

**Earthstone Operating, LLC.  
300 N Marienfeld St., Suite 1000  
Midland, TX 79701  
432-695-4222**

May 14, 2024

NMOCD District 1  
1625 N French Dr.  
Hobbs, NM 88240

**Re: Site Characterization and Remediation Closure Report  
Thunderball CTB  
API No. N/A  
GPS: Latitude 32.637162 Longitude -103.527776  
UL -- B, Sec. 26, T19S, R34E  
Lea County, NM  
NMOCD Ref. No. nAPP2412321969**

This fire/release was discovered by the operator on February 15, 2024. The initial Notification of Release and C-141 were submitted on May 2, 2024 (OCD Permitting: Applications [339846] and [339900]). This incident was assigned Incident ID nAPP2412321969 by the New Mexico Oil Conservation Division (NMOCD).

#### **Release Information**

**nAPP2412321969:** On February 15, 2024, during flowback an operator routed production through a VRT but the outlet valve to the tanks was still shut resulting in the overflow of the VRT sending fluid directly to the flare. This resulted in a flash fire which was largely self-extinguished and contained to the pad. However, a forklift, which was trespassing on the location, was in the line of fire and Hobbs FD was called to extinguish the burnt forklift. Approximately 1.5 barrels (bbls) of crude oil was released and 0 bbls were recovered due to being consumed by the fire. A Site Map can be found in Figure 4.

#### **Site Information and Site Characterization**

The Thunderball CTB (Thunderball) is located approximately twenty-two (22) miles west-southwest of Hobbs, NM. The release area around the flare is in Unit B, Section 26, Township 19S, Range 34E, Latitude 32.637162 Longitude -103.527776, Lea County, NM. A Location Map can be found in Figure 1.

Per the New Mexico Bureau of Geology and Mineral Resources, the geology in this area is made up of eolian and piedmont deposits; Interlayered eolian sands and piedmont-slope deposits along the eastern flank of the Pecos River valley, primarily between Roswell and Carlsbad. Typically capped by thin eolian deposits. The soil in this area is made up of Kermit soils and dune land, 0 to 12 percent slopes according to the United States Department of Agriculture Natural Resources Conservation Service soil survey. The drainage class in this area is: Excessively drained (Appendix B). A Topographic Map can be found in Figure 2. The nearest surface water feature is a salt pond located approximately 10.3 miles to the southwest of this site. There is a low potential for karst geology to be present around the Thunderball (Figure 3).

According to the New Mexico Office of the State Engineer, depth to the nearest groundwater in this area is 28 feet below grade surface (BGS). According to the United States Geological Survey well water data, depth to the nearest groundwater in this area is 67 feet BGS. The groundwater information from any well/pod is more than 1 mile away from this site and is more than 25 years old. Depth to groundwater at the Thunderball will be classified as less than 50' (BGS). Referenced water surveys and water-related maps can be found in Appendix A.

#### **Remediation Activities**

On May 6, 2024, Earthstone Operating contracted Wild West Services to begin an at-risk excavation. As most of the fluid was consumed by the fire, they performed a scrape, approximately 6" BGS, of the 4,128 square foot release area. Approximately 77 cubic yards of soil were removed and hauled to Lea Land, an NMOCD-approved disposal facility. Pima Environmental also mobilized personnel to the site to monitor the excavation by collecting soil samples from the release area as the excavation progressed.

On May 7, 2024, after Earthstone submitted a 48-hour notification of the sampling event, Pima personnel began collecting 5-point composite confirmation samples from the base and sidewalls of the excavation. A total of 21 base samples and 1 wall sample were collected from the 4,128 square foot release area. The laboratory results of this sampling event can be seen in the following data table.

5-7-24 Confirmation Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is <50')								
EARTHSTONE OPERATING, LLC - Thunderball CTB								
Date: 5/7/24		NM Approved Laboratory Results						
Sample ID	Depth (BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Cl mg/kg
CS1	6"	ND	ND	ND	ND	ND	0	32
CS2	6"	ND	ND	ND	ND	ND	0	16
CS3	6"	ND	ND	ND	ND	ND	0	32
CS4	6"	ND	ND	ND	ND	ND	0	32
CS5	6"	ND	ND	ND	ND	ND	0	32
CS6	6"	ND	ND	ND	ND	ND	0	16
CS7	6"	ND	ND	ND	ND	ND	0	32
CS8	6"	ND	ND	ND	ND	ND	0	16
CS9	6"	ND	ND	ND	ND	ND	0	80
CS10	6"	ND	ND	ND	ND	ND	0	16
CS11	6"	ND	ND	ND	ND	ND	0	16
CS12	6"	ND	ND	ND	ND	ND	0	16
CS13	6"	ND	ND	ND	ND	ND	0	32
CS14	6"	ND	ND	ND	ND	ND	0	16
CS15	6"	ND	ND	ND	ND	ND	0	16
CS16	6"	ND	ND	ND	ND	ND	0	16
CS17	6"	ND	ND	ND	ND	ND	0	16
CS18	6"	ND	ND	ND	ND	ND	0	16
CS19	6"	ND	ND	ND	ND	ND	0	32
CS20	6"	ND	ND	ND	ND	ND	0	ND
CS21	6"	ND	ND	ND	ND	ND	0	32
CSW1	6"	ND	ND	ND	ND	ND	0	16

ND – Non-Detect

A complete Laboratory Report can be found in Appendix E.

### Closure Request

Based on the sample results, the contamination levels are less than the regulatory limits of the <50' closure criteria in Table 1 of NMAC 19.15.29.1. A Confirmation Sample Map can be found in Figure 5. After careful review, Earthstone requests that this incident, nAPP2412321969, be closed. Earthstone has complied with the applicable closure requirements set forth in rule 19.15.19.12 NMAC.

For questions or additional information, please feel free to contact:

Permian Resources – Montgomery Floyd – 432-315-0134 or [montgomery.floyd@permianres.com](mailto:montgomery.floyd@permianres.com).

Pima Environmental – Tom Bynum – 580-748-1613 or [tom@pimaoil.com](mailto:tom@pimaoil.com).

