

# Remediation Summary and Soil Closure Request

## Permian Resources Raider Fed Com 101H

Lea County, New Mexico  
Unit Letter A, Section 21, Township 24 South, Range 34 East  
Latitude 32.20917 North, Longitude 103.46866 West  
NMOCD Reference No. nAPP2219045002

Prepared By:

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Robbie Runnels



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## 1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Permian Resources, has prepared this *Remediation Summary and Soil Closure Request* for the release site known as the Raider Fed Com 101H (henceforth, "Site"). Details of the release are summarized below:

### Location of Release Source

Latitude: 32.20917 Longitude: -103.46866

Provided GPS are in WGS84 format.

Site Name:	Raider Fed Com 101H	Site Type:	Tank Battery
Date Release Discovered:	7/8/2022	API # (if applicable):	3002543408

Unit Letter	Section	Township	Range	County
A	21	24S	34E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name Quail Ranch)

### Nature and Volume of Release

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls)	30	Volume Recovered (bbls)	30
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls)	30	Volume Recovered (bbls)	20
	Is the concentration of total dissolved solids (TDS) 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:

Gasket failure on a heated separator.

### Initial Response

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

Previously submitted portions of the NMOCD Form C-141 are available on the NMOCD Imaging System.

## 2.0 SITE CHARACTERIZATION

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.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;101 feet</u>		
Did the release impact groundwater or surface water?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Did the release impact areas not on an exploration, development, production or storage site?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted on Figures 1, 2, 4, and 5.

## 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*‡
>101 Feet	Chloride (Cl <sup>-</sup> )	EPA 300.0 or SM4500 Cl B	20,000	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	-
	Benzene	EPA SW-846 Methods 8021b or 8260b	10	10
	Benzene, Toluene, Ethylbenzene, Total Xylenes (BTX)	EPA SW-846 Methods 8021b or 8260b	50	50

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

† 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 REMEDIATION ACTIVITIES SUMMARY

On June 10, 2024, remediation activities commenced at the Site. In accordance with the NMOCD requirements, impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standards was excavated and stockpiled on-site, pending transfer to an NMOCD-approved surface waste facility for disposal. The floor and sidewalls of the excavation were advanced until field observations and test results suggested that BTEX, TPH, and chloride concentrations were below the NMOCD Closure Criteria and/or NMOCD Reclamation Standards.

On June 12, 2024, Etech collected seventeen (17) confirmation soil samples (FL 1 @ 3', FL 2 @ 3', FL 3 @ 4', FL 4 @ 3', FL 5 @ 3', EW 1, EW 2, EW 3, NW 1, NW 2, NW 3, SW 1, SW 2, SW 3, WW 1, WW 2, and WW 3). The collected soil samples were submitted to a certified commercial laboratory for analyses of BTEX, TPH, and chloride concentrations. Laboratory analytical results indicated that BTEX, TPH, and chloride concentrations were below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standards in each of the submitted soil samples, with the exception of the TPH concentration in samples EW 2 (482 mg/kg), NW 2 (841 mg/kg), SW 2 (293 mg/kg), and WW 2 (522 mg/kg).

On June 17, 2024, Etech collected twenty-seven (27) confirmation soil samples (FL 6 @ 1', FL 7 @ 3', FL 8 @ 3', FL 9 @ 0.5', FL 10 @ 0.5', FL 11 @ 0.5', FL 12 @ 2', FL 13 @ 3', FL 14 @ 3', FL 15 @ 3', FL 16 @ 3', FL 17 @ 4', FL 18 @ 4', FL 19 @ 4', FL 20 @ 4', FL 21 @ 4', FL 22 @ 4', FL 23 @ 4', FL 24 @ 4', FL 25 @ 4', EW 4, NW 4, NW 5, SW 4, SW 5, WW 5, and WW 6). The collected soil samples were submitted to the commercial laboratory for analyses of BTEX, TPH, and chloride concentrations. Analytical results indicated BTEX, TPH, and chloride concentrations were below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standards in each of the submitted soil samples with the exception of the TPH concentration in samples FL 6 @ 1' (3,360 mg/kg), FL 7 @ 3' (4,710 mg/kg), and FL 19 @ 4' (2,000 mg/kg).

On June 21, 2024, excavation activities resumed at the Site. Etech collected seven (7) confirmation soil samples (FL - 19 @ 5', EW - 2B, NW - 2B, NW 6 @ 4', SW - 2B, WW - 2B, and WW 4). The collected soil samples were submitted to the commercial laboratory for analyses of BTEX, TPH, and chloride concentrations. Analytical results indicated that all submitted soil samples were below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standards for BTEX, TPH, and chloride.

A site and sample location map is provided as Figure 3. A soil chemistry table is provided as Table 1. Field data and soil profile logs, if applicable, are provided as Appendix B. Laboratory analytical reports are provided as Appendix C. A photographic log of the remediation is provided as Appendix D. Sampling notifications are provided as Appendix E. Supplemental C-141 information and maps are provided as Appendix F.

The final dimensions of the excavated area were approximately one-hundred thirty-five (135) feet in length, and approximately 135 feet in width. The excavation ranged from one-half (0.5) feet to five (5) feet in depth. During the course of remediation activities, approximately eight-hundred sixty-six (866) cubic yards of impacted soil were transported to an NMOCD-approved surface waste facility for disposal.

## 5.0 RESTORATION, RECLAMATION, AND RE-VEGETATION PLAN

Upon receiving laboratory analytical results from confirmation soil samples, excavated areas were backfilled with locally sourced, non-impacted "like" material represented by soil sample Quail Ranch Pit Backfill. Excavation backfill was placed at or near original relative positions. The affected area was compacted and contoured to achieve erosion control, stability, and preservation of surface water flow, to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with an agency and/or landowner-approved seed mixture free of noxious weeds during the first favorable growing season following closure of the site.

## 6.0 SOIL CLOSURE REQUEST

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

Based on laboratory analytical results and field activities conducted to date, Etech recommends Permian Resources, provide copies of this *Remediation Summary and Soil Closure Request* to the appropriate agencies and request closure be granted to the Raider Fed Com 101H Site.

## 7.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this *Remediation Summary and 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 Permian Resources. Use of the information contained in this report is prohibited without the consent of Etech and/or Permian Resources.

## 8.0 DISTRIBUTION

### ***Permian Resources***

*300 N. Marienfeld St. Suite 100  
Midland, TX 79701*

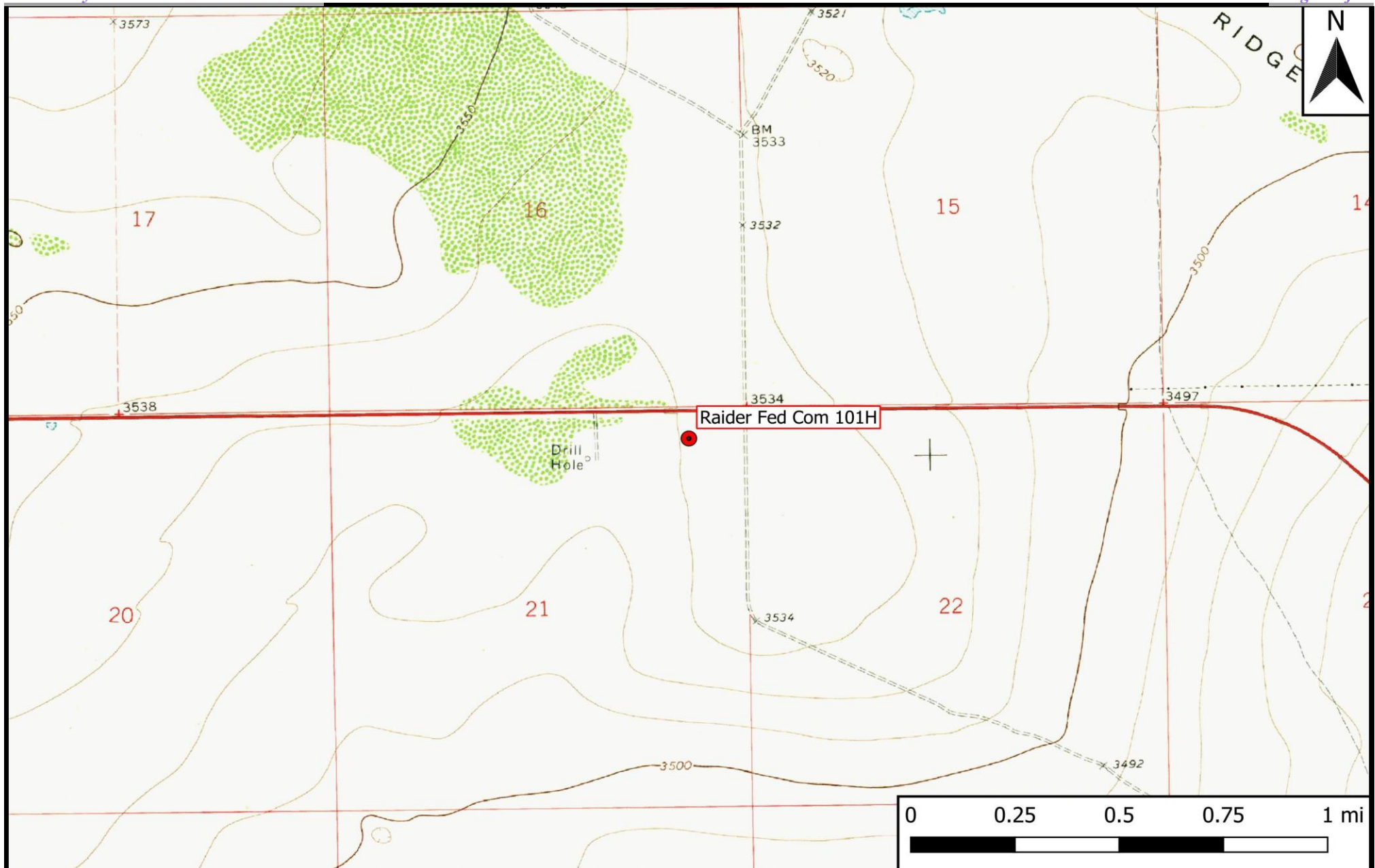
### ***New Mexico Energy, Minerals and Natural Resources Department***

*Oil Conservation Division, District 2  
811 S. First Street  
Artesia, NM 88210*

*(Electronic Submission)*

# **Figure 1**

## **Topographic Map**



## Legend

● Site Location

**Figure 1**  
Topographic Map  
Permian Resources  
Raider Fed Com 101H  
GPS: 32.20917, -103.46866  
Lea County

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

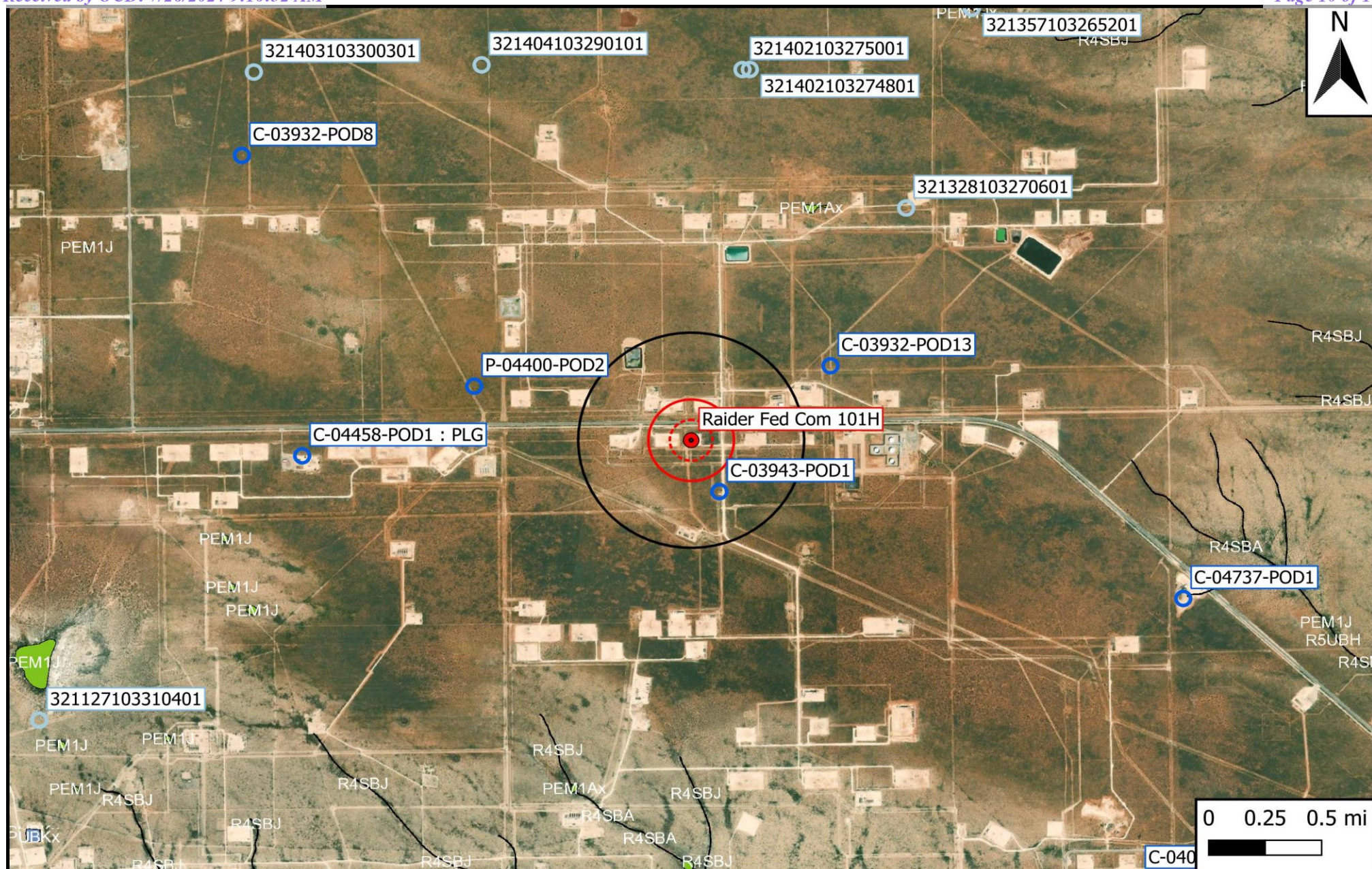
Drafted: mag

Checked: jwl

Date: 2/22/24

## **Figure 2**

### **Aerial Proximity Map**



Legend	500 Ft Radius
Site Location	1000 Ft Radius
Well - NMOSE	0.5 Mi Radius
Well - USGS	1% Annual Flood Chance
Potash Mine Workings	Lake/Freshwater Pond
Medium/High Karst	Emergent/Forested Wetlands
	Riverine

**Figure 2**  
Aerial Proximity Map  
Permian Resources  
Raider Fed Com 101H  
GPS: 32.20917, -103.46866  
Lea County

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

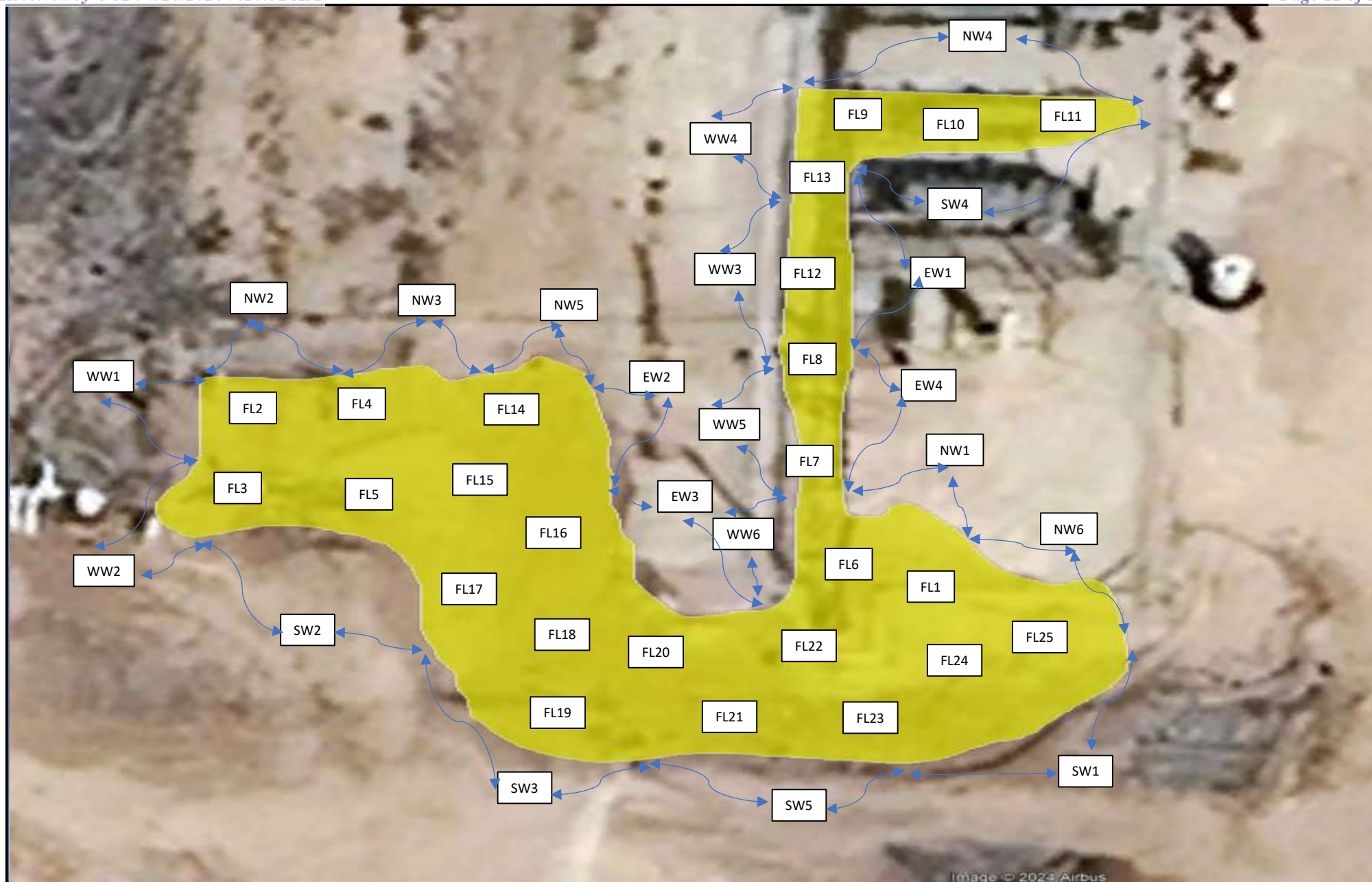
Drafted: mag

Checked: jwl

Date: 2/22/24

## **Figure 3**

### **Site and Sample Location Map**

**Legend:**

- S Sample Area  
 Excavated Area

**Figure 3**

Site and Sample Location Map  
 Permian Resources  
 Raider Fed Com 101H Spill #1  
 GPS: 32.20917, -103.46866  
 Lea County



