VACUUM ABO UNIT #067

nGRL1033349437

PREPARED BY SAPEC-ECO, LLC.
PREPARED FOR MAVERICK PERMIAN, LLC.

Proposed Sampling and Remediation Work Plan

April 25, 2025

Sapec-Eco
5846 E 21st Place
Tulsa, OK 74114

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

Re: Proposed Sampling and Remediation Work Plan
NMOCD Incident Number: ***nGRL1033349437***
Vacuum ABO Unit #067 API #30-025-08541
Unit L, Section 26, Township 17S, Range 35E 1882 FSL 660 FWL Lea County, NM
GPS Coordinates: Latitude 32.8037415 Longitude -103.4347153 NAD83

Sapec-Eco (Sapec) has been contracted by Maverick Permian, LLC. (Maverick) to review and research this historic incident then prepare this proposed sampling and remediation work plan for a crude oil and produced water mixed release that occurred at the Vacuum ABO Unit #067 (Site). This incident was assigned Incident ID nGRL1033349437 by the New Mexico Oil Conservation Division (NMOCD).

Release Information – nGRL1033349437

The initial Form C-141 was submitted on July 28, 2010 (Appendix A) and stated that "Wellhead pressure gauge failed due to suspected fatigue resulting in release to caliche pad. Gauge was replaced and work order generated to remediate spill site. 21' X 54' X 1" area and a 10' X 36' X 1" area of hard caliche well pad. Vacuum truck picked up .2 bbls of crude oil and 13 bbls of produced water" This initial Form C-141 was approved by the NMOCD on July 29, 2010.

Site Characterization

This Site is in Lea County, NM, approximately ten (10) miles southwest of Lovington, NM. The wellhead and release area are in Unit L, Section 26, Township 17S, Range 35E, 32.778186 degrees latitude and -103.463822 degrees longitude. A Location Map is included for reference in Figure 5.

The New Mexico Bureau of Geology and Mineral Resources shows the geology at this Site includes Ogallala Formation. Alluvial and eolian deposits, and petrocalcic soils of the southern High Plains. Locally includes Qoa. A Geologic Unit Map can be found in Appendix C.

The soil type present at the Site is Kimbrough-Lea complex, dry, 0 to 3 percent slopes. The drainage class for this soil type is well drained. Soil type information is according to the United States Department of Agriculture Natural Resources Conservation Service soil survey. The Soil Survey and a Soil Map can be referenced in Appendix C. Reference Figure 4 for a Topographic Map.

The Site resides in a low karst zone and is approximately 28.16 miles away from the nearest medium karst zone. Figure 3 refers to the Karst Map.

According to the New Mexico Office of the State Engineer, depth to the nearest groundwater in this area is 50 feet below grade surface (bgs). This information is recorded by L-04881 which is situated approximately 80 feet away from the Site. This information is from 1963. The United States Geological Survey (USGS) offers the site USGS 324749103262401 17S.35E.34.2213411 which shows depth to the nearest groundwater is 49 feet bgs. The latest gauge of this site was conducted in 1980, and it is located approximately 0.56 miles from the Site.

The nearest surface water feature is an Unnamed Pond, and it is located approximately 4.12 miles to the west. The U.S. Fish and Wildlife Service National Wetlands Inventory shows the nearest wetland to be a Riverine approximately 0.16 miles southwest. According to Fema's National Flood Hazard Layer search, the Site is situated in Zone D – Area of Undetermined Flood Hazard and is greater than 5 miles away from the nearest flood hazard zone. See Appendix B for referenced Water Surveys and Water-Related Maps.

Readily available data were reviewed to determine if the Site lies within biologically sensitive areas. The U.S. Fish and Wildlife Services (USFWS) Information for Planning and Consultation (IPaC) and the New Mexico Department of Game and Fish (NMDGF) Environmental Review Tool (ERT) were queried to determine if sensitive wildlife or plant areas are present at the Site. The Site is not identified to be within biologically sensitive areas where remediation/reclamation would impact sensitive plant habitats. A Special Status Plant/Wildlife Map is included in Figure 2.

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5846 E 21st Place
Tulsa, OK 74114

The remediation area at the Site is in previously disturbed areas developed for oil and gas extraction; therefore, a cultural resource survey will not be required at the Site for planned remediation activities. The requirements of the Cultural Properties Protection (CCP) Rule will be followed, should the need arise for the remediation to extend past the previously disturbed areas.

Assessment and Delineation Activities

No previous work for the purpose of assessing or delineating the area has been performed.

Proposed Sampling & Remediation Activities

Maverick would like to propose the following:

- The area of concern measures approximately 1,600 square feet and is solely on the pad surface.
- Collect discrete samples from within and around the edges of the release area to evaluate the presence of contaminants. Twenty-five (25) samples will be collected from 5 different sample points within the release area from depths of surface, 1', 2', 3', and 4' bgs. Thirty-five (35) samples will be collected from 7 different sample points around the edges of the release area from depths of surface, 1', 2', 3', and 4' bgs.
- All samples will be put on ice, prepared for delivery, then delivered to Envirotech Analytical Laboratories where they will be analyzed for all the constituents listed in Table 1 19.15.29.12 NMAC.
- A 48-hour sampling notification will be issued to the NMOCD for these sampling events. A variance request is included below for permission to use the delineation samples as confirmations samples depending on the sample results of the soil. A Proposed Sample Map can be found in Figure 1.
- If any samples do not verify delineation, then the "step-out" method will be used for horizontal delineation samples until sample results can confirm delineation. Also, for vertical delineation samples, any samples not verifying delineation will be advanced deeper until sample results can confirm delineation.
- Sample results that are over the regulatory limits of the less than 50-foot to groundwater section of Table 1 will be measured for total area and affected volume then removed via mechanical excavation means. The contaminated soil will be hauled to an NMOCD-approved disposal facility and clean, like material will be brought to the Site for backfilling the excavated area.
- Once all sample results confirm delineation is complete, and contamination isn't present or has been removed, a remediation closure report will be drafted and submitted to the NMOCD Pay Portal for review/approval.

Variance Request

Maverick would like to respectfully request to use the delineation samples as confirmation samples in the event the laboratory samples results confirm that no contamination is present at any or all of the sample points. Maverick will diligently remediate all contaminants found that have reported results being over the regulatory limits of the less than 50-foot depth to groundwater section of Table 1 19.15.29.12 NMAC. Chlorides should be no more than 600 mg/kg. TPH (GRO+DRO+ORO) should be no more than 100 mg/kg. BTEX should be no more than 50 mg/kg. Benzene should be no more than 10 mg/kg.

Once official verification is received that contaminants are not present, or have been successfully removed from all areas within and around the Site, a remediation closure report will be drafted and submitted for approval. During this time, reclamation and revegetation activities of the pasture will commence. After all activities have been performed and documented, a final reclamation and revegetation report will be drafted and submitted for approval.

Request for Proposed Sampling & Remediation Work Plan Approval

Maverick requests that this proposed sampling & remediation work plan for incident ID nPAC0628649384 be approved. All rules and regulations set forth in 19.15.29.12 NMAC have been complied with.

