09-04	PCW Rcv Date:	
Pump Type:		Pipe Discharge Size:	
Casing Size:	6.63	Depth Well:	155
		Depth Water:	60

## Casing Perforations:

Top	Bottom
60	152

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.

3/28/25 12:10 PM MST

Point of Diversion Summary

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9/3/08

OSE FILE NUMBER \_\_\_\_\_  
For OSE Use OnlyNEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD and DRILLING LOG

## 1. PERMIT HOLDER(S)

Name: PEARCE TRUST  
Address: 1717 JACKSON  
City: PECOS  
State: TX Zip: 79772  
Phone: \_\_\_\_\_  
Contact: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_

## 2. STATE ENGINEER REFERENCE NUMBERS:

File # L-12006, Well # 1

## 3. LOCATION OF WELL (The Datum Is Assumed To Be WGS 84 Unless Otherwise Specified)

Latitude: N 33° Deg 21 Min 53.16 Sec  
Longitude: W 103° Deg 39 Min 8.05 Sec(Enter Lat/Long To At Least 1/10<sup>th</sup> Of A Second)Datum If Not WGS 84: SE 1/4 NW 1/4 SEC. 18, T11-S, R33-EAST

## 4. DRILLING CONTRACTOR

License Number: WD 421  
Name: GLENN'S WATER WELL SERVICE, Work Phone: 505-398-2424Drill Rig Serial Number: 0582

List The Name Of Each Drill Rig Supervisor That Managed On-Site Operations During The Drilling Process:

CORKY GLENN

## 5. DRILLING RECORD

Drilling Began: 8/27/08; Completed: 8/27/08; Drilling Method ROTARY MUD

Diameter Of Bore Hole: \_\_\_\_\_ (in);

Total Depth Of Well: 155 (ft);Completed Well Is (Circle One) Shallow Artesian;Depth To Water First Encountered: 60' (ft);Depth To Water Upon Completion Of Well: 60' (ft).

Do Not Write Below This Line

TRN Number: 485546  
Form: wr-20 May 07File Number: L-12206  
L-12006

page 1 of 4

CLW

12

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO  
2008 SEP -4 P 12:01

OSE FILE NUMBER \_\_\_\_\_  
For OSE Use Only

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD and DRILLING LOG

6. RECORD OF CASING

Diameter (inches)	Pounds (per ft.)	Threads (per inch)	Depth (feet)	Length Top to Bottom (feet)	Type of Shoe	Perforations (from to)
10 3/4	1/4 WELL	PE		21	NONE	NONE
6 5/8	.188	PE		152	NONE	60-152

RECORD OF MUDDING AND CEMENTING

Depth (feet)	Hole (diameter)	Mud Used (# of sacks)	Cement (cubic feet)	Method of Placement
0-21	14 3/4		14 SACKS	POUR

Do Not Write Below This Line

Trn Number: \_\_\_\_\_  
Form: wr-20 May 07

File Number: \_\_\_\_\_

page 2 of 4

For OSE Use Only

**8. LOG OF HOLE.** For Each Water Bearing Strata, Estimate The Yield Of The Formation In Gallons Per Minute.

[illegible]

Do Not Write Below This Line

File Number:

page 3 of 4

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO  
2008 SEP -4 P 12:01

OSE FILE NUMBER \_\_\_\_\_

For OSE Use Only

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

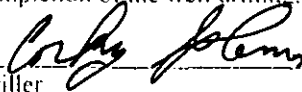
## 9. ADDITIONAL STATEMENTS OR EXPLANATIONS:

DRILLED 14 3/4" HOLE TO 21' AND SET 21' OF 10 3/4"  
CASING AND CEMENTED TO TOP OF WELL

STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER  
WELL RECORD

The undersigned hereby certifies that, to the best of his or her knowledge and belief, the foregoing is a true and correct record of the above described bore hole. The undersigned further certifies that he or she will file this well record with the Office Of The State Engineer and permit holder within 20 days after completion of the well drilling.

Driller

9/3/08  
(mm/dd/year)

Do Not Write Below This Line

Trn Number: \_\_\_\_\_

Form wr-20 May 07

File Number: \_\_\_\_\_


page 4 of 4



## Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
L 03765	POD3	SW	NE	SE	18	11S	33E	625737.0	3692363.0	

\* UTM location was derived from PLSS - see Help

**Driller License:** 1058 **Driller Company:** KEY'S DRILLING & PUMP SERVICE

**Driller Name:** KEY, CLINTON

**Drill Start Date:** 2011-10-20 **Drill Finish Date:** 2011-10-28

**Plug Date:**

**Log File Date:** 2011-11-16 **PCW Rcv Date:** **Source:** Shallow

**Pump Type:** **Pipe Discharge Size:** **Estimated Yield:**

**Casing Size:** 13.25 **Depth Well:** 160 **Depth Water:** 83

## Water Bearing Stratifications:

Top	Bottom	Description
83	90	Sandstone/Gravel/Conglomerate
90	120	Sandstone/Gravel/Conglomerate
130	155	Sandstone/Gravel/Conglomerate

## Casing Perforations:

Top	Bottom
45	125

## Meter Information

<b>Meter Number:</b>	17331	<b>Meter Make:</b>	MCCROMETER
<b>Meter Serial Number:</b>	18-03392-06	<b>Meter Multiplier:</b>	100.0000
<b>Number of Dials:</b>	6	<b>Meter Type:</b>	Diversion
<b>Unit of Measure:</b>	Gallons	<b>Reading Frequency:</b>	Monthly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
2012-01-01	2012	0.000	A	RPT		0.000	
2012-04-01	2012	163274.000	A	RPT		50.107	
2012-07-01	2012	289711.000	A	RPT		38.802	
2012-12-03	2012	589764.000	A	RPT		92.083	
2013-04-08	2013	892561.000	A	RPT		92.925	
2013-11-08	2013	169906.000	R	RPT	Meter Rollover	85.114	
2014-04-01	2014	326143.000	A	RPT		47.947	
2014-07-01	2014	360719.000	A	RPT		10.611	
2014-10-01	2014	372652.000	A	RPT		3.662	
2015-01-01	2015	373282.000	A	RPT		0.193	
2015-04-01	2015	469793.000	A	RPT		29.618	
2015-07-01	2015	586490.000	A	RPT		35.813	
2015-10-01	2015	597347.000	A	RPT		3.332	
2016-01-01	2016	605145.000	A	RPT		2.393	
2016-07-01	2016	642600.000	A	RPT		11.495	
2016-10-01	2016	742827.000	A	RPT		30.759	
2017-01-02	2017	769841.000	A	RPT		8.290	
2017-04-01	2017	801270.000	A	RPT		9.645	
2018-01-01	2018	801270.000	A	ap		0.000	
2018-04-13	2018	0.000	A	ap		0.000	
2018-07-01	2018	150468.000	A	ap		46.177	
2019-01-01	2019	337273.000	A	ap		57.328	
2019-04-01	2019	444952.000	A	ap		33.045	
2019-07-01	2019	535886.000	A	ap		27.907	
2020-04-01	2020	730920.000	A	ap		59.854	
2020-07-01	2020	952059.000	A	dd		67.865	
2020-10-01	2020	133020.000	R	dd	Meter Rollover	55.535	
2021-01-01	2020	203424.000	A	dd		21.606	
2021-04-01	2021	229906.000	A	dd		8.127	

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
2021-07-01	2021	275780.000	A	dd		14.078	
2021-10-01	2021	426379.000	A	dd		46.217	
2022-01-01	2021	490297.000	A	dd		19.616	
2022-04-01	2022	509551.000	A	dd		5.909	
2022-07-01	2022	666601.000	A	dd		48.197	
2022-10-01	2022	764835.000	A	dd		30.147	
2023-01-01	2022	805862.000	A	dd		12.591	
2023-08-13	2023	36378.000	R	jb	Meter Rollover	70.743	

## YTD Meter Amounts:

Year	Amount
2012	180.992
2013	178.039
2014	62.220
2015	68.956
2016	44.647
2017	17.935
2018	46.177
2019	118.280
2020	204.860
2021	88.038
2022	96.844
2023	70.743

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.

