



Incident ID:

nAPP2532848889

## Release Assessment and Closure

Mustang 8 CTB 3

Section 08, Township 25 South, Range 32 East

FAPP2510041275

County: Lea

Vertex File Number: 25A-05243

**Prepared for:**

Devon Energy Production Company, LP

**Prepared by:**

Vertex Resource Services Inc.

**Date:**

March 2026

**Devon Energy Production Company**  
Mustang 8 CTB 3

**Release Assessment and Closure**  
March 2026

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**Mustang 8 CTB 3**  
**Section 08, Township 25 South, Range 32 East**  
**FAPP2510041275**  
**County: Lea**

Prepared for:  
**Devon Energy Production Company**  
5315 Buena Vista Drive  
Carlsbad, New Mexico 88220

**New Mexico Oil Conservation Division**  
1625N. French Drive,  
Hobbs NM, 88210

Prepared by:  
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3101 Boyd Drive  
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ENVIRONMENTAL TECHNICAN, REPORTING

March 31, 2026  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Sally Carttar, B.A.  
PROJECT MANAGER, REPORT REVIEW

March 31, 2026  
\_\_\_\_\_  
Date

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## 1.0 Introduction

Devon Energy Production Company, LP (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water release that occurred on November 23, 2025, at Mustang 8 CTB 3 facility fAPP2510041275 (hereafter referred to as the “site”). Devon submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 1 on November 24, 2025. Incident ID number nAPP2532848889 was assigned to this incident.

This report provides a description of the release assessment and remediation activities associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for closure of these releases inside lined containment as per NMAC 19.15.29.11.

## 2.0 Incident Description

The release (nAPP2532848889) occurred on November 23, 2025, due to a pinhole leak at the meter. The incident was reported by a notification of release on November 24, 2025, and involved the release of approximately 160 bbl. of produced water into lined containment. Approximately 160 bbl. of free fluid was removed during initial clean-up

Additional details relevant to the release are presented in the C-141 Reports (Appendix A). Daily Field Report (DFRs) including site photographs are included in Appendix C.

## 3.0 Site Characteristics

The site is located approximately 23 miles east of Malaga, New Mexico. The legal location for the site is Section 08, Township 25 South and Range 32 East in Lea County, New Mexico. The release area is located on Bureau of Land Management (BLM) property. An aerial photograph and site schematic are presented on Figure 1.

*The Geological Map of New Mexico* (New Mexico Bureau of Geology and Mineral Resources, 2025) indicates the site’s surface geology primarily comprises Qe/Qp – Quaternary Eolian and Piedmont deposits. Predominant soil texture on the site is Loamy Sand. Additional soil characteristics include a drainage class of well drain with a runoff class of negligible. The karst geology potential for the site is Low (United States Department of the Interior, Bureau of Land Management, 2018).

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil and gas production and storage. The following sections specifically describe the release area at the site on or in proximity to the constructed pad (Figure 1).

The surrounding landscape is associated with plains with elevations ranging between 2,800 and 5,000 feet. The climate is semiarid with average annual precipitation ranging between 8 and 13 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be shrubs such as sand sage. Grasslands

dominate the historical plant community (United States Department of Agriculture, Natural Resources Conservation Service, 2025). Limited to no vegetation is allowed to grow on the compacted production pad.

#### 4.0 Closure Criteria Determination

The nearest active well to the site is a New Mexico State Engineer (NMOSE) exploratory well, located approximately 0.44 miles northwest of the site (United States Geological Survey, 2025). Data from 2024 show the NMOSE borehole recorded dry hole at 55 feet below ground surface (bgs). Information pertaining to the depth to groundwater determination is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is a water course located approximately 2.3 miles south of the site (United States Fish and Wildlife Service, 2025).