For questions or additional information, please reach out to:
Maverick Permian – Bryce Wagoner – Bryce.Wagoner@mavresources.com – (928) 241-1862
Sapec-Eco, LLC – Tom Bynum – tombynum@sapec-eco.com – (580) 748-1613

Sapec-Eco
5846 E 21st Place
Tulsa, OK 74114

Attachments

Figures:

1- Proposed Sample Map
2- Special Status Plant/Wildlife Map
3- Karst Map
4- Topographic Map
5- Location Map

Appendices:

Appendix A – Initial Form C-141
Appendix B – Water Surveys & Water-Related Maps
Appendix C – Soil Surveys, Soil Map, & Geologic Unit Map
Appendix D – Photographic Documentation

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Figures:

Proposed Sample Map

Special Status Plant/Wildlife Map

Karst Map

Topographic Map

Location Map

Vacuum ABO Unit #067

Maverick Permian
API #30-025-08541
Lea County, NM
nGRL1033349437
Proposed Sample Map

Special Status Plant/Wildlife Map

4/23/2025

Dunes Sage Brush Lizard Habitat

Lesser Prairie Chicken Habitat

Habitat Evaluation Area

Isolated Population Area

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

38m Resolution Metadata

1:188,288

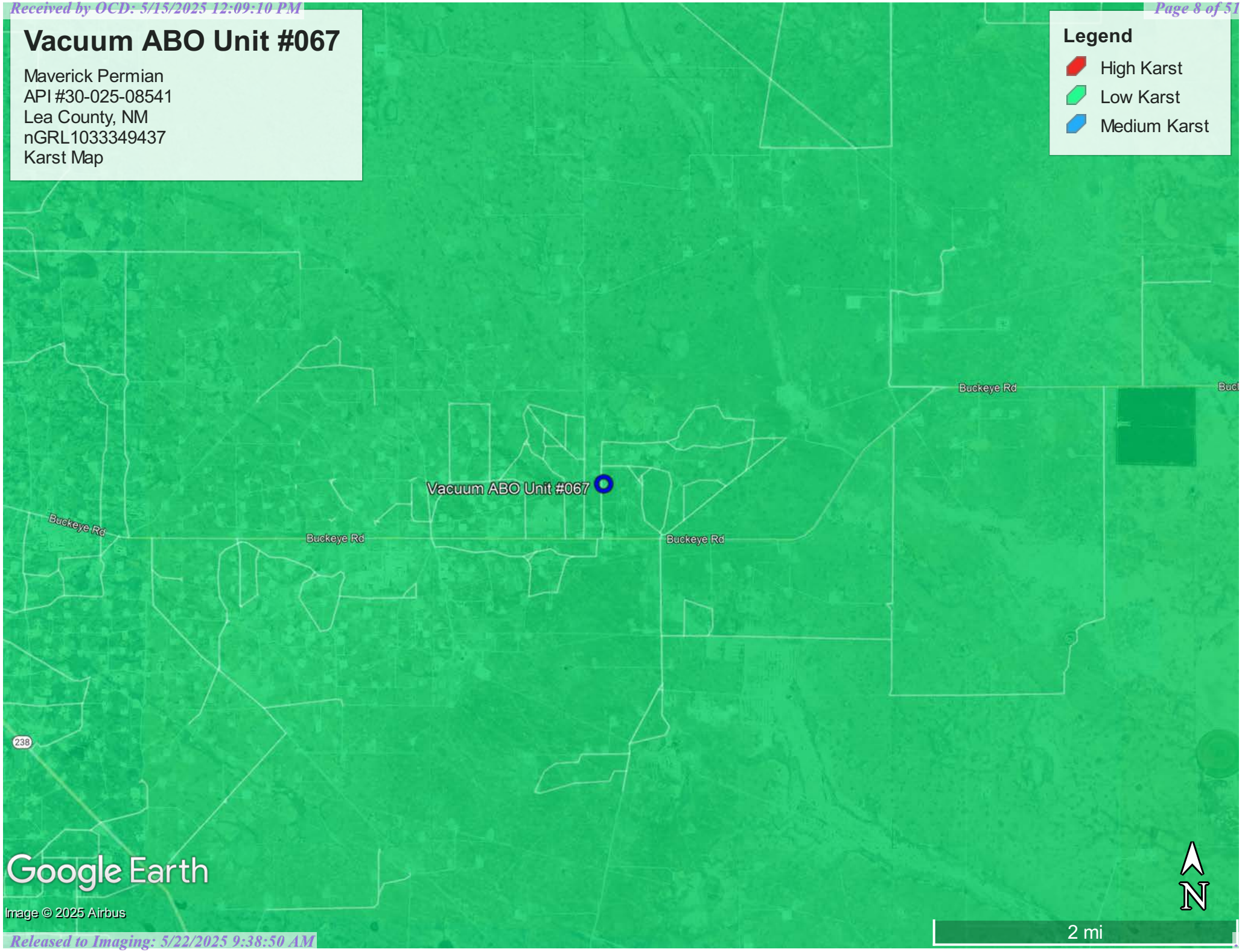
0 1.25 2.5 5 mi

0 2 4 8 km

Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community,

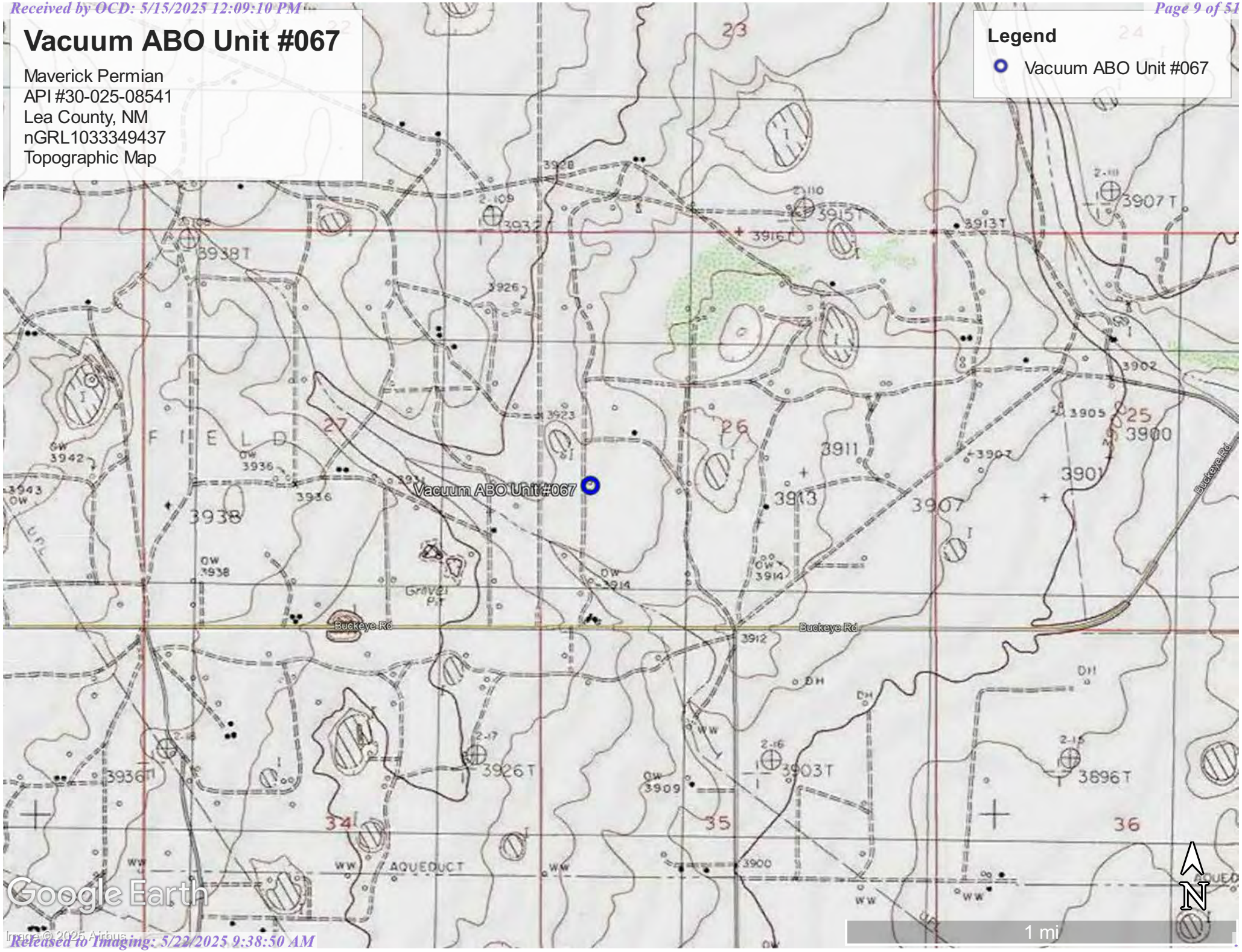
Vacuum ABO Unit #067

Maverick Permian
API #30-025-08541
Lea County, NM
nGRL1033349437
Karst Map



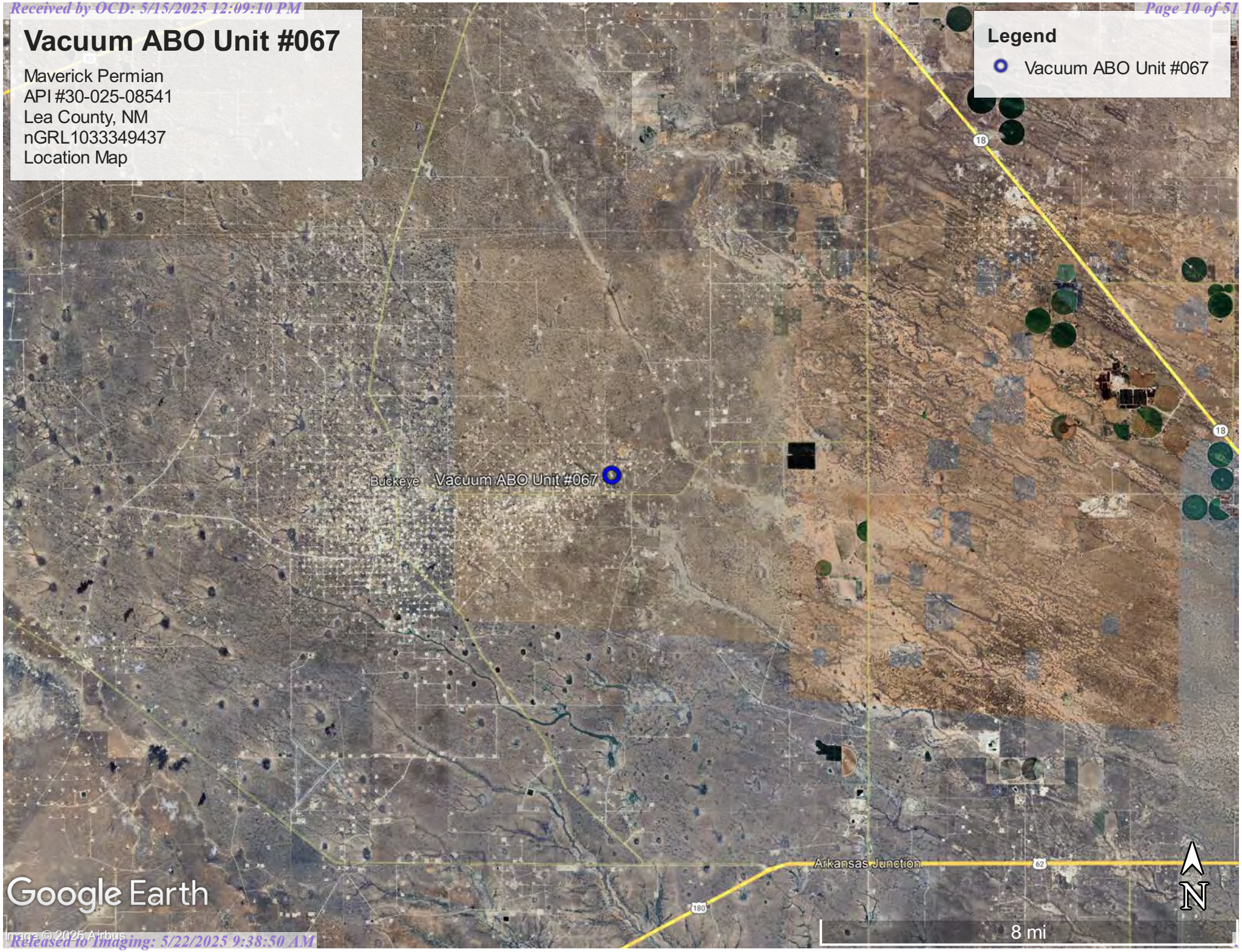
Vacuum ABO Unit #067

Maverick Permian
API #30-025-08541
Lea County, NM
nGRL1033349437
Topographic Map



Vacuum ABO Unit #067

Maverick Permian
API #30-025-08541
Lea County, NM
nGRL1033349437
Location Map



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Tulsa, OK 74114

Appendix A

Initial Form C-141

RECEIVED

JUL 29 2010

HOBBSOCD

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company **ConocoPhillips Company**	Contact **John W. Gates**
Address **3300 North A St. Bldg 6, Midland, TX 79705-5406**	Telephone No. **505.391.3158**
Facility Name **VAC ABO well# 6-67**	Facility Type **Oil and Gas**