Previously Submitted Workapln

## **Appendix B**

### **Field Data & Soil Profile Logs**

Previously Submitted Workapln





## Soil Profile

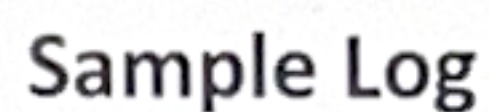
Date: 7/2/2025Project: Whitten SWD ROW #2Project Number: 21343Latitude: 32.574814Longitude: -103.536446

Depth (ft. bgs)

Description

1	Imported Fill
2	Brown Topsoil
3	Resilient Rock/Calcrete
4	
5	
6	
7	
8	
9	
10	
11	
12	
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Project: Shell State Tank Battery

Project Number: 22036      Latitude: 33.369742      Longitude: -103.647038

[illegible]

Resamples= SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

GPS Sample Points, Center of Comp Areas



## **Appendix C**

### **Photographic Log**

Previously Submitted Workapln

Photographic Log





## Photographic Log





## Photographic Log



## **Appendix D**

### **Laboratory Analytical Reports**

Previously Submitted Workapln

## **Appendix E**

### **Regulatory Correspondence**

Previously Submitted Workapln

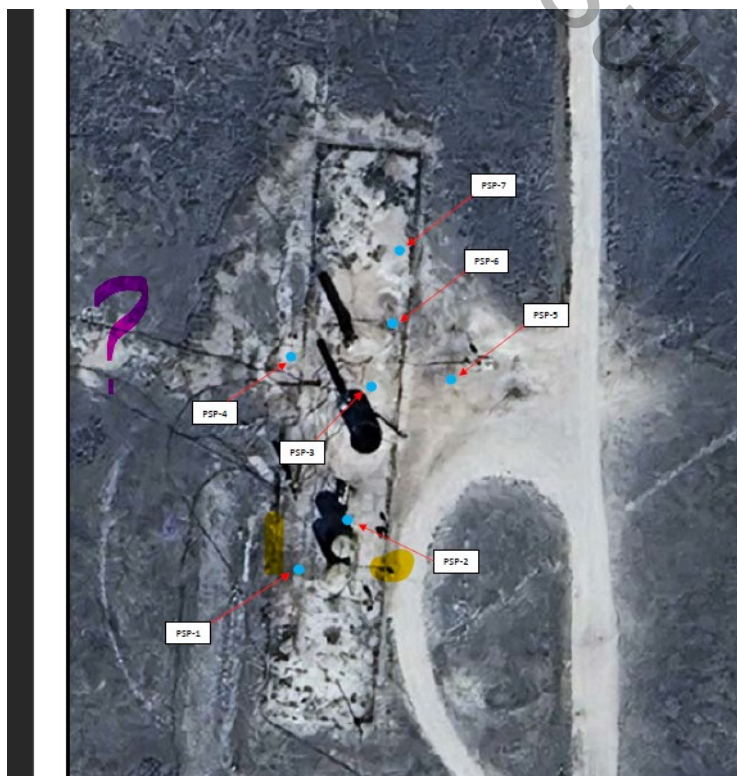
**Joel Lowry**

**From:** Knight, Tami C. <tknight@nmslo.gov>  
**Sent:** Monday, May 5, 2025 3:42 PM  
**To:** Austin Tramell; Joel Lowry  
**Cc:** Biernoff, Ari; Heltman, Elaine G.; Bisbey-Kuehn, Elizabeth A.  
**Subject:** SA & REM WP- 3R/Read & Stevens - Shell State Tank Battery- Approved w/ conditions

Austin

ECO has review the site assessment and remediation workplan for the subject tank battery located on K038360002 at 33.369742, -103.647038. We have approved the workplan with the following conditions.

1. Site assessment sample locations must be moved or added based on actual site conditions. For example, the loading area in front of the battery at the drip buckets are typically release areas. The aerials are inconclusive but highly suspect.
2. The flow line scar coming into the tank battery is likely contiguous. If PS-4 is over regulatory standard for any contaminant of concern, compliance with the CPP Rule will be require so the investigation can advance further west.



Please respond to this email that you understand and agree to the conditions of approval. Submit the remediation closure report to [eco@nmslo.gov](mailto:eco@nmslo.gov)

Lessee and/or their contractor are responsible for ensuring the project manager and field personnel performing the work follow the approved work plan.



**Environmental Compliance Office**

New Mexico State Land Office

[eco@nmslo.gov](mailto:eco@nmslo.gov)[nmstatelands.org](http://nmstatelands.org)

.....

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---

**From:** Austin Tramell <atramell@3ROperating.com>

**Sent:** Wednesday, April 30, 2025 3:54 PM

**To:** SLO Spills <spills@nmslo.gov>

**Subject:** [EXTERNAL] FW: Shell State Lease - Site Assessment and Proposed Interim Reclamation Plans

---

**From:** Austin Tramell

**Sent:** Wednesday, April 30, 2025 3:47 PM

**To:** Knight, Tami C.

**Cc:** Joel Lowry

**Subject:** FW: Shell State Lease - Site Assessment and Proposed Interim Reclamation Plans

Tami,

Please see attached site assessment and reclamation plans for the Shell State 3, 4, and Shell State Tank Battery.

Please let me know if you have any questions.

Thanks

Austin Tramell

Director Environmental & Regulatory

832-810-1037 (Office)

575-499-4919 (Cell)



**3R Operating, LLC**

Previously Submitted Workapln



2617 W. Marland  
Hobbs, NM 88240  
Office: (575) 964-2880

**April 11, 2025**

**Attn. Tami Knight**

New Mexico State Land Office  
Environmental Compliance Office  
1300 W. Broadway Avenue, Suite A  
Bloomfield, NM 87413

**RE: Site Assessment and Interim Reclamation Plan  
3R Operating, LLC  
Shell State Tank Battery  
U/L A, Sec. 18, T11S, R33E  
API No. 30-025-21842  
SLO Lease No. KO-38360002**

Ms. Knight,

Etech Environmental & Safety Solutions (Etech), on behalf of 3R Operating, LLC (3R), has prepared this *Site Assessment and Interim Reclamation Plan* for the site known as the Shell State Tank Battery (henceforth, "Site"). The Site is located approximately 18.5 miles northwest of Tatum in U/L "A," Section 18, Township 11 South, Range 33 East, in Lea County, on land owned by the State of New Mexico and administered by the New Mexico State Land Office. The GPS coordinates of the site are 33.36974, -103.64703. A "Site Location Map" is provided as Attachment #1.

## **BACKGROUND AND SITE CONDITIONS**

The Site can be described as an approximate 0.7-acre active tank battery facility with good access via state highways and traditional caliche oilfield access roads. Prior to being acquired by 3R, the tank battery and associated lease was operated by Read & Steven's, Inc. In response to the lease transfer, a historical aerial imagery review was conducted, where members of the NMSLO's realty group identified evidence of a historical release in the north-central portion of the tank battery facility. Based on a review of available records and aerial imagery, it appears limited remediation activities have been conducted, although environmental records are not readily available. A "Historical Aerial" depicting the area of concern is provided as Attachment #2. A "Proposed

Sample Location Map” depicting the active facility and proposed sampling locations is provided as Attachment #3.

Review of available New Mexico Oil Conservation Division (NMOCD) Permitting data suggests that there have been no environmental field inspection violations at the facility. Review of incident records suggests that there has been one (1) reportable incident (nPRS0413152570) associated with the tank battery. Review of environmental records indicates that on May 16, 2004, the failure of a dump valve resulted in the release of eight (8) barrels of produced water. Environmental records suggests that by July 26, 2004, limited remediation activities were conducted, including the excavation and disposition of chloride contaminated soil; there is no “Release Notification and Correction Action” (NMOCD Form C-141) of closure documentation currently available. Given this, interim remediation/reclamation activities will be conducted in accordance with the NMOCD and NMSLO, as necessary. NMOCD Permitting details are provided as Attachment #4.

The soil in the vicinity of the Site can be described as Kimbrough-Lea complex with 0 to 3 percent slopes. Additional information regarding soil types is provided as Attachment #5.

Based on a review of historical aerial imagery, reclamation activities are not expected to affect natural habitat or previously undisturbed areas where the Cultural Properties Protection Rule is applicable. In the event interim reclamation/remediation activities lead to previously undisturbed areas, the Cultural Properties Protection Rule will be complied with, as necessary.