At the site, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

<b>Table 1. Closure Criteria Determination</b>			
<b>Site Name: Mustang 8 CTB 3</b>			
<b>Spill Coordinates: 32.14343524,-103.6906143</b>		<b>X: 623489</b>	<b>Y: 3557085</b>
<b>Site Specific Conditions</b>		<b>Value</b>	<b>Unit</b>
1	Depth to Groundwater (nearest reference)	55	feet
	Distance between release and nearest DTGW reference	2,335	feet
		0.44	miles
	Date of nearest DTGW reference measurement	January 19, 2024	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	12,213	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	55,704	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	30,990	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or	11,968	feet
	ii) Within 1000 feet of any fresh water well or spring	111,113	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	feet
7	Within 300 feet of a wetland	22,466	feet
8	Within the area overlying a subsurface mine	No	feet
	Distance between release and nearest registered mine	7,688	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	26,460	feet
10	Within a 100-year Floodplain	unknown	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	21,091	feet
11	Soil Type	PT, Pyote loamy fine sand	
12	Ecological Classification	Loamy Sand	
13	Geology	Qe/Qp, Quaternary Eoilan and Peidmont deposits	
	<b>NMAC 19.15.29.12 E (Table 1) Closure Criteria</b>	51-100'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 2.

<b>Table 2. Closure Criteria for Soils Impacted by a Release</b>		
<b>Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS</b>	<b>Constituent</b>	<b>Limit</b>
51 feet - 100 feet	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids

TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics

BTEX – benzene, toluene, ethylbenzene and xylenes

### 5.0 Remedial Actions Taken

An initial site inspection of the release area was completed on November 25, 2025, which identified the containment and mapped the infrastructure. Power washing of the lined containment was observed during this visit. It was determined that the impacted area stayed within the liner.

Notification that a liner inspection was scheduled to be completed was provided to the NMOCD with a 48-hr notice for December 2, 2025. Two liners were noted: the separators containment in the north of the pad and the CTB containment in the south of the pad. Visual observation of the liners was completed on all sides and the base of the containment, around equipment, and of all seams in the liner. As evidenced in the Daily Field Report (Appendix C), liner integrity was confirmed.

### 6.0 Closure Denial

Devon submitted the initial closure report for incident nAPP2532848889 to the NMOCD on December 12, 2025. The initial request was denied on December 16, 2024, with following notations:

*“The liner inspection and closure report is denied. Photographs on pages 108, 109, 110, 111, 112 show pinkish red sediment covering the lined containment; this must be power-washed and removed. Additionally, the bottom of the "lined pit" cannot be clearly observed on page 112 of the PDF. Ensure that these areas are free from debris, sand and sediment, and that the bottom of the lined pit can be viewed.”*

On March 17, 2026, power washing of the lined containment was conducted to remove the pinkish red sediment that was covering the lined containment described in the denial that occurred on December 16, 2026.

Notification that a liner inspection was scheduled to be completed was provided to the NOMCD with a 48-hr notice for March 18, 2026. Visual observation of the liners was completed on all sides and the base of the containment, around

Devon Energy Production Company  
Mustang 8 CTB 3

Release Assessment and Closure  
March 2026

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equipment, and of all seams in the liner. Visual observation ensured that the liner was free from debris, sand, and sediment. As evidenced in the Daily Field Report (Appendix C), liner integrity was confirmed.

## 7.0 Closure Request

The release areas were confirmed to be fully contained by an intact liner on March 18, 2026. As such, incident nAPP2532848889 fulfill the requirements under 19.15.29.11.A (5a). Based on these findings, Devon requests that this release be closed.

Should you have any questions or concerns, please do not hesitate to contact Sally Carttar at 575.361.3561 or [SCarttar@vertexresource.com](mailto:SCarttar@vertexresource.com).