Surface Owner **State Of New Mexico**	Mineral Owner **State Of New Mexico**	Lease No **30-025-08541-00-00**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	**26**	**17S**	**35E**					**Lea**

Latitude N32 4813. 4 **Longitude W103 2605.1**

NATURE OF RELEASE

Type of Release **Crude oil and produced water**	Volume of Release **14.4**bbl (**.4**oil, **13**water)	Volume Recovered (**.02**oil, **13**water)
Source of Release **Well Head Pressure Gauge**	Date and Hour of Occurrence **7-23-10 0400**	Date and Hour of Discovery **07-23-10 0805**
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

WATER @ 45'

Describe Cause of Problem and Remedial Action Taken.*

Wellhead pressure gauge failed due to suspected fatigue resulting in release to caliche pad. Gauge was replaced and work order generated to remediate spill site.

Describe Area Affected and Cleanup Action Taken.*

21' X 54' X 1" area and a 10' X 36' X 1" area of hard caliche well pad. Vacuum truck picked up .2 bbls of crude oil and 13 bbls of produced water

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: John W. Gates

Printed Name: **John W. Gates**

Title: **HSER Lead**

E-mail Address: **John.W.Gates@conocophillips.com**

Date: **07-28-2010** Phone: **505.391.3158**

OIL CONSERVATION DIVISION

Approved by ~~District Supervisor~~ ENV ENGINEER: Geoffrey Leking

Approval Date: 07/29/10 Expiration Date: 09/29/10

Conditions of Approval: DELINEATE TO CLEAN
1. SUBMIT FINAL C-141 BY

Attached ☐

IRP-11-10-2659

- Attach Additional Sheets If Necessary

116 RELEASE NOTIFICATION AND CORRECTIVE ACTION [1-1-50...2-1-96; A, 3-15-97]

116.A. NOTIFICATION

(1) The Division shall be notified of any unauthorized release occurring during the drilling, producing, storing, disposing, injecting, transporting, servicing or processing of crude oil, natural gases, produced water, condensate or oil field waste including Regulated NORM, or other oil field related chemicals, contaminants or mixture thereof, in the State of New Mexico in accordance with the requirements of this Rule. [1-1-50...2-1-96; A, 3-15-97]

