



EAST VACUUM (GSA) UNIT #001  
nGRL1013351539

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

## **Proposed Sampling and Remediation Work Plan**

April 25, 2025



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

Re: Proposed Sampling and Remediation Work Plan  
NMOCD Incident Number: **nGRL1013351539**  
East Vacuum (GSA) Unit #001 API No. 30-025-26577  
Unit G, Section 29, Township 17S, Range 35E 1330 FNL 1410 FEL Lea County, NM  
GPS Coordinates: Latitude 32.8096695 Longitude -103.475914 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 release that occurred at the East Vacuum (GSA) Unit #001 (Site). This incident was assigned Incident ID nGRL1013351539 by the New Mexico Oil Conservation Division (NMOCD).

### ***Release Information – nGRL1013351539***

The initial Form C-141 was submitted on April 20, 2010 (Appendix A) and stated that “The release originated from a hole in a 2" steel buried flow line due to suspected internal/external corrosion. The affected area is a 390' X 45' X 1" area of pasture land with no livestock present at the time of the release. Upon discovery the MSO shut in the well which effectively stopped the release of any additional fluids then notified supervision, HSE and NMOCD. The affected area is a 390' X 45' X 1" area of pasture land with no livestock present at the time of the release. Vacuum trucks were called to pick up standing fluids and a temporary fence was put in place to prevent livestock from entering the spill site” This initial Form C-141 was approved by the NMOCD on May 13, 2010.

### ***Site Characterization***

This Site is in Lea County, NM, approximately eleven (11) miles southwest of Lovington, NM. The wellhead is in Unit G, Section 29, Township 17S, Range 35E, at 32.8096695 degrees latitude and -103.475914 degrees longitude. The potential release area starts near the wellhead and extends south but remains in Unit G. 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 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 25.89 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 55 feet below grade surface (bgs). This information is recorded by L-01919-POD2 which is situated approximately 0.25 miles away from the Site. This information is from 1997. The United States Geological Survey (USGS) offers the site USGS 324813103275901 17S.35E.28.131443 which shows depth to the nearest groundwater is 71 feet bgs. The latest gauge of this site was conducted in 1986, and it is located approximately 0.41 miles from the Site.

The nearest surface water feature is an Unnamed Pond, and it is located approximately 1.76 miles to the west. The U.S. Fish and Wildlife Service National Wetlands Inventory shows the nearest wetland to be a Freshwater Pond approximately 0.27 miles north. 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 or wildlife habitats. A Special Status Plant/Wildlife Map is included in Figure 2.

The remediation area at the Site is in previously disturbed and undisturbed areas developed for oil and gas extraction; therefore, a cultural resource survey will be required in the pasture area at the Site for planned remediation activities. The requirements of the Cultural Properties Protection (CCP) Rule will be followed.

### ***Assessment and Delineation Activities***

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

### ***Proposed Sampling & Remediation Activities***

Maverick would like to propose the following:

- The area of concern measures approximately 17,600 square feet and is on the pad surface, lease road, and in the pasture.
- Collect discrete samples from within and around the edges of the potential release area to evaluate the presence of contaminants. Sixty-five (65) samples will be collected from 13 different sample points within the release area from depths of surface, 1', 2', 3', and 4' bgs. Fifty (50) samples will be collected from 10 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 confirmation samples depending on the sample results of the soil. A Proposed Sample Map referencing the release area and the previously remediated area 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 depth 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. Ensuring the top layer will be topsoil suitable for seeding.
- 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.

### ***Request for Proposed Sampling & Remediation Work Plan Approval***

Maverick requests that this proposed sampling & remediation work plan for incident ID nGRL1013351539 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](mailto:Bryce.Wagoner@mavresources.com) – (928) 241-1862

Sapec-Eco, LLC – Tom Bynum – [tombynum@sapec-eco.com](mailto:tombynum@sapec-eco.com) – (580) 748-1613

## ***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



***Figures:***

**Proposed Sample Map**

**Special Status Plant/Wildlife Map**

**Karst Map**

**Topographic Map**





**Location Map**



# East Vacuum (GSA) Unit #001

Maverick Permian  
API #30-025-26577  
Lea County, NM  
nGRL1013351539  
Proposed Sample Map