## 8.0 References

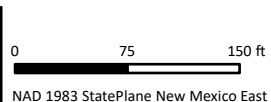
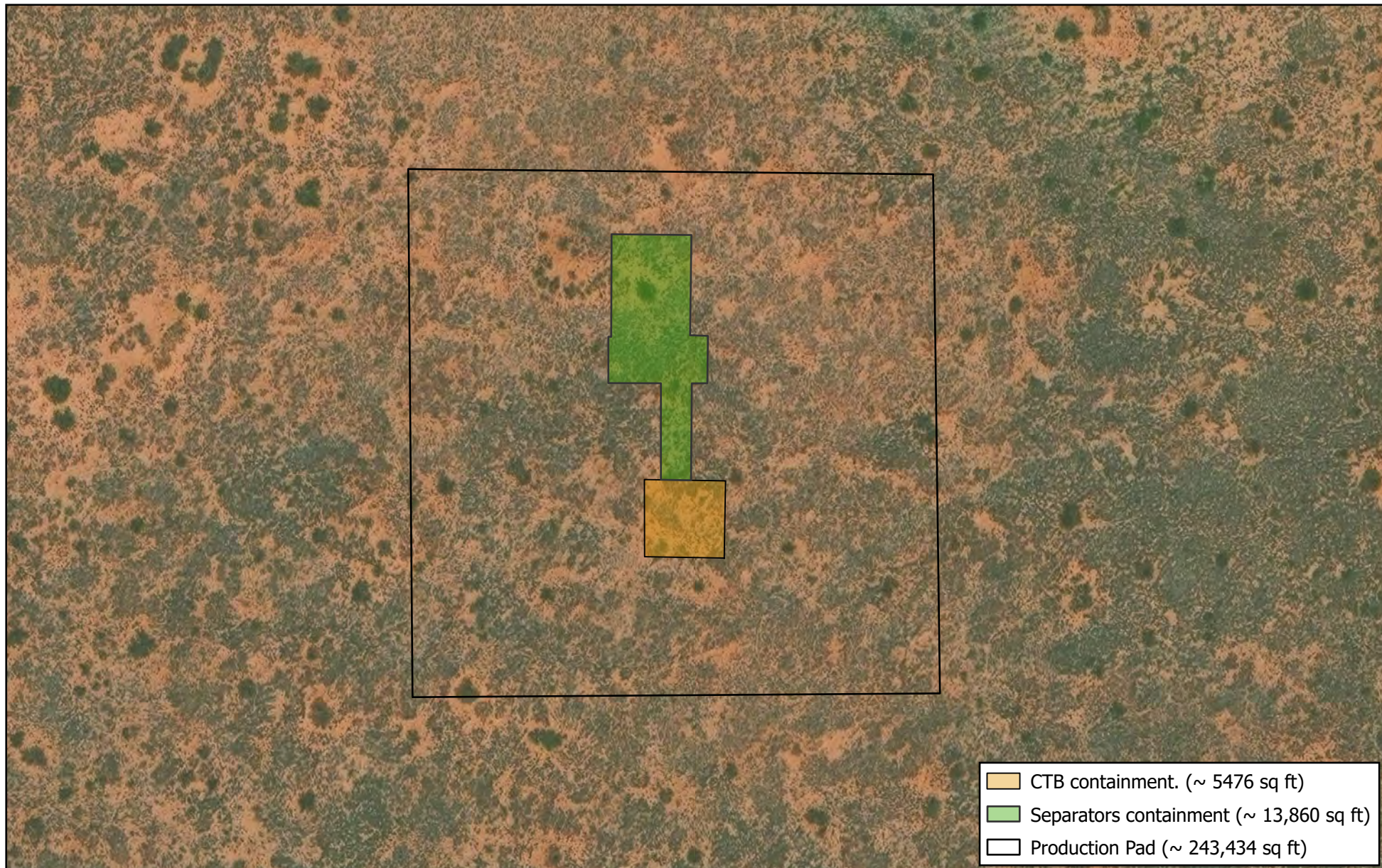
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## 9.0 Limitations

This report has been prepared for the sole benefit of Devon Energy Production Company, LP. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and the Bureau of Land Management, without the express written consent of Vertex Resource Services Inc. (Vertex) and Devon Energy Production Company, LP. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

## **FIGURES**



Map Center:  
Lat/Long: 32.143444°N, 103.690563°W

Date: Dec 02/25



**Site Map**  
**Mustang 8 CTB 3**

FIGURE:

**01**



Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2025. Site features from GPS, Vertex, 2025.