(2) The Division shall be notified in accordance with this Rule with respect to any release from any facility of oil or other water contaminant, in such quantity as may with reasonable probability be detrimental to water or cause an exceedance of the standards in 19 NMAC 15.A.19. B(1), B(2) or B(3). [3-15-97]

116.B. REPORTING REQUIREMENTS: Notification of the above releases shall be made by the person operating or controlling either the release or the location of the release in accordance with the following requirements: [5-22-73...2-1-96; A, 3-15-97]

(1) A **Major Release** shall be reported by giving **both** immediate verbal notice and timely written notice pursuant to Paragraphs C(1) and C(2) of this Rule. A Major Release is:

(a) an unauthorized release of a volume, excluding natural gases, in excess of 25 barrels;

(b) an unauthorized release of any volume which:

(i) results in a fire;

(ii) will reach a water course;

(iii) may with reasonable probability endanger public health; or

(iv) results in substantial damage to property or the environment;

(c) an unauthorized release of natural gases in excess of 500 mcf; or

(d) a release of any volume which may with reasonable probability be detrimental to water or cause an exceedance of the standards in 19 NMAC 15.A.19. B(1), B(2) or B(3). [3/15/97]

(2) A **Minor Release** shall be reported by giving timely written notice pursuant to Paragraph C(2) of this Rule. A Minor Release is an unauthorized release of a volume, greater than 5 barrels but not more than 25 barrels; or greater than 50 mcf but less than 500 mcf of natural gases. [3-15-97]

116.C. CONTENTS OF NOTIFICATION

(1) **Immediate verbal notification** required pursuant to Paragraph B shall be reported within twenty-four (24) hours of discovery to the Division District Office for the area within which the release takes place. In addition, immediate verbal notification pursuant to Subparagraph B.(1).(d). shall be reported to the Division's Environmental Bureau Chief. This notification shall provide the information required on Division Form C-141. [5-22-73 . 2-1-96; A, 3-15-97]

(2) **Timely written notification** is required to be reported pursuant to Paragraph B within fifteen (15) days to the Division District Office for the area within which the release takes place by completing and filing Division Form C-141. In addition, timely written notification required pursuant to Subparagraph B.(1).(d). shall also be reported to the Division's Environmental Bureau Chief within fifteen (15) days after the release is discovered. The written notification shall verify the prior verbal notification and provide any appropriate additions or corrections to the information contained in the prior verbal notification. [5-22-73...2-1-96; A, 3-15-97]

116.D. CORRECTIVE ACTION: The responsible person must complete Division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the Division or with an abatement plan submitted in accordance with Rule 19 (19 NMAC 15.A. 19). [3-15-97]

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5846 E 21st Place
Tulsa, OK 74114

Appendix B

Water Surveys

Water-Related Maps

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 smallest to largest) (meters) (In feet)

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
L 04881		L	LE		NW	SW	26	17S	35E	646556.0	3630644.0 *		29	137	50	87
L 04859		L	LE	SE	SE	SE	27	17S	35E	646258.0	3630135.0 *		563	145	85	60
L 05207		L	LE				27	17S	35E	645552.0	3630825.0 *		1023	140	60	80
L 05381		L	LE	SW	SW	SW	23	17S	35E	646436.0	3631752.0 *		1143	95	45	50
L 13479 POD1		L	LE	NE	NE	NW	34	17S	35E	645495.4	3630015.7		1215	80	70	10
L 13479 POD3		L	LE	SE	SE	SW	27	17S	35E	645447.6	3630066.2		1234	76	70	6
L 04829 S2		L	LE		SE	SW	27	17S	35E	645352.0	3630227.0 *		1262	220	90	130
L 13479 POD2		L	LE	NE	NE	NW	34	17S	35E	645479.6	3629941.3		1267	80	70	10
L 09901		L	LE		SE	SW	23	17S	35E	646940.0	3631857.0 *		1301	120		
L 04632		L	LE		SW	NE	35	17S	35E	647382.0	3629443.0 *		1434	130	40	90

Average Depth to Water: **64 feet**

Minimum Depth: **40 feet**

Maximum Depth: **90 feet**

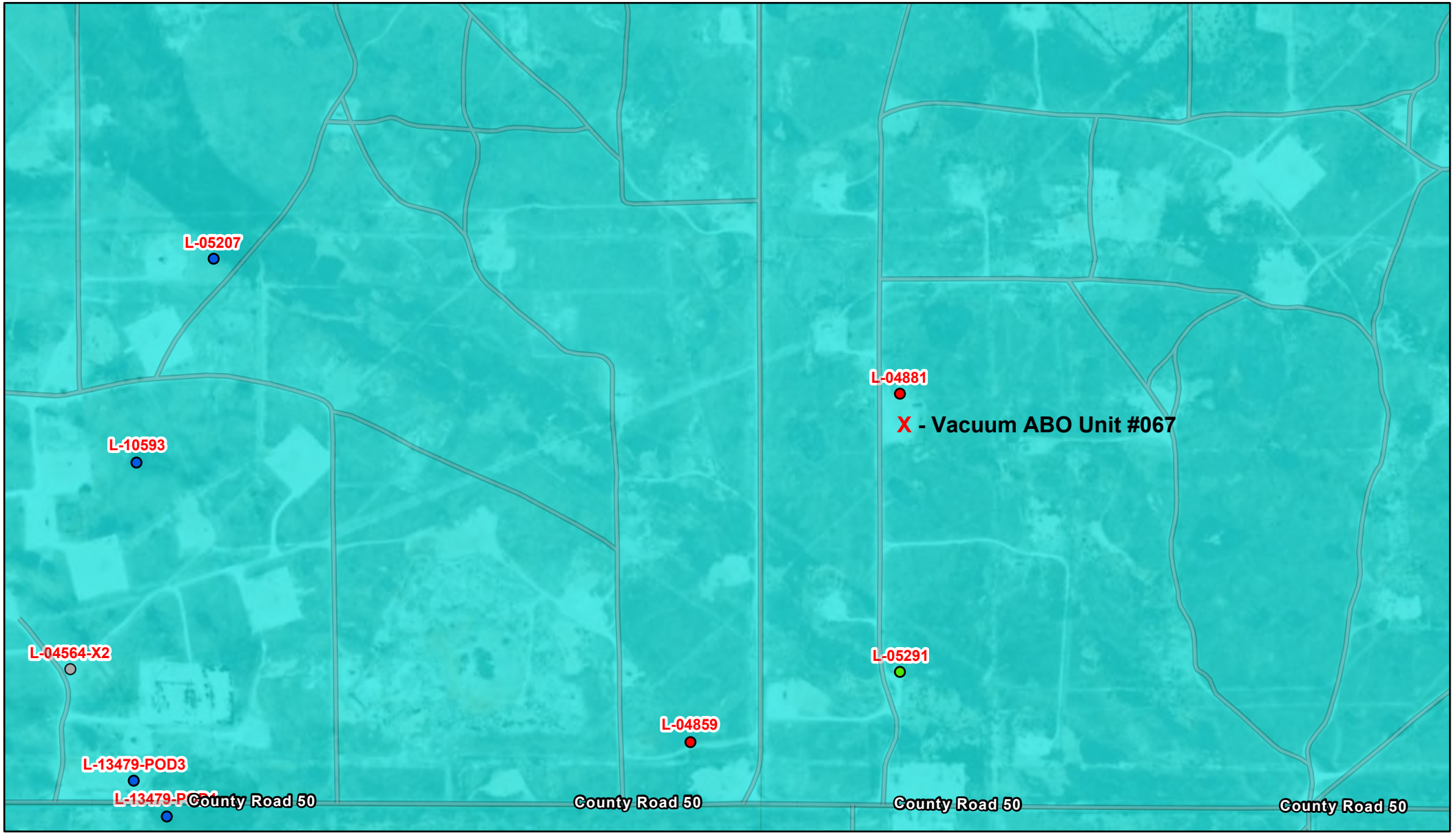
Record Count: 10

Basin/County Search:
County: LE

UTM Filters (in meters):
Easting: 646553.70
Northing: 3630614.15
Radius: 01500

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

OSE POD Location Map



4/23/2025, 2:16:23 PM

GIS WATERS PODs
- Plugged
- Active
- Pending
- OSE District Boundary

Water Right Regulations
- Artesian Plan Area

New Mexico State Trust Lands
- Both Estates

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Online web user

This is an unofficial map from the OSE's online application.