### Attachments

Figures:

- 1- Location Map
- 2- Topographic Map
- 3- Karst Map
- 4- Site Map
- 5- Confirmation Sample Map

Appendices:

Appendix A – Referenced Water Surveys and Water-Related Maps

Appendix B – Soil Survey and Geological Data

Appendix C – C-141 Pages and NMOCD Correspondence

Appendix D – Photographic Documentation

Appendix E – Laboratory Reports



**Figures:**

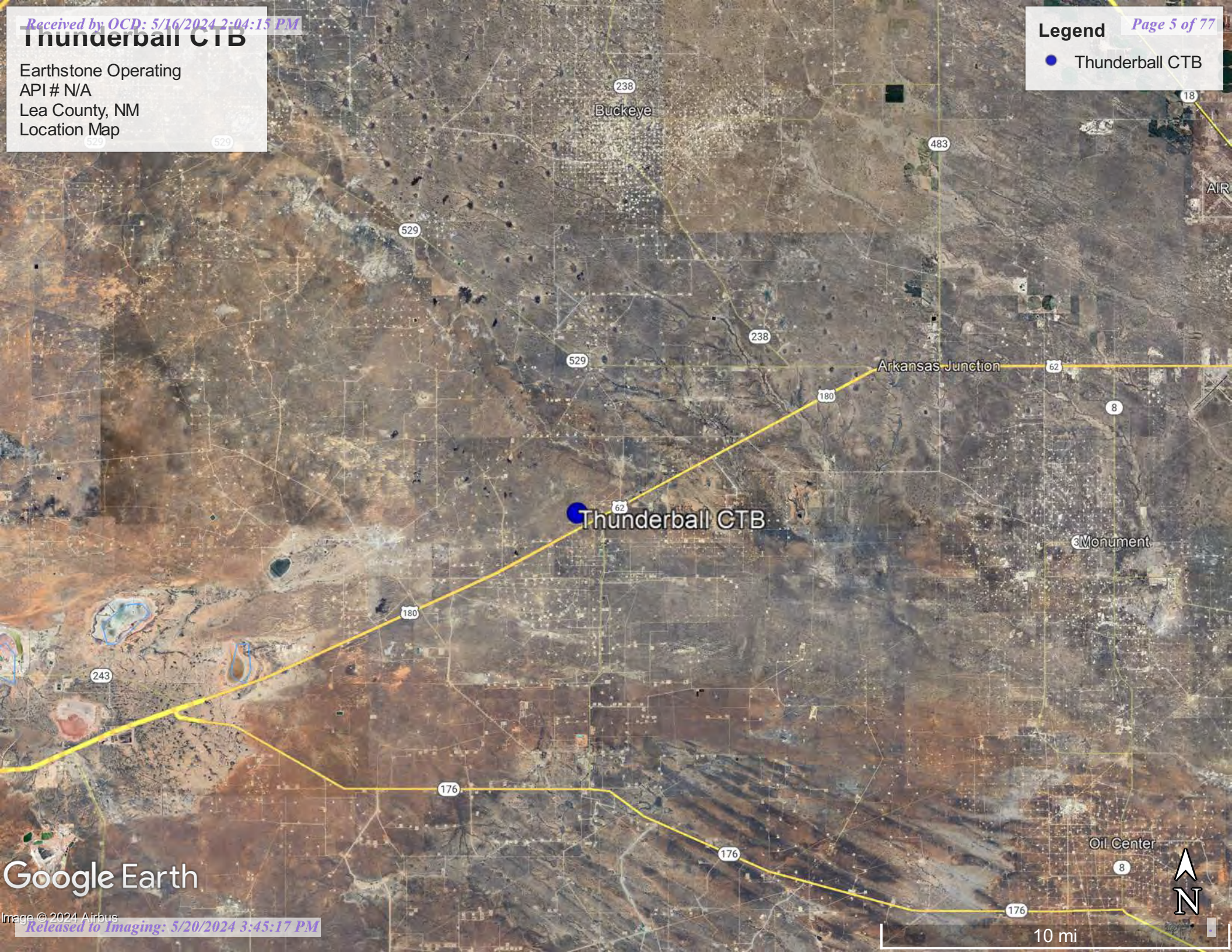
- 1 - Location Map
- 2 - Topographic Map
- 3 - Karst Map
- 4 - Site Map
- 5 - Confirmation Sample Map