Based on a review of groundwater databases maintained by the New Mexico Office of the State Engineer and United States Geological Survey, as well as local drilling, the probable depth to groundwater was determined to be approximately (60) feet (ft) below ground surface (bgs) at the Site.

Additionally, the Site is not proximate to other sensitive receptors identified in Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC), such as continuously flowing watercourses, lakebeds, sinkholes, playas, occupied permanent residences, schools, hospitals, institutions, churches, springs, freshwater wells, municipal freshwater well fields, wetlands, subsurface mines, unstable areas, and/or 100-year floodplains. NMOCD Siting information is provided as Attachment #6.

The Site is not located in any critical habitat. In the event wildlife or other sensitive species such as migratory birds or the Lesser Prairie-Chicken are encountered during the course of reclamation activities, the project scope will be reevaluated to ensure compliance with applicable rules, as necessary. Details regarding protected species and/or habitats are provided as Attachment #7.



## RECLAMATION ACTIVITIES

Etech proposes the following interim reclamation activities designed to allow for the transfer of the lease at the Site:

- Upon notifying the NMSLO, conduct an initial soil investigation at the Site. The initial soil investigation will include the collection of soil samples from the surface and at 1 ft. bgs from the areas of concern in the active tank battery facility identified by the NMSLO's realty group during the historical aerial review. The collected soil samples will be analyzed for concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing EPA SW-846 Method 8021, total petroleum hydrocarbons (TPH) utilizing Environmental Protection Agency (EPA) SW-846 Method 8015M Ext., and chloride utilizing EPA 300.0 and/or SM 4500 Cl B, if applicable. The NMSLO will be notified at least two (2) business days prior to the commencement of any reclamation and/or confirmation sampling activities.
- Upon receiving laboratory analytical results from the initial soil investigation samples, excavate visibly and non-visibly impacted portions of the tank battery facility affected above the NMOCD Remediation Standards and/or NMOCD Reclamation Standards, as described in the "Procedures for Implementation of the Spill Rule (19.15.29 NMAC)", dated September 6, 2019 (10 ppm benzene, 50 ppm BTEX, 100 ppm TPH, and 600 ppm chloride). The floors and sidewalls of the excavated area(s) will be advanced until laboratory analytical results from 5-point composite excavation confirmation soil samples (representing no more than 200 sq. ft.) indicate concentrations of benzene, BTEX, TPH, and chloride are below the NMOCD Reclamation Standards and/or the NMOCD Remediation Standards, whichever is applicable.
  - It should be noted that if the excavation encroaches on the active tank battery equipment, deferral characterization soil samples will be collected, as necessary, and material affected above the NMOCD Reclamation Standards/Remediation Standards remaining in-situ will be treated with a Microblaze® or similar solution. Final remediation/reclamation will be conducted in accordance with the NMOCD and NMSLO once the facility is decommissioned.
- Upon receiving laboratory analytical results from excavation confirmation soil samples, the excavated areas will be backfilled with locally-sourced, non-impacted "like" material. Affected areas within the active facility will be backfilled, compacted and graded to meet the needs of the facility.
- Interim reclamation/remediation activities are not expected to affect the adjacent pasture area. In the event interim reclamation/remediation activities lead into the adjacent pasture, disturbed areas will be reseeded with State Coarse Sites Seed Mixture, as necessary.

- Upon completion of interim reclamation/remediation activities, a *Remediation Summary and Closure (or Deferral Request, if applicable)* detailing field activities and laboratory analytical results from confirmation soil samples will be prepared and submitted to the NMSLO and NMOCD.

## PROPOSED SCHEDULE AND TIMELINE

Reclamation activities are expected to commence within 30 days of receiving NMSLO approval and are estimated to take three (3) weeks to complete.

If you have any questions or need any additional information, please feel free to contact me or Austin Tramell by phone or email.

Sincerely,




Joel Lowry

Etech Environmental & Safety Solutions

### Attachments:

- Attachment #1 - Site Location Map
- Attachment #2 - Historical Aerial
- Attachment #3 - Proposed Sample Location Map
- Attachment #4 - NMOCD Permitting Details
- Attachment #5 - Soil Type Information
- Attachment #6 - NMOCD Siting Information
- Attachment #7 - Protected Species and/or Habitat Details



Legend:	
	Site Location

<b>Attachment #1</b> Site Location Map 3 R Operating Shell State Tank Battery GPS: 33.369742, -103.647038 Lea Co, NM
---

		
Drafted: jwl	Checked: client	Date: 4/4/25





## Legend:

N/A

**Attachment #2**  
Historical Aerial  
3 R Operating  
Shell State Tank Battery  
GPS: 33.369742, -103.647038  
Lea Co, NM




Drafted:

Checked: jwl

Date: 4/4/25





<b>Legend:</b>  ● Proposed Sample Point	<b>Attachment #3</b> Proposed Sample Location Map 3 R Operating Shell State Tank Battery GPS: 33.369742, -103.647038 Lea Co, NM	 Drafted: Checked: jwl Date: 4/4/25
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## OCD Permitting

[Home](#)

[Searches](#)

[Incidents](#)

[Incident Details](#)

### NPRS0413152570 SHELL STATE #001 @ 30-025-22409

#### General Incident Information

Site Name: SHELL STATE #001

Well: [\[30-025-22409\]](#) SHELL STATE #001

Facility:

Operator: [\[331569\]](#) 3R Operating, LLC

Status: Closure Not Approved, Pending submission of C-141 from the operator

Type: Produced Water Release

Severity: Minor

Surface Owner: State

District: Hobbs

County: Lea (25)

Incident Location: A-18-11S-33E 660 FNL 510 FEL

Lat/Long: 33.3713417,-103.6469498 NAD83

Directions:

#### Notes

Source of Referral: Industry Rep

Action / Escalation: Other - Specify in Notes

Resulted In Fire: ☐

Resulted In Injury: ☐

Endangered Public Health: ☐

Will or Has Reached Watercourse: ☐

Fresh Water Contamination: ☐

Property Or Environmental Damage: ☐

#### Contact Details

Contact Name:

Contact Title:

#### Event Dates

Date of Discovery: 03/16/2004

Initial C-141 Report Due: 3/31/2004

Remediation Closure Report Due: 11/13/2018

#### Incident Dates

Type	Action	Received	Denied	Approved
Remediation Closure Report Extension		08/15/2018		08/15/2018
Sampling Notice	<a href="#">[403610]</a>	11/15/2024		11/15/2024

#### Compositional Analysis of Vented and/or Flared Natural Gas

No Compositional Analysis Found

- Quic
- [Gene](#)
  - [Mater](#)
  - [Event](#)
  - [Order](#)
  - [Actor](#)
- Asso
- [Incide](#)
  - [Well F](#)
- New
- [New f](#)
  - [New I](#)
  - [New C](#)
  - [New f](#)
  - [New S](#)
  - [New T](#)
  - [New \](#)

Corrosion	Dump Valve	Produced Water	<input type="checkbox"/>	8	0	8	BBL
The concentration of dissolved chloride in the produced water >10,000 mg/l: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							

Incident Events

Date	Detail
11/15/2024	The (11/15/2024, G-141N) application <a href="#">[403610]</a> was assigned to this incident.
07/26/2004	W. Palmer sent chloride contaminated soil to landfarm. No sample data submitted.

Incident Severity

Major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--

Incident Corrective Actions

- No initial response data was found for this incident.
- No site characterization data was found for this incident.
- No remediation plan data was found for this incident.
- No active remediation deferral request was found for this incident.
- No remediation closure report data was found for this incident.
- No reclamation report data was found for this incident.
- No re-vegetation report data was found for this incident.