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 324749103262401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

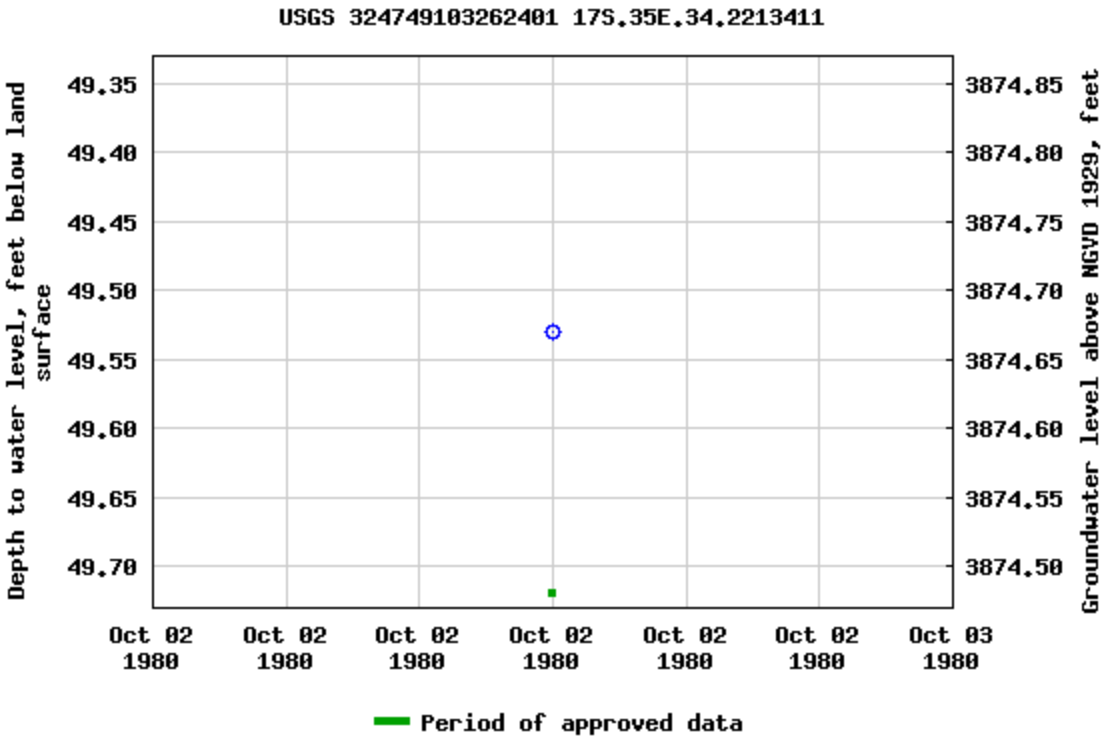
USGS 324749103262401 17S.35E.34.2213411

Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 12080003
Latitude 32°47'49", Longitude 103°26'24" NAD27
Land-surface elevation 3,924.2 feet above NGVD29
The depth of the well is 244 feet below land surface.
The depth of the hole is 244 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

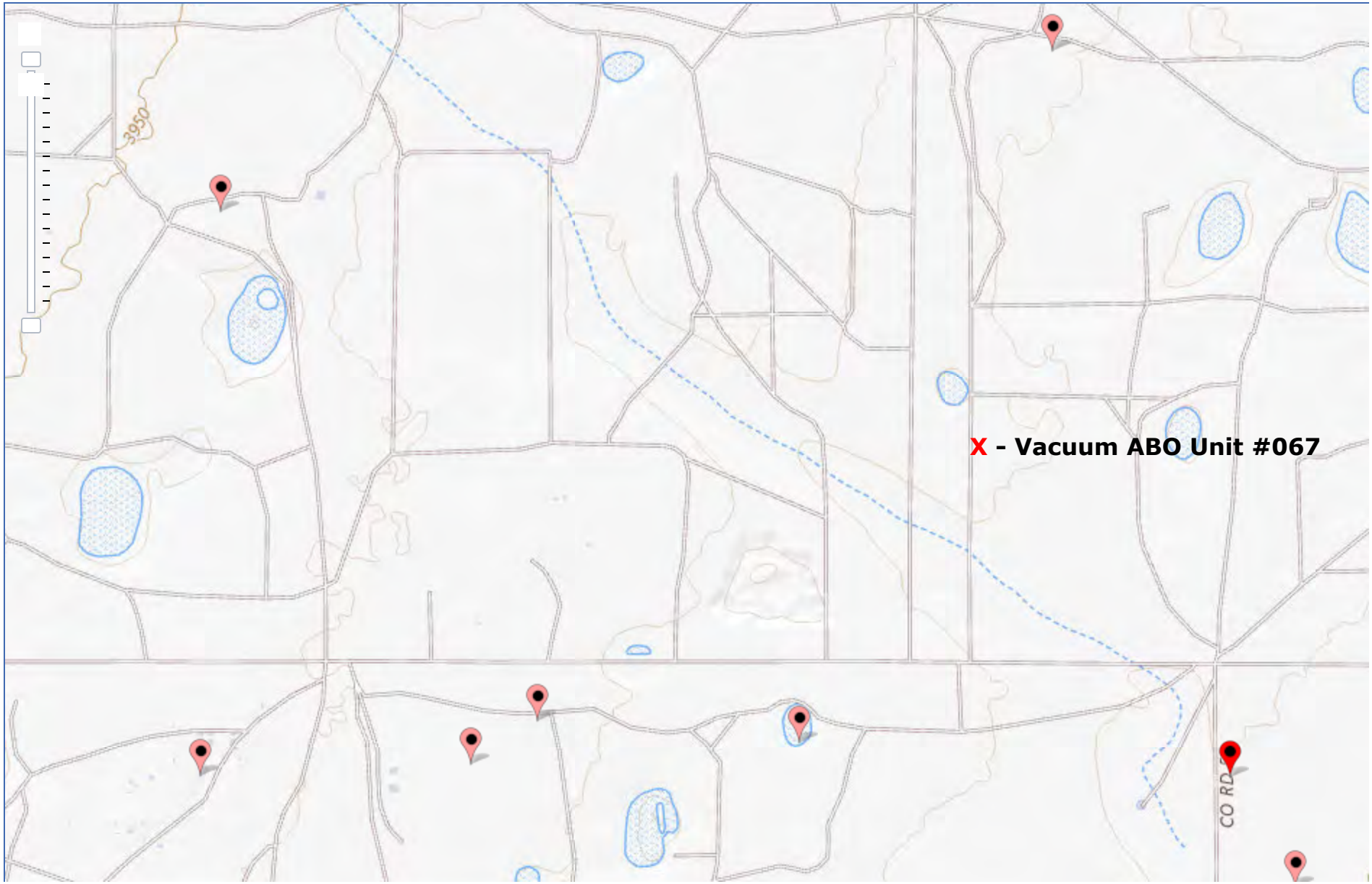


Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions or Comments
Help
Data Tips
Explanation of terms
Subscribe for system changes