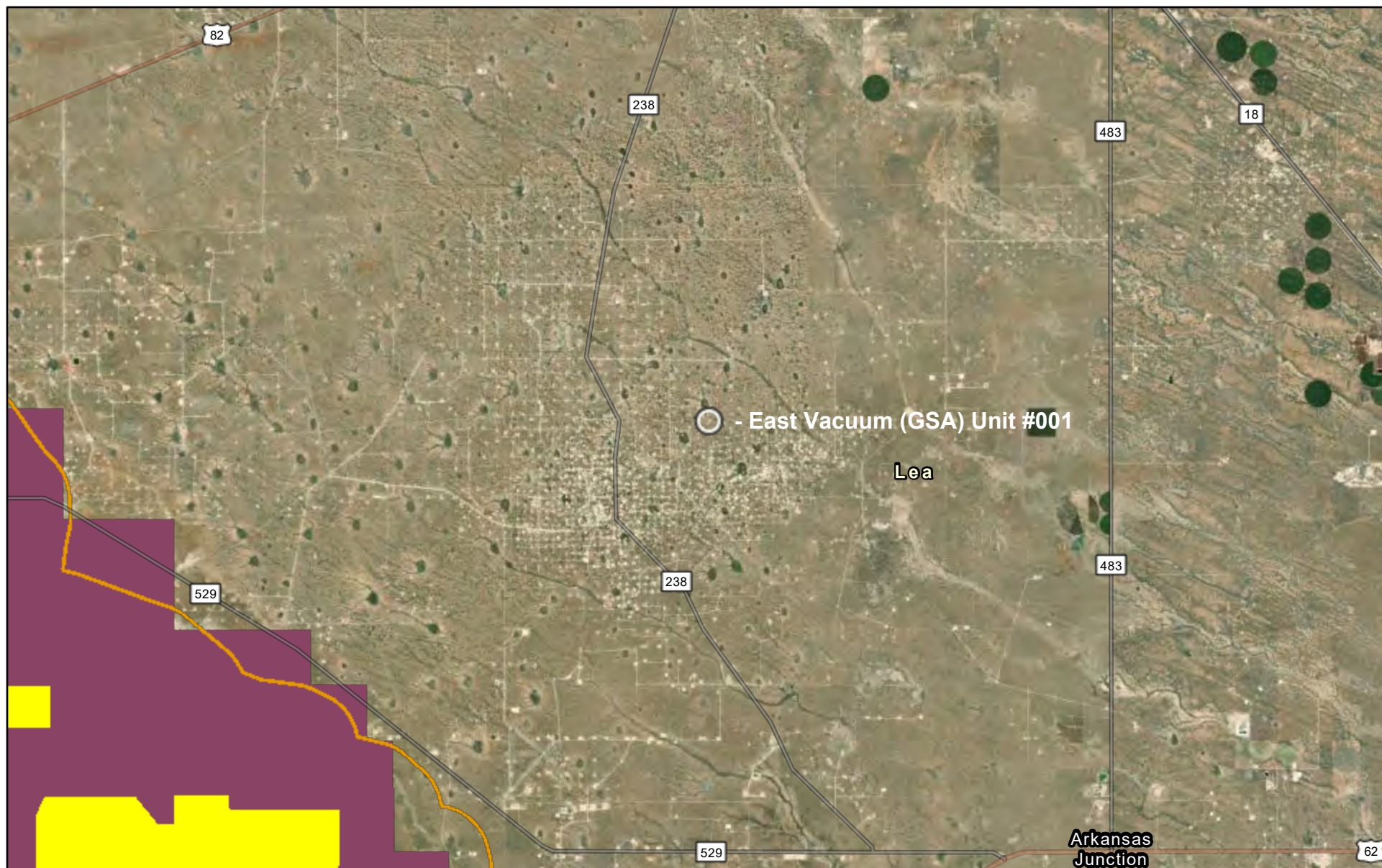
## Legend

-  Buried flowline
-  Potential release area - 17,600 sqft
-  Proposed horizontal samples
-  Proposed vertical samples