Drafted:

Checked: jwl

Date:

7/9/24

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

**Table 1**  
**Concentrations of BTEX, TPH, and Chloride in Soil**  
**Permian Resources**  
**Raider Fed Com 101H**  
**NMOCD Ref. #: nAPP2219045002**

NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	20,000
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 1 @ 3'	6/13/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 2 @ 3'	6/13/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 3 @ 4'	6/13/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 4 @ 3'	6/13/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 5 @ 3'	6/13/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 6 @ 1'	6/17/2024	1	Excavated	<0.050	<0.300	53.2	2,720	2,770	591	3,360	<16.0
FL - 6 @ 2'	6/21/2024	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 7 @ 3'	6/17/2024	3	Excavated	<0.050	<0.300	131	3,670	3,800	904	4,710	<16.0
FL - 7 @ 4'	6/21/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 8 @ 3'	6/17/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
FL 9 @ 0.5'	6/17/2024	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 10 @ 0.5'	6/17/2024	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 11 @ 0.5'	6/17/2024	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 12 @ 2'	6/17/2024	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 13 @ 3'	6/17/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 14 @ 3'	6/17/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 15 @ 3'	6/17/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 16 @ 3'	6/17/2024	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 17 @ 4'	6/17/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 18 @ 4'	6/17/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 19 @ 4'	6/17/2024	4	Excavated	<0.050	2.83	117	1,630	1,750	255	2,000	16.0
FL - 19 @ 5'	6/21/2024	5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 20 @ 4'	6/18/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 21 @ 4'	6/18/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 22 @ 4'	6/18/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 23 @ 4'	6/18/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 24 @ 4'	6/18/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 25 @ 4'	6/18/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
EW 1	6/13/2024	0-3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
EW 2	6/13/2024	0-4	Excavated	<0.050	<0.300	<10.0	390	390	91.9	482	<16.0
EW - 2B	6/24/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
EW 3	6/13/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
EW 4	6/18/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
NW 1	6/13/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
NW 2	6/13/2024	0-4	Excavated	<0.050	<0.300	<10.0	681	681	160	841	16.0
NW - 2B	6/24/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
NW 3	6/13/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
NW 4	6/18/2024	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
NW 5	6/18/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
NW 6 @ 4'	6/21/2024	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
SW 1	6/13/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0

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

Bold: NMOCD Closure Criteria exceedance.

Red: NMOCD Reclamation Standard exceedance.

**Table 1**  
**Concentrations of BTEX, TPH, and Chloride in Soil**  
**Permian Resources**  
**Raider Fed Com 101H 1**  
**NMOCD Ref. #: nAPP2219045002**

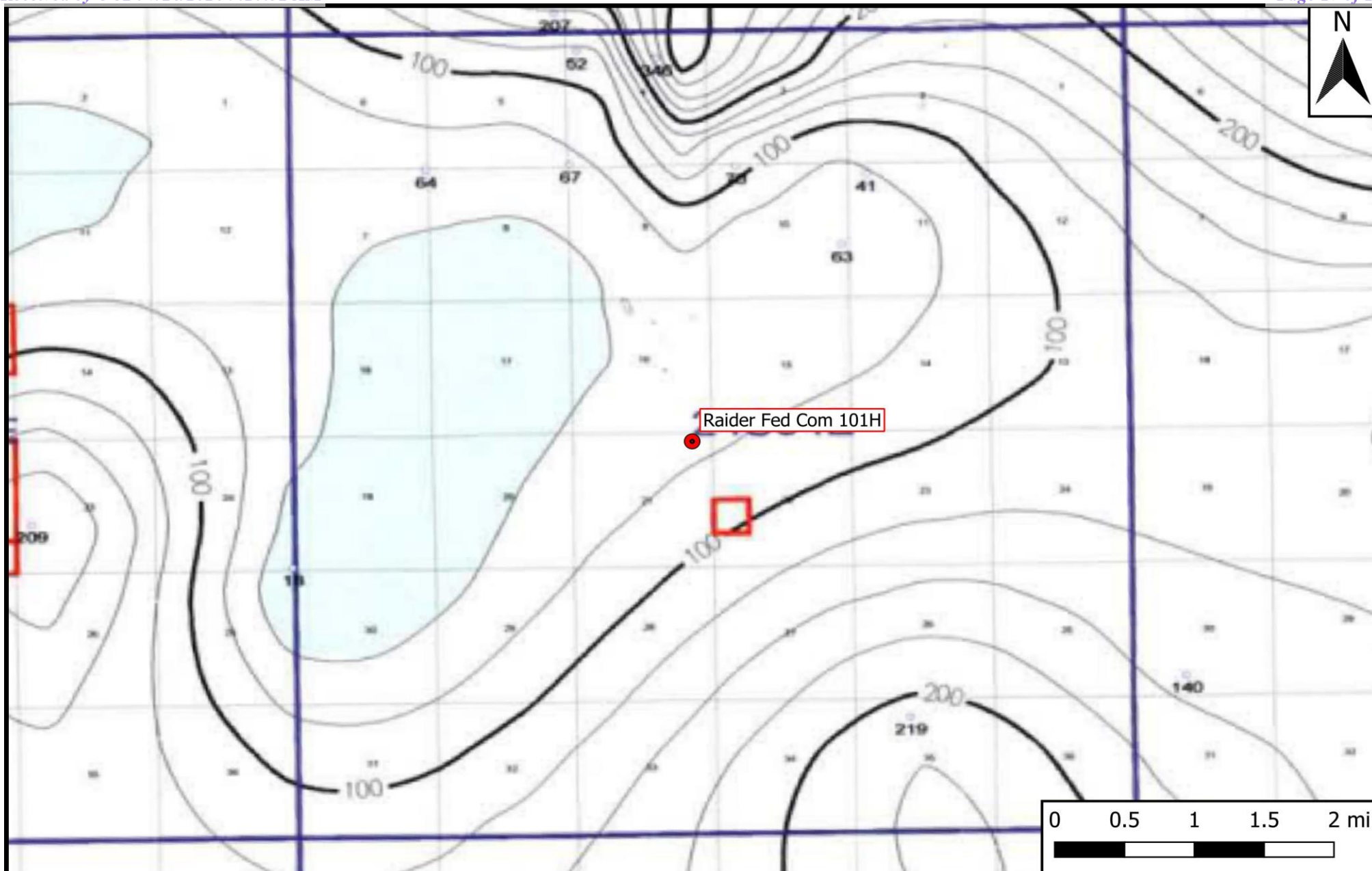
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</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)
SW 2	6/13/2024	0-4	Excavated	<0.050	<0.300	<10.0	240	240	53.0	293	<16.0
SW - 2B	6/24/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SW 3	6/13/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SW 4	6/18/2024	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SW 5	6/18/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
WW 1	6/13/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
WW 2	6/13/2024	0-4	Excavated	<0.050	<0.300	<10.0	415	415	107	522	<16.0
WW - 2B	6/24/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
WW 3	6/13/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
WW 4	6/21/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
WW 5	6/18/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
WW 6	6/18/2024	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
Quail Ranch Pit Backfill	7/3/2024	N/A	Backfilled	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0

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

**Bold:** NMOCD Closure Criteria exceedance.**Red:** NMOCD Reclamation Standard exceedance.

## **Appendix A**

### **Depth to Groundwater Information**



## Legend

- Site Location

## Figure 4

Inferred Depth to Groundwater Trend Map  
Permian Resources  
Raider Fed Com 101H  
GPS: 32.20917, -103.46866  
Lea County



Drafted: mag

Checked: jwl

Date: 2/22/24



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

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec 21	Tw 24S	Rng 34E	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C 03943 POD1</a>		CUB	LE	2	4	2	21	24S	34E	644523	3564266	432	610	431	179
<a href="#">C 03932 POD13</a>		CUB	LE	4	2	3	15	24S	34E	645314	3565203	1137	90		
<a href="#">P 04400 POD2</a>		P	RO	4	2	1	21	01S	33E	642775	3565051	1597	95		
Average Depth to Water:														431 feet	
Minimum Depth:														431 feet	
Maximum Depth:														431 feet	

Record Count: 3

UTMNAD83 Radius Search (in meters):


Easting (X): 644321.39      Northing (Y): 3564649.13      Radius: 1610

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.



# New Mexico Office of the State Engineer

## Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)										
(NAD83 UTM in meters)										
Well Tag	POD Number		Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C	03943 POD1	2	4	2	21	24S	34E	644523	3564266 
<hr/>										
Driller License:		1737	Driller Company:				SHADE TREE DRILLING			
Driller Name:		JUSTIN MULLINS								
Drill Start Date:		04/21/2016	Drill Finish Date:				04/24/2016		Plug Date:	
Log File Date:		04/25/2016	PCW Rcv Date:						Source: Shallow	
Pump Type:			Pipe Discharge Size:						Estimated Yield: 5 GPM	
Casing Size:		6.00	Depth Well:				610 feet		Depth Water: 431 feet	
<hr/>										
Water Bearing Stratifications:					Top	Bottom	Description			
					39	431	Sandstone/Gravel/Conglomerate			
<hr/>										
Casing Perforations:					Top	Bottom				
					420	480				
<hr/>										

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.

2/22/24 7:57 AM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) C-3943				OSE FILE NUMBER(S) C-3943			
	WELL OWNER NAME(S) Bert Madera				PHONE (OPTIONAL) 575-631-4444			
	WELL OWNER MAILING ADDRESS 1108 W. Pierce				CITY carlsbad		STATE nm	
					ZIP 88220			
	WELL LOCATION (FROM GPS)		DEGREES 32		MINUTES 12		SECONDS 20.5	
		LATITUDE				N		
		LONGITUDE		103		27		
				59.7		W		
* ACCURACY REQUIRED: ONE TENTH OF A SECOND								
* DATUM REQUIRED: WGS 84								
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SE 1/4 OF NE 1/4 OF SE 1/4 OF NE 1/4 Of Section 21, T24S, R34E								
2. DRILLING & CASING INFORMATION	LICENSE NUMBER WD-1737		NAME OF LICENSED DRILLER Justin Mullins			NAME OF WELL DRILLING COMPANY WRR		
	DRILLING STARTED 4-21-16		DRILLING ENDED 4-24-16		DEPTH OF COMPLETED WELL (FT) 610'		BORE HOLE DEPTH (FT) 610	
					DEPTH WATER FIRST ENCOUNTERED (FT) 431'			
	COMPLETED WELL IS:		<input type="radio"/> ARTESIAN		<input type="radio"/> DRY HOLE		<input checked="" type="radio"/> SHALLOW (UNCONFINED)	
	DRILLING FLUID:		<input checked="" type="radio"/> AIR		<input type="radio"/> MUD		ADDITIVES - SPECIFY:	
	DRILLING METHOD:		<input checked="" type="radio"/> ROTARY		<input type="radio"/> HAMMER		<input type="radio"/> CABLE TOOL	
							OTHER - SPECIFY:	
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)		CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)		CASING CONNECTION TYPE	
	FROM	TO						
	0	40'	14 3/4"		12" steal		weld	
40	420	11"		6" steal		weld		
420'	480'	11"		6" steal		weld		
480'	610	11"		6" steal		weld		
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)		LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL		AMOUNT (cubic feet)	
	FROM	TO						
	0'	40'	14 3/4"		portland cement		13.38'	
	20'	610'	11"		1/2" gravel		253.5'	
	0'	20'	11"		portland cement		11.1'	

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	C-3943	POD NUMBER	1	TRN NUMBER	585607
LOCATION	24S.34E.21.2.4.2	EXPL		PAGE 1 OF 2	

#### 4. HYDROGEOLOGIC LOG OF WELL

## 5. TEST; RIG SUPERVISION

## 6. SIGNATURE

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/08/2012)	
FILE NUMBER	C-3943	POD NUMBER	1
LOCATION	24S-34E-21-2-4-2	TRN NUMBER	585607
		EXP	PAGE 2 OF 2



# New Mexico Office of the State Engineer

## 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 Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y				
	C 03932 POD13	4	2	3	15	24S	34E	645314	3565203				
x													
Driller License: 1222		Driller Company:				PETERSON DRILLING & TESTING INC.							
Driller Name: LEE PETERSON													
Drill Start Date: 02/10/2016		Drill Finish Date:				02/11/2016		Plug Date:					
Log File Date: 03/01/2016		PCW Rcv Date:				Source:							
Pump Type:		Pipe Discharge Size:				Estimated Yield:							
Casing Size:		Depth Well:				90 feet		Depth Water:					
x													

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.

2/22/24 8:31 AM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER)				OSE FILE NUMBER(S)			
	S15-BH-03				C 03932			
	WELL OWNER NAME(S)				PHONE (OPTIONAL)			
	Bryce Krager % Parkhill, Smith & Cooper Attention: R.H. Holder							
	WELL OWNER MAILING ADDRESS				CITY STATE ZIP			
4222 85th Street				Lubbock Texas 79423				
WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84				
	LATITUDE	32	12					50.55 N
	LONGITUDE	103	27	28.96 W				
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE								
SW 1/4 of SW 1/4 of NW 1/4 of SE 1/4 of Section 15, Township 24S, Range 34E								
2. DRILLING & CASING INFORMATION	LICENSE NUMBER		NAME OF LICENSED DRILLER			NAME OF WELL DRILLING COMPANY		
	WD-1222		Lee Peterson			Peterson Drilling & Testing, Inc.		
	DRILLING STARTED		DRILLING ENDED		DEPTH OF COMPLETED WELL (FT)		BORE HOLE DEPTH (FT)	
	02/10/16		02/11/16				90'	
	COMPLETED WELL IS:		STATIC WATER LEVEL IN COMPLETED WELL (FT)					
	<input type="checkbox"/> ARTESIAN		<input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					
	DRILLING FLUID:		ADDITIVES - SPECIFY:					
	<input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD							
	DRILLING METHOD:		OTHER - SPECIFY:					
	<input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL							
DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)	
FROM	TO							
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 10/29/15)

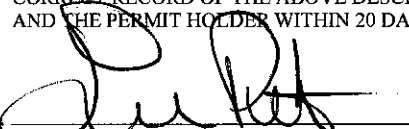

FILE NUMBER	C-3932	POD NUMBER	13	TRN NUMBER	581433
LOCATION	24S.34E.15.4.2.3			EXPL	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	6	6	Light Reddish Brown Fine Sand	Y ✓ N	
	6	13	7	Light Reddish Brown Sand with Caliche	Y ✓ N	
	13	19	6	Light Reddish Brown Fine Sand	Y ✓ N	
	19	29	10	Tan-White Caliche with Light Reddish Brown Sand	Y ✓ N	
	29	39	10	Light Reddish Brown Sand	Y ✓ N	
	39	45	6	Gray to Dark Gray Sand	Y ✓ N	
	45	54	9	Gray-Dark Gray Sand with Sandstone Pebbles	Y ✓ N	
	54	55	1	Dark Reddish Brown to Light Reddish Brown Silty Claystone	Y ✓ N	
	55	58	3	Green to Gray Shale	Y ✓ N	
	58	62	4	Dark Reddish Brown Silty Claystone	Y ✓ N	
	62	74	12	Dark Reddish Brown Claystone	Y ✓ N	
	74	75	1	Light Brown to Gray Silty Clay	Y ✓ N	
	75	77	2	Dark Reddish Brown Claystone	Y ✓ N	
	77	79	2	Light Brown to Gray Silty Clay	Y ✓ N	
	79	80	1	Dark Reddish Brown Claystone	Y ✓ N	
	80	82	2	Light Brown to Gray Sandy Silt	Y ✓ N	
	82	87	5	Dark Reddish Brown Clayey Silt	Y ✓ N	
	87	90	3	Light Brown to Gray Silty Sand	Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Boring location drilled only as a soil boring and plugged after completion per well plugging plan.	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:		

6. SIGNATURE	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 HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:
 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	 DATE: 2/26/16

FOR USE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 06/08/2012)

FILE NUMBER	C-3932	POD NUMBER	13	TRN NUMBER	581433
LOCATION	24S.34E.13.4-2-3			EXPL.	PAGE 2 OF 2

Tom Blaine, P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 581433  
File Nbr: C 03932  
Well File Nbr: C 03932 POD13

Mar. 28, 2016

ROBERT H HOLDER  
BRYCE KRAGER  
4222 85TH ST  
LUBBOCK, TX 79423

Greetings:

The above numbered permit was issued in your name on 01/27/2016.

The Well Record was received in this office on 03/01/2016, stating that it had been completed on 02/11/2016, and was a dry well. The well is to be plugged or capped or otherwise maintained in a manner satisfactory to the State Engineer.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 01/14/2017.

If you have any questions, please feel free to contact us.