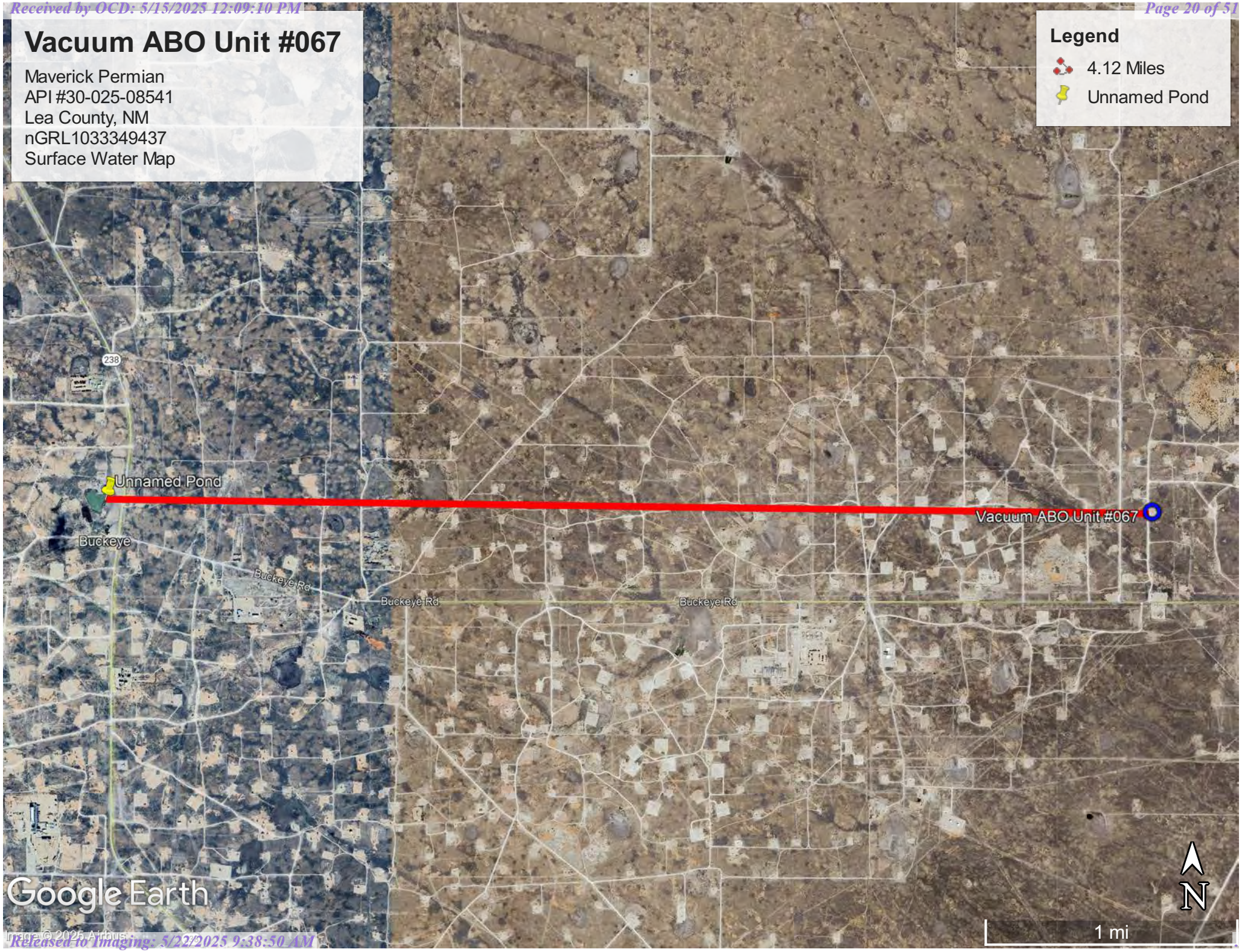
USGS science for a changing world

National Water Information System: Mapper



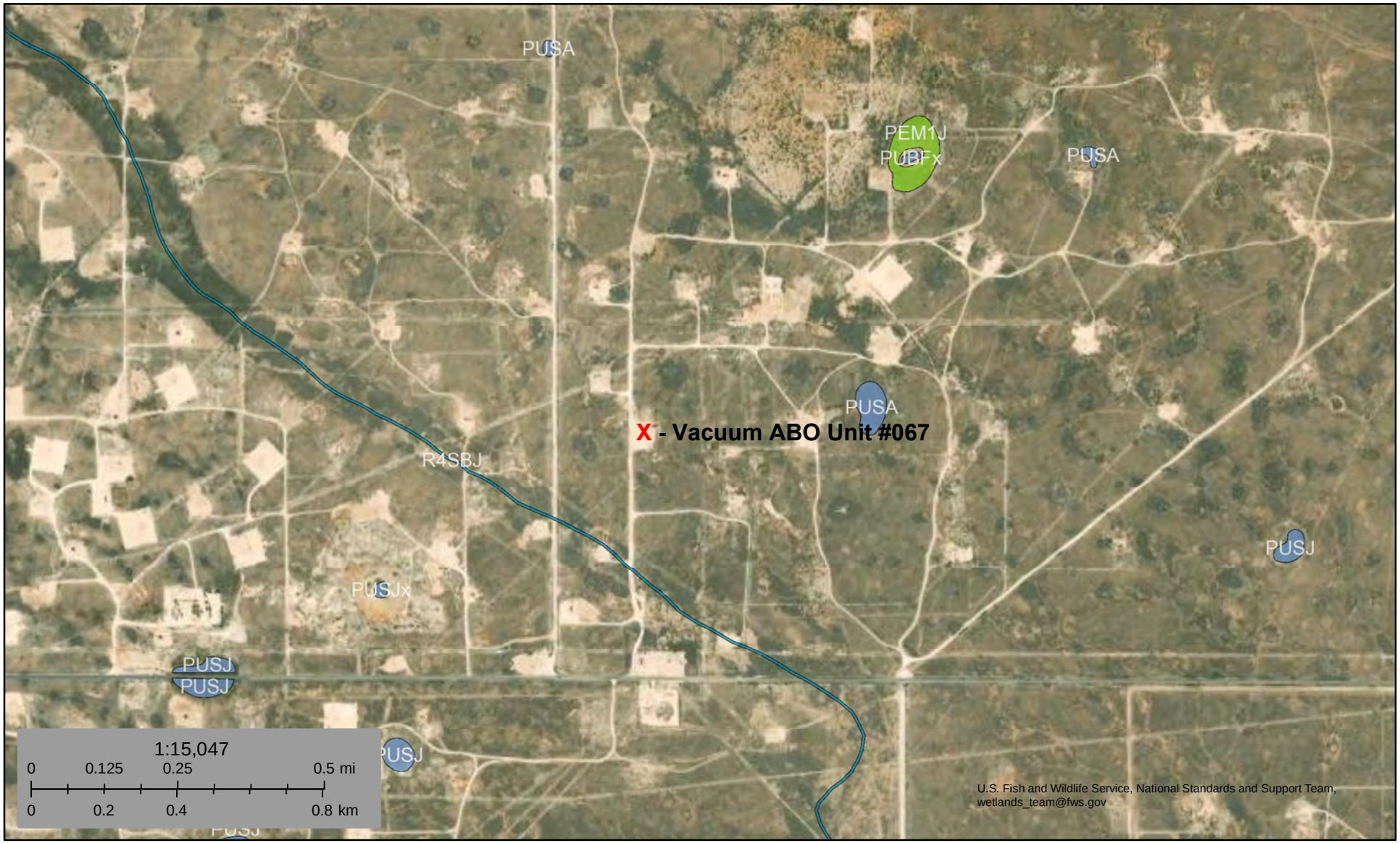
Vacuum ABO Unit #067

Maverick Permian
API #30-025-08541
Lea County, NM
nGRL1033349437
Surface Water Map



U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands Map



April 23, 2025

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 Wetlands Inventory (NWI)
This page was produced by the NWI mapper

National Flood Hazard Layer FIRMette

FEMA

103°26'24"W 32°48'28"N

103°25'46"W 32°47'58"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

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
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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 4/23/2025 at 7:21 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.