## Special Status Plant/Wildlife Map

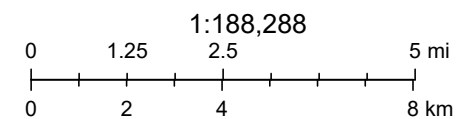


4/23/2025

-  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






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

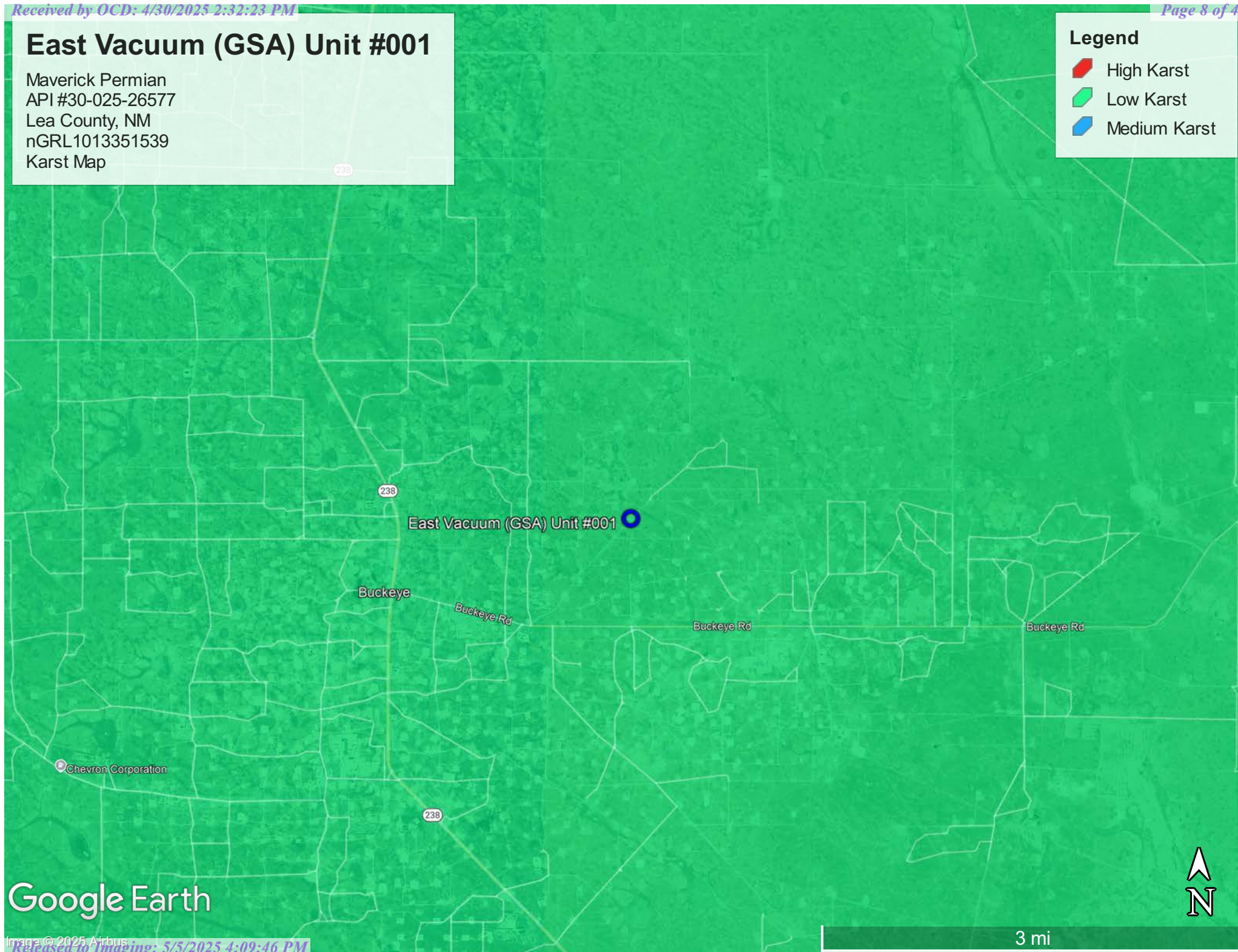


## East Vacuum (GSA) Unit #001

Maverick Permian  
API #30-025-26577  
Lea County, NM  
nGRL1013351539  
Karst Map

### Legend

-  High Karst
-  Low Karst
-  Medium Karst



Google Earth

3 mi

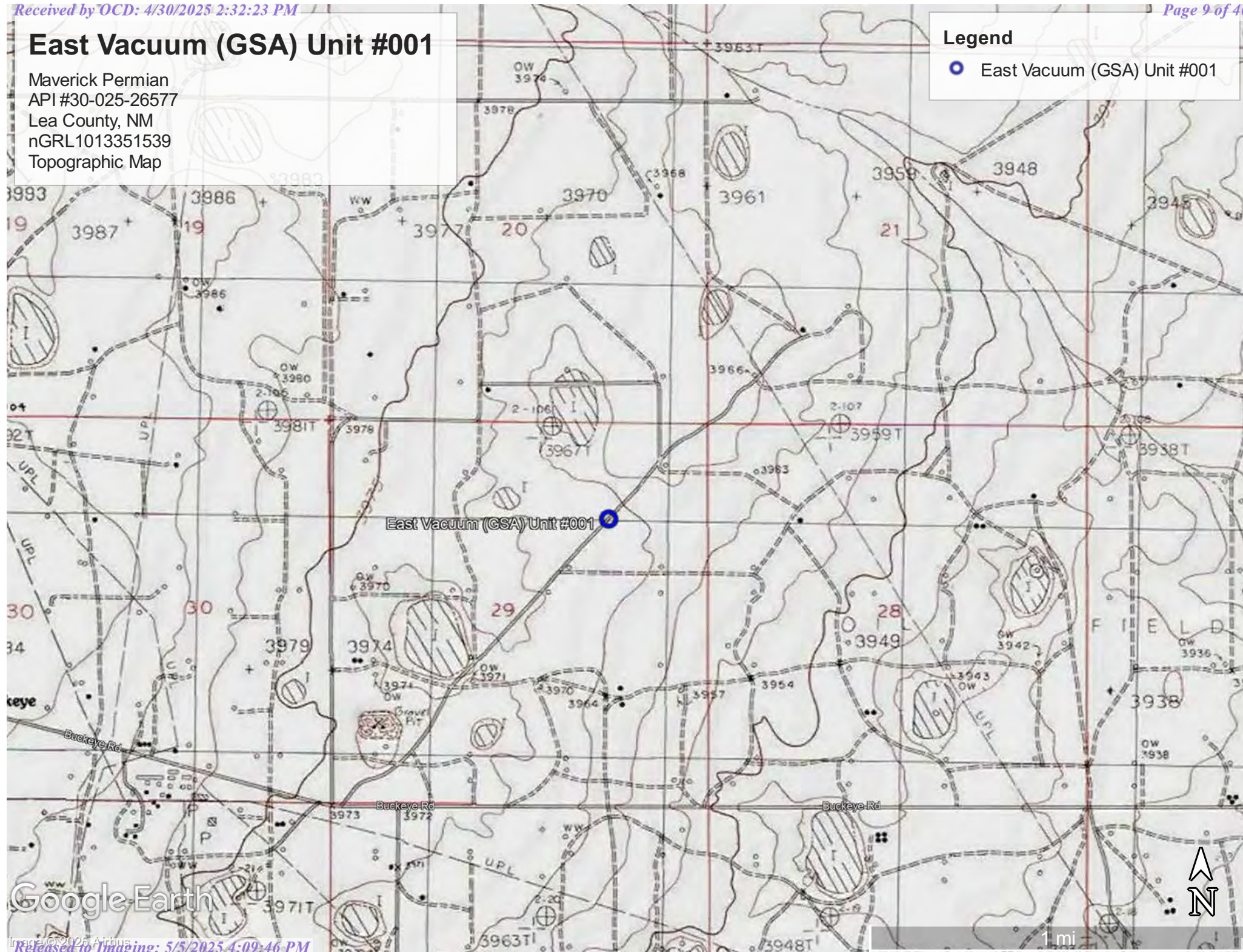


# East Vacuum (GSA) Unit #001

Maverick Permian  
API #30-025-26577  
Lea County, NM  
nGRL1013351539  
Topographic Map

## Legend

● East Vacuum (GSA) Unit #001





# East Vacuum (GSA) Unit #001

Maverick Permian  
API #30-025-26577  
Lea County, NM  
nGRL1013351539  
Location Map

## Legend

● East Vacuum (GSA) Unit #001

East Vacuum (GSA) Unit #001  
Buckeye

Google Earth

Image © 2025 Airbus  
Released to Imaging: 5/5/2025 4:09:46 PM

Arkansas Junction

8 mi







## ***Appendix A***

### **Initial Form C-141**

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

**RECEIVED**

APR 20 2010

**HOBBSOCD**

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 <b>ConocoPhillips Company</b>	Contact <b>John W. Gates</b>
Address <b>3300 North A St. Bldg 6, Midland, TX 79705-5406</b>	Telephone No. <b>505.391.3158</b>
Facility Name <b>EVGSAU 2923-001</b>	Facility Type <b>Oil and Gas</b>
Surface Owner <b>State Of New Mexico</b>	Mineral Owner <b>State Of New Mexico</b>
Lease No <b>30025265770000</b>	