# Thunderball CTB

Earthstone Operating  
API # N/A  
Lea County, NM  
Location Map

**Legend**

- Thunderball CTB



Google Earth

# Thunderball CTB

Earthstone Operating  
API # N/A  
Lea County, NM  
Topographic Map

**Legend**

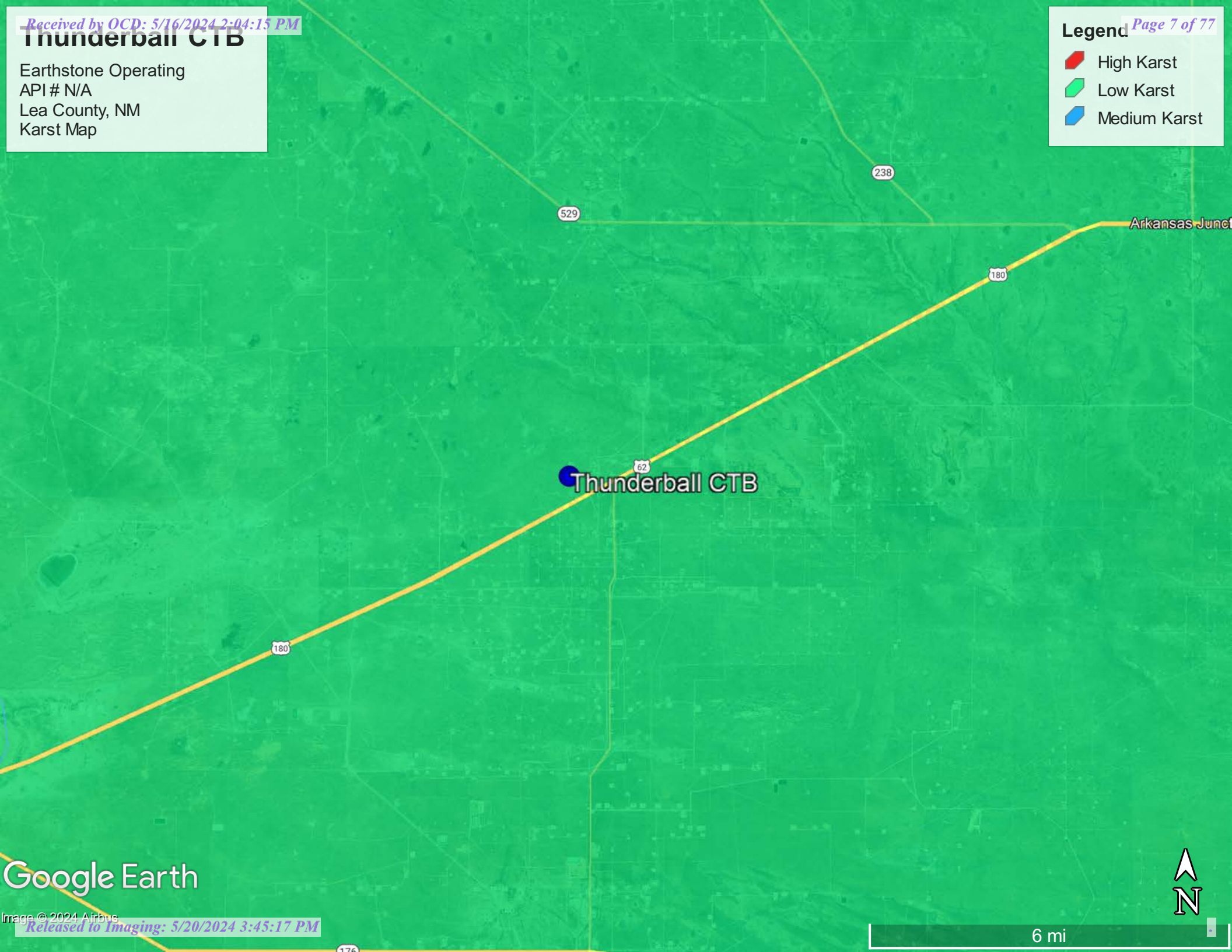
- Thunderball CTB



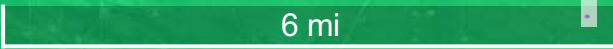
# Thunderball CTB

Earthstone Operating  
API # N/A  
Lea County, NM  
Karst Map

- High Karst
- Low Karst
- Medium Karst






Google Earth



Earthstone Operating  
API # N/A  
Lea County, NM  
Site Map

**Legend**

-  32.637162, -103.527776
-  Spill area - 4,128 sqft
-  Thunderball CTB

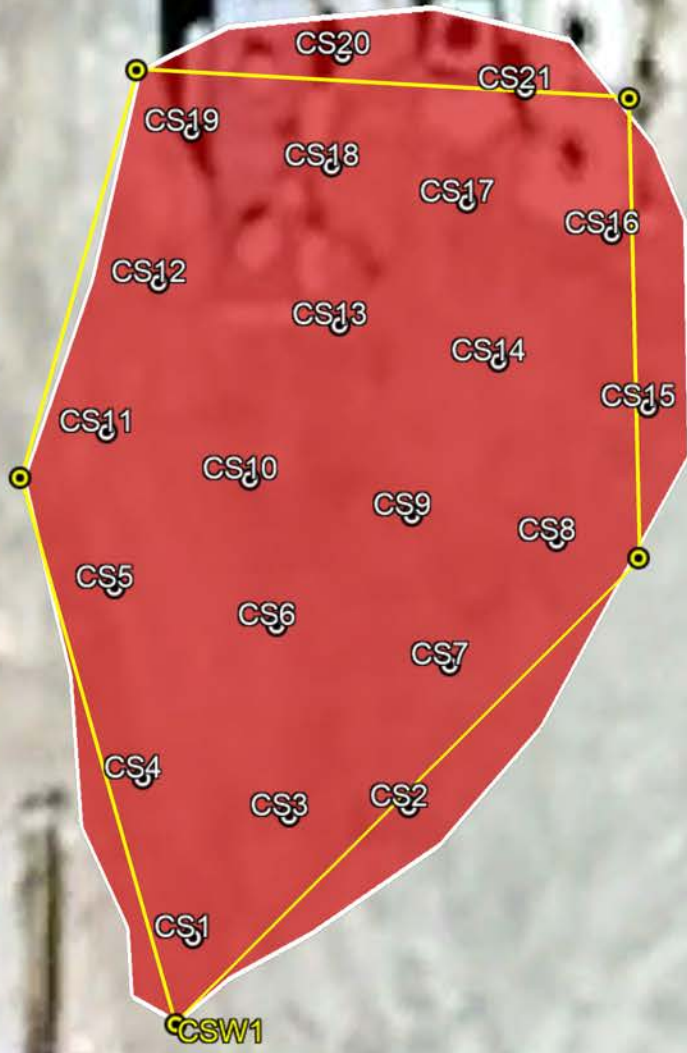


# Thunderball CTB

Earthstone Operating  
API # N/A  
Lea County, NM  
Confirmation Sample Map

**Legend**

- 5-Point Composite Base Samples
- 5-Point Composite Wall Sample
- Spill area - 4,128 sqft





## **Appendix A**

### Water Surveys:

OSE

USGS

### Water-Related Maps:

Surface Water Map

Wetlands Map

FEMA Map



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">CP 00683 POD1</a>		CP	LE	3	3	4	25	19S	34E	639530	3610685*	1959	120	28	92
<a href="#">CP 01672 POD1</a>		CP	LE	1	3	1	36	19S	34E	638736	3610009	2109	100		
<a href="#">L 08941</a>		L	LE	2	3	3	19	19S	35E	640510	3612523	2465	600	286	314

Average Depth to Water: **157 feet**

Minimum Depth: **28 feet**

Maximum Depth: **286 feet**

**Record Count:** 3

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 638096.46

**Northing (Y):** 3612020.24

**Radius:** 3000

\*UTM location was derived from PLSS - see Help

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

5/2/24 8:09 PM

WATER COLUMN/ AVERAGE DEPTH TO  
WATER



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

## National Water Information System: Web Interface

USGS Water Resources

Data Category:


Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.
- [Full News](#) 

Groundwater levels for the Nation

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

### Search Results -- 1 sites found

site\_no list =

- 323855103294001

Minimum number of levels = 1

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

### USGS 323855103294001 19S.35E.19.21110

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°38'55", Longitude 103°29'40" NAD27