Sincerely,

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

Deborah Dunaway  
(575) 622-6521

drywell



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

**www.ose.state.nm.us**

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) S15-BH-03				OSE FILE NUMBER(S) C 03932			
	WELL OWNER NAME(S) Bryce Krager % Parkhill, Smith & Cooper Attention: R.H. Holder				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 4222 85th Street				CITY Lubbock		STATE Texas	ZIP 79423
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE		MINUTES 32	SECONDS 12	50.55	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84
		LONGITUDE		103	27	28.96	W	
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SW 1/4 of SW 1/4 of NW 1/4 of SE 1/4 of Section 15, Township 24S, Range 34E								
2. DRILLING & CASING INFORMATION	LICENSE NUMBER WD-1222		NAME OF LICENSED DRILLER Lee Peterson				NAME OF WELL DRILLING COMPANY Peterson Drilling & Testing, Inc.	
	DRILLING STARTED 02/10/16		DRILLING ENDED 02/11/16		DEPTH OF COMPLETED WELL (FT)		BORE HOLE DEPTH (FT) 90'	
	COMPLETED WELL IS:		<input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				DEPTH WATER FIRST ENCOUNTERED (FT)	
	DRILLING FLUID:		<input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:				STATIC WATER LEVEL IN COMPLETED WELL (FT)	
	DRILLING METHOD:		<input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:					
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 10/29/15)

FILE NUMBER

C-3932

POD NUMBER

13

TRN NUMBER

581433

LOCATION

245.34E.15.3.2.4

EXPL

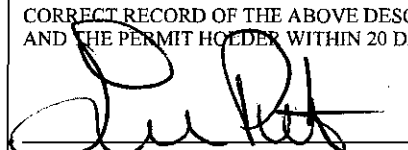
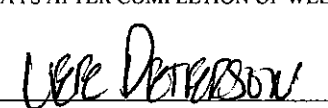
PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	6	6	Light Reddish Brown Fine Sand	Y ✓ N	
	6	13	7	Light Reddish Brown Sand with Caliche	Y ✓ N	
	13	19	6	Light Reddish Brown Fine Sand	Y ✓ N	
	19	29	10	Tan-White Caliche with Light Reddish Brown Sand	Y ✓ N	
	29	39	10	Light Reddish Brown Sand	Y ✓ N	
	39	45	6	Gray to Dark Gray Sand	Y ✓ N	
	45	54	9	Gray-Dark Gray Sand with Sandstone Pebbles	Y ✓ N	
	54	55	1	Dark Reddish Brown to Light Reddish Brown Silty Claystone	Y ✓ N	
	55	58	3	Green to Gray Shale	Y ✓ N	
	58	62	4	Dark Reddish Brown Silty Claystone	Y ✓ N	
	62	74	12	Dark Reddish Brown Claystone	Y ✓ N	
	74	75	1	Light Brown to Gray Silty Clay	Y ✓ N	
	75	77	2	Dark Reddish Brown Claystone	Y ✓ N	
	77	79	2	Light Brown to Gray Silty Clay	Y ✓ N	
	79	80	1	Dark Reddish Brown Claystone	Y ✓ N	
	80	82	2	Light Brown to Gray Sandy Silt	Y ✓ N	
	82	87	5	Dark Reddish Brown Clayey Silt	Y ✓ N	
	87	90	3	Light Brown to Gray Silty Sand	Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Boring location drilled only as a soil boring and plugged after completion per well plugging plan.	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:	

6. SIGNATURE	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 HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:  	2/26/16 DATE
SIGNATURE OF DRILLER / PRINT SIGNEE NAME		

FOR OSE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 06/08/2012)

FILE NUMBER	C-3932	POD NUMBER	13	TRN NUMBER	581433
LOCATION	24S.34E.13.3-2-4				EXPL
					PAGE 2 OF 2

Tom Blaine, P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 581433  
File Nbr: C 03932  
Well File Nbr: C 03932 POD13

Apr. 12, 2016

ROBERT H. HOLDER  
BRYCE KARGER  
4222 85TH ST.  
LUBBOCK, TX 79423

Greetings:

The above numbered permit was issued in your name on 01/27/2016.

The Well Record was received in this office on 03/01/2016, stating that it had been completed on 02/11/2016, and was a dry well. The well is to be plugged or capped or otherwise maintained in a manner satisfactory to the State Engineer.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 01/14/2017.

If you have any questions, please feel free to contact us.

Sincerely,


Deborah Dunaway  
(575) 622-6521

drywell



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)				(NAD83 UTM in meters)			
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
2122A	P 04400 POD2	4	2	1	21	01S	33E	642775	3565051 

---

x

<b>Driller License:</b>	1106	<b>Driller Company:</b>	L & J WELL SERVICE, INC.	
<b>Driller Name:</b>	LARRY JEWELL			
<b>Drill Start Date:</b>	03/14/2023	<b>Drill Finish Date:</b>	03/15/2023	<b>Plug Date:</b>
<b>Log File Date:</b>	04/05/2023	<b>PCW Rcv Date:</b>		<b>Source:</b> Shallow
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>
<b>Casing Size:</b>	5.00	<b>Depth Well:</b>	95 feet	<b>Depth Water:</b>

---

x

<b>Water Bearing Stratifications:</b>	<b>Top</b>	<b>Bottom</b>	<b>Description</b>
	78	93	Sandstone/Gravel/Conglomerate

---

x

<b>Casing Perforations:</b>	<b>Top</b>	<b>Bottom</b>
	75	95

---

x

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.

2/22/24 8:31 AM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

OSE OTI APR 5 2023 AM 8:31

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) <b>P-4400-POD-2</b>		WELL TAG ID NO. <b>2122A</b>		OSE FILE NO(S). <b>P-4400</b>			
	WELL OWNER NAME(S) <b>JEFFREY WALLACE</b>				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS <b>2651 S. ROOSEVELT RD. 3</b>				CITY <b>PORTALES</b>	STATE <b>NM</b>	ZIP <b>88130</b>	
	WELL LOCATION (FROM GPS)	DEGREES <b>34</b>	MINUTES <b>12</b>	SECONDS <b>49.36</b>	<b>N</b>	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
	LONGITUDE <b>103</b>	<b>29</b>	<b>05.55</b>	<b>W</b>	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE <b>2651 S. ROOSEVELT RD. 3</b>								
2. DRILLING & CASING INFORMATION	LICENSE NO. <b>WD-1106</b>		NAME OF LICENSED DRILLER <b>L &amp; J WELL SERVICE INC. / LARRY E. JEWELL</b>			NAME OF WELL DRILLING COMPANY <b>L &amp; J WELL SERVICE INC</b>		
	DRILLING STARTED <b>3-14-2023</b>		DRILLING ENDED <b>3-15-2023</b>		DEPTH OF COMPLETED WELL (FT) <b>95</b>	BORE HOLE DEPTH (FT) <b>95</b>	DEPTH WATER FIRST ENCOUNTERED (FT) <b>N/A</b>	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN *add Centralizer info below <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) <b>89</b>	DATE STATIC MEASURED <b>3-16-2023</b>	
	DRILLING FLUID: <input type="checkbox"/> AIR <input checked="" type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:						CHECK HERE IF PITLESS ADAPTER IS INSTALLED <input type="checkbox"/>	
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	<b>+2</b>	<b>75</b>	<b>9 7/8</b>	<b>SCHED. 40 PVC</b>	<b>SPLINE/ 5 3/4</b>	<b>5</b>	<b>.250</b>	<b>N/A</b>
	<b>75</b>	<b>95</b>	<b>9 7/8</b>	<b>SCHED 40 PVC</b>	<b>SPLINE/ 5 3/4</b>	<b>5</b>	<b>.250</b>	<b>.035</b>
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL <i>*(if using Centralizers for Artesian wells- indicate the spacing below)</i>	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	<b>0</b>	<b>20</b>	<b>9 7/8</b>	<b>3/8 HOLE PLUG</b>	<b>8</b>	<b>GRAVITY</b>		
	<b>20</b>	<b>95</b>	<b>9 7/8</b>	<b>3/8 WASHED GRAVEL</b>	<b>31</b>	<b>GRAVITY</b>		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

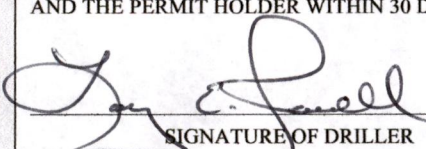
FILE NO. <b>P-4400-POD 2</b>	POD NO. <b>2</b>	TRN NO. <b>742248</b>
LOCATION <b>DDM 01.33.21.221</b>	WELL TAG ID NO. <b>2122A</b>	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	3	3	TOP SOIL BROWN	Y ✓ N	
	3	10	7	CAKICHE WHITE	Y ✓ N	
	10	25	15	CLAY RED	Y ✓ N	
	25	35	10	SAND BROWN	Y ✓ N	
	35	47	12	CLAY TAN	Y ✓ N	
	47	60	13	SAND BROWN	Y ✓ N	
	60	70	10	CLAY TAN	Y ✓ N	
	70	78	8	ROCK WHITE	Y ✓ N	
	78	93	15	SAND & GRAVEL RED	✓ Y N	
	93	95	2	RED & BLUE CLAY	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm):	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: N/A ON WATER FIRST ENCOUNTERED DUE TO DRILLING WITH MUD	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: DUSTIN WILLIAMSON		

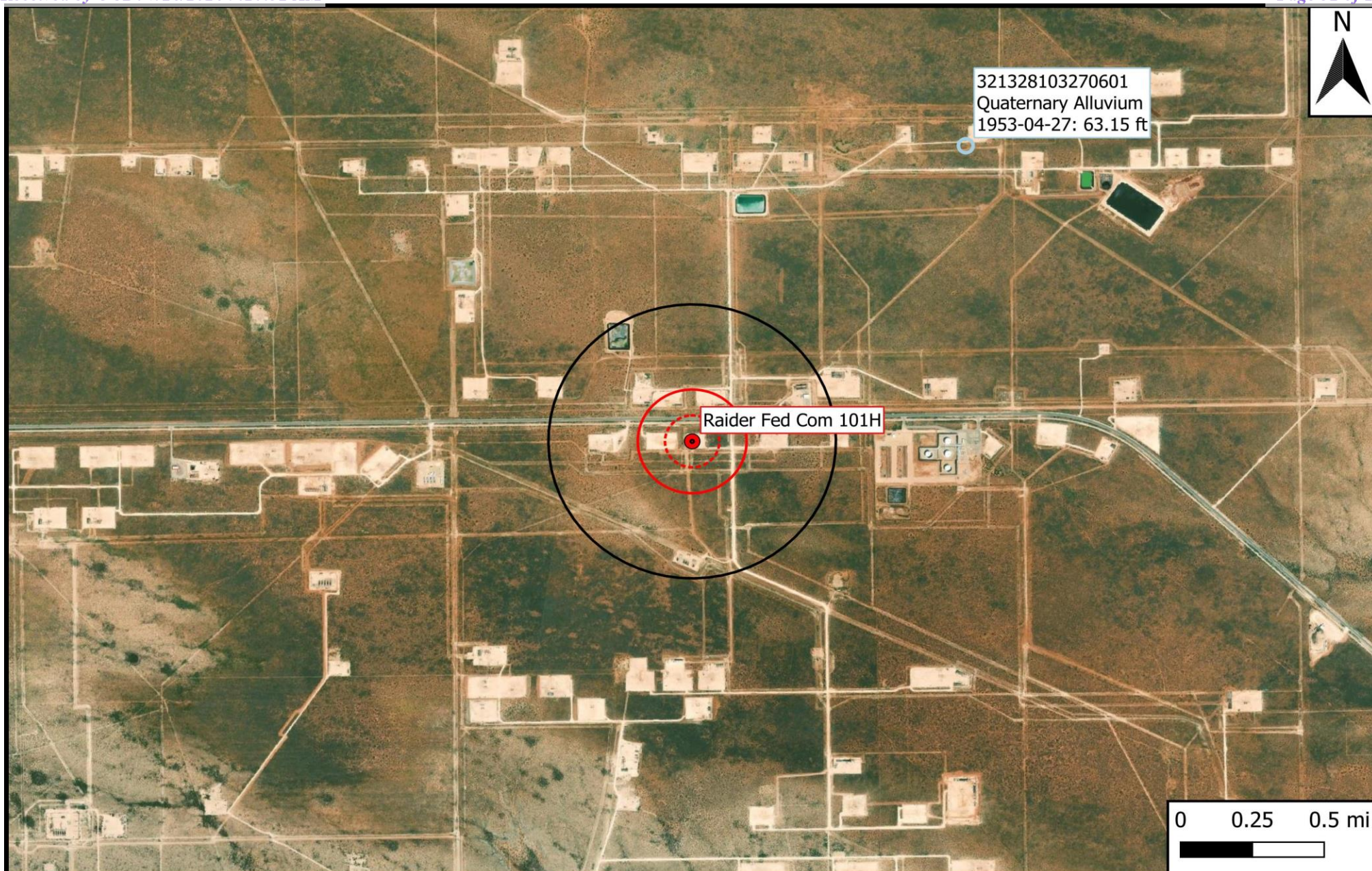
  

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 SIGNATURE OF DRILLER / PRINT SIGNED NAME	LARRY E. JEWELL DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 09/22/2022)

FILE NO. P-4400-POD 2	POD NO. 2	TRN NO. 742248
LOCATION Dom 01.33.21.221	WELL TAG ID NO. 2122A	PAGE 2 OF 2

**Legend**

- Site Location
- Well - USGS
- ⊞ 500 Ft Radius
- ⊞ 1000 Ft Radius
- ⊞ 0.5 Mi Radius

**Figure 5**

USGS Well Proximity Map  
Permian Resources  
Raider Fed Com 101H  
GPS: 32.20917, -103.46866  
Lea County



Drafted: mag

Checked: jwl

Date: 2/22/24



[USGS Home](#)  
[Contact USGS](#)  
[Search USGS](#)

## National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

[Click for News Bulletins](#)

[Groundwater levels for the Nation](#)

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

### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 321328103270601

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 321328103270601 24S.34E.10.42243

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°13'28", Longitude 103°27'06" NAD27

Land-surface elevation 3,514 feet above NAVD88

The depth of the well is 93 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

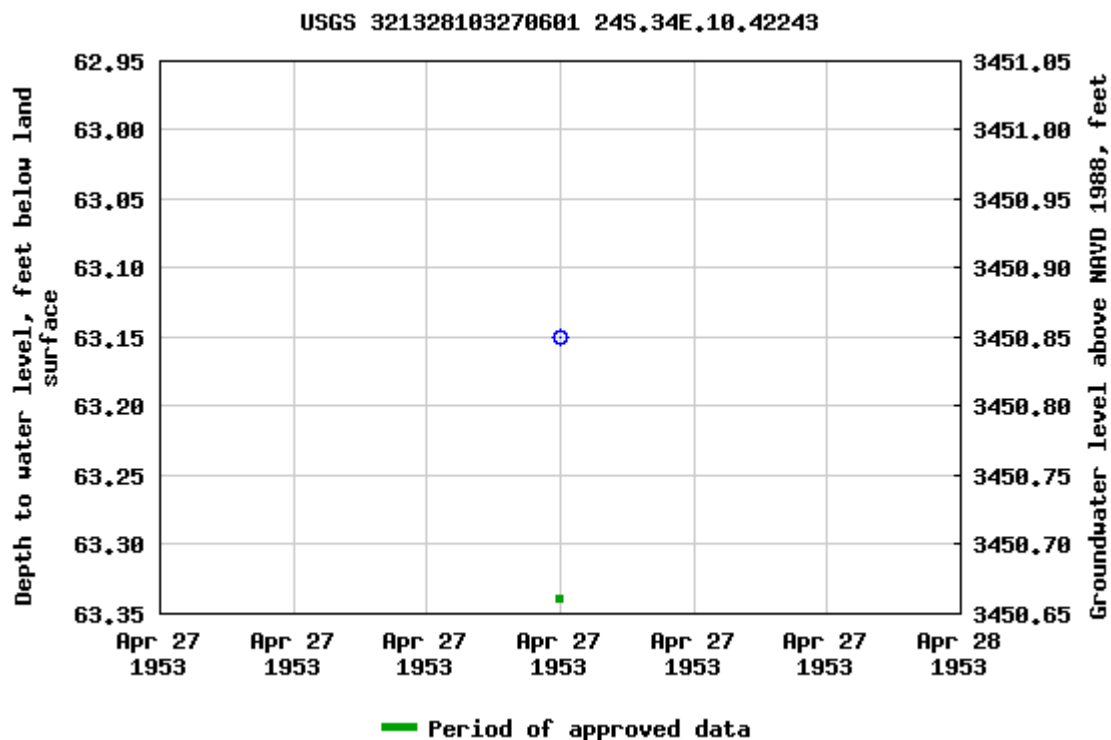
#### Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



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

[Download a presentation-quality graph](#)

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

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



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

Page Last Modified: 2024-02-22 09:55:13 EST

0.58 0.51 nadww01

## **Appendix B**

### **Field Data and Soil Profile Logs**

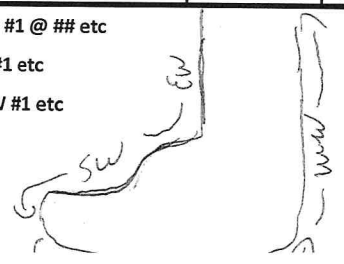


# Sample Log

Project: Raider Fed Com 101H Spill #1/Spill#2  
Project Number: 19870 Latitude: 32.20917 Longitude: -103.46866  
Date: \_\_\_\_\_

Sample ID	PID/Odor	Chloride Conc.	GPS
SW-1	-	352	
NW-1	-	436	
<del>SW-1</del> EW-1	-	436	
FL-1 @ 3'	-	884	
SW-2	-	528	
NW-2	-	352	
EW-2	-	392	
WW-1	-	528	
FL-2 @ 3'	-	<del>480</del> 952	
SW-3	-	316	
NW-3	-	228	
WW-2	-	528	
EW-3	-	392	
FL-3 @ 4'	-	884	
FL-4 @ 7'	-	436	
FL-5 @ 3'	-	392	
WW-3	-	480	
FL-6 @ 1'	-	436	
FL-7 @ 3'	-	480	
FL-8 @ 7'	-	528	
FL-9 @ 6"	-	392	
FL-10 @ 6"	-	436	
FL-11 @ 6"	-	292	
FL-12 @ 2'	-	528	
FL-13 @ 2'	-	480	
FL-14 @ 3'	-	580	
FL-15 @ 3'	-	580	
FL-16 @ 3'	-	144	
FL-17 @ 4'	-	528	
FL-18 @ 4'	-	284	
FL-19 @ 4'	-	392	
WW-4	-	292	
NW-4	-	580	
SW-4	-	528	
NW-5	-	N/A	
SW-5	-	292	

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:

Project Number: \_\_\_\_\_ Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

[illegible]

**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



## Remediation Log

Project: Raider Fed Com 101H Spill #1/Spill#2

Project Number: 19870 Latitude: 32.20917 Longitude: -103.46866

Confirmation of Active One Call? One Call No. \_\_\_\_\_

### Confirmation of On-Site JSA?

**Yes      No**

□ □

□ □

Date:

## Notes

Yds

**\*\*\*\*Begin Remediation Activities\*\*\*\***

**Out**

In

6-19-24

Flame out.