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## **APPENDIX A - NMOCD C-141 Report**

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 530741

**QUESTIONS**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 530741
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2532848889
Incident Name	NAPP2532848889 MUSTANG 8 CTB 3 @ FAPP2510041275
Incident Type	Produced Water Release
Incident Status	Initial C-141 Received
Incident Facility	[fAPP2510041275] MUSTANG 8 CTB 3

<b>Location of Release Source</b>	
<i>Please answer all the questions in this group.</i>	
Site Name	MUSTANG 8 CTB 3
Date Release Discovered	11/23/2025
Surface Owner	Federal

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

<b>Nature and Volume of Release</b>	
<i>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.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Dump Line   Produced Water   Released: 160 BBL   Recovered: 160 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)	Meter developed a pinhole leak. Fluids fully contained.

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**Santa Fe, NM 87505**

QUESTIONS, Page 2

Action 530741

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 530741
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**QUESTIONS**

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

**Initial Response**

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

The source of the release has been stopped	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: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 12/01/2025
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QUESTIONS, Page 3

Action 530741

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 530741
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**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)	Not answered.
What method was used to determine the depth to ground water	Not answered.
Did this release impact groundwater or surface water	Not answered.
<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	Not answered.
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Not answered.
An occupied permanent residence, school, hospital, institution, or church	Not answered.
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Not answered.
Any other fresh water well or spring	Not answered.
Incorporated municipal boundaries or a defined municipal fresh water well field	Not answered.
A wetland	Not answered.
A subsurface mine	Not answered.
An (non-karst) unstable area	Not answered.
Categorize the risk of this well / site being in a karst geology	Not answered.
A 100-year floodplain	Not answered.
Did the release impact areas not on an exploration, development, production, or storage site	Not answered.

**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	No
<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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**Energy, Minerals and Natural Resources**  
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CONDITIONS

Action 530741

**CONDITIONS**

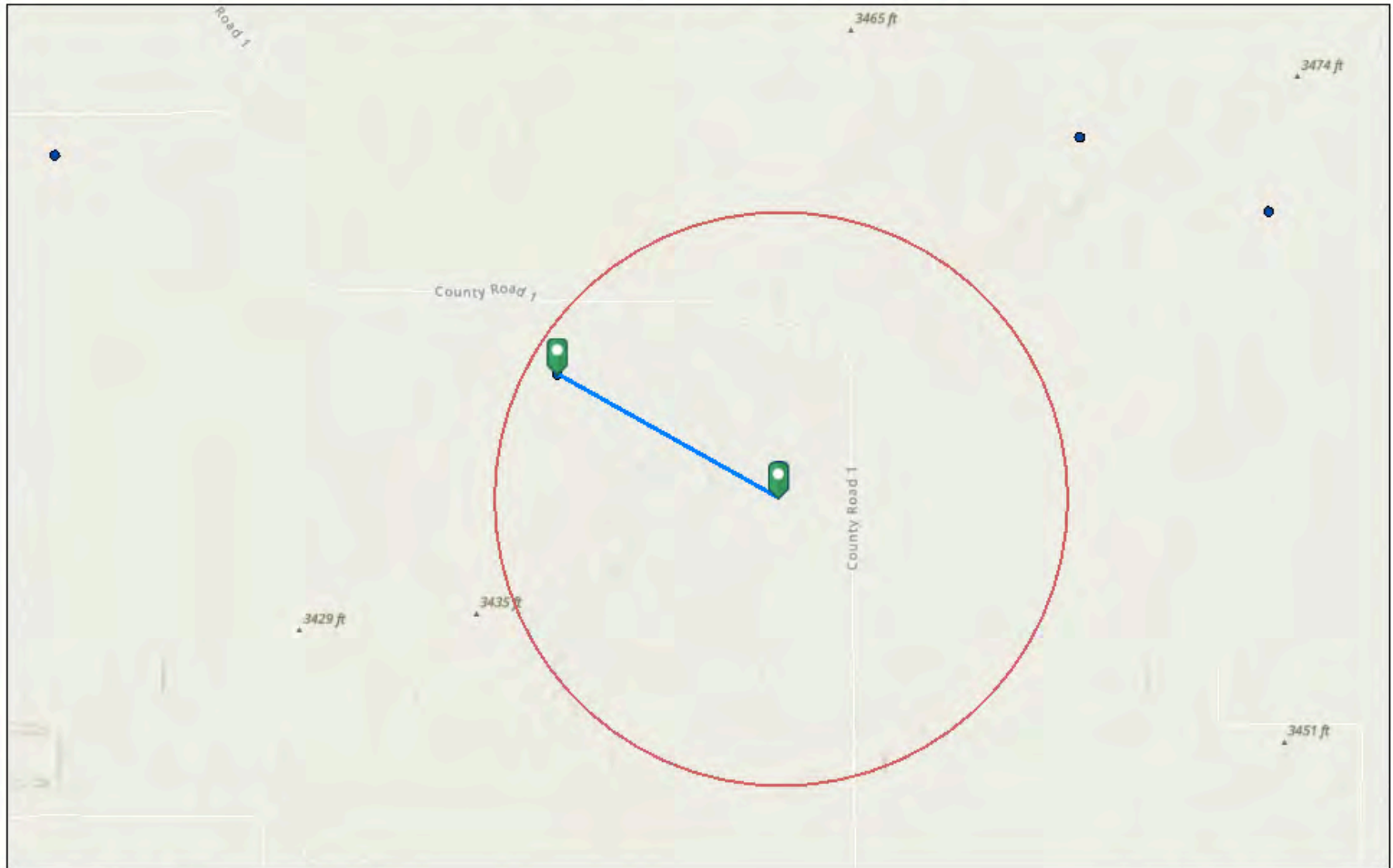
Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 530741
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**CONDITIONS**