**LOCATION OF RELEASE**

Unit Letter <b>8 G</b>	Section <b>29</b>	Township <b>17S</b>	Range <b>35E</b>	Feet from the	North/South Line	Feet from the	East/West Line	County
---------------------------	----------------------	------------------------	---------------------	---------------	------------------	---------------	----------------	--------

Latitude **N 32 degrees 48.264**Longitude **W 103 degrees 28.457****NATURE OF RELEASE**

Type of Release <b>Crude Oil &amp; Produced Water</b>	Volume of Release <b>46.3bbl (40oil, 6.3water)</b>	Volume Recovered <b>(28oil, 2water)</b>
Source of Release <b>The release originated from a hole in a 2" steel buried flow line due to suspected internal/external corrosion</b>	Date and Hour of Occurrence <b>4/16/10 0500</b>	Date and Hour of Discovery <b>4/16/10 1300</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Sylvia</b>	
By Whom? <b>Kerry Mackey</b>	Date and Hour <b>4/16/10 2030</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

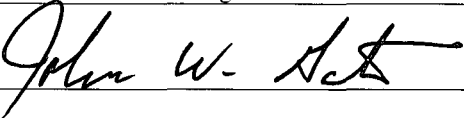
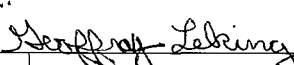
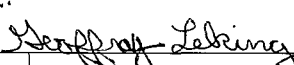
Describe Cause of Problem and Remedial Action Taken.\*

**The release originated from a hole in a 2" steel buried flow line due to suspected internal/external corrosion. The affected area is a 390' X 45' X 1" area of pasture land with no livestock present at the time of the release. Upon discovery the MSO shut in the well which effectively stopped the release of any additional fluids then notified supervision, HSE and NMOCD.**

Describe Area Affected and Cleanup Action Taken.\*

**The affected area is a 390' X 45' X 1" area of pasture land with no livestock present at the time of the release. Vacuum trucks were called to pick up standing fluids and a temporary fence was put in place to prevent livestock from entering the spill sitese**

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>John W. Gates</b>	Approved by ENV ENGINEER:  District Supervisor: 	
Title: <b>HSER Lead</b>	Approval Date: <b>05/13/10</b>	Expiration Date: <b>07/13/10</b>
E-mail Address: <b>John.W.Gates@conocophillips.com</b>	Conditions of Approval: <b>SUBMIT FINAL C-141 BY 07/13/10</b>	
Date:	Phone: <b>505.391.3158</b>	Attached <input type="checkbox"/> <b>IRP-10-5-2527</b>



- 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]



## ***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)

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	(meters)	(In feet)		
													Distance	Well Depth	Depth Water	Water Column
<a href="#">L 01919 POD2</a>		L	LE	NW	NW	NE	29	17S	35E	642410.0	3631507.0 *		402	209	55	154
<a href="#">L 04829 S3</a>		L	LE	NW	SW	NW	28	17S	35E	643222.0	3631111.0 *		545	215	70	145
<a href="#">L 04829 S4</a>		L	LE		NE	SW	29	17S	35E	642121.0	3630598.0 *		837	200	90	110
<a href="#">L 06940</a>		L	LE	NW	SE	SW	20	17S	35E	642001.0	3631907.0 *		974	135	85	50
<a href="#">L 04829</a>		L	LE		NW	SE	20	17S	35E	642499.0	3632215.0 *		1017	192	60	132
<a href="#">L 04066</a>		L	LE		SE	NE	30	17S	35E	641309.0	3630994.0 *		1395	116	70	46
<a href="#">L 04490</a>		L	LE		SE	NE	30	17S	35E	641309.0	3630994.0 *		1395	110	70	40

Average Depth to Water: 71 feet

Minimum Depth: 55 feet

Maximum Depth: 90 feet

Record Count: 7

Basin/County Search:

County: LE

UTM Filters (in meters):