Land-surface elevation 3,841 feet above NAVD88

This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

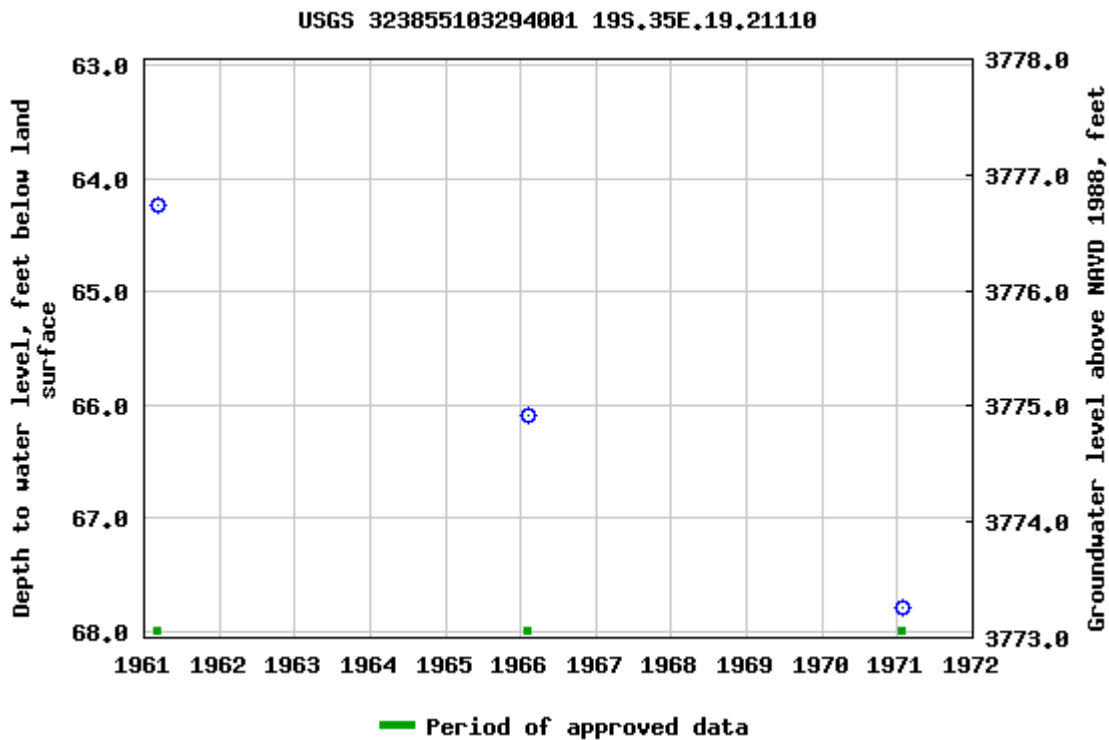
#### Output formats

[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](#)

[Questions or Comments](#)

[Automated retrievals](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

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[FOIA](#)

[Privacy](#)

[Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

**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: 2024-05-02 22:02:32 EDT

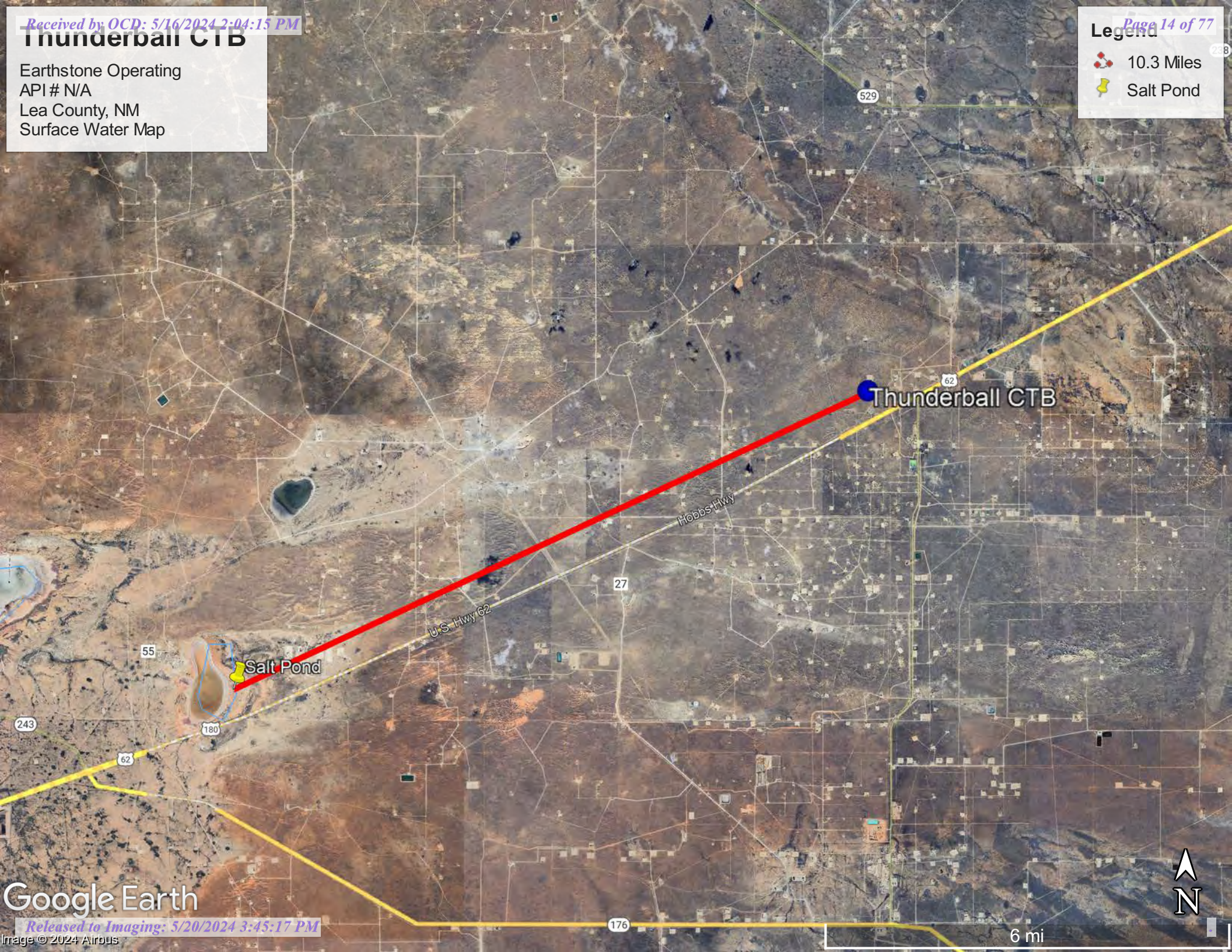
0.63 0.52 nadww02

# Thunderball CTB

Earthstone Operating  
API # N/A  
Lea County, NM  
Surface Water Map

**Legend**

-  10.3 Miles
-  Salt Pond





## Wetlands



May 3, 2024

## Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

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

- Lake
- Other
- Riverine

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

# National Flood Hazard Layer FIRMette



103°31'59"W 32°38'27"N



1:6,000

103°31'22"W 32°37'57"N

## Legend

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

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



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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/2/2024 at 10:17 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