Created By	Condition	Condition Date
michael.buchanan	Initial C141 is approved. A remediation closure, site characterization or remediation work plan is due to OCD no later than 90-days after discovery of the release. The final date to submit the next report to OCD is 02/27/2026.	12/2/2025

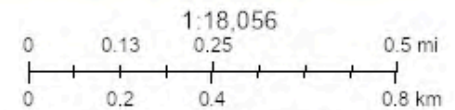
## **APPENDIX B – Closure Criteria Research Documentation**

### 01. 0.44mi from Mustang 8 CTB 3



10/13/2025, 9:49:50 AM

-  Override 1
-  OSE Water PODs



Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community.

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. <http://nm-eminrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d01712306164de29fd2fb9f8f35ca75>; New Mexico Oil Conservation Division



# WELL RECORD & LOG

## OFFICE OF THE STATE ENGINEER

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

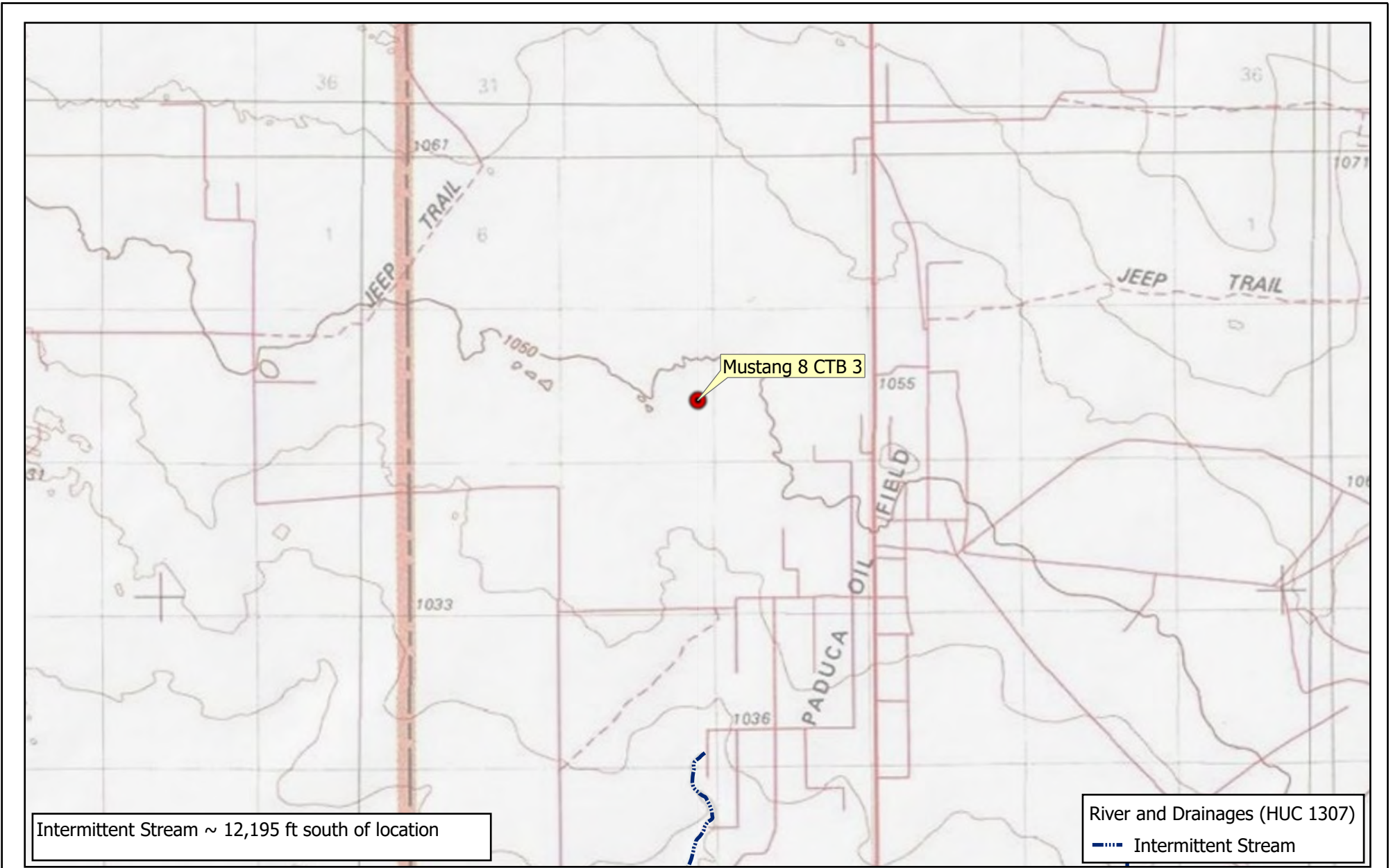
1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) C-4795-POD 1		WELL TAG ID NO.		OSE FILE NO(S). C-4795		
	WELL OWNER NAME(S) DEVON ENERGY RESOURCES				PHONE (OPTIONAL) 405-318-4697		
	WELL OWNER MAILING ADDRESS 205 E BENDER ROAD # 150				CITY HOBBS	STATE NM	ZIP 88240
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE	MINUTES 8	SECONDS 47.6088	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND	
		LONGITUDE	-103	41	49.9344	W	* DATUM REQUIRED: WGS 84
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE CHINCOTEAGUE 8-32 FED ST COM 522H							

2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1184	NAME OF LICENSED DRILLER RUSSELL SOUTHERLAND			NAME OF WELL DRILLING COMPANY WEST TEXAS WATER WELL SERVICE			
	DRILLING STARTED 1/19/2024	DRILLING ENDED 1/19/2024	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT) 55	DEPTH WATER FIRST ENCOUNTERED (FT)			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD      ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
				NO CASING IN HOLE				

3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
	FROM	TO				
				N/A		

FOR OSE INTERNAL USE			WR-20 WELL RECORD & LOG (Version 04/30/19)		
FILE NO.	C-04795	POD NO.	1	TRN NO.	754025
LOCATION	25S.32E.08.441		WELL TAG ID NO.	PAGE 1 OF 2	