Easting: 642686.53

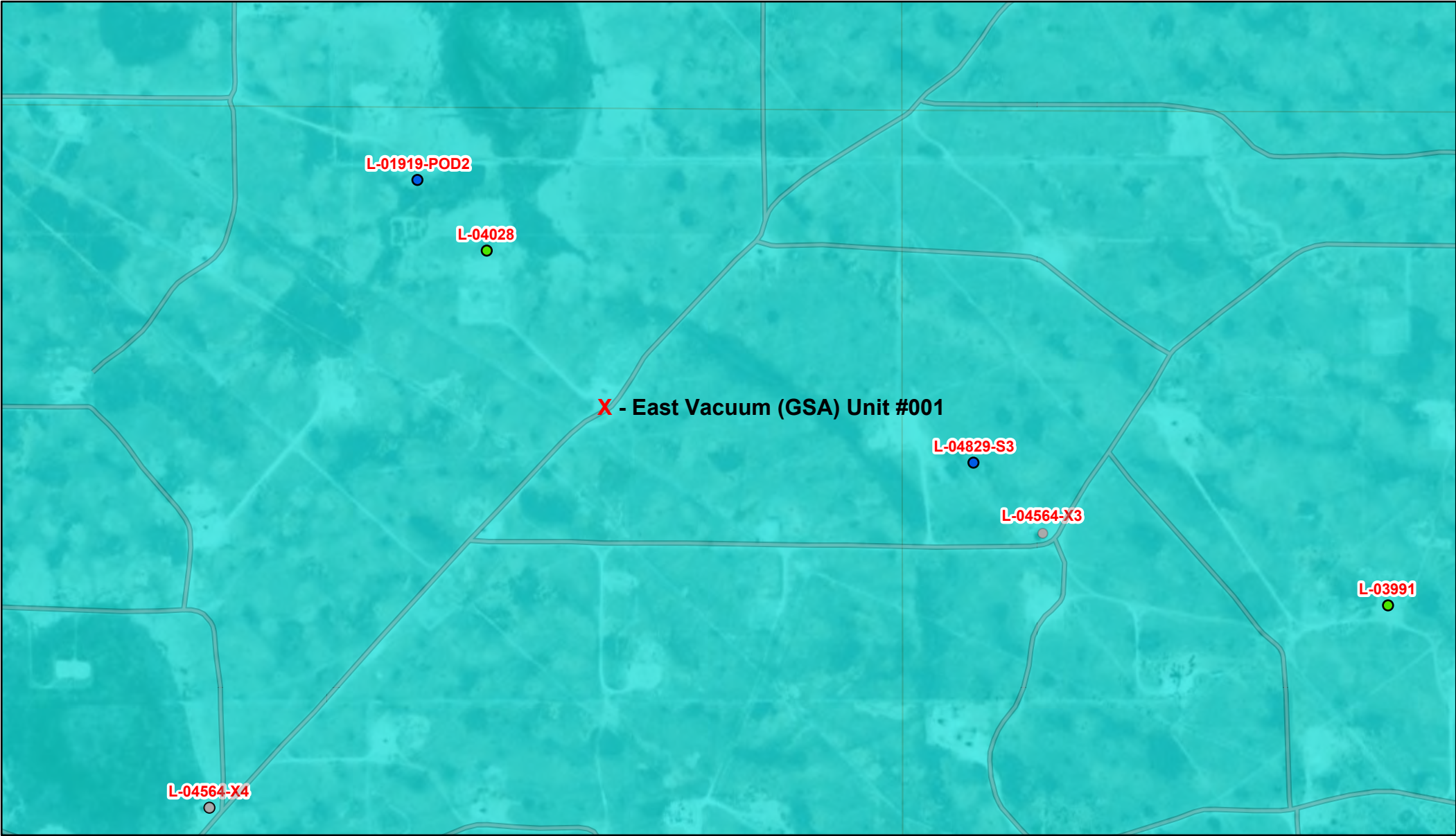
Northing: 3631215.05

Radius: 01500

\* 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.

# OSE POD Location Map



4/23/2025, 2:30:27 PM

GIS WATERS PODs

Active

Pending

OSE District Boundary

Water Right Regulations

Artesian Plan Area

New Mexico State Trust Lands

Both Estates

1:9,028

00.050.10.2 mi

00.10.20.4 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





[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.

Groundwater levels for the Nation

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

### Search Results -- 1 sites found

site\_no list =

- 324813103275901

Minimum number of levels = 1

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

### USGS 324813103275901 17S.35E.28.131443

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 12080003

Latitude 32°48'28", Longitude 103°28'09" NAD27

Land-surface elevation 3,961.00 feet above NGVD29

The depth of the well is 215 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.

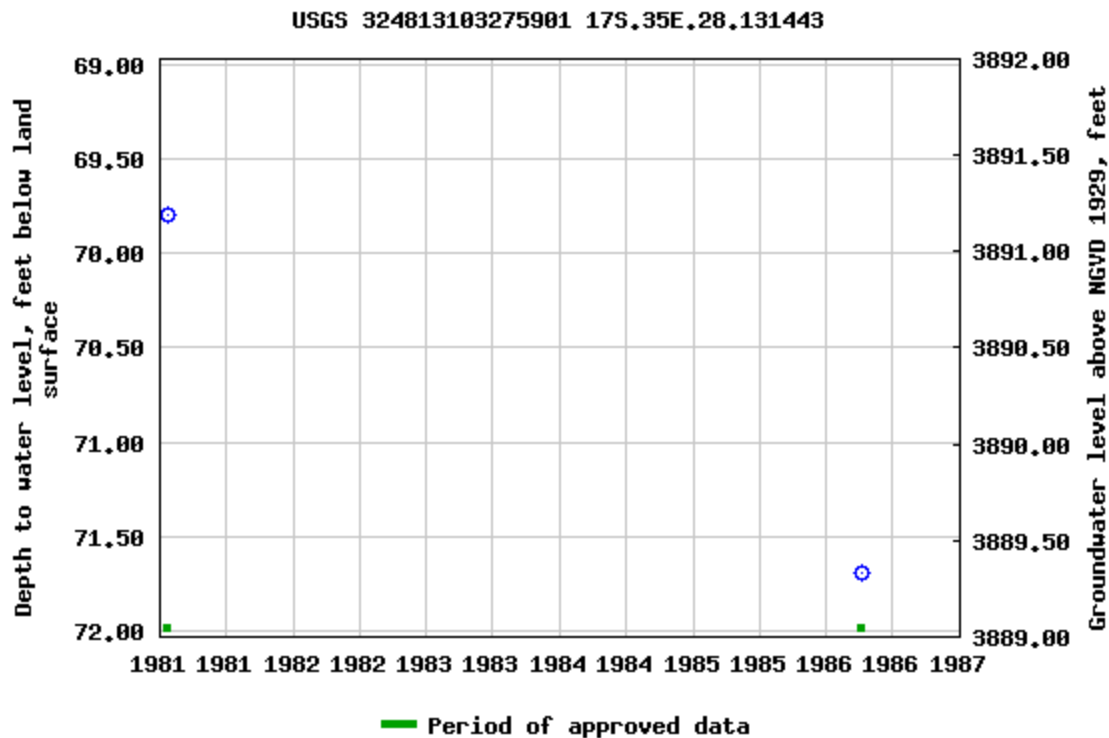
#### Output formats

[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](#)