## **Appendix B**

Soil Survey & Geological Data

Map Unit Description: Kermit soils and Dune land, 0 to 12 percent slopes---Lea County, New Mexico

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## Lea County, New Mexico

### KM—Kermit soils and Dune land, 0 to 12 percent slopes

#### Map Unit Setting

*National map unit symbol:* dmpx

*Elevation:* 3,000 to 4,400 feet

*Mean annual precipitation:* 10 to 15 inches

*Mean annual air temperature:* 60 to 62 degrees F

*Frost-free period:* 190 to 205 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Kermit and similar soils:* 46 percent

*Dune land:* 44 percent

*Minor components:* 10 percent

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

#### Description of Kermit

##### Setting

*Landform:* Dunes

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave, convex, linear

*Across-slope shape:* Convex

*Parent material:* Calcareous sandy eolian deposits derived from sedimentary rock

##### Typical profile

*A - 0 to 8 inches:* fine sand

*C - 8 to 60 inches:* fine sand

##### Properties and qualities

*Slope:* 5 to 12 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Excessively drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Very high (20.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 3 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* Low (about 3.1 inches)

Map Unit Description: Kermit soils and Dune land, 0 to 12 percent slopes---Lea County, New Mexico

---

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* A

*Ecological site:* R070BC022NM - Sandhills

*Hydric soil rating:* No

**Description of Dune Land****Setting**

*Landform:* Dunes

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave, convex, linear

*Across-slope shape:* Convex

*Parent material:* Sandy eolian deposits derived from sedimentary rock

**Typical profile**

*A - 0 to 6 inches:* fine sand

*C - 6 to 60 inches:* fine sand

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydrologic Soil Group:* A

*Hydric soil rating:* No

**Minor Components****Palomas**

*Percent of map unit:* 3 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Pyote**

*Percent of map unit:* 3 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Wink**

*Percent of map unit:* 2 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Maljamar**

*Percent of map unit:* 2 percent

*Ecological site:* R070BD003NM - Loamy Sand

Map Unit Description: Kermit soils and Dune land, 0 to 12 percent slopes---Lea County, New Mexico

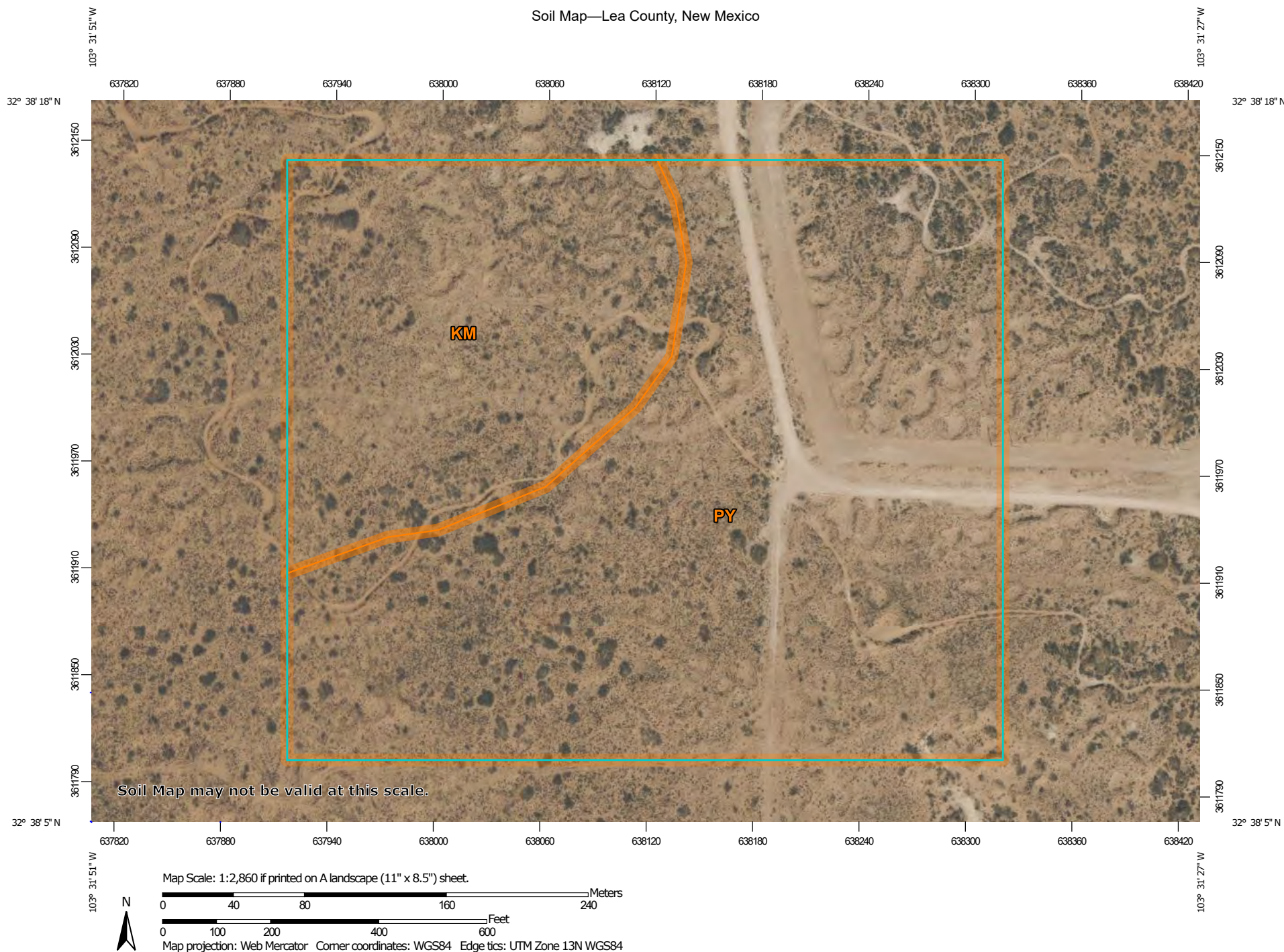
---

*Hydric soil rating:* No

## Data Source Information

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

Soil Map—Lea County, New Mexico



Natural Resources  
Conservation Service


Web Soil Survey  
National Cooperative Soil Survey

5/2/2024  
Page 1 of 3


## Soil Map—Lea County, New Mexico

## MAP LEGEND

## Area of Interest (AOI)

 Area of Interest (AOI)

## Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

## Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

## Water Features



Streams and Canals

## Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

## Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 20, Sep 6, 2023

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

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

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



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KM	Kermit soils and Dune land, 0 to 12 percent slopes	10.3	30.5%
PY	Pyote soils and Dune land	23.4	69.5%
Totals for Area of Interest		33.7	100.0%



## **Appendix C**

C-141 Pages

NMOCD Correspondence

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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

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

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

Incident ID	nAPP2412321969
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: Earthstone Operating, LLC	OGRID: 331165
Contact Name: Montgomery Floyd	Contact Telephone: 432-315-0134
Contact email: montgomery.floyd@permianres.com	Incident # nAPP2412321969
Contact mailing address: 300 N. Marienfeld St. Suite 1000, Midland, Tx 79701	

### Location of Release Source

Latitude 32.63725

Longitude -103.52721

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Thunderball CTB	Site Type: Production Facility
Date Release Discovered: 2/15/2024	API# (if applicable)

Unit Letter	Section	Township	Range	County
B	26	19S	34E	Lea

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

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 1.5	Volume Recovered (bbls) 0
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<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 (provide units)	Volume/Weight Recovered (provide units)

**Cause of Release:**

During flowback an operator routed production through a VRT but the outlet valve to the tanks was still shut resulting in the overflow of the VRT sending fluid directly to the flare. This resulted in a flash fire which was largely self extinguished and contained to the pad however a forklift, which was trespassing on the location, was in the line of fire and Hobbs FD was called to extinguish the burnt forklift.

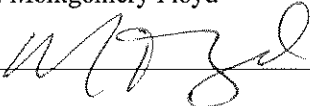
State of New Mexico  
Oil Conservation Division

Incident ID	nAPP2412321969
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The released fluids resulted in a fire.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? No immediate notice was given. This is a back dated report due to the fire.	

**Initial Response**

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:          	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: Montgomery Floyd	Title: Environmental
Signature: 	Date: 5-1-24
Email: montgomery.floyd@permianres.com	Telephone: 432-425-8321
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____

Incident ID	nAPP2412321969
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&lt;50</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<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 an 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 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 <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

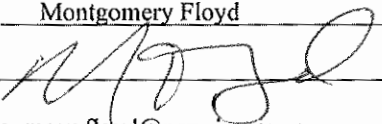
Form C-141

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nAPP2412321969
District RP	
Facility ID	
Application ID	

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

Printed Name: Montgomery Floyd Title: \_\_\_\_\_  
Signature:  Date: 5-15-24  
email: montgomery.floyd@permianres.com Telephone: 432-315-0134

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Form C-141

Page 6

State of New Mexico  
Oil Conservation Division

Incident ID	nAPP2412321969
District RP	
Facility ID	
Application ID	

**Closure**


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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Name: Montgomery Floyd Title: \_\_\_\_\_

Signature:  Date: 5-15-24

email: montgomery.floyd@permianres.com Telephone: 432-315-0134

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

----- Forwarded message -----

From: "OCDOnline@state.nm.us" <OCDOnline@state.nm.us>

To: Matthew Taylor <Matthew.Taylor@permianres.com>

Cc:

Bcc:

Date: Fri, 3 May 2024 18:18:04 +0000

Subject: -EXTERNAL- The Oil Conservation Division (OCD) has accepted the application, Application ID: 340696

**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 Earthstone Operating, LLC),

The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nAPP2412321969.

The sampling event is expected to take place:

**When:** 05/07/2024 @ 09:00

**Where:** B-26-19S-34E 0 FNL 0 FEL (32.63725,-103.52721)

**Additional Information:** Marisa Loya  
(575)416-0639

Conformation sampling will begin 5/7/2024 and end on 5/10/2024.