520

6-19-24

Haul out

440

6-21-24

Haul in

280

6-24-24

Herb in

520

6-25-24

Head in

162

**\*\*\*\*Begin Backfill Activities\*\*\*\***

**\*\*\*\*Complete Remediation Activities\*\*\*\***

**Total Yds**

**Out**

In

9-103

960

**Yes**

No

☐☐☐☐

### Pictures of Open Excavation Prior to Backfill

### Relevant Information in Project Tracker?

## **Appendix C**

### **Laboratory Analytical Reports**



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

---

June 26, 2024

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: RAIDER FED COM 101H SPILL #1

Enclosed are the results of analyses for samples received by the laboratory on 06/25/24 12:15.

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  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 06/25/2024  
 Reported: 06/26/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/21/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL - 6 @ 2' (H243772-01)**

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	06/25/2024	ND	1.87	93.5	2.00	5.70		
Toluene*	<0.050	0.050	06/25/2024	ND	2.03	102	2.00	5.22		
Ethylbenzene*	<0.050	0.050	06/25/2024	ND	2.05	103	2.00	4.61		
Total Xylenes*	<0.150	0.150	06/25/2024	ND	6.41	107	6.00	4.29		
Total BTX	<0.300	0.300	06/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	16.0	16.0	06/26/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2024	ND	203	102	200	5.05	
DRO >C10-C28*	<10.0	10.0	06/25/2024	ND	212	106	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	06/25/2024	ND					

Surrogate: 1-Chlorooctane 85.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.9 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/25/2024  
 Reported: 06/26/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/21/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL - 7 @ 4' (H243772-02)**

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	06/25/2024	ND	1.87	93.5	2.00	5.70		
Toluene*	<0.050	0.050	06/25/2024	ND	2.03	102	2.00	5.22		
Ethylbenzene*	<0.050	0.050	06/25/2024	ND	2.05	103	2.00	4.61		
Total Xylenes*	<0.150	0.150	06/25/2024	ND	6.41	107	6.00	4.29		
Total BTEX	<0.300	0.300	06/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	16.0	16.0	06/26/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/26/2024	ND	205	102	200	3.76	
DRO >C10-C28*	<10.0	10.0	06/26/2024	ND	196	98.2	200	7.91	
EXT DRO >C28-C36	<10.0	10.0	06/26/2024	ND					

Surrogate: 1-Chlorooctane 86.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/25/2024  
 Reported: 06/26/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/21/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL - 19 @ 5' (H243772-03)**

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	06/25/2024	ND	1.87	93.5	2.00	5.70		
Toluene*	<0.050	0.050	06/25/2024	ND	2.03	102	2.00	5.22		
Ethylbenzene*	<0.050	0.050	06/25/2024	ND	2.05	103	2.00	4.61		
Total Xylenes*	<0.150	0.150	06/25/2024	ND	6.41	107	6.00	4.29		
Total BTEX	<0.300	0.300	06/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	16.0	16.0	06/26/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/26/2024	ND	205	102	200	3.76	
DRO >C10-C28*	<10.0	10.0	06/26/2024	ND	196	98.2	200	7.91	
EXT DRO >C28-C36	<10.0	10.0	06/26/2024	ND					

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-05            The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
- ND             Analyte NOT DETECTED at or above the reporting limit
- RPD            Relative Percent Difference
- \*\*             Samples not received at proper temperature of 6°C or below.
- \*\*\*            Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Elech Environmental

Project Manager: Joel Lowry

Address: 2617 W Marland Blvd

City: Hobbs State: NM Zip: 88240

Phone #: (575) 264-9884 Fax #: Project Owner: Permian Resources

Project #: 19870 Project Name: Raider Fed Com 101H Spill #1

Project Location: GPS:(32.20917, -103.46866) State: Zip:

Sample Name: Martin Sepulveda Phone #: Fax #:

FOR LAB USE ONLY MATRIX PRESERV. SAMPLING

Lab I.D. Sample I.D.

H24375

F2-L-6 21  
F2-L-7 04  
F2-L-19 05

(G)RAB OR (C)OMP.  
# CONTAINERS  
GROUNDWATER  
WASTEWATER  
SOIL  
OIL  
SLUDGE  
OTHER :  
ACID/BASE:  
ICE / COOL  
OTHER :

DATE TIME

Chloride  
TPH  
BTEX 8021

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising from this 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: 6/4/24 Received By: Skodionney

Relinquished By: Date: Time: Received By: Skodionney

Delivered By: (Circle One)

Sampler - UPS - Bus - Other: 3.4i #140

Sample Condition Cool Intact

Yes No

CHECKED BY: (Initials)

SK

Phone Result: Yes No Add'l Phone #: Fax Result: Yes No Add'l Fax #:

REMARKS: Email copy of COC and results to: PM@elechenv.com

2488-24



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

---

June 25, 2024

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: RAIDER FED COM 101H SPILL #1

Enclosed are the results of analyses for samples received by the laboratory on 06/24/24 16:52.

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, 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: 06/24/2024  
 Reported: 06/25/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/24/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: EW - 2B (H243751-01)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2024	ND	1.94	97.1	2.00	1.06	
Toluene*	<0.050	0.050	06/25/2024	ND	1.91	95.7	2.00	1.92	
Ethylbenzene*	<0.050	0.050	06/25/2024	ND	1.95	97.5	2.00	2.68	
Total Xylenes*	<0.150	0.150	06/25/2024	ND	5.71	95.2	6.00	3.03	
Total BTEx	<0.300	0.300	06/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.4 % 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	32.0	16.0	06/25/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2024	ND	179	89.6	200	1.73	
DRO >C10-C28*	<10.0	10.0	06/25/2024	ND	177	88.5	200	4.52	
EXT DRO >C28-C36	<10.0	10.0	06/25/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/24/2024  
 Reported: 06/25/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/24/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW - 2B (H243751-02)**

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	06/25/2024	ND	1.94	97.1	2.00	1.06		
Toluene*	<0.050	0.050	06/25/2024	ND	1.91	95.7	2.00	1.92		
Ethylbenzene*	<0.050	0.050	06/25/2024	ND	1.95	97.5	2.00	2.68		
Total Xylenes*	<0.150	0.150	06/25/2024	ND	5.71	95.2	6.00	3.03		
Total BTEX	<0.300	0.300	06/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 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	16.0	16.0	06/25/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2024	ND	179	89.6	200	1.73	
DRO >C10-C28*	<10.0	10.0	06/25/2024	ND	177	88.5	200	4.52	
EXT DRO >C28-C36	<10.0	10.0	06/25/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/24/2024  
 Reported: 06/25/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/24/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW - 2B (H243751-03)**

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	06/25/2024	ND	1.94	97.1	2.00	1.06		
Toluene*	<0.050	0.050	06/25/2024	ND	1.91	95.7	2.00	1.92		
Ethylbenzene*	<0.050	0.050	06/25/2024	ND	1.95	97.5	2.00	2.68		
Total Xylenes*	<0.150	0.150	06/25/2024	ND	5.71	95.2	6.00	3.03		
Total BTEX	<0.300	0.300	06/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/25/2024	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	06/25/2024	ND	179	89.6	200	1.73	
DRO >C10-C28*	<10.0	10.0	06/25/2024	ND	177	88.5	200	4.52	
EXT DRO >C28-C36	<10.0	10.0	06/25/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/24/2024  
 Reported: 06/25/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/24/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW - 2B (H243751-04)**

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	06/25/2024	ND	1.94	97.1	2.00	1.06		
Toluene*	<0.050	0.050	06/25/2024	ND	1.91	95.7	2.00	1.92		
Ethylbenzene*	<0.050	0.050	06/25/2024	ND	1.95	97.5	2.00	2.68		
Total Xylenes*	<0.150	0.150	06/25/2024	ND	5.71	95.2	6.00	3.03		
Total BTEX	<0.300	0.300	06/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/25/2024	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	06/25/2024	ND	179	89.6	200	1.73	
DRO >C10-C28*	<10.0	10.0	06/25/2024	ND	177	88.5	200	4.52	
EXT DRO >C28-C36	<10.0	10.0	06/25/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.5 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

**Notes and Definitions**

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

---

Cardinal Laboratories

\*=Accredited Analyte

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

---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

June 24, 2024

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: RAIDER FED COM 101H SPILL #1

Enclosed are the results of analyses for samples received by the laboratory on 06/21/24 14:56.

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  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 06/21/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/21/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 6 @ 4' (H243705-01)**

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	06/23/2024	ND	2.01	101	2.00	2.29	
Toluene*	<0.050	0.050	06/23/2024	ND	2.09	104	2.00	7.25	
Ethylbenzene*	<0.050	0.050	06/23/2024	ND	2.16	108	2.00	7.89	
Total Xylenes*	<0.150	0.150	06/23/2024	ND	6.58	110	6.00	8.01	
Total BTX	<0.300	0.300	06/23/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	06/24/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2024	ND	203	101	200	0.158	
DRO >C10-C28*	<10.0	10.0	06/24/2024	ND	184	92.0	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	06/24/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/21/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/21/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 4 (H243705-02)**

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	06/23/2024	ND	2.01	101	2.00	2.29		
Toluene*	<0.050	0.050	06/23/2024	ND	2.09	104	2.00	7.25		
Ethylbenzene*	<0.050	0.050	06/23/2024	ND	2.16	108	2.00	7.89		
Total Xylenes*	<0.150	0.150	06/23/2024	ND	6.58	110	6.00	8.01		
Total BTEX	<0.300	0.300	06/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	06/24/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2024	ND	203	101	200	0.158	
DRO >C10-C28*	<10.0	10.0	06/24/2024	ND	184	92.0	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	06/24/2024	ND					

Surrogate: 1-Chlorooctane 96.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



# ORDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

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

[illegible]



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

---

June 20, 2024

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: RAIDER FED COM 101H SPILL #1

Enclosed are the results of analyses for samples received by the laboratory on 06/19/24 8:43.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/19/2024	Sampling Date:	06/18/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	RAIDER FED COM 101H SPILL #1	Sampling Condition:	Cool & Intact
Project Number:	19870	Sample Received By:	Alyssa Parras
Project Location:	PERMIAN 32.20917, -103.46866		

**Sample ID: FL 20 @ 4' (H243587-01)**

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	06/19/2024	ND	2.24	112	2.00	2.85		
Toluene*	<0.050	0.050	06/19/2024	ND	2.14	107	2.00	5.98		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	2.12	106	2.00	5.53		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	6.70	112	6.00	5.67		
Total BTX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 21 @ 4' (H243587-02)**

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	06/19/2024	ND	2.24	112	2.00	2.85		
Toluene*	<0.050	0.050	06/19/2024	ND	2.14	107	2.00	5.98		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	2.12	106	2.00	5.53		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	6.70	112	6.00	5.67		
Total BTEx	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 22 @ 4' (H243587-03)**

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	06/19/2024	ND	2.24	112	2.00	2.85		
Toluene*	<0.050	0.050	06/19/2024	ND	2.14	107	2.00	5.98		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	2.12	106	2.00	5.53		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	6.70	112	6.00	5.67		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 23 @ 4' (H243587-04)**

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	06/19/2024	ND	2.24	112	2.00	2.85		
Toluene*	<0.050	0.050	06/19/2024	ND	2.14	107	2.00	5.98		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	2.12	106	2.00	5.53		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	6.70	112	6.00	5.67		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 24 @ 4' (H243587-05)**

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	06/19/2024	ND	2.24	112	2.00	2.85		
Toluene*	<0.050	0.050	06/19/2024	ND	2.14	107	2.00	5.98		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	2.12	106	2.00	5.53		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	6.70	112	6.00	5.67		
Total BTEX	<0.300	0.300	06/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FL 25 @ 4' (H243587-06)**

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	06/19/2024	ND	1.67	83.4	2.00	15.5		
Toluene*	<0.050	0.050	06/19/2024	ND	1.78	88.8	2.00	12.6		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	1.86	93.2	2.00	11.4		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	5.57	92.9	6.00	11.3		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 4 (H243587-07)**

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	06/19/2024	ND	1.67	83.4	2.00	15.5		
Toluene*	<0.050	0.050	06/19/2024	ND	1.78	88.8	2.00	12.6		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	1.86	93.2	2.00	11.4		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	5.57	92.9	6.00	11.3		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 98.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: NW 5 (H243587-08)**

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	06/19/2024	ND	1.67	83.4	2.00	15.5		
Toluene*	<0.050	0.050	06/19/2024	ND	1.78	88.8	2.00	12.6		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	1.86	93.2	2.00	11.4		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	5.57	92.9	6.00	11.3		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: EW 4 (H243587-09)**

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	06/19/2024	ND	1.67	83.4	2.00	15.5		
Toluene*	<0.050	0.050	06/19/2024	ND	1.78	88.8	2.00	12.6		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	1.86	93.2	2.00	11.4		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	5.57	92.9	6.00	11.3		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 4 (H243587-10)**

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	06/19/2024	ND	1.67	83.4	2.00	15.5		
Toluene*	<0.050	0.050	06/19/2024	ND	1.78	88.8	2.00	12.6		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	1.86	93.2	2.00	11.4		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	5.57	92.9	6.00	11.3		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 89.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 5 (H243587-11)**

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	06/19/2024	ND	1.67	83.4	2.00	15.5		
Toluene*	<0.050	0.050	06/19/2024	ND	1.78	88.8	2.00	12.6		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	1.86	93.2	2.00	11.4		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	5.57	92.9	6.00	11.3		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/19/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 97.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 5 (H243587-12)**

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	06/19/2024	ND	1.67	83.4	2.00	15.5		
Toluene*	<0.050	0.050	06/19/2024	ND	1.78	88.8	2.00	12.6		
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	1.86	93.2	2.00	11.4		
Total Xylenes*	<0.150	0.150	06/19/2024	ND	5.57	92.9	6.00	11.3		
Total BTEX	<0.300	0.300	06/19/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/19/2024	ND	416	104	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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: 06/19/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: WW 6 (H243587-13)**

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	06/19/2024	ND	1.67	83.4	2.00	15.5	
Toluene*	<0.050	0.050	06/19/2024	ND	1.78	88.8	2.00	12.6	
Ethylbenzene*	<0.050	0.050	06/19/2024	ND	1.86	93.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	06/19/2024	ND	5.57	92.9	6.00	11.3	
Total BTEX	<0.300	0.300	06/19/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/19/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	198	99.1	200	2.10	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	182	90.8	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 98.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



## ORDINAL LABORATORIES

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

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

<b>Company Name:</b> Ettech Environmental & Safety Solutions, Inc. <b>Project Manager:</b> Joel Lowry <b>Address:</b> 2617 West Marland <b>City:</b> Hobbs <b>State:</b> NM <b>Zip:</b> 88240 <b>Phone #:</b> (575) 264-9884 <b>Fax #:</b> <b>Project #:</b> 19870 <b>Project Owner:</b> Permian Resources <b>Project Name:</b> Raider Fed Com 101H Spill #1 <b>Project Location:</b> 32.20917, -103.46866 <b>Sampler Name:</b> Martin Sepulveda				<b>BILL TO</b> <b>P.O. #:</b> <b>Company:</b> SEE REMARKS <b>Attn:</b> <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> <b>Fax #:</b>			
<b>FOR LAB USE ONLY</b>				<b>ANALYSIS REQUEST</b>			
<b>Lab I.D.</b>  <b>Sample I.D.</b>		(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		MATRIX PRESERV SAMPLING		DATE TIME	
11 SW 5 12 WW 5 13 WW 6		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24	
11 12 13		C 1 C 1 C 1		X X X		6/18/24 6/18/24 6/18/24             </	



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

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June 24, 2024

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: RAIDER FED COM 101H SPILL #1

Enclosed are the results of analyses for samples received by the laboratory on 06/18/24 12:00.

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".