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[Explanation of terms](#)

[Subscribe for system changes](#)

[Accessibility](#) [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?>**



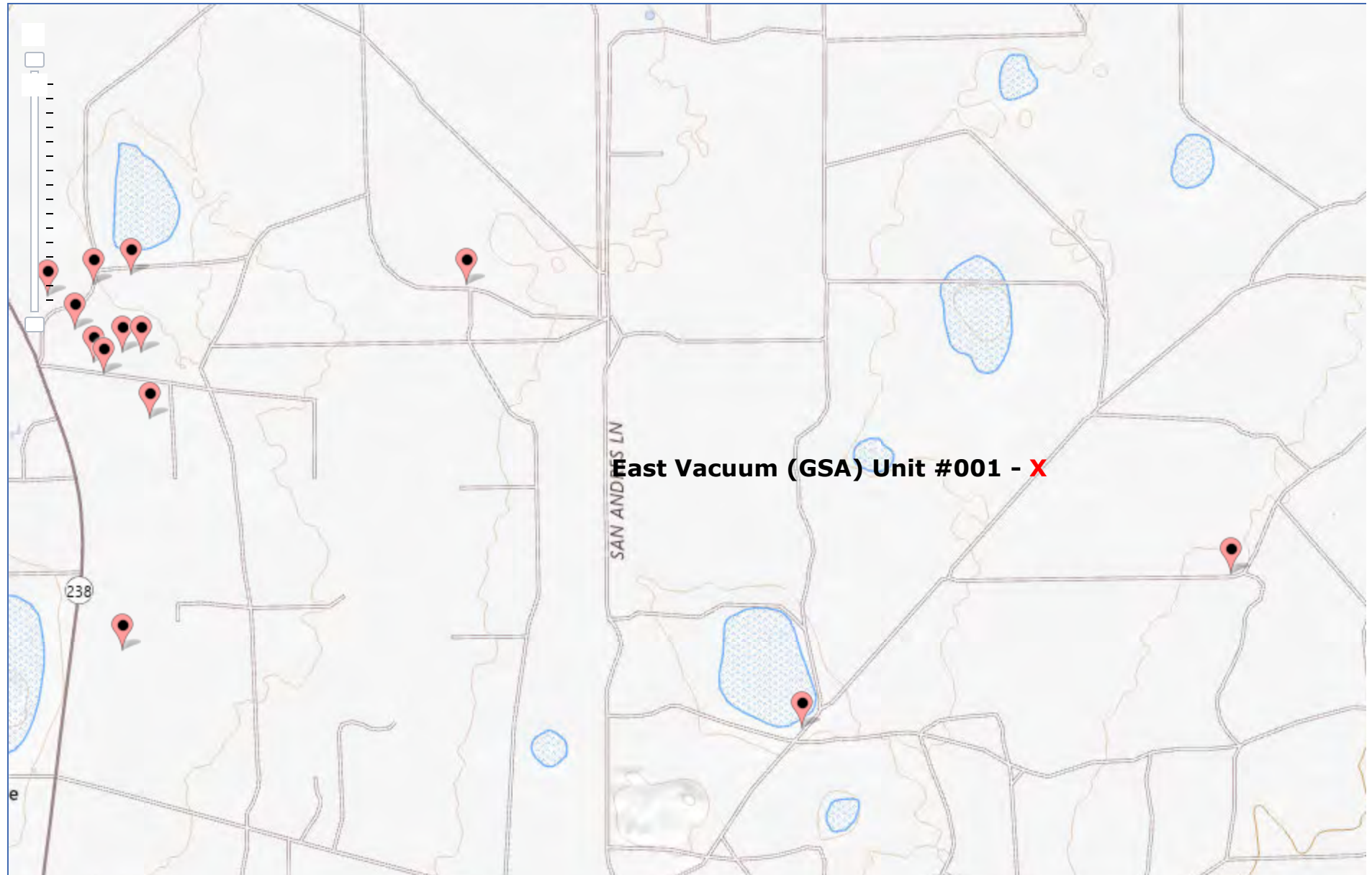
Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2025-04-23 15:32:49 EDT