**Additional Instructions:** 32.637009,-103.528136

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



## **Appendix D**

### Photographic Documentation

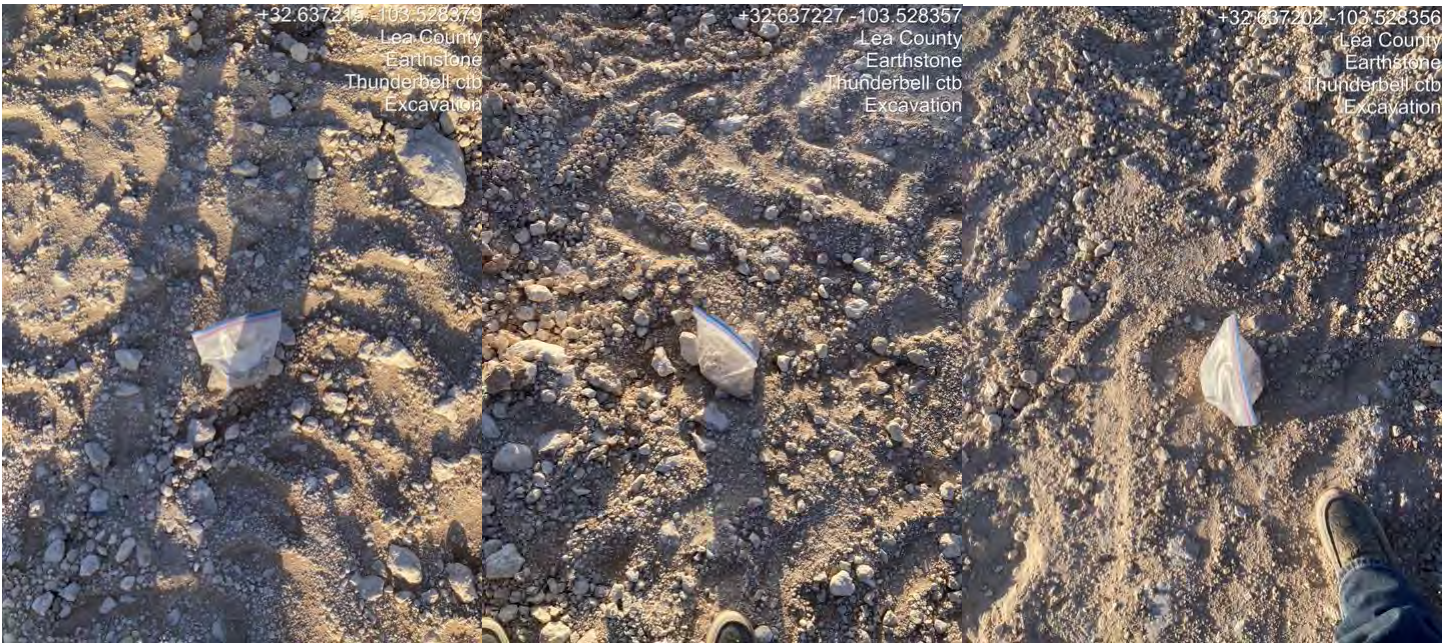
















## **Appendix E**

### Laboratory Reports



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

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May 10, 2024

GIO GOMEZ

PIMA ENVIROMENTAL

1601 N TURNER STE. 500

HOBBS, NM 88240

RE: THUNDERBALL CTB

Enclosed are the results of analyses for samples received by the laboratory on 05/09/24 10:17.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 1 (H242522-01)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	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	32.0	16.0	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 67.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.2 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 2 (H242522-02)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574		
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79		
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57		
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43		
Total BTEX	<0.300	0.300	05/10/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 79.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.6 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 3 (H242522-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	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	05/10/2024	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	05/09/2024	ND	206	103	200	1.44		
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10		
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND						

Surrogate: 1-Chlorooctane 77.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.0 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 4 (H242522-04)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	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	32.0	16.0	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 94.8 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 5 (H242522-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	05/10/2024	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	05/09/2024	ND	206	103	200	1.44		
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10		
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND						

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.1 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 6 (H242522-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 85.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.0 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 7 (H242522-07)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	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	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 79.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 8 (H242522-08)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574		
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79		
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57		
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43		
Total BTEX	<0.300	0.300	05/10/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 82.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 9 (H242522-09)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 66.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 10 (H242522-10)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 85.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 11 (H242522-11)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 63.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.5 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 12 (H242522-12)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	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	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 66.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.2 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 13 (H242522-13)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTX	<0.300	0.300	05/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 73.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.1 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 14 (H242522-14)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	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	05/10/2024	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	05/09/2024	ND	206	103	200	1.44		
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10		
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND						

Surrogate: 1-Chlorooctane 86.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.2 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 15 (H242522-15)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	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	05/10/2024	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	05/09/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 72.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.7 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 16 (H242522-16)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	05/10/2024	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	05/10/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/10/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/10/2024	ND					

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 17 (H242522-17)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574		
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79		
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57		
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43		
Total BTEX	<0.300	0.300	05/10/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	05/10/2024	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	05/10/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/10/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/10/2024	ND					

Surrogate: 1-Chlorooctane 74.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 19 (H242522-19)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	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	32.0	16.0	05/10/2024	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	05/10/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/10/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/10/2024	ND					

Surrogate: 1-Chlorooctane 72.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.5 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 20 (H242522-20)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.09	105	2.00	0.574	
Toluene*	<0.050	0.050	05/10/2024	ND	2.06	103	2.00	4.79	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.08	104	2.00	4.57	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	6.83	114	6.00	4.43	
Total BTEX	<0.300	0.300	05/10/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/10/2024	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	05/10/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/10/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/10/2024	ND					

Surrogate: 1-Chlorooctane 86.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.5 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CS 21 (H242522-21)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.07	103	2.00	0.0440	
Toluene*	<0.050	0.050	05/10/2024	ND	2.05	102	2.00	0.352	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.01	100	2.00	0.570	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	5.87	97.8	6.00	0.626	
Total BTEX	<0.300	0.300	05/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 83.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/10/2024	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	05/10/2024	ND	206	103	200	1.44	
DRO >C10-C28*	<10.0	10.0	05/10/2024	ND	192	95.9	200	2.10	
EXT DRO >C28-C36	<10.0	10.0	05/10/2024	ND					

Surrogate: 1-Chlorooctane 71.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.2 % 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:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: CSW 1 (H242522-22)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.07	103	2.00	0.0440	
Toluene*	<0.050	0.050	05/10/2024	ND	2.05	102	2.00	0.352	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.01	100	2.00	0.570	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	5.87	97.8	6.00	0.626	
Total BTEX	<0.300	0.300	05/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 83.7 % 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	05/10/2024	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	05/10/2024	ND	186	92.8	200	2.33	
DRO >C10-C28*	<10.0	10.0	05/10/2024	ND	172	85.8	200	7.23	
EXT DRO >C28-C36	<10.0	10.0	05/10/2024	ND					

Surrogate: 1-Chlorooctane 84.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

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

---

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Pima Environmental Services				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																			
Project Manager: Gio Gomez				P.O. #:																							
Address: 5614 N. Lovington Hwy				Company: Permian Resources																							
City: Hobbs State: NM Zip: 88240				Attn:																							
Phone #: 575-964-7740 Fax #:				Address:																							
Project #: 38-1 Project Owner: Permian Resources				City:																							
Project Name: Thunderball CTB				State: Zip:																							
Project Location: Lea County, NM.				Phone #:																							
Sampler Name: Marisa Loya				Fax #:																							
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																			
Lab I.D.	Sample I.D.	GRAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME													
A242522																											
1	CS1					X					X		5/7/24	9:00	X	X	X										
2	CS2													9:07													
3	CS3													9:16													
4	CS4													9:22													
5	CS5													9:36													
6	CS6													9:45													
7	CS7													9:56													
8	CS8													9:59													
9	CS9													10:11													
10	CS10													10:19													

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Relinquished By: Karine Adams	Date: 5-9-24	Received By: [Signature]	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Time: 1017	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
Delivered By: (Circle One)	Date:	Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/>	REMARKS: Rush! 24hrs
Sampler - UPS - Bus - Other:	Time:	Checked By: (Initials) [Signature]	
			Bill to Permian Resources

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Pima Environmental Services				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																					
Project Manager: Gio Gomez				P.O. #:				<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Chloride</div> </div>																					
Address: 5614 N. Lovington Hwy				Company: Permian Resources																									
City: Hobbs State: NM Zip: 88240				Attn:																									
Phone #: 575-964-7740 Fax #:				Address:																									
Project #: 38-1 Project Owner: Permian Resources				City:																									
Project Name: Thunderball CTB				State: Zip:																									
Project Location: Lea County, NM.				Phone #:																									
Sampler Name: Marisa Loya				Fax #:																									
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																					
Lab I.D.	Sample I.D.	GRAB OR (COMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME															
11	CS11					X				X			5/7/24	10:26	X	X	X												
12	CS12													10:33															
13	CS13													10:45															
14	CS14													10:52															
15	CS15													11:06															
16	CS16													11:12															
17	CS17													11:31															
18	<del>CS18</del>													11:45				Removed by Customer. 5/9/24											
14	CS19													11:58															
20	CS20													12:00															