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: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 6 @ 1' (H243566-01)**

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	06/21/2024	ND	2.11	106	2.00	0.905		
Toluene*	<0.050	0.050	06/21/2024	ND	2.05	102	2.00	1.38		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.03	101	2.00	2.00		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.37	106	6.00	1.99		
Total BTX	<0.300	0.300	06/21/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/20/2024	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	53.2	10.0	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	2720	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	591	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 132 % 48.2-134

Surrogate: 1-Chlorooctadecane 204 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 7 @ 3' (H243566-02)**

BTEx 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	06/21/2024	ND	1.91	95.6	2.00	3.71	
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02	GC-NC
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50	GC-NC, QM-07
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16	
Total BTEX	<0.300	0.300	06/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 324 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/20/2024	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	131	10.0	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	3670	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	904	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 132 % 48.2-134

Surrogate: 1-Chlorooctadecane 178 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 8 @ 3' (H243566-03)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEx	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	06/20/2024	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	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 131 % 48.2-134

Surrogate: 1-Chlorooctadecane 138 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 9 @ 0.5' (H243566-04)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71	
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02	
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50	
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16	
Total BTEX	<0.300	0.300	06/21/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/20/2024	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	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 10 @ 0.5' (H243566-05)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEx	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/20/2024	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	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 11 @ 0.5' (H243566-06)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/20/2024	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	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 12 @ 2' (H243566-07)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/20/2024	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	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 131 % 48.2-134

Surrogate: 1-Chlorooctadecane 138 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 13 @ 3' (H243566-08)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/20/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 14 @ 3' (H243566-09)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/20/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 15 @ 3' (H243566-10)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/20/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/19/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/19/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 16 @ 3' (H243566-11)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 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	32.0	16.0	06/20/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	215	107	200	0.000931	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	225	112	200	3.56	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 17 @ 4' (H243566-12)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/20/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	216	108	200	2.07	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	218	109	200	0.313	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 18 @ 4' (H243566-13)**

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	06/21/2024	ND	1.91	95.6	2.00	3.71		
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/20/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	216	108	200	2.07	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	218	109	200	0.313	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 125 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 19 @ 4' (H243566-14)**

BTEx 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	06/21/2024	ND	1.91	95.6	2.00	3.71	
Toluene*	<0.050	0.050	06/21/2024	ND	1.88	93.8	2.00	3.02	GC-NC
Ethylbenzene*	<b>0.370</b>	0.050	06/21/2024	ND	1.89	94.4	2.00	2.50	GC-NC1
Total Xylenes*	<b>2.46</b>	0.150	06/21/2024	ND	5.53	92.2	6.00	2.16	GC-NC1
Total BTEX	<b>2.83</b>	0.300	06/21/2024	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 169 % 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	<b>16.0</b>	16.0	06/20/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<b>117</b>	10.0	06/20/2024	ND	216	108	200	2.07	
DRO >C10-C28*	<b>1630</b>	10.0	06/20/2024	ND	218	109	200	0.313	
EXT DRO >C28-C36	<b>255</b>	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 137 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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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\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Etch Environmental & Safety Solutions, Inc.		<b>BILL TO</b>		ANALYSIS REQUEST																																																							
Project Manager: Joel Lowry		P.O. #:																																																									
Address: 2617 West Marland		Company: Permian Resources																																																									
City: Hobbs		Attn: Montgomery Floyd																																																									
Phone #: (575) 264-9884		Address:																																																									
Fax #: (575) 264-9884		City:																																																									
Project #: 19870		State: NM																																																									
Project Location: 32.20917, -103.46866		Zip: 88240																																																									
Project Name: Raider Fed Com 101H Spill #1		Phone #:																																																									
Sample Name: Martin Sepulveda		Fax #:																																																									
FOR LAB USE ONLY																																																											
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME		Chloride										TPH (8015M)										BTEX (8021B)									
172133A00		FL 6 @ 1'		C 1		1		X																		6/17/24				X										X										X									
		FL 7 @ 3'		C 1		1		X																		6/17/24				X										X										X									
		FL 8 @ 3'		C 1		1		X																		6/17/24				X										X										X									
		FL 9 @ 0.5'		C 1		1		X																		6/17/24				X										X										X									
		FL 10 @ 0.5'		C 1		1		X																		6/17/24				X										X										X									
		FL 11 @ 0.5'		C 1		1		X																		6/17/24				X										X										X									
		FL 12 @ 2'		C 1		1		X																		6/17/24				X										X										X									
		FL 13 @ 3'		C 1		1		X																		6/17/24				X										X										X									
		FL 14 @ 3'		C 1		1		X																		6/17/24				X										X										X									
		FL 15 @ 3'		C 1		1		X																		6/17/24				X										X										X									
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: 6-18-24		Received By:		Time: 1200		Received By:		Time:		Sample Condition		CHECKED BY:		REMARKS:																																											
Relinquished By:		Date:		Received By:		Time:		Sample Condition		CHECKED BY:		REMARKS:																																															
Delivered By: (Circle One)		Cool		Intact		Yes		No		Yes		No		REMARKS:																																													
Sampler - UPS - Bus - Other:		-5.1c		#140		Cool		Intact		Yes		No		REMARKS:																																													
FORM-006 Revision 1.0 † Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476																																																											



# ORDINAL LABORATORIES

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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

---

June 20, 2024

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: RAIDER FED COM 101H SPILL #1

Enclosed are the results of analyses for samples received by the laboratory on 06/14/24 15:22.

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, 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: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL 1 @ 3' (H243475-01)**

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	06/18/2024	ND	1.71	85.5	2.00	7.94		
Toluene*	<0.050	0.050	06/18/2024	ND	1.77	88.5	2.00	5.99		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.83	91.3	2.00	5.00		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.47	91.1	6.00	5.50		
Total BTX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/18/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL 2 @ 3' (H243475-02)**

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	06/18/2024	ND	1.71	85.5	2.00	7.94		
Toluene*	<0.050	0.050	06/18/2024	ND	1.77	88.5	2.00	5.99		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.83	91.3	2.00	5.00		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.47	91.1	6.00	5.50		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/18/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 97.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL 3 @ 4' (H243475-03)**

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	06/18/2024	ND	1.71	85.5	2.00	7.94		
Toluene*	<0.050	0.050	06/18/2024	ND	1.77	88.5	2.00	5.99		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.83	91.3	2.00	5.00		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.47	91.1	6.00	5.50		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/18/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 95.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL 4 @ 3' (H243475-04)**

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	06/18/2024	ND	1.71	85.5	2.00	7.94		
Toluene*	<0.050	0.050	06/18/2024	ND	1.77	88.5	2.00	5.99		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.83	91.3	2.00	5.00		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.47	91.1	6.00	5.50		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/18/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FL 5 @ 3' (H243475-05)**

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	06/18/2024	ND	1.71	85.5	2.00	7.94		
Toluene*	<0.050	0.050	06/18/2024	ND	1.77	88.5	2.00	5.99		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.83	91.3	2.00	5.00		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.47	91.1	6.00	5.50		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/18/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 49.1-148

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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: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: NW 1 (H243475-06)**

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	06/18/2024	ND	1.71	85.5	2.00	7.94		
Toluene*	<0.050	0.050	06/18/2024	ND	1.77	88.5	2.00	5.99		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.83	91.3	2.00	5.00		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.47	91.1	6.00	5.50		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/18/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: NW 2 (H243475-07)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEx	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/18/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	681	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	160	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 135 % 49.1-148

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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: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: NW 3 (H243475-08)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17	
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34	
Total BTX	<0.300	0.300	06/18/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: EW 1 (H243475-09)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEx	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 99.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: EW 2 (H243475-10)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEx	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	390	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	91.9	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: EW 3 (H243475-11)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEx	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 94.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 1 (H243475-12)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 2 (H243475-13)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEx	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	240	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	53.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 3 (H243475-14)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: WW 1 (H243475-15)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 93.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: WW 2 (H243475-16)**

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	06/18/2024	ND	1.91	95.3	2.00	7.17		
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34		
Total BTEX	<0.300	0.300	06/18/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	200	99.8	200	2.63	
DRO >C10-C28*	415	10.0	06/18/2024	ND	198	98.9	200	4.64	
EXT DRO >C28-C36	107	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/14/2024  
 Reported: 06/20/2024  
 Project Name: RAIDER FED COM 101H SPILL #1  
 Project Number: 19870  
 Project Location: PERMIAN 32.20917, -103.46866

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: WW 3 (H243475-17)**

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.91	95.3	2.00	7.17	
Toluene*	<0.050	0.050	06/18/2024	ND	2.05	102	2.00	5.93	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	2.06	103	2.00	4.92	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	6.42	107	6.00	4.34	
Total BTX	<0.300	0.300	06/18/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/18/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	196	98.2	200	1.97	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	205	103	200	1.94	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

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\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

<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>															
<b>Address:</b> 2617 West Marland				<b>Company:</b> Permian Resources															
<b>City:</b> Hobbs				<b>Attn:</b> Montgomery Floyd															
<b>State:</b> NM <b>Zip:</b> 88240				<b>Address:</b>															
<b>Phone #:</b> (575) 264-9884 <b>Fax #:</b>				<b>City:</b>															
<b>Project #:</b> 19870 <b>Project Owner:</b> Permian Resources				<b>State:</b> <b>Zip:</b>															
<b>Project Name:</b> Raider Fed Com 101H Spill #1				<b>Phone #:</b>															
<b>Project Location:</b> 32.20917, -103.46866				<b>Fax #:</b>															
<b>Sampler Name:</b> Martin Sepulveda																			

FOR LAB USE ONLY		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX						PRESERV.		SAMPLING																	
Lab I.D.	Sample I.D.					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	TPH (8015M)	BTEX (8021B)												
1	FL 1 @ 3'	C	1			X						X			6/13/24		X	X	X												
2	FL 2 @ 3'	C	1			X						X			6/13/24		X	X	X												
3	FL 3 @ 4'	C	1			X						X			6/13/24		X	X	X												
4	FL 4 @ 3'	C	1			X						X			6/13/24		X	X	X												
5	FL 5 @ 3'	C	1			X						X			6/13/24		X	X	X												
6	NW 1	C	1			X						X			6/13/24		X	X	X												
7	NW 2	C	1			X						X			6/13/24		X	X	X												
8	NW 3	C	1			X						X			6/13/24		X	X	X												
9	EW 1	C	1			X						X			6/13/24		X	X	X												
10	EW 2	C	1			X						X			6/13/24		X	X	X												

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<b>Reinquisitioned By:</b> <i>[Signature]</i>		<b>Date:</b> 6/13/24		<b>Received By:</b> <i>[Signature]</i>		<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Phone #:</b>	
<b>Requisitioned By:</b> <i>[Signature]</i>		<b>Date:</b>		<b>Received By:</b>		<b>Fax Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Fax #:</b>	
<b>REMARKS:</b>							

Please email copy of COC and results to pm@etechenv.com.





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

---

July 10, 2024

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: SOLOMON FED COM 709H

Enclosed are the results of analyses for samples received by the laboratory on 07/03/24 14:41.

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  
 JOEL LOWRY  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 07/03/2024  
 Reported: 07/10/2024  
 Project Name: SOLOMON FED COM 709H  
 Project Number: 20413  
 Project Location: 32.1970251, -103.45345

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

**Sample ID: QUIAL RANCH PIT BACKFILL (H244016-01)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/10/2024	ND	1.92	96.2	2.00	6.01		
Toluene*	<0.050	0.050	07/10/2024	ND	1.95	97.6	2.00	3.03		
Ethylbenzene*	<0.050	0.050	07/10/2024	ND	1.97	98.6	2.00	3.11		
Total Xylenes*	<0.150	0.150	07/10/2024	ND	5.81	96.8	6.00	2.48		
Total BTEX	<0.300	0.300	07/10/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	48.0	16.0	07/09/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/09/2024	ND	102	102	100	2.67	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	101	101	100	1.00	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 73.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- 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".

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name: Etch Environmental & Safety Solutions, Inc.

Project Manager: Joel Lowry

Address: 2617 West Marland

City: Hobbs

Phone #: (575) 264-9884

Project #: 20413

Project Name: Solomon Fed Com 709H

Project Location: 32.1970251, -103.45345

Sampler Name: Tania Felts

BILL TO

P.O. #:

Company

Attn:

Address:

City:

State:

Phone #:

Fax #:

ANALYSIS REQUEST

Lab I.D. Sample I.D.

Quail Ranch Pit Backfill

(G)RAB OR (C)OMP.  
# CONTAINERS  
GROUNDWATER  
WASTEWATER  
SOIL  
OIL  
SLUDGE  
OTHER :  
ACID/BASE:  
ICE / COOL  
OTHER :

DATE  
TIME

Chloride - Rushad  
TPH (8015M)  
BTEX (8021B)

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: 7/3/24

Received By:

Phone Result:

Fax Result:

REMARKS:

Relinquished By:

Date: 7/3/24

Received By:

Phone Result:

Fax Result:

REMARKS:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

# 140

Sample Condition

CHECKED BY:

Please email copy of COC and results to pm@etechnv.com.

FORM-006  
Revision 1.0

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

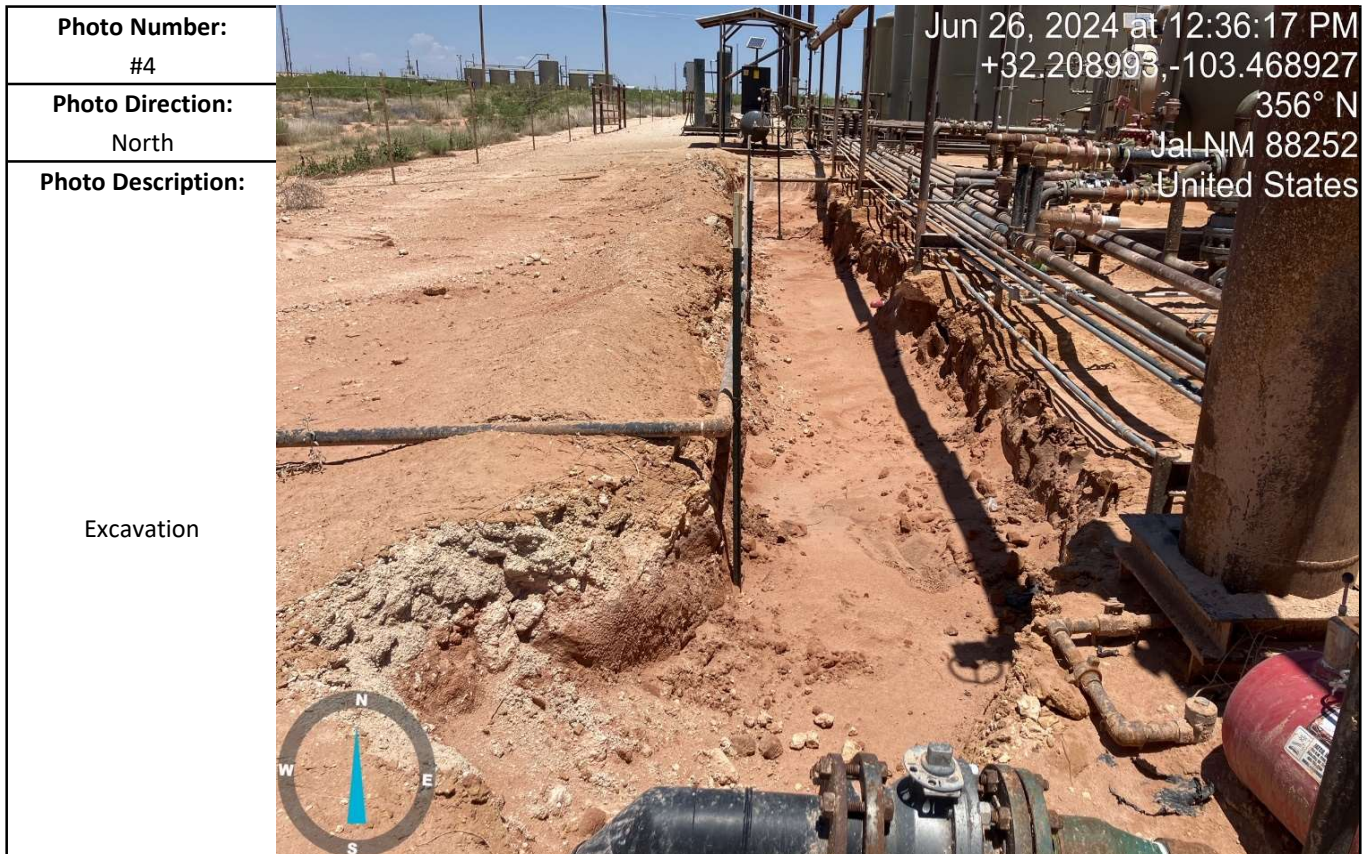
## **Appendix D**

### **Photographic Log**

## Photographic Log



## Photographic Log



Photographic Log

<b>Photo Number:</b> #5	
<b>Photo Direction:</b> Southeast	
<b>Photo Description:</b>  Backfill	

Jun 28, 2024 at 1:43:35 PM  
+32.209121,-103.468933  
138° SE  
Jal NM 88252  
United States

<b>Photo Number:</b> #6	
<b>Photo Direction:</b> Southeast	
<b>Photo Description:</b>  Backfill	

Jun 28, 2024 at 1:45:38 PM  
+32.208956,-103.469070  
129° SE  
Jal NM 88252  
United States

## **Appendix E**

### **Regulatory Correspondence**

**Robbie Runnels**

---

**From:** OCDOnline@state.nm.us  
**Sent:** Thursday, June 6, 2024 4:58 PM  
**To:** Matthew Taylor  
**Subject:** -EXTERNAL- The Oil Conservation Division (OCD) has accepted the application, Application ID: 351814

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field.

To whom it may concern (c/o Matthew Taylor for Permian Resources Operating, LLC),

The OCD has received the submitted *Notification for (Final) Sampling of a Release (C-141N)*, for incident ID (n#) nAPP2219045002.

The sampling event is expected to take place:

**When:** 06/10/2024 @ 07:00

**Where:** A-21-24S-34E 0 FNL 0 FEL (32.20917,-103.46866)

**Additional Information:** Martin Sepulveda martin@etechenv.com 432-3057322

**Additional Instructions:** From the intersection of NM-128 and Co Rd 2-B (32.210407, -103.466343), head S on Co Rd 2-B for 0.11 mi, then W for 0.14 mi to arrive at the Raider Fed Com 101H location (32.20917, -103.46866).

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

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

1220 South St. Francis Drive

Santa Fe, NM 87505

**CAUTION:** This email originated from outside of the organization. If it appears to be internal, check directly with assumed source

**Robbie Runnels**

---

**From:** OCDOnline@state.nm.us  
**Sent:** Thursday, June 6, 2024 4:59 PM  
**To:** Matthew Taylor  
**Subject:** -EXTERNAL- The Oil Conservation Division (OCD) has accepted the application, Application ID: 351816

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field.

To whom it may concern (c/o Matthew Taylor for Permian Resources Operating, LLC),

The OCD has received the submitted *Notification for (Final) Sampling of a Release (C-141N)*, for incident ID (n#) nAPP2219045002.

The sampling event is expected to take place:

**When:** 06/11/2024 @ 07:00

**Where:** A-21-24S-34E 0 FNL 0 FEL (32.20917,-103.46866)

**Additional Information:** Martin Sepulveda martin@etechenv.com 432-3057322

**Additional Instructions:** From the intersection of NM-128 and Co Rd 2-B (32.210407, -103.466343), head S on Co Rd 2-B for 0.11 mi, then W for 0.14 mi to arrive at the Raider Fed Com 101H location (32.20917, -103.46866).

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

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

1220 South St. Francis Drive  
Santa Fe, NM 87505

**CAUTION:** This email originated from outside of the organization. If it appears to be internal, check directly with assumed source

**Robbie Runnels**

---

**From:** OCDOnline@state.nm.us  
**Sent:** Monday, June 10, 2024 10:48 AM  
**To:** Matthew Taylor  
**Subject:** -EXTERNAL- The Oil Conservation Division (OCD) has accepted the application, Application ID: 352546

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field.

To whom it may concern (c/o Matthew Taylor for Permian Resources Operating, LLC),

The OCD has received the submitted *Notification for (Final) Sampling of a Release (C-141N)*, for incident ID (n#) nAPP2219045002.

The sampling event is expected to take place:

**When:** 06/12/2024 @ 07:00

**Where:** A-21-24S-34E 0 FNL 0 FEL (32.20917,-103.46866)

**Additional Information:** Martin Sepulveda martin@etechenv.com 432-3057322

**Additional Instructions:** From the intersection of NM-128 and Co Rd 2-B (32.210407, -103.466343), head S on Co Rd 2-B for 0.11 mi, then W for 0.14 mi to arrive at the Raider Fed Com 101H location (32.20917, -103.46866).