Orders

No Orders Found

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

Shell State #003

## 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

Shell State #003

*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

#### 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*

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

Shell State #003

#### **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

#### **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)

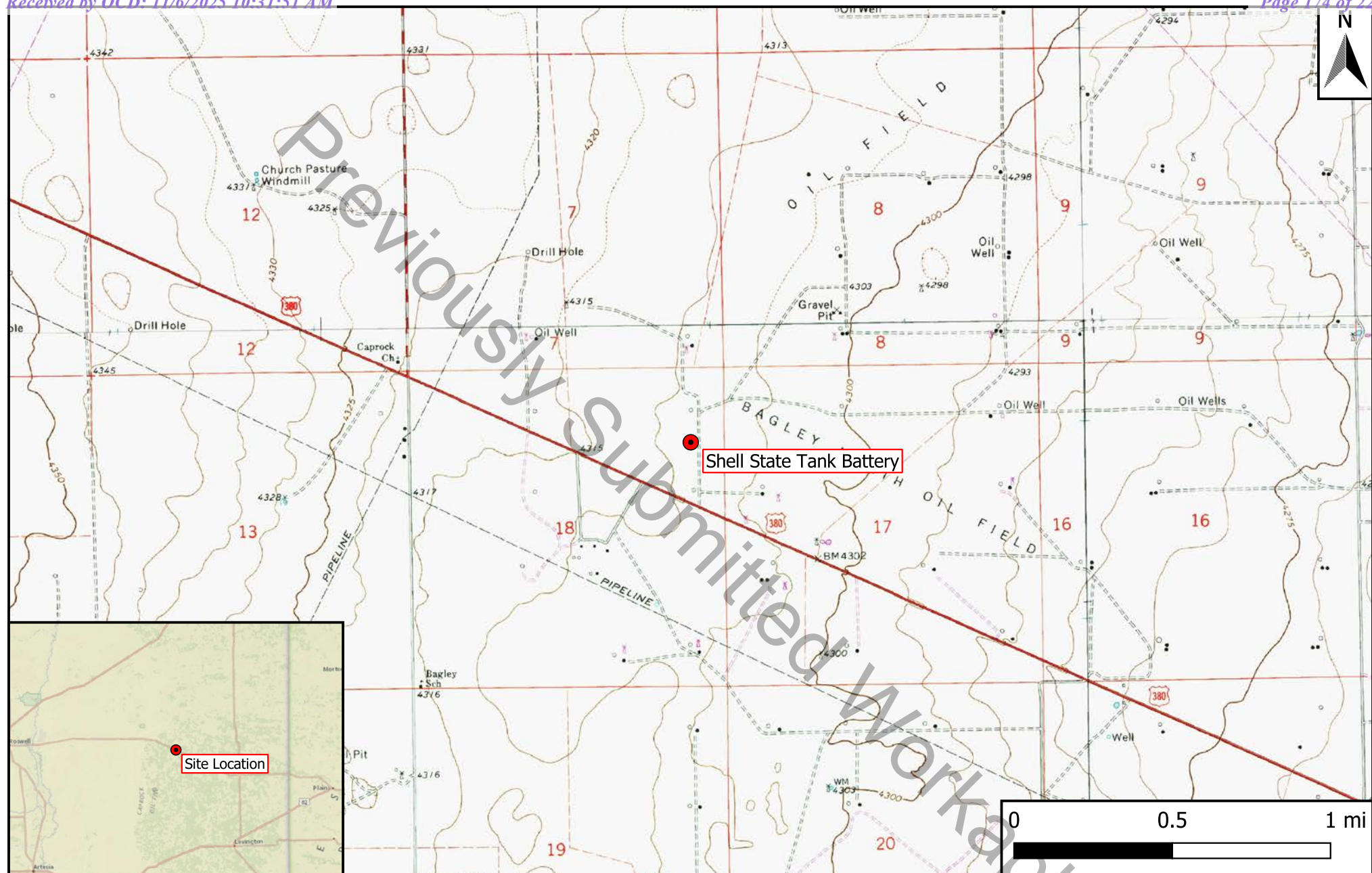
*Hydric soil rating:* No

### **Data Source Information**

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 21, Sep 3, 2024





## Legend

- Site Location

**Figure 1**  
 Site Location Map  
 3 R Operating  
 Shell State Tank Battery  
 GPS: 33.369742, -103.647038  
 Lea County, New Mexico

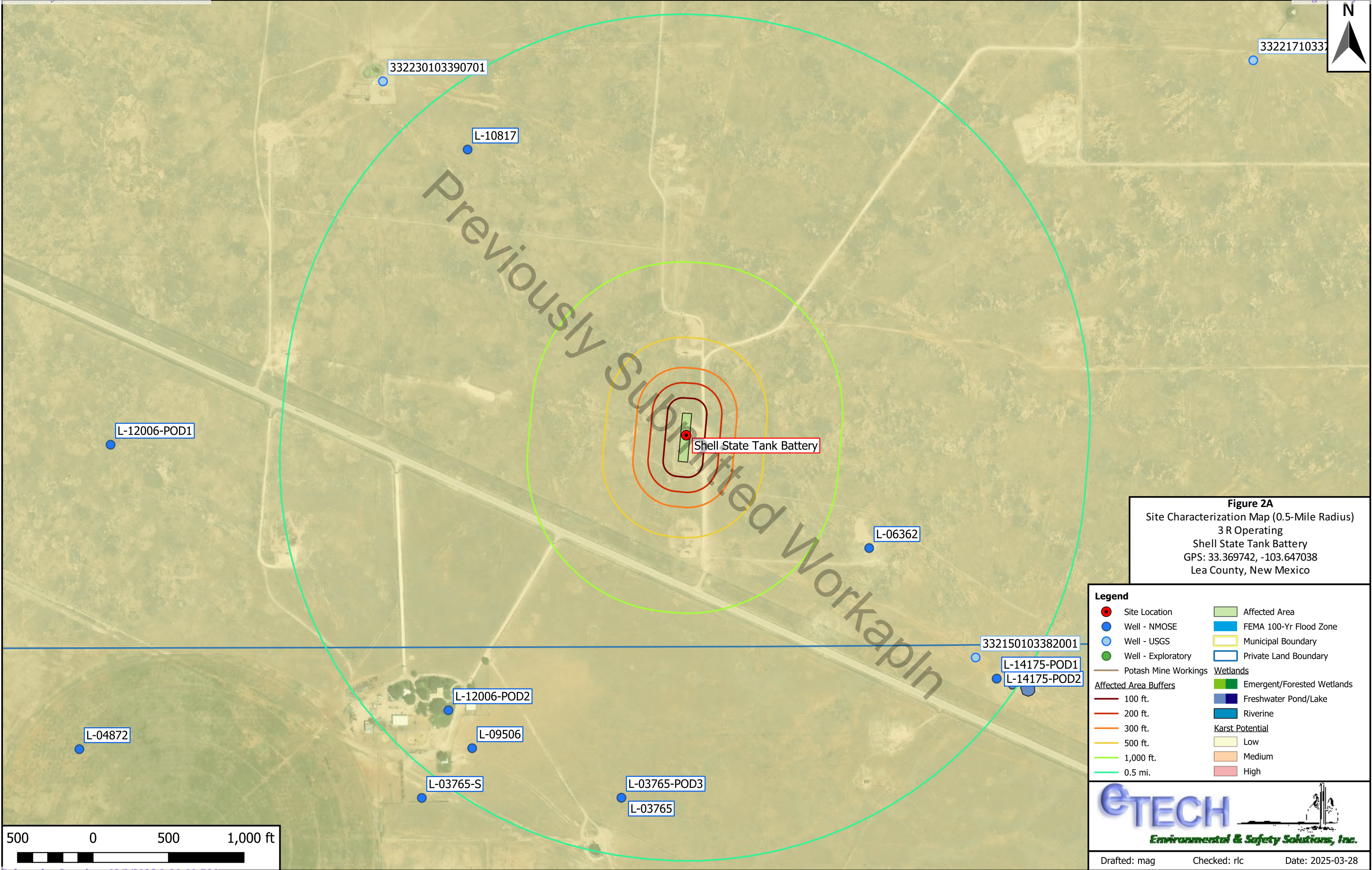
**ETECH**  
 Environmental & Safety Solutions, Inc.