Sapec-Eco
5846 E 21st Place
Tulsa, OK 74114

Appendix C

Soil Surveys

Soil Map

Geologic Unit Map

Lea County, New Mexico

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

Map Unit Setting

National map unit symbol: 2tw46
Elevation: 2,500 to 4,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Kimbrough and similar soils: 45 percent
Lea and similar soils: 25 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimbrough

Setting

Landform: Playa rims, plains
Down-slope shape: Convex, linear
Across-slope shape: Concave, linear
Parent material: Loamy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 3 inches: gravelly loam
Bw - 3 to 10 inches: loam
Bkkm1 - 10 to 16 inches: cemented material
Bkkm2 - 16 to 80 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 4 to 18 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 95 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

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

Description of Lea

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Douro

Percent of map unit: 12 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R077DY047TX - Sandy Loam 12-17" PZ
Other vegetative classification: Unnamed (G077DH000TX)
Hydric soil rating: No

Kenhill

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

Spraberry

Percent of map unit: 6 percent
Landform: Playa rims, plains
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R077DY049TX - Very Shallow 12-17" PZ
Other vegetative classification: Unnamed (G077DH000TX)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 21, Sep 3, 2024

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 21, Sep 3, 2024

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

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

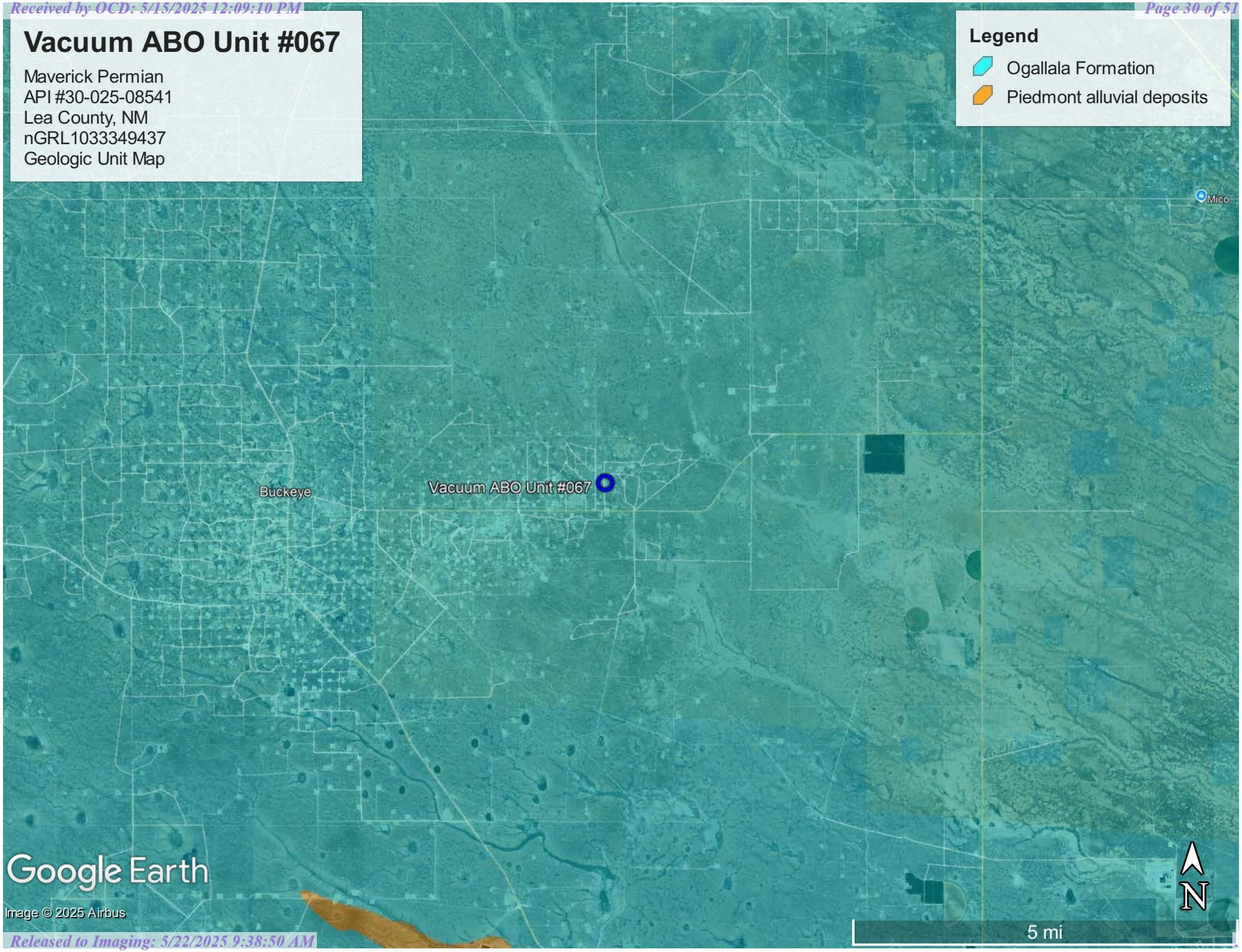
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	1.5	100.0%
Totals for Area of Interest		**1.5**	**100.0%**

Vacuum ABO Unit #067

Maverick Permian
API #30-025-08541
Lea County, NM
nGRL1033349437
Geologic Unit Map



Sapec-Eco
5846 E 21st Place
Tulsa, OK 74114

Appendix D

Photographic Documentation

Photographic Documentation
Maverick Permian, LLC
Vacuum ABO Unit #067 – nGRL1033349437

Photographic Documentation
Maverick Permian, LLC
Vacuum ABO Unit #067 – nGRL1033349437

CARDINAL Laboratories

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

June 20, 2024

CHUCK TERHUNE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: VACUUM ABO UNIT #067

Enclosed are the results of analyses for samples received by the laboratory on 06/14/24 8:51.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/14/2024	Sampling Date:	06/13/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO UNIT #067	Sampling Condition:	Cool & Intact
Project Number:	nGRL1033349437	Sample Received By:	Alyssa Parras
Project Location:	LEA CO NM		

Sample ID: BH 1 (0-0.5') (H243459-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.79	89.4	2.00	4.01	
Toluene*	<0.050	0.050	06/18/2024	ND	1.83	91.7	2.00	8.87	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.90	94.8	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.49	91.5	6.00	12.0	
Total BTEX	<0.300	0.300	06/18/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	06/18/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	198	99.0	200	0.726	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	195	97.7	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane *95.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	06/14/2024	Sampling Date:	06/13/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO UNIT #067	Sampling Condition:	Cool & Intact
Project Number:	nGRL1033349437	Sample Received By:	Alyssa Parras
Project Location:	LEA CO NM		