0.62 0.46 nadww02



## National Water Information System: Mapper



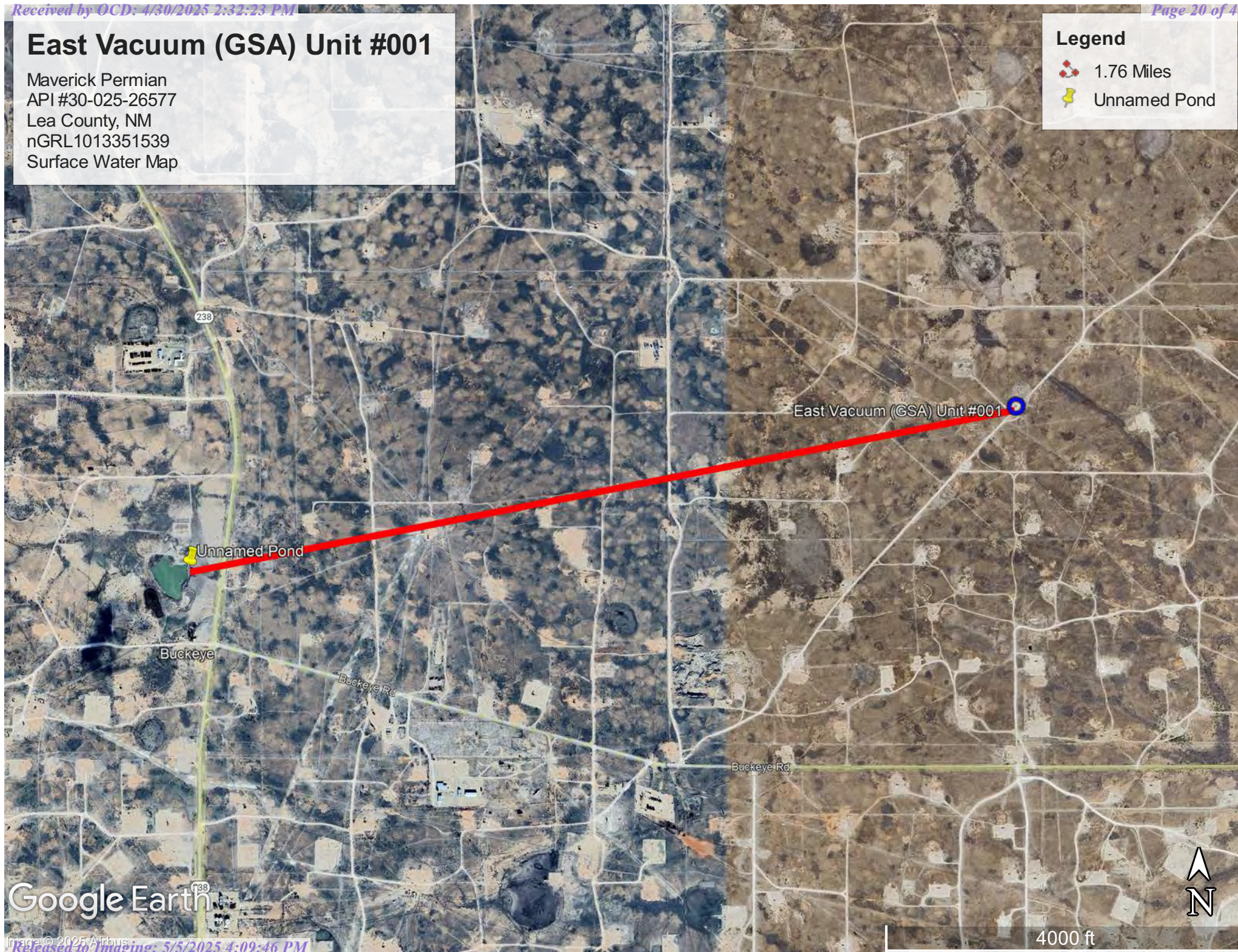


# East Vacuum (GSA) Unit #001

Maverick Permian  
API #30-025-26577  
Lea County, NM  
nGRL1013351539  
Surface Water Map

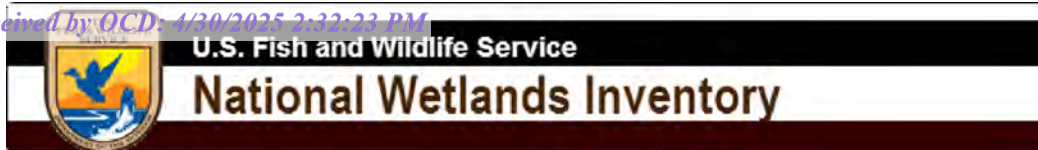
## Legend

- 1.76 Miles
- Unnamed Pond



Google Earth





## 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 Flood Hazard Layer FIRMette



103°28'52"W 32°48'49"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
		17.5 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 4/23/2025 at 7:34 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 C***

### **Soil Surveys**

### **Soil Map**

### **Geologic Unit Map**

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

---

## Lea County, New Mexico

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

#### Map Unit Setting

*National map unit symbol:* 2tw46

*Elevation:* 2,500 to 4,800 feet

*Mean annual precipitation:* 14 to 16 inches

*Mean annual air temperature:* 57 to 63 degrees F

*Frost-free period:* 180 to 220 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Kimbrough and similar soils:* 45 percent

*Lea and similar soils:* 25 percent

*Minor components:* 30 percent

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

#### Description of Kimbrough

##### Setting

*Landform:* Playa rims, plains

*Down-slope shape:* Convex, linear

*Across-slope shape:* Concave, linear

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

##### Typical profile

*A - 0 to 3 inches:* gravelly loam

*Bw - 3 to 10 inches:* loam

*Bkkm1 - 10 to 16 inches:* cemented material

*Bkkm2 - 16 to 80 inches:* cemented material

##### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* 4 to 18 inches to petrocalcic

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.01 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 95 percent

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

*Sodium adsorption ratio, maximum:* 1.0

*Available water supply, 0 to 60 inches:* Very low (about 1.4 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified

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

---

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

## Description of Lea

### Setting

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

### Typical profile

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

### Properties and qualities

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

### Interpretive groups

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

## Minor Components

### Douro

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



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

---

**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

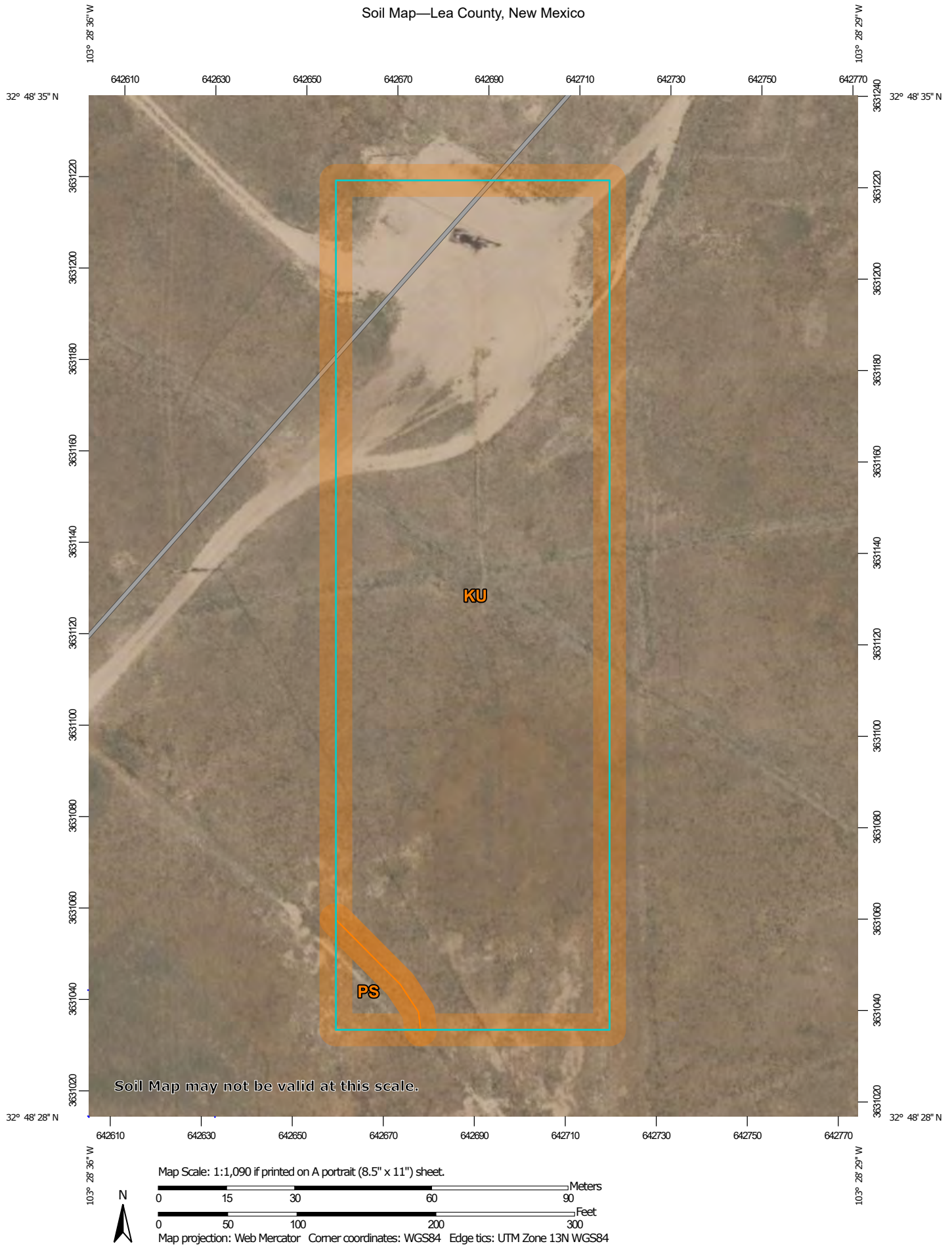
## Data Source Information

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 21, Sep 3, 2024



Soil Map—Lea County, New Mexico



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

4/23/2025  
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 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	2.7	97.6%
PS	Portales-Stegall loams	0.1	2.4%
Totals for Area of Interest		2.8	100.0%



# East Vacuum (GSA) Unit #001

Maverick Permian  
API #30-025-26577  
Lea County, NM  
nGRL1013351539  
Geologic Unit Map

## Legend

-  Ogallala Formation
-  Piedmont alluvial deposits

East Vacuum (GSA) Unit #001

Buckeye

Google Earth

Image © 2025 Airbus

Released to Imaging: 5/5/2025 4:09:46 PM

5 mi





## ***Appendix D***

### **Photographic Documentation**











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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 457272

**QUESTIONS**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 457272
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

Prerequisites	
Incident ID (n#)	nGRL1013351539
Incident Name	NGRL1013351539 EAST VACUUM (GSA) UNIT #001 @ 30-025-26577
Incident Type	Oil Release
Incident Status	Remediation Plan Received
Incident Well	[30-025-26577] EAST VACUUM (GSA) UNIT #001

**Location of Release Source**

Please answer all the questions in this group.

Site Name	EAST VACUUM (GSA) UNIT #001
Date Release Discovered	04/16/2010
Surface Owner	State

**Incident Details**

Please answer all the questions in this group.

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

**Nature and Volume of Release**

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Cause: Corrosion   Flow Line - Production   Crude Oil   Released: 40 BBL   Recovered: 28 BBL   Lost: 12 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion   Flow Line - Production   Produced Water   Released: 6 BBL   Recovered: 2 BBL   Lost: 4 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 457272

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 457272
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

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

**Initial Response**

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

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

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

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

I hereby agree and sign off to the above statement	Name: Chuck Terhune Title: Program Manager Email: <a href="mailto:chuck.terhune@tetrattech.com">chuck.terhune@tetrattech.com</a> Date: 07/16/2024
--	--



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QUESTIONS, Page 3

Action 457272

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 457272
	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 51 and 75 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (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

**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
<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

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

Chloride (EPA 300.0 or SM4500 Cl B)	0
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	17600
What is the estimated volume (in cubic yards) that will be remediated	2607

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, Page 4

Action 457272

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 457272
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**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	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
<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: Chuck Terhune Title: Program Manager Email: <a href="mailto:chuck.terhune@tetrattech.com">chuck.terhune@tetrattech.com</a> Date: 04/30/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 457272

QUESTIONS (continued)

Operator:  Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:  331199
	Action Number:  457272
	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, Page 6

Action 457272

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 457272
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	354435
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	06/18/2024
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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State of New Mexico  
Energy, Minerals and Natural Resources  
Oil Conservation Division  
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CONDITIONS

Action 457272

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 457272
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation work plan approved.	5/5/2025
amaxwell	Variance request to use delineation samples as confirmation samples approved.	5/5/2025
amaxwell	Submit a report via the OCD permitting portal by August 5, 2025.	5/5/2025