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

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Santa Fe, NM 87505

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**Robbie Runnels**

---

**From:** OCDOnline@state.nm.us  
**Sent:** Monday, June 10, 2024 10:50 AM  
**To:** Matthew Taylor  
**Subject:** -EXTERNAL- The Oil Conservation Division (OCD) has accepted the application, Application ID: 352548

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field.

To whom it may concern (c/o Matthew Taylor for Permian Resources Operating, LLC),

The OCD has received the submitted *Notification for (Final) Sampling of a Release (C-141N)*, for incident ID (n#) nAPP2219045002.

The sampling event is expected to take place:

**When:** 06/14/2024 @ 07:00

**Where:** A-21-24S-34E 0 FNL 0 FEL (32.20917,-103.46866)

**Additional Information:** Martin Sepulveda martin@etechenv.com 432-3057322

**Additional Instructions:** From the intersection of NM-128 and Co Rd 2-B (32.210407, -103.466343), head S on Co Rd 2-B for 0.11 mi, then W for 0.14 mi to arrive at the Raider Fed Com 101H location (32.20917, -103.46866).

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

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

1220 South St. Francis Drive

Santa Fe, NM 87505

**CAUTION:** This email originated from outside of the organization. If it appears to be internal, check directly with assumed source

**Robbie Runnels**

---

**From:** OCDOnline@state.nm.us  
**Sent:** Monday, June 10, 2024 10:52 AM  
**To:** Matthew Taylor  
**Subject:** -EXTERNAL- The Oil Conservation Division (OCD) has accepted the application, Application ID: 352550

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field.

To whom it may concern (c/o Matthew Taylor for Permian Resources Operating, LLC),

The OCD has received the submitted *Notification for (Final) Sampling of a Release (C-141N)*, for incident ID (n#) nAPP2219045002.

The sampling event is expected to take place:

**When:** 06/17/2024 @ 07:00

**Where:** A-21-24S-34E 0 FNL 0 FEL (32.20917,-103.46866)

**Additional Information:** Martin Sepulveda martin@etechenv.com 432-3057322

**Additional Instructions:** From the intersection of NM-128 and Co Rd 2-B (32.210407, -103.466343), head S on Co Rd 2-B for 0.11 mi, then W for 0.14 mi to arrive at the Raider Fed Com 101H location (32.20917, -103.46866).

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

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

1220 South St. Francis Drive  
Santa Fe, NM 87505

**CAUTION:** This email originated from outside of the organization. If it appears to be internal, check directly with assumed source

**Robbie Runnels**

---

**From:** OCDOnline@state.nm.us  
**Sent:** Monday, June 10, 2024 10:54 AM  
**To:** Matthew Taylor  
**Subject:** -EXTERNAL- The Oil Conservation Division (OCD) has accepted the application, Application ID: 352551

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field.

To whom it may concern (c/o Matthew Taylor for Permian Resources Operating, LLC),

The OCD has received the submitted *Notification for (Final) Sampling of a Release (C-141N)*, for incident ID (n#) nAPP2219045002.

The sampling event is expected to take place:

**When:** 06/19/2024 @ 07:00

**Where:** A-21-24S-34E 0 FNL 0 FEL (32.20917,-103.46866)

**Additional Information:** Martin Sepulveda martin@etechenv.com 432-3057322

**Additional Instructions:** From the intersection of NM-128 and Co Rd 2-B (32.210407, -103.466343), head S on Co Rd 2-B for 0.11 mi, then W for 0.14 mi to arrive at the Raider Fed Com 101H location (32.20917, -103.46866).

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- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

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

1220 South St. Francis Drive  
Santa Fe, NM 87505

**CAUTION:** This email originated from outside of the organization. If it appears to be internal, check directly with assumed source

**Robbie Runnels**

---

**From:** OCDOnline@state.nm.us  
**Sent:** Monday, June 10, 2024 10:56 AM  
**To:** Matthew Taylor  
**Subject:** -EXTERNAL- The Oil Conservation Division (OCD) has accepted the application, Application ID: 352552

**WARNING:** The sender of this email could not be validated and may not match the person in the "From" field.

To whom it may concern (c/o Matthew Taylor for Permian Resources Operating, LLC),

The OCD has received the submitted *Notification for (Final) Sampling of a Release (C-141N)*, for incident ID (n#) nAPP2219045002.

The sampling event is expected to take place:

**When:** 06/21/2024 @ 07:00

**Where:** A-21-24S-34E 0 FNL 0 FEL (32.20917,-103.46866)

**Additional Information:** Martin Sepulveda martin@etechenv.com 432-3057322

**Additional Instructions:** From the intersection of NM-128 and Co Rd 2-B (32.210407, -103.466343), head S on Co Rd 2-B for 0.11 mi, then W for 0.14 mi to arrive at the Raider Fed Com 101H location (32.20917, -103.46866).

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

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

1220 South St. Francis Drive  
Santa Fe, NM 87505

**CAUTION:** This email originated from outside of the organization. If it appears to be internal, check directly with assumed source

## **Appendix F**

### **Electronic C-141 Supplemental Site Characterization Maps**

# Electronic C-141 Supplemental Documentation

## Permian Resources Raider Fed Com 101H Spill #1

Lea County, New Mexico  
Unit Letter , Section , Township South, Range East  
Latitude 32.20917 North, Longitude 103.46866 West  
NMOCD Reference No. nAPP2219045002

Prepared By:

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



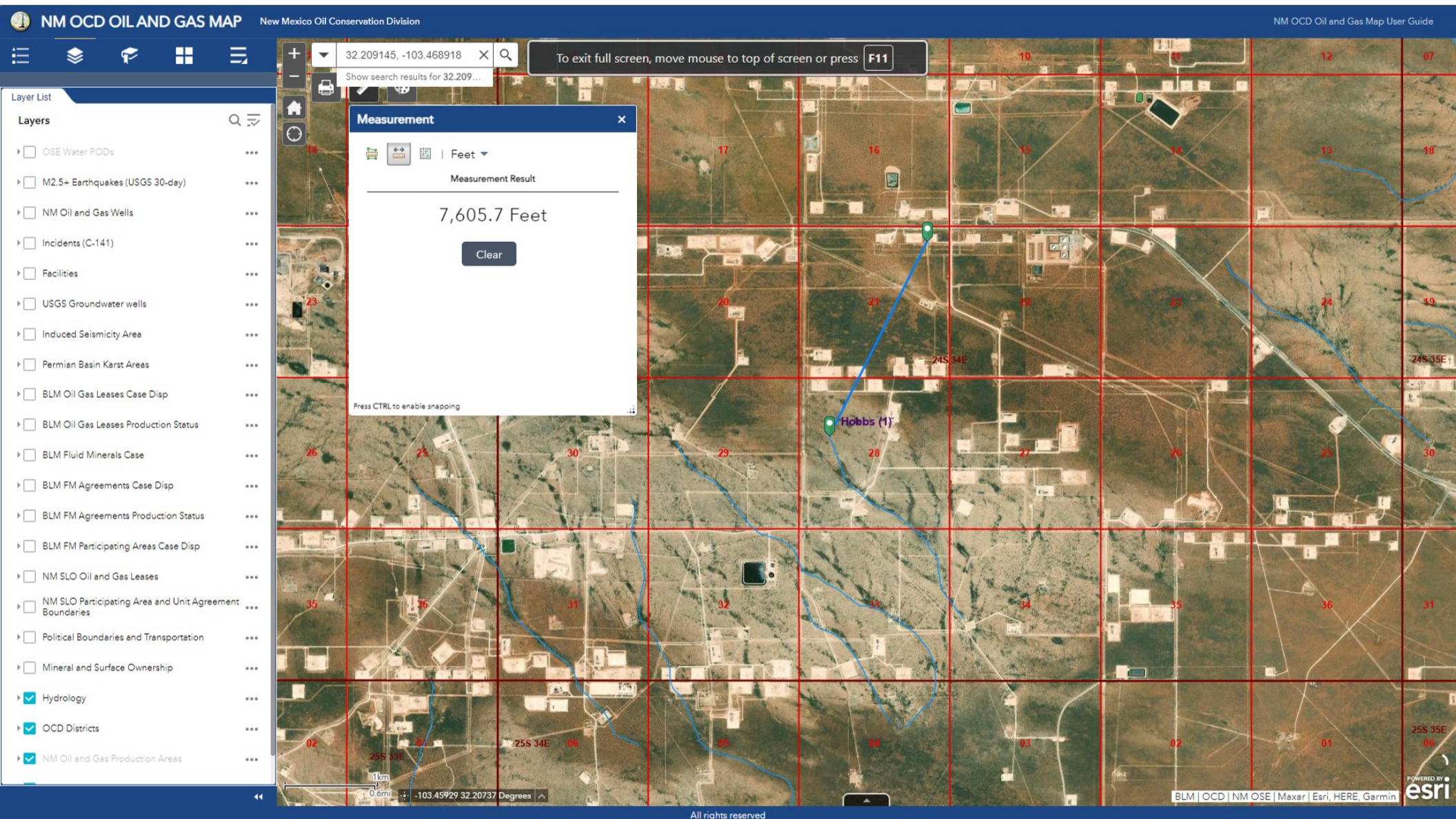
Robbie Runnels



Joel W. Lowry



Midland • San Antonio • Lubbock • Hobbs • Lafayette





Layer List

Layers

- ☐ QSE Water PODs ...
- ☐ M2.5+ Earthquakes (USGS 30-day) ...
- ☐ NM Oil and Gas Wells ...
- ☐ Incidents (C-141) ...
- ☐ Facilities ...
- ☐ USGS Groundwater wells ...
- ☐ Induced Seismicity Area ...
- ☐ Permian Basin Karst Areas ...
- ☐ BLM Oil Gas Leases Case Disp ...
- ☐ BLM Oil Gas Leases Production Status ...
- ☐ BLM Fluid Minerals Case ...
- ☐ BLM FM Agreements Case Disp ...
- ☐ BLM FM Agreements Production Status ...
- ☐ BLM FM Participating Areas Case Disp ...
- ☐ NM SLO Oil and Gas Leases ...
- ☐ NM SLO Participating Area and Unit Agreement Boundaries ...
- ☐ Political Boundaries and Transportation ...
- ☐ Mineral and Surface Ownership ...
- ☒ Hydrology ...
- ☒ OCD Districts ...
- ☒ NM Oil and Gas Production Areas ...

32.209145, -103.468918

Show search results for 32.209...

Home, Print, Measure, Full Screen, Search

To exit full screen, move mouse to top of screen or press **F11**

Measurement

Feet

Measurement Result

10,435.3 Feet

Clear

Press CTRL to enable snapping

1km 0.6mi -103.43904 32.21840 Degrees



- Layer List
- Layers
- ☒

OSE Water PODs

...
- ☐

M2.5+ Earthquakes (USGS 30-day)

...
- ☐

NM Oil and Gas Wells

...
- ☐

Incidents (C-141)

...
- ☐

Facilities

...
- ☐

USGS Groundwater wells

...
- ☐

Induced Seismicity Area

...
- ☐

Permian Basin Karst Areas

...
- ☐

BLM Oil Gas Leases Case Disp

...
- ☐

BLM Oil Gas Leases Production Status

...
- ☐

BLM Fluid Minerals Case

...
- ☐

BLM FM Agreements Case Disp

...
- ☐

BLM FM Agreements Production Status

...
- ☐

BLM FM Participating Areas Case Disp

...
- ☐

NM SLO Oil and Gas Leases

...
- ☐

NM SLO Participating Area and Unit Agreement Boundaries

...
- ☐

Political Boundaries and Transportation

...
- ☐

Mineral and Surface Ownership

...
- ☐

Hydrology

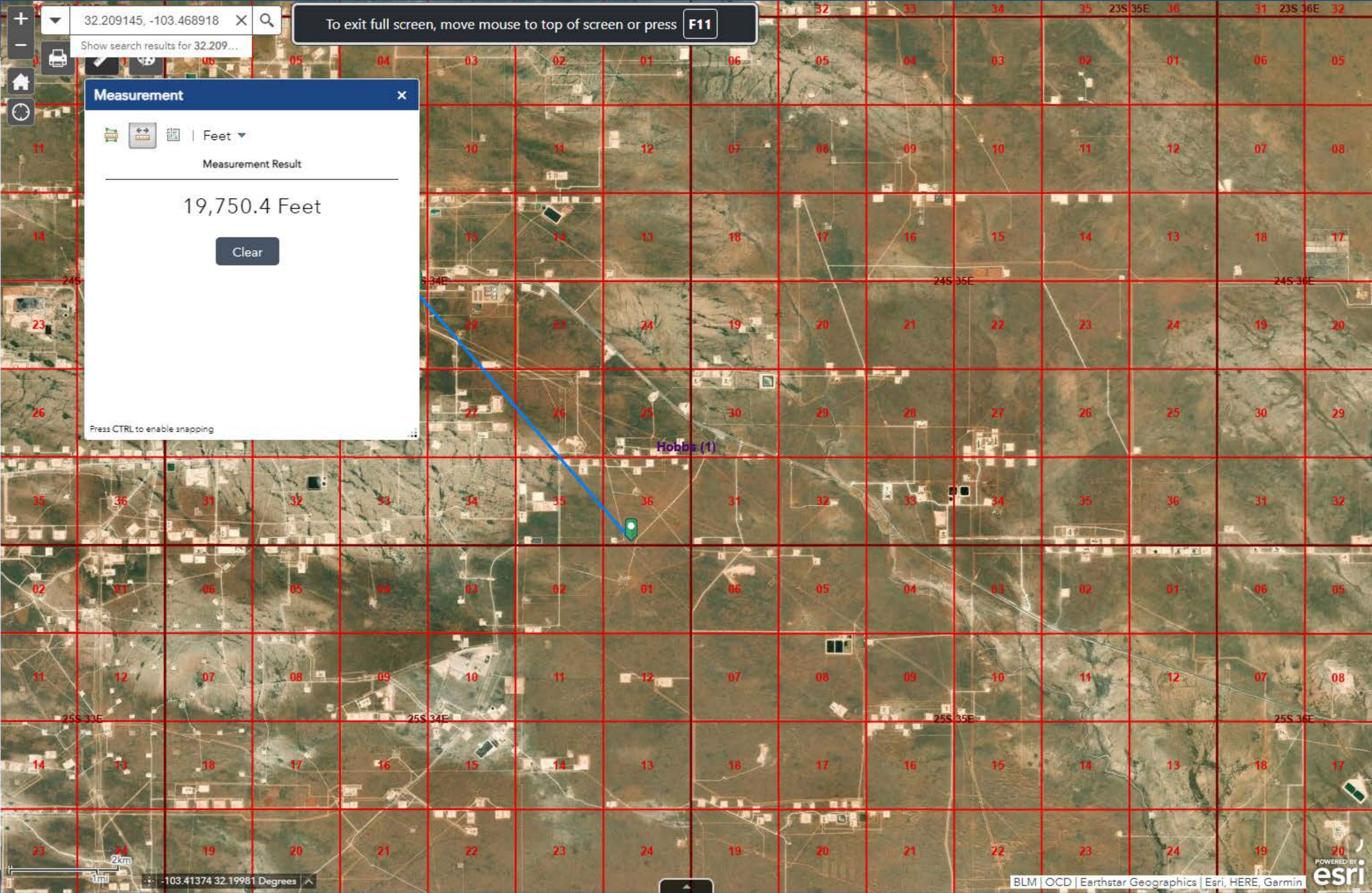
...
- ☒

OCD Districts

...
- ☒

NM Oil and Gas Production Areas

...