Sample ID: BH 1 (2-2.5') (H243459-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.79	89.4	2.00	4.01	
Toluene*	<0.050	0.050	06/18/2024	ND	1.83	91.7	2.00	8.87	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.90	94.8	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.49	91.5	6.00	12.0	
Total BTEX	<0.300	0.300	06/18/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6480**	16.0	06/18/2024	ND	432	108	400	0.00	QM-07

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	198	99.0	200	0.726	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	195	97.7	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane *102 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.7 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	06/14/2024	Sampling Date:	06/13/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO UNIT #067	Sampling Condition:	Cool & Intact
Project Number:	nGRL1033349437	Sample Received By:	Alyssa Parras
Project Location:	LEA CO NM		

Sample ID: BH 2 (0-0.5') (H243459-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.79	89.4	2.00	4.01	
Toluene*	<0.050	0.050	06/18/2024	ND	1.83	91.7	2.00	8.87	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.90	94.8	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.49	91.5	6.00	12.0	
Total BTEX	<0.300	0.300	06/18/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**432**	16.0	06/18/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	198	99.0	200	0.726	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	195	97.7	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane *98.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.9 %* *49.1-148*

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Analytical Results For:

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

Received:	06/14/2024	Sampling Date:	06/13/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO UNIT #067	Sampling Condition:	Cool & Intact
Project Number:	nGRL1033349437	Sample Received By:	Alyssa Parras
Project Location:	LEA CO NM		

Sample ID: BH 2 (2-2.5') (H243459-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.79	89.4	2.00	4.01	
Toluene*	<0.050	0.050	06/18/2024	ND	1.83	91.7	2.00	8.87	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.90	94.8	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.49	91.5	6.00	12.0	
Total BTEX	<0.300	0.300	06/18/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	06/18/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	198	99.0	200	0.726	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	195	97.7	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.1 %* *49.1-148*

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Analytical Results For:

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

Received:	06/14/2024	Sampling Date:	06/13/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO UNIT #067	Sampling Condition:	Cool & Intact
Project Number:	nGRL1033349437	Sample Received By:	Alyssa Parras
Project Location:	LEA CO NM		

Sample ID: BH 3 (0-0.5') (H243459-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.79	89.4	2.00	4.01	
Toluene*	<0.050	0.050	06/18/2024	ND	1.83	91.7	2.00	8.87	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.90	94.8	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.49	91.5	6.00	12.0	
Total BTEX	<0.300	0.300	06/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	06/18/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	198	99.0	200	0.726	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	195	97.7	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane *96.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *88.1 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	06/14/2024	Sampling Date:	06/13/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO UNIT #067	Sampling Condition:	Cool & Intact
Project Number:	nGRL1033349437	Sample Received By:	Alyssa Parras
Project Location:	LEA CO NM		

Sample ID: BH 3 (2-2.5') (H243459-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.79	89.4	2.00	4.01	
Toluene*	<0.050	0.050	06/18/2024	ND	1.83	91.7	2.00	8.87	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.90	94.8	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.49	91.5	6.00	12.0	
Total BTEX	<0.300	0.300	06/18/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	06/18/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	198	99.0	200	0.726	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	195	97.7	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane *96.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.6 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/14/2024	Sampling Date:	06/13/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO UNIT #067	Sampling Condition:	Cool & Intact
Project Number:	nGRL1033349437	Sample Received By:	Alyssa Parras
Project Location:	LEA CO NM		

Sample ID: BH 4 (0-0.5') (H243459-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.79	89.4	2.00	4.01	
Toluene*	<0.050	0.050	06/18/2024	ND	1.83	91.7	2.00	8.87	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.90	94.8	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.49	91.5	6.00	12.0	
Total BTEX	<0.300	0.300	06/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/18/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	198	99.0	200	0.726	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	195	97.7	200	4.75	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane *99.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/14/2024	Sampling Date:	06/13/2024
Reported:	06/20/2024	Sampling Type:	Soil
Project Name:	VACUUM ABO UNIT #067	Sampling Condition:	Cool & Intact
Project Number:	nGRL1033349437	Sample Received By:	Alyssa Parras
Project Location:	LEA CO NM		

Sample ID: BH 4 (2-2.5') (H243459-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/18/2024	ND	1.79	89.4	2.00	4.01	
Toluene*	<0.050	0.050	06/18/2024	ND	1.83	91.7	2.00	8.87	
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.90	94.8	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.49	91.5	6.00	12.0	
Total BTEX	<0.300	0.300	06/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/18/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2024	ND	216	108	200	0.647	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	209	105	200	0.181	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane *97.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *119 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Tetra Tech
Project Manager:	Chuck Terbush
Address:	
City:	Midland State: TX Zip:
Phone #:	Fax #:
Project #:	nGRL1033349437 Project Owner:
Project Name:	Vacuum ABO unit #067
Project Location:	Lea County
Sampler Name:	Gilberto Sanchez

BILL TO

P.O. #:	
Company:	Tetra Tech
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	TPH (DRO/GRO/ORO)	Chloride 4500
H241459																	
1	BH1 (0-0.5')					X					X		6.13		X	X	X
2	BH1 (2-2.5')																
3	BH2 (0-0.5')																
4	BH2 (2-2.5')																
5	BH3 (0-0.5')																
6	BH3 (2-2.5')																
7	BH4 (0-0.5')																
8	BH4 (2-2.5')																
AP 4/14																	

Relinquished By:	Date: 6.14.24	Received By:	
Gilberto Sanchez	Time: 851	apaves	
Relinquished By:	Date:	Received By:	
	Time:		

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

REMARKS:

Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY:	Turnaround Time: Standard ☒ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 1.7°C	Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No	(Initials) AP	Thermometer ID #140 Correction Factor 0°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.4 01/11/23

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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

QUESTIONS

Action 463714

QUESTIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 463714
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nGRL1033349437**
Incident Name	**NGRL1033349437 VACUUM ABO UNIT #067 @ 30-025-08541**
Incident Type	**Release Other**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-025-08541] VACUUM ABO UNIT #067**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	VACUUM ABO UNIT #067
Date Release Discovered	07/23/2010
Surface Owner	State

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure | Fitting | Crude Oil | Released: 1 BBL | Recovered: 0 BBL | Lost: 1 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure | Fitting | Produced Water | Released: 13 BBL | Recovered: 13 BBL | Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator:	OGRID:
Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	331199
	Action Number: 463714
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: Chuck Terhune Title: Program Manager Email: chuck.terhune@tetratech.com Date: 07/11/2024

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QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
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	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 300 and 500 (ft.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	6480
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
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
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	08/01/2025
On what date will (or did) the final sampling or liner inspection occur	08/15/2025
On what date will (or was) the remediation complete(d)	08/30/2025
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	1600
What is the estimated volume (in cubic yards) that will be remediated	237
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Chuck Terhune Title: Program Manager Email: chuck.terhune@tetratech.com Date: 05/15/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**353061**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**06/13/2024**
What was the (estimated) number of samples that were to be gathered	**4**
What was the sampling surface area in square feet	**800**

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	No

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CONDITIONS

Action 463714

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 463714
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation workplan approved.	5/22/2025
amaxwell	Variance request to use delineation samples as confirmation closure samples is approved. However, if excavation is required, sampling will proceed as required under 19.15.29 NMAC.	5/22/2025
amaxwell	Submit a report via the OCD permitting portal by August 20, 2025.	5/22/2025