Drafted: mag

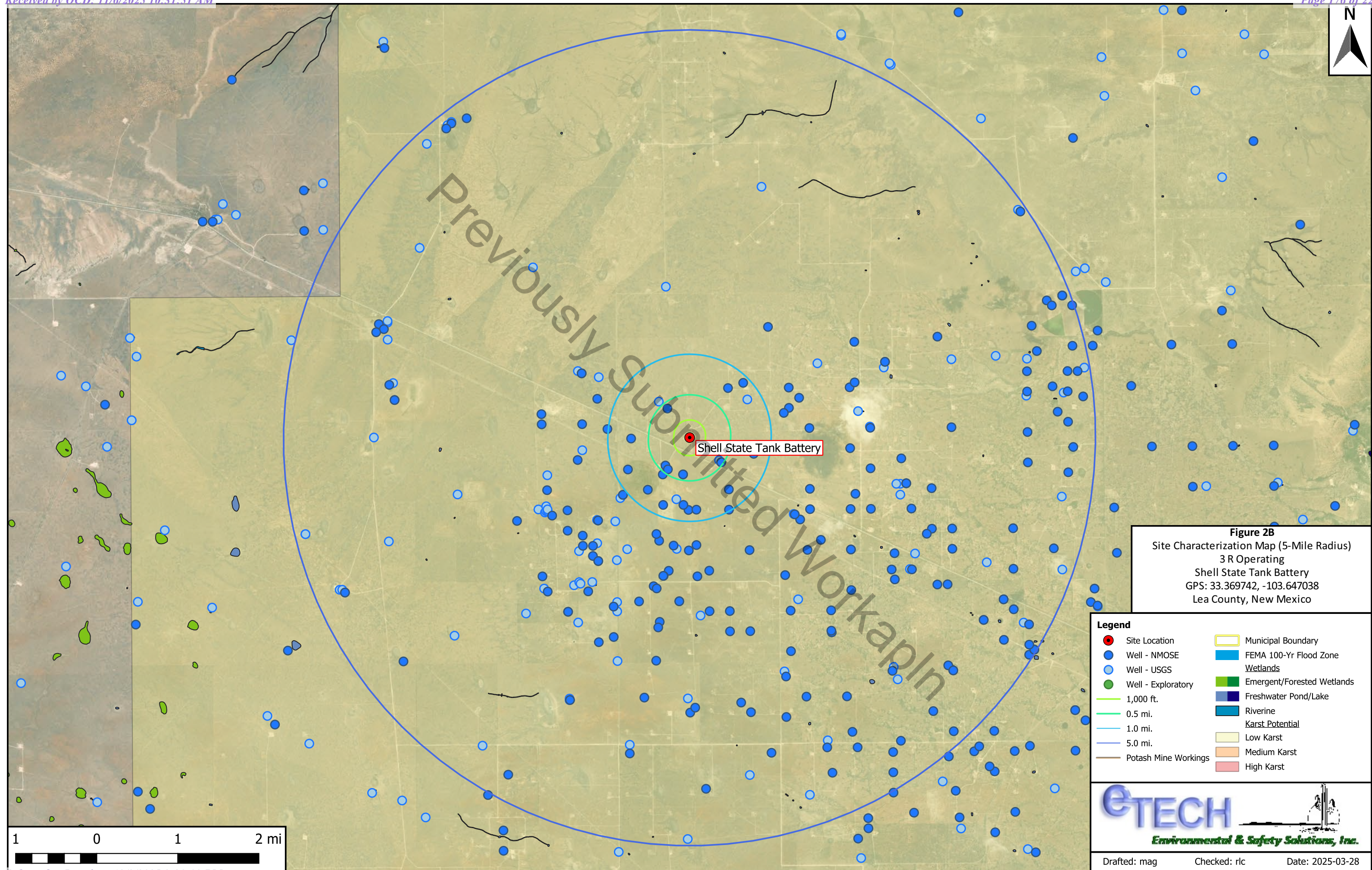
Checked: rlc

Date: 2025-03-28



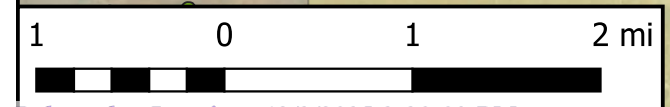






**Figure 2B**  
Site Characterization Map (5-Mile Radius)  
3 R Operating  
Shell State Tank Battery  
GPS: 33.369742, -103.647038  
Lea County, New Mexico

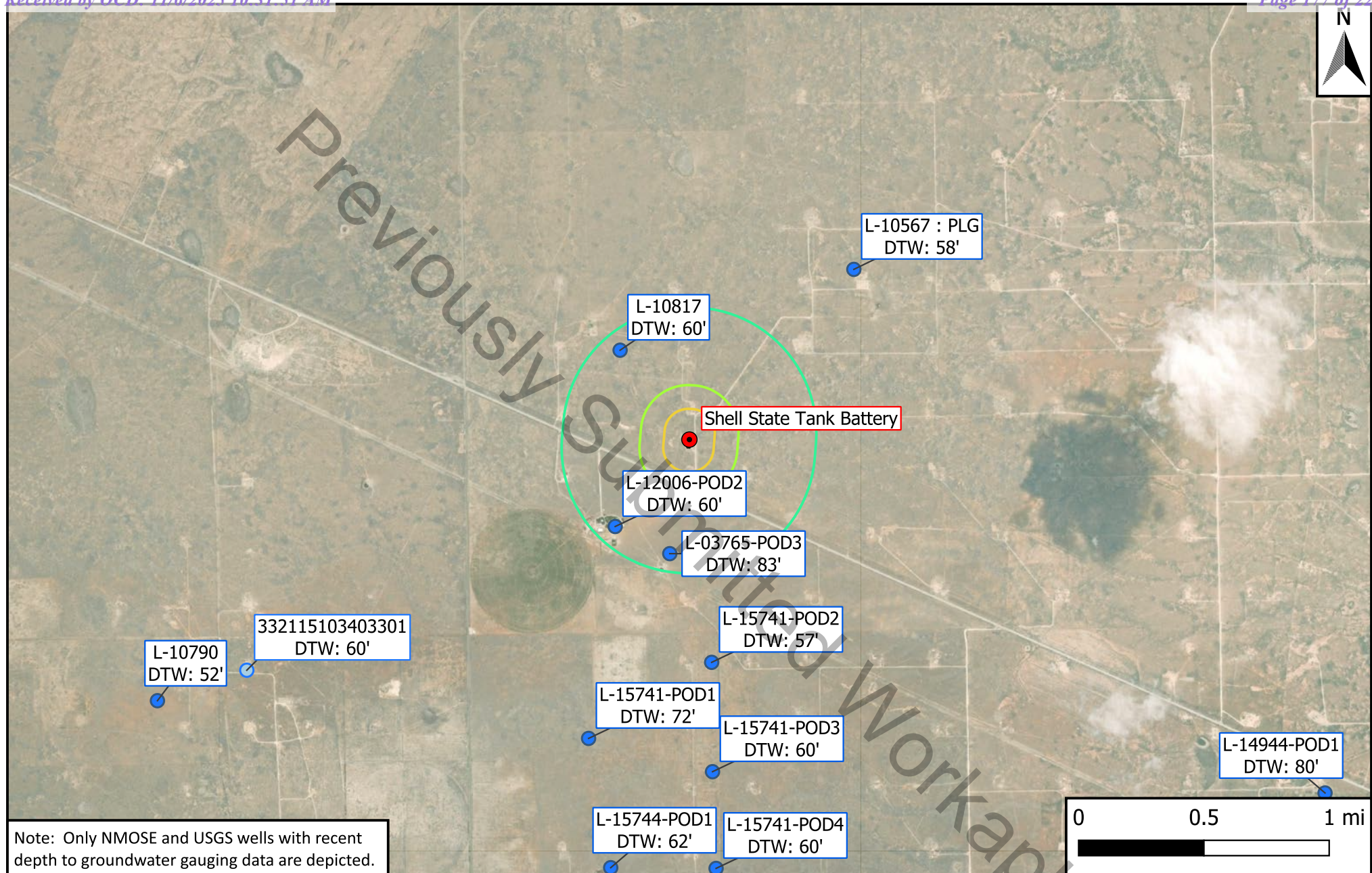
- Legend**
- |                      |                            |
|----------------------|----------------------------|
| Site Location        | Municipal Boundary         |
| Well - NMOSE         | FEMA 100-Yr Flood Zone     |
| Well - USGS          | Wetlands                   |
| Well - Exploratory   | Emergent/Forested Wetlands |
| 1,000 ft.            | Freshwater Pond/Lake       |
| 0.5 mi.              | Riverine                   |
| 1.0 mi.              | Karst Potential            |
| 5.0 mi.              | Low Karst                  |
| Potash Mine Workings | Medium Karst               |
|                      | High Karst                 |



**ETECH**  
Environmental & Safety Solutions, Inc.

Drafted: mag      Checked: rlc      Date: 2025-03-28





## Legend

- Active Site Locations
- Well - NMOSE
- Well - USGS
- Well - Exploratory
- Affected Area
- 500 ft.
- 1,000 ft.
- 0.5 mi.