Measurement

Feet

Measurement Result

19,750.4 Feet

Clear

Press CTRL to enable snapping



Layer List

Layers

☒ QSE Water PODs

☐ M2.5+ Earthquakes (USGS 30-day)

☐ NM Oil and Gas Wells

☐ Wells - Large Scale

☐ Wells - Small Scale

☐ Incidents (C-141)

☐ Facilities

☒ USGS Groundwater wells

☐ Induced Seismicity Area

☐ Permian Basin Karst Areas

☐ BLM Oil Gas Leases Case Disp

☐ BLM Oil Gas Leases Production Status

☐ BLM Fluid Minerals Case

☐ BLM FM Agreements Case Disp

☐ BLM FM Agreements Production Status

☐ BLM FM Participating Areas Case Disp

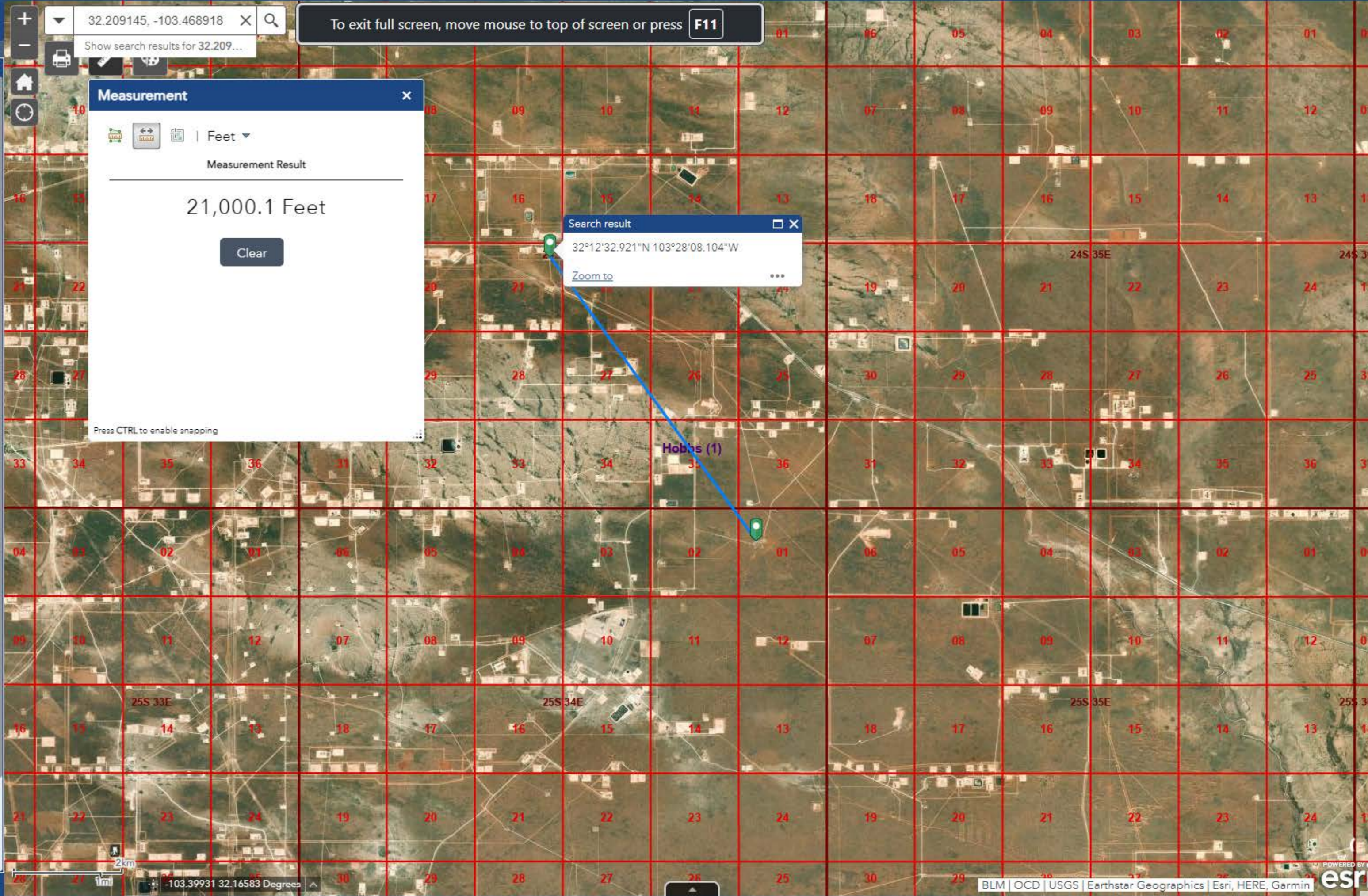
☐ NM SLO Oil and Gas Leases

☐ NM SLO Participating Area and Unit Agreement Boundaries

☐ Political Boundaries and Transportation

☐ Mineral and Surface Ownership

☐ Hydrology



Layer List

Layers

☒ OSE Water PODs

☐ M2.5+ Earthquakes (USGS 30-day)

☐ NM Oil and Gas Wells

☐ Wells - Large Scale

☐ Wells - Small Scale

☐ Incidents (C-141)

☐ Facilities

☒ USGS Groundwater wells

☐ Induced Seismicity Area

☐ Permian Basin Karst Areas

☐ BLM Oil Gas Leases Case Disp

☐ BLM Oil Gas Leases Production Status

☐ BLM Fluid Minerals Case

☐ BLM FM Agreements Case Disp

☐ BLM FM Agreements Production Status

☐ BLM FM Participating Areas Case Disp

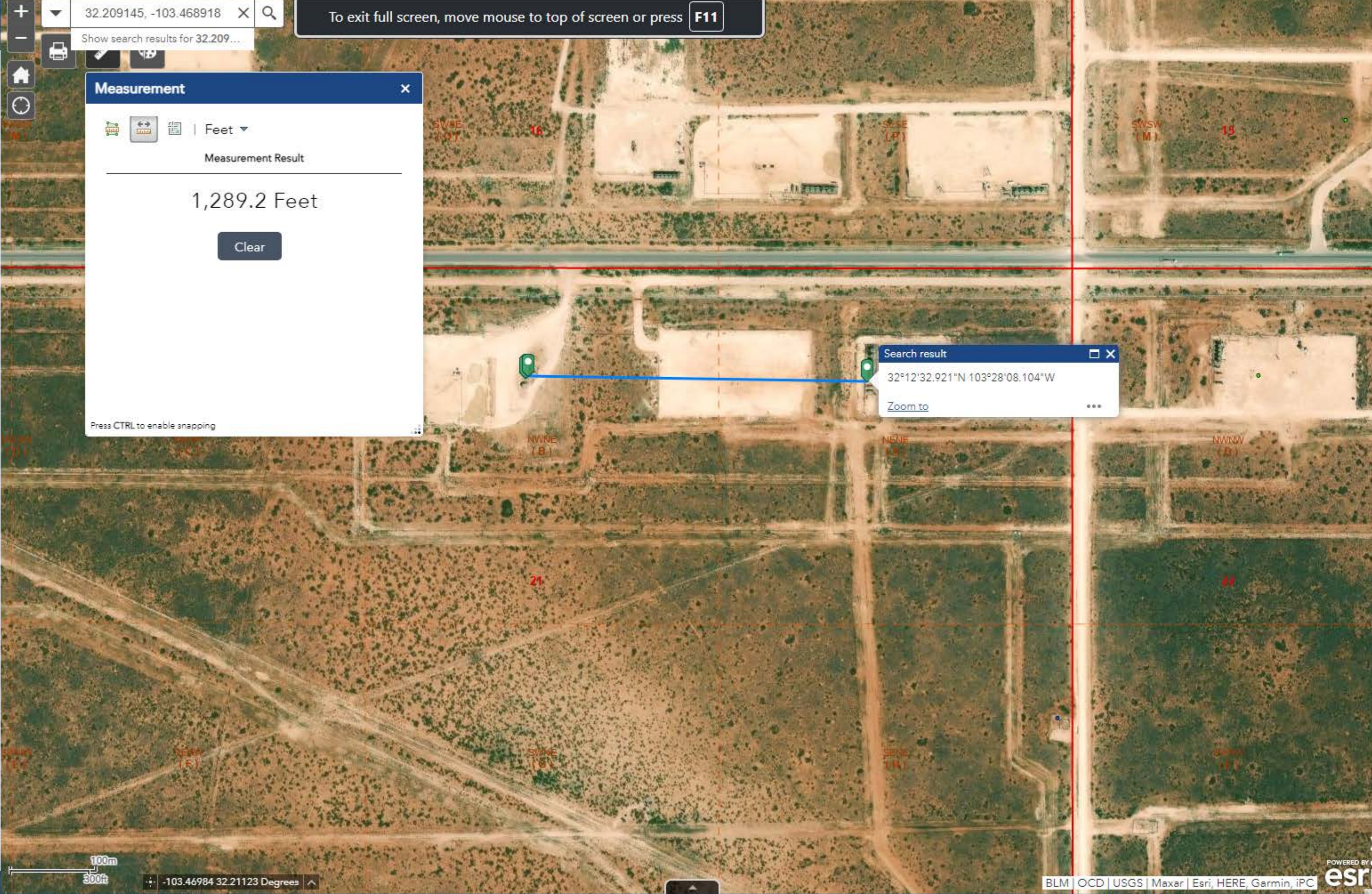
☐ NM SLO Oil and Gas Leases

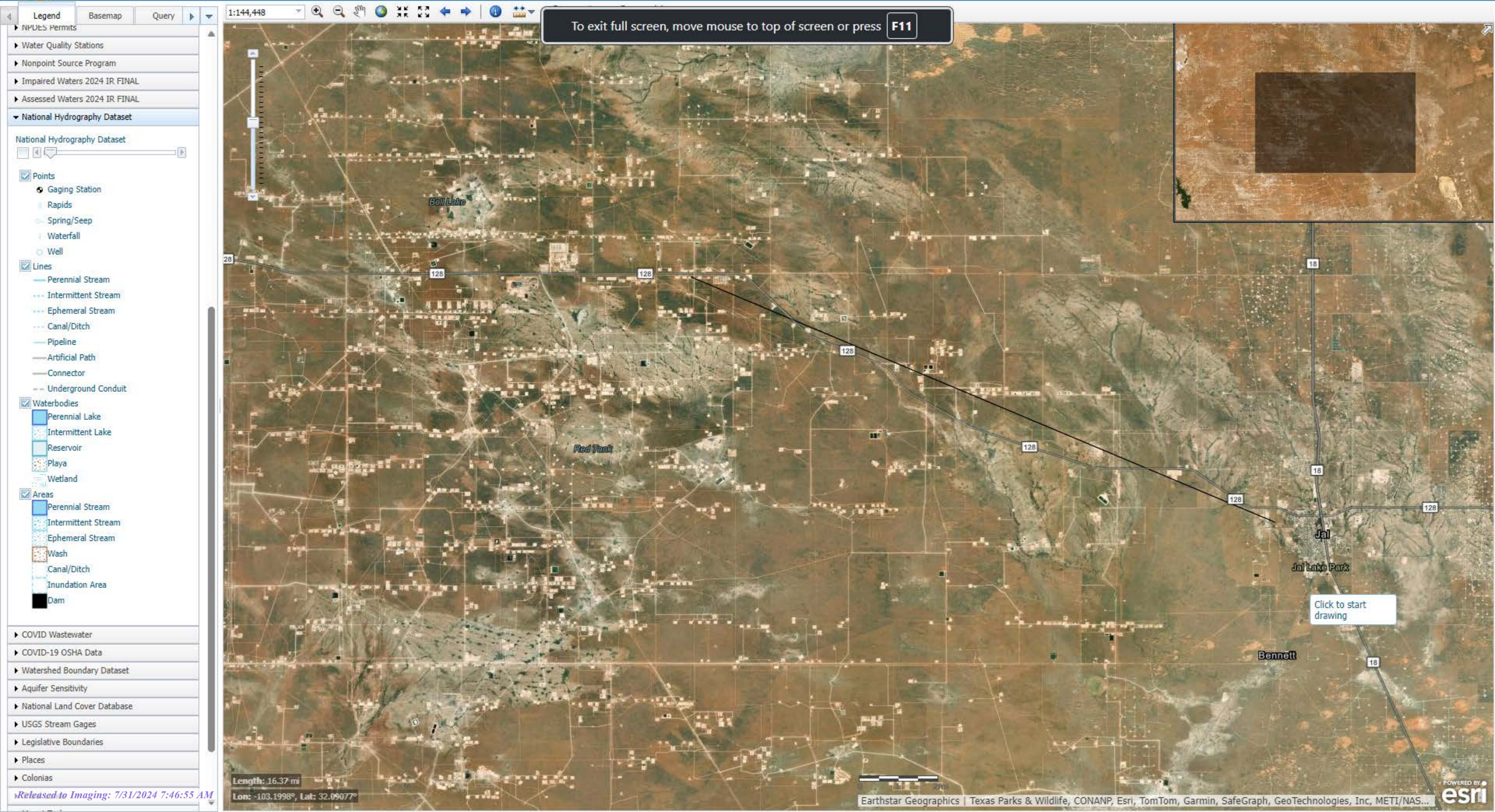
☐ NM SLO Participating Area and Unit Agreement Boundaries

☐ Political Boundaries and Transportation

☐ Mineral and Surface Ownership

☐ Hydrology

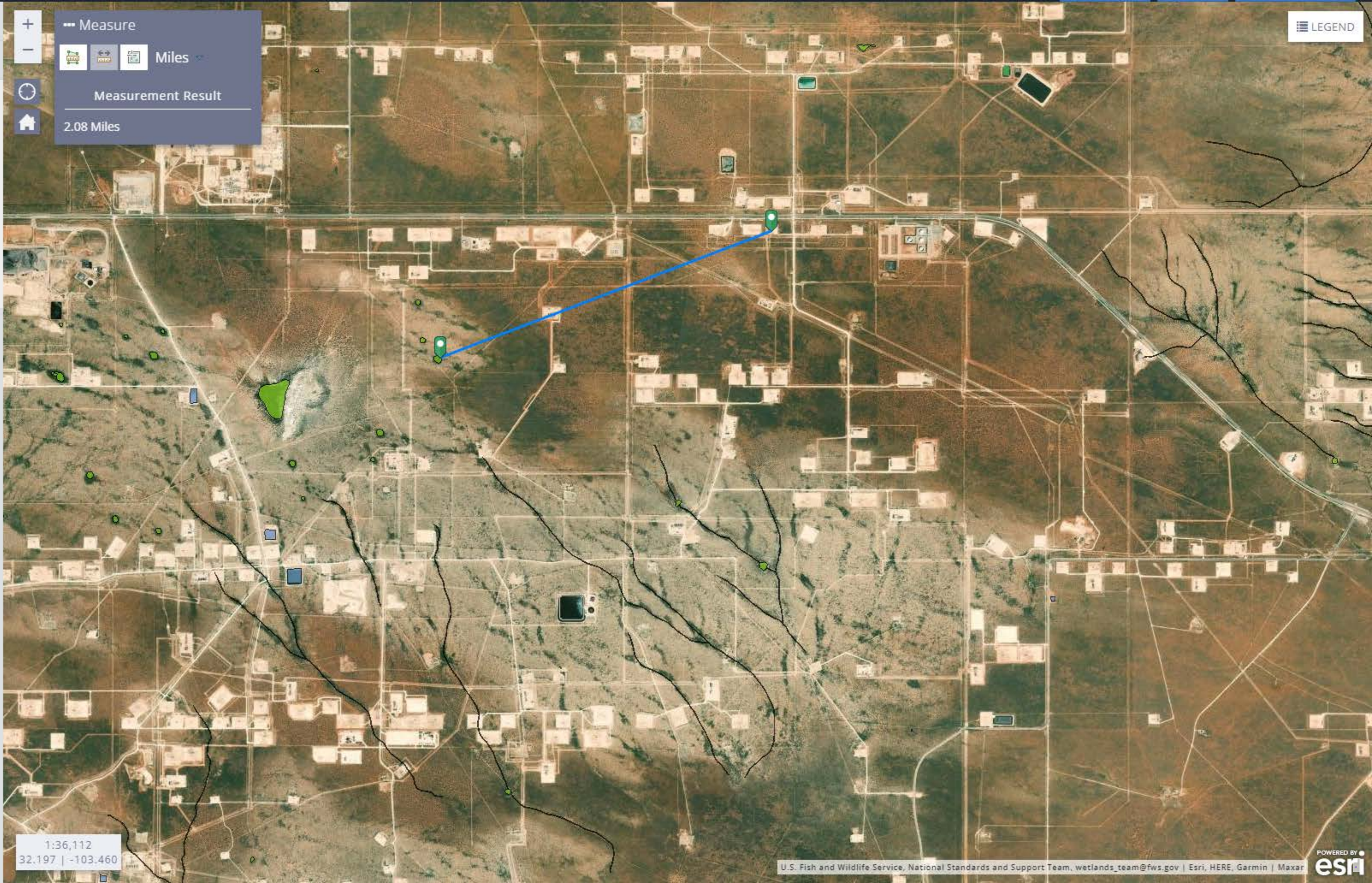




**BASEMAPS >**

**MAP LAYERS >**

- ☒ Wetlands 1 2
- ☒ Riparian 1 2
- ☐ Riparian Mapping Areas 1 2
- ☒ Data Source 1 2
  - ☐ Source Type
  - ☐ Image Scale
  - ☐ Image Year
- ☒ Areas of Interest 2
- ☐ FWS Managed Lands 1 2



**Measure**

Miles

**Measurement Result**

2.08 Miles

**LEGEND**

1:36,112  
32.197 | -103.460



Layer List

Layers

- ☒ Registered Mines
- ☒ Mineral\_and\_Surface\_Ownership
- ☒ Public Land Survey System (PLSS)



32.209145, -103.468918

Show search results for 32.209145, -1...

Measurement

Miles

Measurement Result

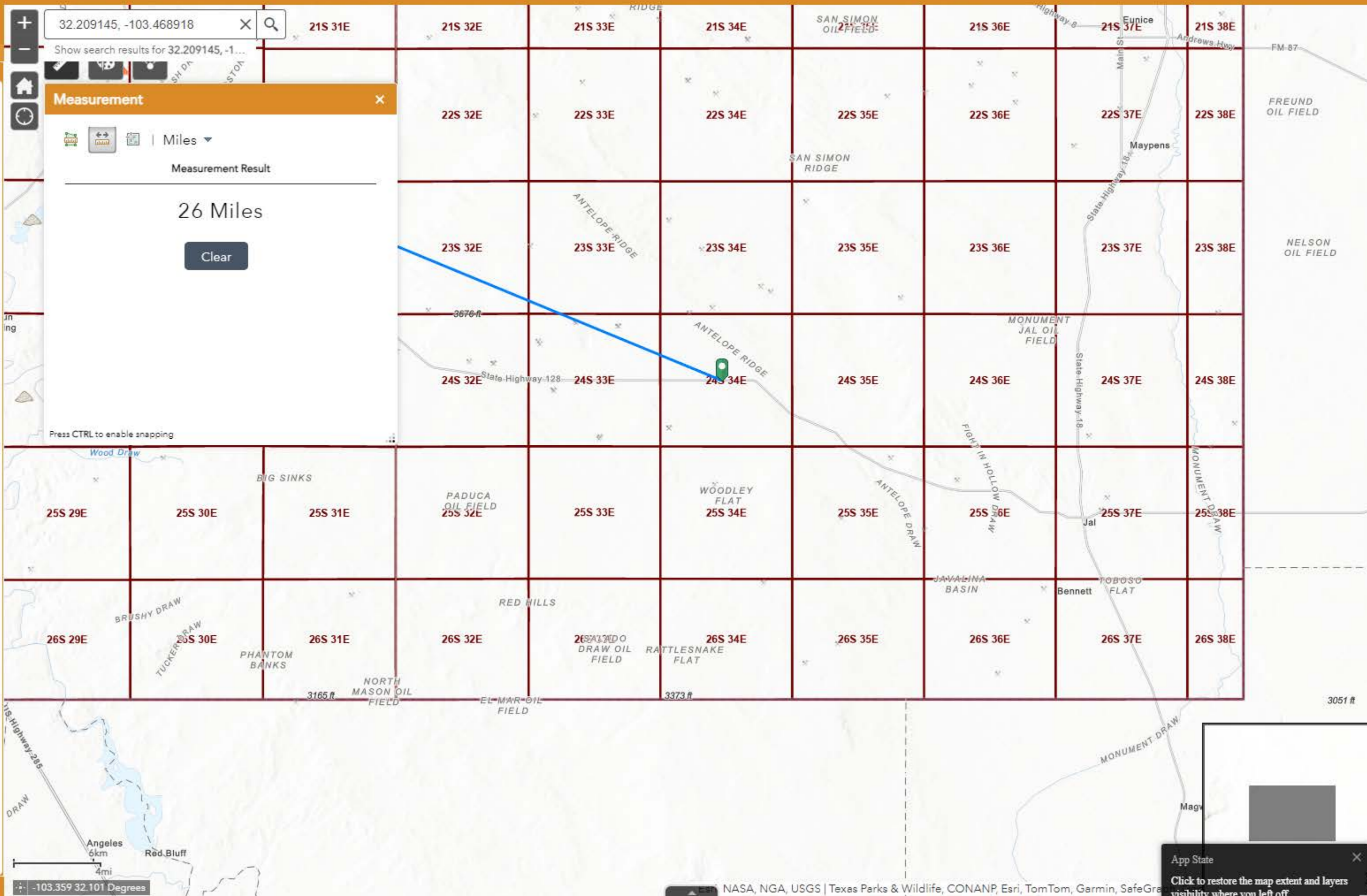
26 Miles

Clear

Press CTRL to enable snapping



-103.359 32.101 Degrees



App State

Click to restore the map extent and layers visibility where you left off.