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Relinquished By:	Date:	Received By:	Phone Result:	Fax Result:	REMARKS:
Carime Adame	5-9-24	Yamara Eldakky	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Rush! 24hrs
Relinquished By:	Date:	Received By:	Phone Result:	Fax Result:	REMARKS:
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Delivered By: (Circle One)	Time:	Sample Condition	CHECKED BY:	Bill to Permian Resources	
Sampler - UPS - Bus - Other: -8.1° #140		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	(Initials) YO		

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**CARDINAL**  
Laboratories

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]



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

May 10, 2024

GIO GOMEZ

PIMA ENVIROMENTAL

1601 N TURNER STE. 500

HOBBS, NM 88240

RE: THUNDERBALL CTB

Enclosed are the results of analyses for samples received by the laboratory on 05/09/24 16:01.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

PIMA ENVIROMENTAL  
GIO GOMEZ  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 05/09/2024  
Reported: 05/10/2024  
Project Name: THUNDERBALL CTB  
Project Number: 38-1  
Project Location: PERMIAN - LEA CO NM

Sampling Date: 05/07/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Alyssa Parras

**Sample ID: CS 18 (H242538-01)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2024	ND	2.07	103	2.00	0.0440	
Toluene*	<0.050	0.050	05/10/2024	ND	2.05	102	2.00	0.352	
Ethylbenzene*	<0.050	0.050	05/10/2024	ND	2.01	100	2.00	0.570	
Total Xylenes*	<0.150	0.150	05/10/2024	ND	5.87	97.8	6.00	0.626	
Total BTEX	<0.300	0.300	05/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 84.2 % 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	05/10/2024	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	05/09/2024	ND	186	92.8	200	2.33	
DRO >C10-C28*	<10.0	10.0	05/09/2024	ND	172	85.8	200	7.23	
EXT DRO >C28-C36	<10.0	10.0	05/09/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 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

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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\*=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



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Pima Environmental Services				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																					
Project Manager: Gio Gomez				P.O. #:																									
Address: 5614 N. Lovington Hwy				Company: <i>Permian Resources</i>																									
City: Hobbs State: NM Zip: 88240				Attn:																									
Phone #: 575-964-7740 Fax #:				Address:																									
Project #: 38-1 Project Owner: <i>Permian Resources</i>				City:																									
Project Name: <i>Thunderball CTB</i>				State: Zip:																									
Project Location: <i>Lea County, NM.</i>				Phone #:																									
Sampler Name: <i>Marisa Loya</i>				Fax #:																									
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																					
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															
<i>H242538</i>	<i>CS18</i>	<i>C</i>				<i>X</i>				<i>✓</i>	<i>X</i>		<i>8/17/24</i>	<i>11:45</i>	<i>X</i>	<i>X</i>	<i>X</i>												

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Relinquished By: <i>Marisa Loya</i>	Date: <i>8/24/24</i> Time: <i>1401</i>	Received By: <i>apawes</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
Delivered By: (Circle One) <i>-34°C</i>	Sample Condition	CHECKED BY: (Initials)	REMARKS: <i>Rush! 24 hrs</i>
Sampler - UPS - Bus - Other: <i>140</i>	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	<i>AP</i>	<i>Bill to Permian Resources</i>

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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  
  
Action 345196

QUESTIONS

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:	331165
	Action Number:	345196
	Action Type:	
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2412321969
Incident Name	NAPP2412321969 THUNDERBALL CTB @ 30-025-50427
Incident Type	Fire
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-50427] THUNDERBALL FEDERAL COM #223H

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Thunderball CTB
Date Release Discovered	02/15/2024
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Fire
Did this release result in a fire or is the result of a fire	Yes
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   Other (Specify)   Crude Oil   Released: 2 BBL   Recovered: 0 BBL   Lost: 2 BBL.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	No
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)	Release happened at flare.

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QUESTIONS, Page 2

Action 345196

**QUESTIONS (continued)**

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:
	331165
	Action Number:
	345196
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)	More info needed to determine if this will be treated as 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: (2) an unauthorized release of a volume that: (a) results in a fire or is the result of a fire.
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: Montgomery Floyd Title: Environmental Manager Email: montgomery.floyd@permianres.com Date: 05/16/2024
--	--

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
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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 345196

**QUESTIONS (continued)**

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 331165
	Action Number: 345196
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Site Characterization</b>	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 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	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

<b>Remediation Plan</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
<b>Soil Contamination Sampling:</b> (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	80
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0.1
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	05/07/2024
On what date will (or did) the final sampling or liner inspection occur	05/07/2024
On what date will (or was) the remediation complete(d)	05/14/2024
What is the estimated surface area (in square feet) that will be reclaimed	4200
What is the estimated volume (in cubic yards) that will be reclaimed	77
What is the estimated surface area (in square feet) that will be remediated	4200
What is the estimated volume (in cubic yards) that will be remediated	77
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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**Santa Fe, NM 87505**

QUESTIONS, Page 4

Action 345196

**QUESTIONS (continued)**

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:	331165
	Action Number:	345196
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	LEA LAND LANDFILL [fEEM0112342028]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Montgomery Floyd Title: Environmental Manager Email: montgomery.floyd@permianres.com Date: 05/16/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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

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

QUESTIONS, Page 5  
  
Action 345196

QUESTIONS (continued)

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 331165
	Action Number: 345196
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

**District I**

1625 N. French Dr., Hobbs, NM 88240  
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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS, Page 6

Action 345196

**QUESTIONS (continued)**

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:
	331165
	Action Number:
	345196
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	<b>340696</b>
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	<b>05/07/2024</b>
What was the (estimated) number of samples that were to be gathered	<b>22</b>
What was the sampling surface area in square feet	<b>4400</b>

**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	4200
What was the total volume (cubic yards) remediated	77
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	4200
What was the total volume (in cubic yards) reclaimed	77
Summarize any additional remediation activities not included by answers (above)	Dig & Haul; see attached report.

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: Montgomery Floyd Title: Environmental Manager Email: montgomery.floyd@permianres.com Date: 05/16/2024
--	--

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QUESTIONS, Page 7  
  
Action 345196

QUESTIONS (continued)

Operator:  Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID:
	331165
	Action Number:
	345196
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 345196

CONDITIONS

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 331165
	Action Number: 345196
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2412321969 THUNDERBALL CTB, thank you. This Remediation Closure Report is approved.	5/20/2024