**Figure 4**  
Inferred Depth to Groundwater Map  
3 R Operating  
Shell State Tank Battery  
GPS: 33.369742, -103.647038  
Lea County, New Mexico



Drafted: mag


Checked: rlc

Date: 2025-03-28

# Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	L 10817		SW	SE	07	11S	33E	625418.0	3693669.0 *	

\* UTM location was derived from PLSS - see Help

Driller License:	421	Driller Company:	GLENN'S WATER WELL SERVICE		
Driller Name:	GLENN, CLARK A."CORKY" (LD)				
Drill Start Date:	1998-06-05	Drill Finish Date:	1998-06-05	Plug Date:	
Log File Date:	1998-06-17	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	40
Casing Size:	5.50	Depth Well:	125	Depth Water:	60

## Water Bearing Stratifications:

Top	Bottom	Description
65	122	Other/Unknown

## Casing Perforations:

Top	Bottom
65	125

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.

STATE ENGINEER OFFICE

WELL RECORD

Revised June 1972

Section 1. GENERAL INFORMATION

148170

(A) Owner of well Pearce Ranch Owner's Well No. \_\_\_\_\_  
Street or Post Office Address West Star Box 52  
City and State Tatum, New Mexico 88267

Well was drilled under Permit No. #1-10,817 and is located in the:  
a. \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  of Section 7 Township 11-S. Range 33-E. N.M.P.M.  
b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
Subdivision, recorded in \_\_\_\_\_ County.  
d. X= \_\_\_\_\_ feet, Y= \_\_\_\_\_ feet, N.M. Coordinate System \_\_\_\_\_ Zone in  
the \_\_\_\_\_ Grant.

(B) Drilling Contractor Glenn's Wager Well Service License No. WD-421  
Address P.O. Box 692 Tatum, New Mexico 88267  
Drilling Began 6/5/98 Completed 6/5/98 Type tools rotary Size of hole 9 7/8 in.  
Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 125 ft.  
Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 60 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
65	122	57	Sand	40 GPM

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5½"	.250	T&C			125	none	65	125

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_  
Address \_\_\_\_\_  
Plugging Method \_\_\_\_\_  
Date Well Plugged \_\_\_\_\_  
Plugging approved by: \_\_\_\_\_  
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

Date Received 06/17/98 FOR USE OF STATE ENGINEER ONLY 507088  
Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_  
File No. L-10,817 Use Stock Location No. 11.33.7.4330



[illegible]

98 JUN 17 AM 10 23

*Cosby* *Driller*  
Driller

Released to Imaging: 12/2/2025 2:20:03 PM

STATE ENGINEER OFFICE  
WELL RECORD

June 15 '98  
Revised June 1972

Section 1. GENERAL INFORMATION

(A) Owner of well Pearce Ranch Owner's Well No. \_\_\_\_\_  
Street or Post Office Address West Star Box 52  
City and State Tatum, New Mexico 88267

Well was drilled under Permit No. #1-10,817 and is located in the:  
a. \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  of Section 7 Township 11-S. Range 33-E. N.M.P.M.  
b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
Subdivision, recorded in \_\_\_\_\_ County.  
d. X= \_\_\_\_\_ feet, Y= \_\_\_\_\_ feet, N.M. Coordinate System \_\_\_\_\_ Zone in  
the \_\_\_\_\_ Grant.

(B) Drilling Contractor Glenn's Wafer Well Service License No. WD-421  
Address P.O. Box 692 Tatum, New Mexico 88267  
Drilling Began 6/5/98 Completed 6/5/98 Type tools rotary Size of hole 9 7/8 in.  
Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 125 ft.  
Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 60 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
65	122	57	Sand	40 GPM

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5 1/2"	.250	T&C			125	none	65	125

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_  
Address \_\_\_\_\_  
Plugging Method \_\_\_\_\_  
Date Well Plugged \_\_\_\_\_  
Plugging approved by: \_\_\_\_\_  
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 11/7/00

Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_

[illegible]

## Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.


Cosky Blum  
Driller

**INSTRUCTIONS:** This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired, or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

# Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
L 12006	POD2	SE	NW	NW	18	11S	33E	625386.5	3692537.3	

\* UTM location was derived from PLSS - see Help

Driller License:	421	Driller Company:	GLENN'S WATER WELL SERVICE
Driller Name:	CORKY GLENN		
Drill Start Date:	2008-08-27	Drill Finish Date:	2008-08-27
Log File Date:	2008-09-04	PCW Rcv Date:	
		Source:	Shallow
Pump Type:		Pipe Discharge Size:	
		Estimated Yield:	
Casing Size:	6.63	Depth Well:	155
		Depth Water:	60

## Casing Perforations:

Top	Bottom
60	152

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.



9/3/08

OSE FILE NUMBER \_\_\_\_\_  
For OSE Use OnlyNEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD and DRILLING LOG

## 1. PERMIT HOLDER(S)

Name: PEARCE TRUST  
Address: 1717 JACKSON  
City: PECOS  
State: TX Zip: 79772  
Phone: \_\_\_\_\_  
Contact: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_

## 2. STATE ENGINEER REFERENCE NUMBERS:

File # L-12006, Well # 1

## 3. LOCATION OF WELL (The Datum Is Assumed To Be WGS 84 Unless Otherwise Specified)

Latitude: N 33° Deg 21 Min 53.16 Sec  
Longitude: W 103° Deg 39 Min 8.05 Sec(Enter Lat/Long To At Least 1/10<sup>th</sup> Of A Second)Datum If Not WGS 84: SE 1/4 NW 1/4 SEC. 18, T11-S, R33-EAST

## 4. DRILLING CONTRACTOR

License Number: WD 421  
Name: GLENN'S WATER WELL SERVICE, Work Phone: 505-398-2424Drill Rig Serial Number: 0582

List The Name Of Each Drill Rig Supervisor That Managed On-Site Operations During The Drilling Process:

CORKY GLENN

## 5. DRILLING RECORD

Drilling Began: 8/27/08; Completed: 8/27/08; Drilling Method ROTARY MUD

Diameter Of Bore Hole: \_\_\_\_\_ (in);

Total Depth Of Well: 155 (ft);Completed Well Is (Circle One) Shallow Artesian;Depth To Water First Encountered: 60' (ft);Depth To Water Upon Completion Of Well: 60' (ft).

Do Not Write Below This Line

TRN Number: 485546  
Form: wr-20 May 07File Number: L-12206  
L-12006

page 1 of 4

CLW

12

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO  
2008 SEP -4 P 12:01

For QSE Use Only

## 6. RECORD OF CASING

[illegible]

### RECORD OF MUDDING AND CEMENTING

[illegible]

Do Not Write Below This Line

File Number:

page 2 of 4

For OSE Use Only

**8. LOG OF HOLE.** For Each Water Bearing Strata, Estimate The Yield Of The Formation In Gallons Per Minute.

[illegible]

Do Not Write Below This Line

File Number:

page 3 of 4

STATE ENGINEER OFFICE  
ROSMEL, NEW MEXICO  
2008 SEP -4 P 12:01

OSE FILE NUMBER \_\_\_\_\_

For OSE Use Only

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

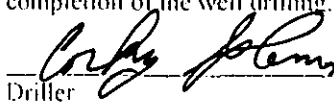
## 9. ADDITIONAL STATEMENTS OR EXPLANATIONS:

DRILLED 14 3/4" HOLE TO 21' AND SET 21' OF 10 3/4"  
CASING AND CEMENTED TO TOP OF WELL

DATE RECEIVED

The undersigned hereby certifies that, to the best of his or her knowledge and belief, the foregoing is a true and correct record of the above described bore hole. The undersigned further certifies that he or she will file this well record with the Office Of The State Engineer and permit holder within 20 days after completion of the well drilling.