Layer List

Layers

☐ QSE Water PODs

☐ M2.5+ Earthquakes (USGS 30-day)

☒ NM Oil and Gas Wells

☐ Wells - Large Scale

☐ Wells - Small Scale

☐ Incidents (C-141)

☐ Facilities

☐ USGS Groundwater wells

☒ Induced Seismicity Area

☐ Permian Basin Karst Areas

☐ BLM Oil Gas Leases Case Disp

☐ BLM Oil Gas Leases Production Status

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☐ BLM FM Agreements Production Status

☐ BLM FM Participating Areas Case Disp

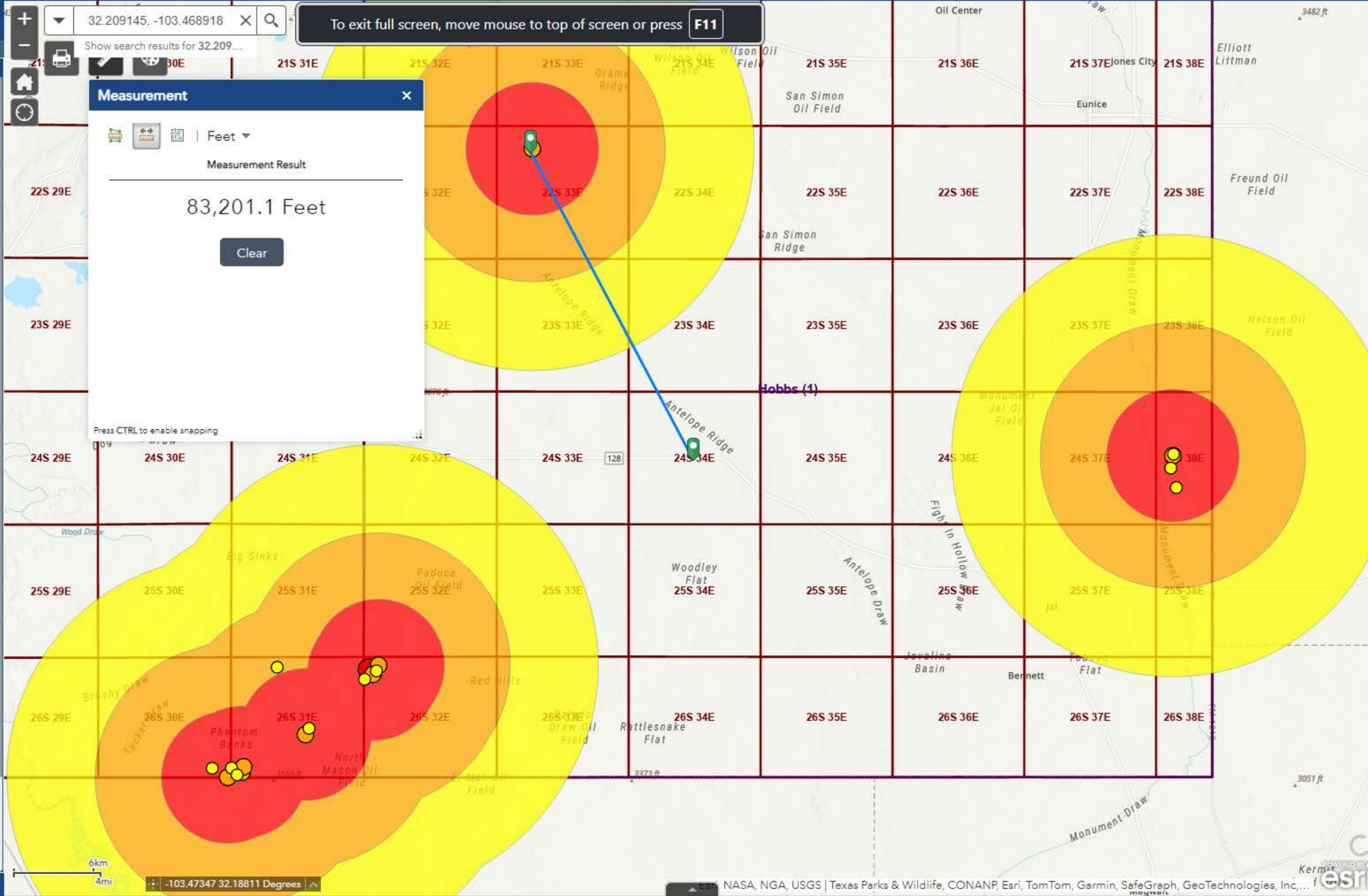
☐ NM SLO Oil and Gas Leases

☐ NM SLO Participating Area and Unit Agreement Boundaries

☐ Political Boundaries and Transportation

☐ Mineral and Surface Ownership

☐ Hydrology



Layer List

Layers

☐ QSE Water PODs

...

☐ M2.5+ Earthquakes (USGS 30-day)

...

☐ NM Oil and Gas Wells

...

☐ Incidents (C-141)

...

☐ Facilities

...

☐ USGS Groundwater wells

...

☐ Induced Seismicity Area

...

☒ Permian Basin Karst Areas

...

☒ Critical Karst Resource Area

...

☒ Karst Occurrence Potential

...

☐ BLM Oil Gas Leases Case Disp

...

☐ BLM Oil Gas Leases Production Status

...

☐ BLM Fluid Minerals Case

...

☐ BLM FM Agreements Case Disp

...

☐ BLM FM Agreements Production Status

...

☐ BLM FM Participating Areas Case Disp

...

☐ NM SLO Oil and Gas Leases

...

☐ NM SLO Participating Area and Unit Agreement Boundaries

...

☐ Political Boundaries and Transportation

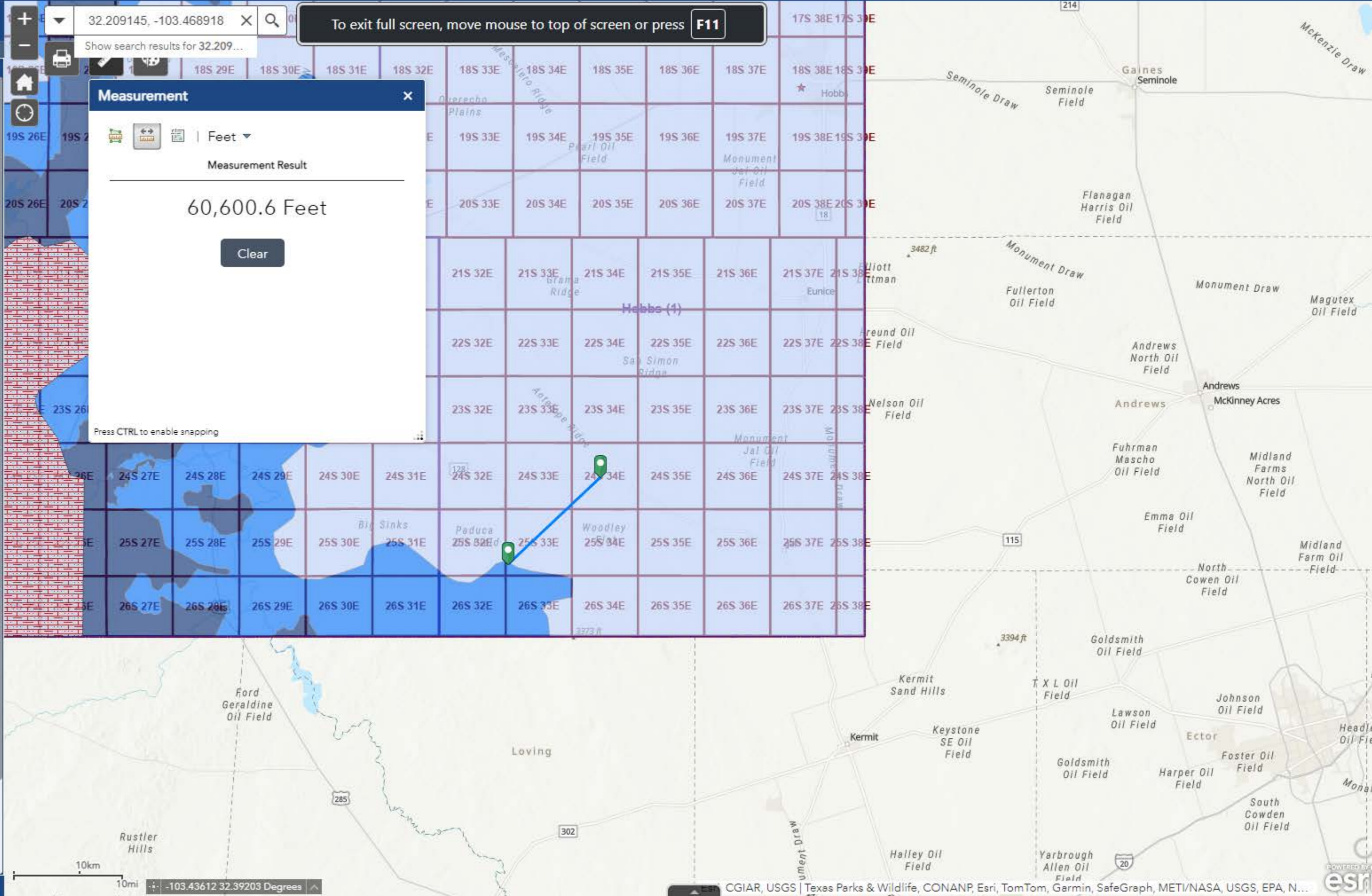
...

☐ Mineral and Surface Ownership

...

☐ Hydrology

...



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Find address or place

Measurement

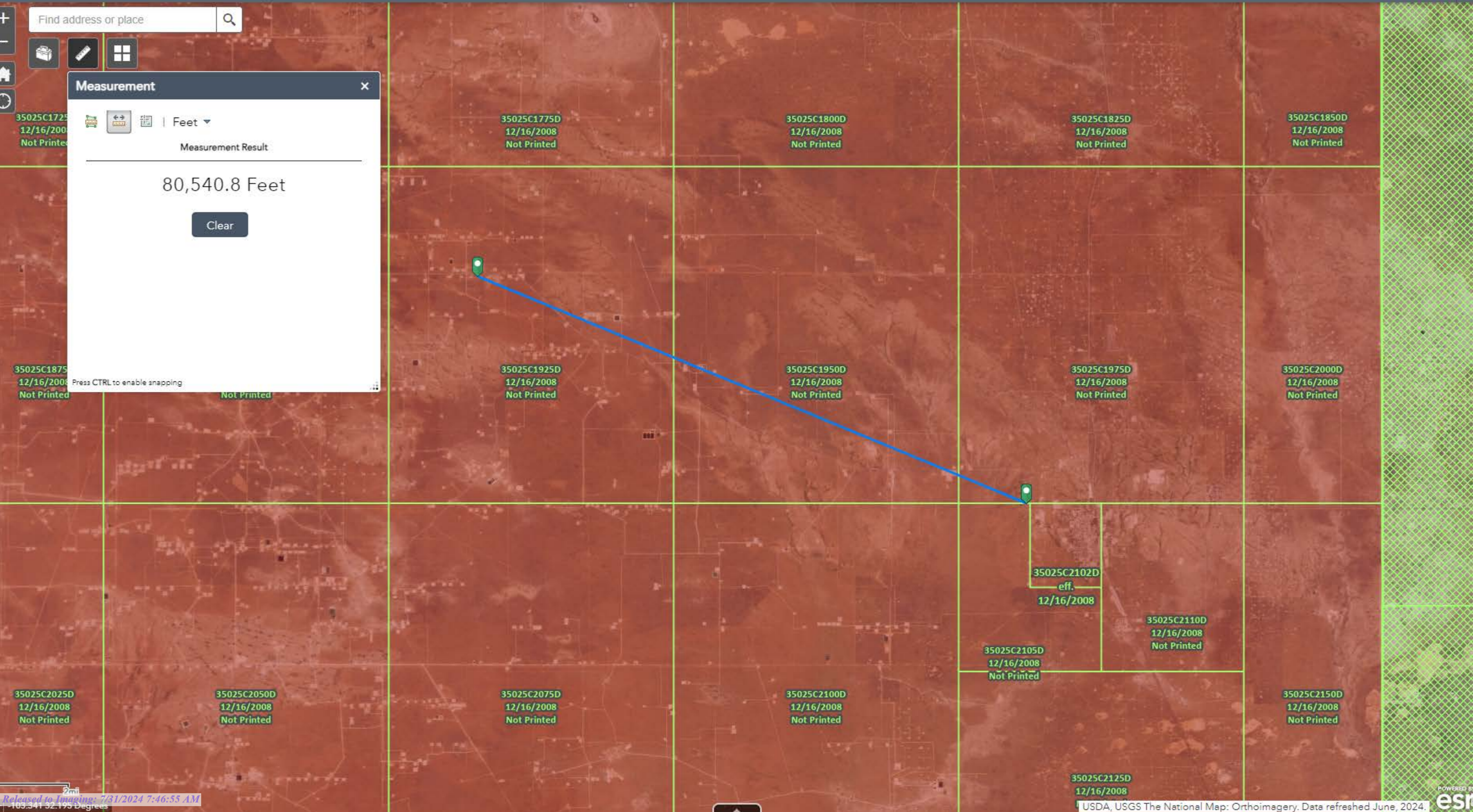
| Feet

Measurement Result

80,540.8 Feet

Clear

Press CTRL to enable snapping



**District I**  
1625 N. French Dr., Hobbs, NM 88240  
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Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS  
  
Action 359503

QUESTIONS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:	372165
	Action Number:	359503
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2219045002
Incident Name	NAPP2219045002 RAIDER FED COM 101H BATTERY @ 30-025-43408
Incident Type	Oil Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-43408] RAIDER FEDERAL COM #101H
Incident Facility	[fAPP2220951259] Raider 21 Battery 1

Location of Release Source	
Please answer all the questions in this group.	
Site Name	RAIDER FED COM 101H BATTERY
Date Release Discovered	07/08/2022
Surface Owner	Private

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure   Separator   Crude Oil   Released: 30 BBL   Recovered: 30 BBL   Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Separator   Produced Water   Released: 30 BBL   Recovered: 20 BBL   Lost: 10 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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**Energy, Minerals and Natural Resources**  
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**Santa Fe, NM 87505**

QUESTIONS, Page 2

Action 359503

**QUESTIONS (continued)**

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:	372165
	Action Number:	359503
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

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

**Initial Response**

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

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

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

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

I hereby agree and sign off to the above statement	Name: Matthew Taylor Title: Environmental Coordinator Email: matthew.taylor@permianres.com Date: 07/26/2024
--	--

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

QUESTIONS, Page 3

Action 359503

**QUESTIONS (continued)**

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 359503
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Direct Measurement
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 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 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	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

**Remediation Plan**

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

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

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

Chloride (EPA 300.0 or SM4500 Cl B)	48
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	4710
GRO+DRO (EPA SW-846 Method 8015M)	3800
BTEX (EPA SW-846 Method 8021B or 8260B)	2.8
Benzene (EPA SW-846 Method 8021B or 8260B)	0.1

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

On what estimated date will the remediation commence	06/13/2024
On what date will (or did) the final sampling or liner inspection occur	06/21/2024
On what date will (or was) the remediation complete(d)	06/27/2024
What is the estimated surface area (in square feet) that will be reclaimed	3300
What is the estimated volume (in cubic yards) that will be reclaimed	360
What is the estimated surface area (in square feet) that will be remediated	13360
What is the estimated volume (in cubic yards) that will be remediated	900

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

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

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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
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**Santa Fe, NM 87505**

QUESTIONS, Page 4

Action 359503

**QUESTIONS (continued)**

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:	372165
	Action Number:	359503
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

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

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

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

(Select all answers below that apply.)

(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	OWL LANDFILL JAL [fJEG1635837366]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

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

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

I hereby agree and sign off to the above statement	Name: Matthew Taylor Title: Environmental Coordinator Email: matthew.taylor@permianres.com Date: 07/26/2024
--	--

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

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

QUESTIONS, Page 5  
  
Action 359503

QUESTIONS (continued)

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 359503
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

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**District IV**

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

QUESTIONS, Page 6

Action 359503

**QUESTIONS (continued)**

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:	372165
	Action Number:	359503
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	352552
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	06/21/2024
What was the (estimated) number of samples that were to be gathered	100
What was the sampling surface area in square feet	14000

**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	13360
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	10000
What was the total volume (in cubic yards) reclaimed	900
Summarize any additional remediation activities not included by answers (above)	Remediation and reclamation activities have been completed at the site.

*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: Matthew Taylor Title: Environmental Coordinator Email: matthew.taylor@permianres.com Date: 07/26/2024
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Action 359503

QUESTIONS (continued)

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 359503
	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 359503

CONDITIONS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 359503
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation closure approved. A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	7/31/2024
bhall	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	7/31/2024
bhall	Operator failed to provide proper Sampling Notification pursuant to 19.15.29.12.D.(1).(a) NMAC. Failure to provide proper sampling notice is a compliance issue and OCD may pursue compliance actions pursuant to 19.15.5 NMAC. Operator shall ensure future compliance with 19.15.29.12.D.(1).(a) NMAC. Confirmation samples collected on 6/18/2024 and 6/24/2024 do not have corresponding sampling notifications.	7/31/2024