Driller

9/3/08  
(mm/dd/year)

Do Not Write Below This Line

Trn Number: \_\_\_\_\_

Form wr-20 May 07

File Number: \_\_\_\_\_


page 4 of 4



## Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
L 03765	POD3	SW	NE	SE	18	11S	33E	625737.0	3692363.0	

\* UTM location was derived from PLSS - see Help

**Driller License:** 1058 **Driller Company:** KEY'S DRILLING & PUMP SERVICE

**Driller Name:** KEY, CLINTON

**Drill Start Date:** 2011-10-20 **Drill Finish Date:** 2011-10-28 **Plug Date:**

**Log File Date:** 2011-11-16 **PCW Rcv Date:** **Source:** Shallow

**Pump Type:** **Pipe Discharge Size:** **Estimated Yield:**

**Casing Size:** 13.25 **Depth Well:** 160 **Depth Water:** 83

## Water Bearing Stratifications:

Top	Bottom	Description
83	90	Sandstone/Gravel/Conglomerate
90	120	Sandstone/Gravel/Conglomerate
130	155	Sandstone/Gravel/Conglomerate

## Casing Perforations:

Top	Bottom
45	125

## Meter Information

<b>Meter Number:</b>	17331	<b>Meter Make:</b>	MCCROMETER
<b>Meter Serial Number:</b>	18-03392-06	<b>Meter Multiplier:</b>	100.0000
<b>Number of Dials:</b>	6	<b>Meter Type:</b>	Diversion
<b>Unit of Measure:</b>	Gallons	<b>Reading Frequency:</b>	Monthly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
2012-01-01	2012	0.000	A	RPT		0.000	
2012-04-01	2012	163274.000	A	RPT		50.107	
2012-07-01	2012	289711.000	A	RPT		38.802	
2012-12-03	2012	589764.000	A	RPT		92.083	
2013-04-08	2013	892561.000	A	RPT		92.925	
2013-11-08	2013	169906.000	R	RPT	Meter Rollover	85.114	
2014-04-01	2014	326143.000	A	RPT		47.947	
2014-07-01	2014	360719.000	A	RPT		10.611	
2014-10-01	2014	372652.000	A	RPT		3.662	
2015-01-01	2015	373282.000	A	RPT		0.193	
2015-04-01	2015	469793.000	A	RPT		29.618	
2015-07-01	2015	586490.000	A	RPT		35.813	
2015-10-01	2015	597347.000	A	RPT		3.332	
2016-01-01	2016	605145.000	A	RPT		2.393	
2016-07-01	2016	642600.000	A	RPT		11.495	
2016-10-01	2016	742827.000	A	RPT		30.759	
2017-01-02	2017	769841.000	A	RPT		8.290	
2017-04-01	2017	801270.000	A	RPT		9.645	
2018-01-01	2018	801270.000	A	ap		0.000	
2018-04-13	2018	0.000	A	ap		0.000	
2018-07-01	2018	150468.000	A	ap		46.177	
2019-01-01	2019	337273.000	A	ap		57.328	
2019-04-01	2019	444952.000	A	ap		33.045	
2019-07-01	2019	535886.000	A	ap		27.907	
2020-04-01	2020	730920.000	A	ap		59.854	
2020-07-01	2020	952059.000	A	dd		67.865	
2020-10-01	2020	133020.000	R	dd	Meter Rollover	55.535	
2021-01-01	2020	203424.000	A	dd		21.606	
2021-04-01	2021	229906.000	A	dd		8.127	

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
2021-07-01	2021	275780.000	A	dd		14.078	
2021-10-01	2021	426379.000	A	dd		46.217	
2022-01-01	2021	490297.000	A	dd		19.616	
2022-04-01	2022	509551.000	A	dd		5.909	
2022-07-01	2022	666601.000	A	dd		48.197	
2022-10-01	2022	764835.000	A	dd		30.147	
2023-01-01	2022	805862.000	A	dd		12.591	
2023-08-13	2023	36378.000	R	jb	Meter Rollover	70.743	

## YTD Meter Amounts:

Year	Amount
2012	180.992
2013	178.039
2014	62.220
2015	68.956
2016	44.647
2017	17.935
2018	46.177
2019	118.280
2020	204.860
2021	88.038
2022	96.844
2023	70.743

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.

Previously Submitted Workapln



# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Lea County, New Mexico



## Local office

New Mexico Ecological Services Field Office

☎ (505) 346-2525

📅 (505) 346-2542

2105 Osuna Road Ne

Albuquerque, NM 87113-1001

Previously Submitted Workapln  
NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

- 
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
  2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Birds

NAME	STATUS
Lesser Prairie-chicken <i>Tympanuchus pallidicinctus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/1924">https://ecos.fws.gov/ecp/species/1924</a>	Endangered
Northern Aplomado Falcon <i>Falco femoralis septentrionalis</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/1923">https://ecos.fws.gov/ecp/species/1923</a>	<a href="#">EXPN</a>

## Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found There is <b>proposed</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Proposed Threatened

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

## Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2](#) and the Migratory Bird Treaty Act (MBTA) [1](#). Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds  
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds  
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC  
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

### Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

### Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

### Review the FAQs

The FAQs below provide important additional information and resources.

## NAME

## BREEDING SEASON

Golden Eagle *Aquila chrysaetos*

Breeds Dec 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

## Survey Effort (I)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

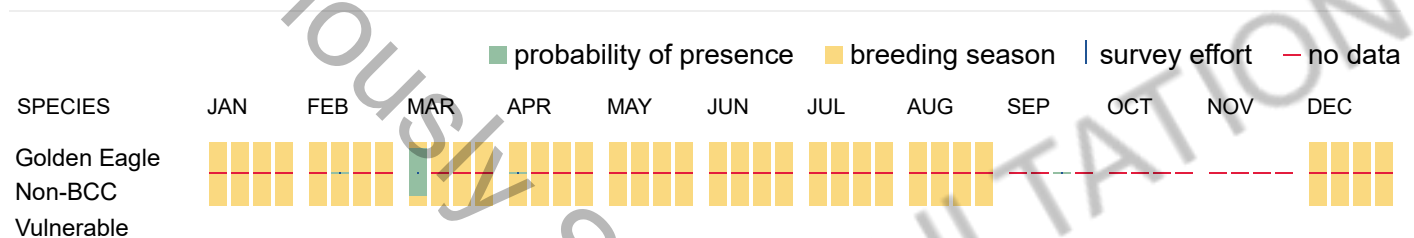
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

## No Data (-)

A week is marked as having no data if there were no survey events for that week.

## Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



## Bald & Golden Eagles FAQs

### What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply).

### Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

### How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird

species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

#### **How is the probability of presence score calculated? The calculation is done in three steps:**

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

#### **Breeding Season ()**

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

#### **Survey Effort ()**

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

#### **No Data ()**

A week is marked as having no data if there were no survey events for that week.

#### **Survey Timeframe**

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

## Migratory birds

The Migratory Bird Treaty Act (MBTA) <sup>1</sup> prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.



1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds  
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC  
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

### Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases [birds of concern](#), including [Birds of Conservation Concern \(BCC\)](#), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the [Nationwide avoidance and minimization measures for birds](#) document, and any other project-specific avoidance and minimization measures suggested at the link [Measures for avoiding and minimizing impacts to birds](#) for the birds of concern on your list below.

### Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles document](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

### Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Ferruginous Hawk <i>Buteo regalis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/6038">https://ecos.fws.gov/ecp/species/6038</a>	Breeds Mar 15 to Aug 15

**Golden Eagle *Aquila chrysaetos***

Breeds Dec 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

**Long-billed Curlew *Numenius americanus***

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/5511>

**Northern Harrier *Circus hudsonius***

Breeds Apr 1 to Sep 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/8350>

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the

maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

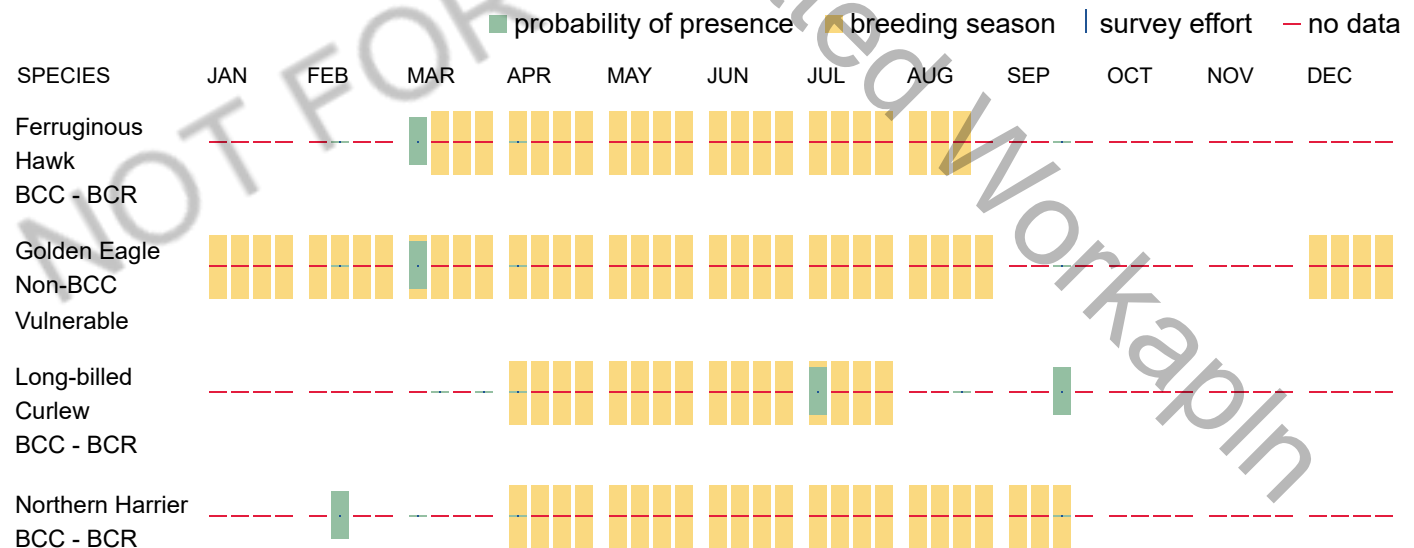
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### No Data (—)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



## Migratory Bird FAQs

**Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Avoidance & Minimization Measures for Birds](#) describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

### **What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the [Bald and Golden Eagle Protection Act](#) and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **Why are subspecies showing up on my list?**

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering, or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird



species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Bald and Golden Eagle Protection Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

### Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

### Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

#### **How is the probability of presence score calculated? The calculation is done in three steps:**

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

#### **Breeding Season ()**

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

#### **Survey Effort ()**

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

#### **No Data ()**

A week is marked as having no data if there were no survey events for that week.

#### **Survey Timeframe**

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

## Facilities

### National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

## Fish hatcheries

There are no fish hatcheries at this location.

## Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location did not intersect any wetlands mapped by NWI.

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Previously Submitted Workapln  
NOT FOR CONSULTATION



## **Appendix F**

### **Cultural Properties Protection Rule Documentation**

Previously Submitted Workapln



Stephanie Garcia Richard  
COMMISSIONER

*State of New Mexico*  
*Commissioner of Public Lands*

310 OLD SANTA FE TRAIL  
P.O. BOX 1148  
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE

Phone (505) 827-5760  
Fax (505) 827-5766  
www.nmstatelands.org

MEMORANDUM

TO: E-Tech Environmental and Safety Solutions LLC

FROM: Carlyn Stewart, *Trust Land Archaeologist*  
(505) 365-3800  
cstewart@nmslo.gov

SUBJECT: E-Tech Environmental and Safety Solutions LLC  
Remediation for: Shell State Tank Battery  
T11S R33E S18 N.M.P.M. Lea County

REFERENCE: NMSLO Cultural Properties Protection Rule (19.2.24 NMAC)

DATE: 6/26/2025

Thank you for your submission relating to the Proponent's proposed remediation activities at Shell State Tank Battery Reclamation.. An archaeological survey of the entire area of potential effect has been completed (NMCRIS Activity No. 158512) and no cultural properties were identified. Pursuant to NMSLO 19.2.24.8 (C) NMAC, remediation may proceed.

If any cultural materials are inadvertently encountered during surface disturbance, work must cease within 50 feet and the NMSLO Cultural Resources Office must be notified immediately by emailing ([CROinfo@slo.state.nm.us](mailto:CROinfo@slo.state.nm.us)). Please reach out if you have questions or need additional clarification.

Corrosion	Dump Valve	Produced Water	<input type="checkbox"/>	8	0	8	BBL
The concentration of dissolved chloride in the produced water >10,000 mg/l: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							

Incident Events

Date	Detail
11/15/2024	The (11/15/2024, C-141N) application <a href="#">[403610]</a> was assigned to this incident.
07/26/2004	W. Palmer sent chloride contaminated soil to landfarm. No sample data submitted.

Incident Severity

Major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
--	--

Incident Corrective Actions

- No initial response data was found for this incident.
- No site characterization data was found for this incident.
- No remediation plan data was found for this incident.
- No active remediation deferral request was found for this incident.
- No remediation closure report data was found for this incident.
- No reclamation report data was found for this incident.
- No re-vegetation report data was found for this incident.

Orders

No Orders Found

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

Shell State #003

*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

### 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*



## **Appendix F**

### **Cultural Properties Protection Rule Documentation**



Stephanie Garcia Richard  
COMMISSIONER

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FROM: Carlyn Stewart, *Trust Land Archaeologist*  
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cstewart@nmslo.gov

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Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 523825

**QUESTIONS**

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 523825
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nPRS0413152570
Incident Name	NPRS0413152570 SHELL STATE #001 @ 30-025-22409
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-22409] SHELL STATE #001

**Location of Release Source**

Please answer all the questions in this group.

Site Name	SHELL STATE #001
Date Release Discovered	03/16/2004
Surface Owner	State

**Incident Details**

Please answer all the questions in this group.

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

**Nature and Volume of Release**

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion   Dump Valve   Produced Water   Released: 8 BBL   Recovered: 0 BBL   Lost: 8 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 523825

**QUESTIONS (continued)**

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 523825
	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)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	<b>No</b>
Reasons why this would be considered a submission for a notification of a major release	<i>Unavailable.</i>
<i>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.</i>	

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

*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: Austin Trammell Title: Director of environmental and regulatory Email: atrammell@3roperating.com Date: 11/06/2025
--	--



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QUESTIONS, Page 3

Action 523825

**QUESTIONS (continued)**

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 523825
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Site Characterization</b>	
<i>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.</i>	
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 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1000 (ft.) and ½ (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 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	No

<b>Remediation Plan</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>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.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
<b>Soil Contamination Sampling:</b> (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	10300
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	11900
GRO+DRO (EPA SW-846 Method 8015M)	9820
BTEX (EPA SW-846 Method 8021B or 8260B)	2.3
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	09/26/2025
On what date will (or did) the final sampling or liner inspection occur	10/26/2025
On what date will (or was) the remediation complete(d)	11/07/2025
What is the estimated surface area (in square feet) that will be reclaimed	16200
What is the estimated volume (in cubic yards) that will be reclaimed	2225
What is the estimated surface area (in square feet) that will be remediated	6400
What is the estimated volume (in cubic yards) that will be remediated	22800
<i>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.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 4

Action 523825

**QUESTIONS (continued)**

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID:
	331569
	Action Number:
	523825
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	FEEM0112338393 GANDY MARLEY LANDFARM/LANDFILL
<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	No
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Austin Tramell Title: Director of environmental and regulatory Email: atramell@3roperating.com Date: 11/06/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 523825

QUESTIONS (continued)

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	Action Number:  523825
	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

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QUESTIONS, Page 6

Action 523825

**QUESTIONS (continued)**

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	Action Number: 523825
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	497229
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	08/29/2025
What was the (estimated) number of samples that were to be gathered	36
What was the sampling surface area in square feet	2700

**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	2980
What was the total volume (cubic yards) remediated	900
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	135
What was the total volume (in cubic yards) reclaimed	20
Summarize any additional remediation activities not included by answers (above)	Refer to attached workplan

*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: Austin Trammell Title: Director of environmental and regulatory Email: atrammell@3roperating.com Date: 11/06/2025
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Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 7  
  
Action 523825

QUESTIONS (continued)

Operator:  3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID:  331569
	Action Number:  523825
	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 523825

CONDITIONS

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 523825
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #nPRS0413152570 SHELL STATE #001, thank you. This Remediation Closure Report is approved.	12/2/2025