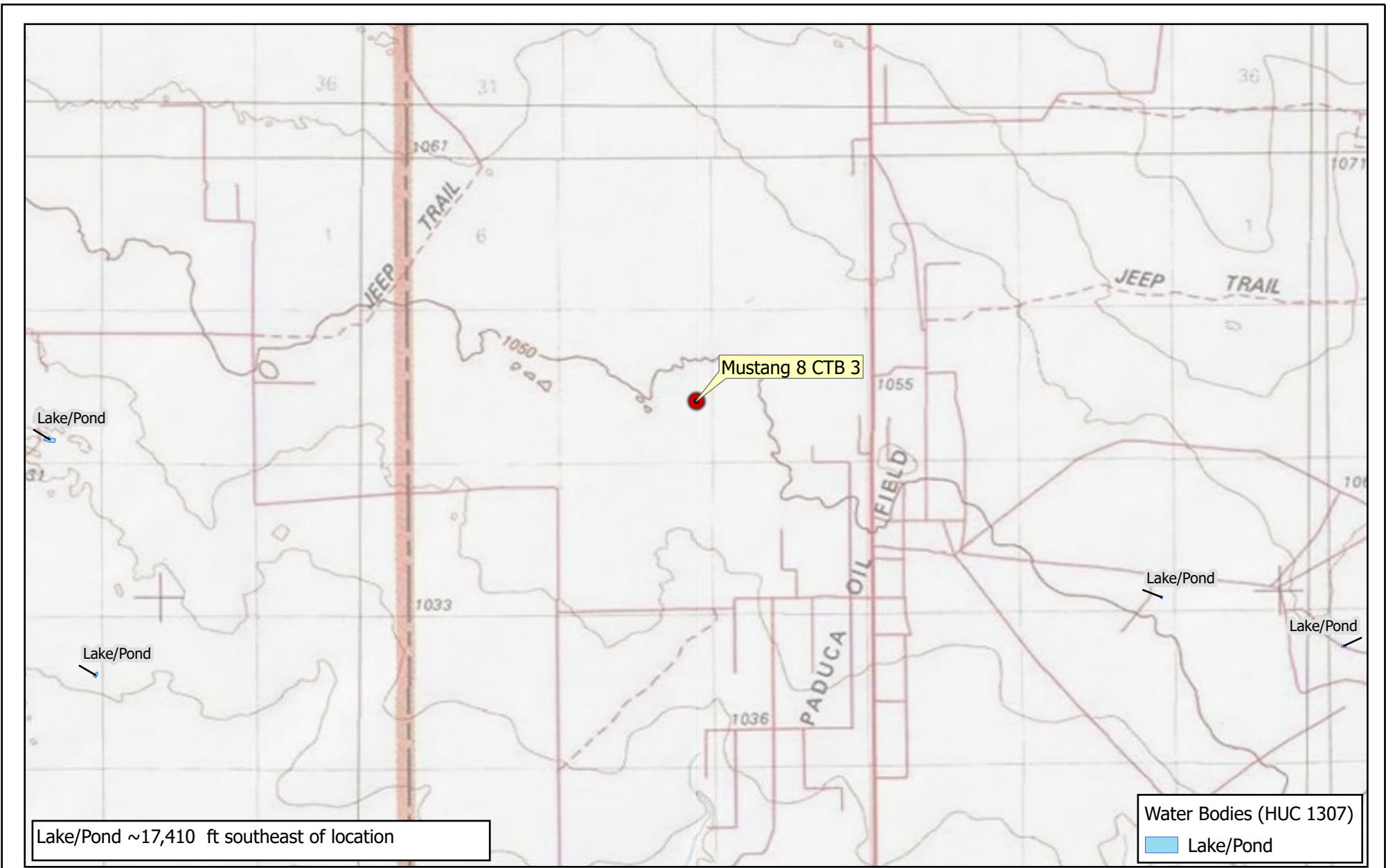


	<p>Map Center: Lat/Long: 32.139197°N, 103.690665°W</p> <p>0 2,500 5,000 ft</p> <p>NAD 1983 StatePlane New Mexico East FIPS 3001 Feet</p>	<p>Date: Oct 14/25</p> <p>N</p>	<p><b>Significant Watercourse</b> <b>Mustang 8 CTB 3</b></p>	<p>FIGURE: <b>2</b></p>
--	--	---------------------------------	--	-----------------------------


Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2025. Site features from GPS, Vertex, 2025.

**VERSATILITY. EXPERTISE.**




 Map Center: Lat/Long: 32.139197°N, 103.690665°W  
 Date: Oct 14/25  
 NAD 1983 StatePlane New Mexico East FIPS 3001 Feet



**Significant Watercourse - Lake Mustang 8 CTB 3**

FIGURE: **3**


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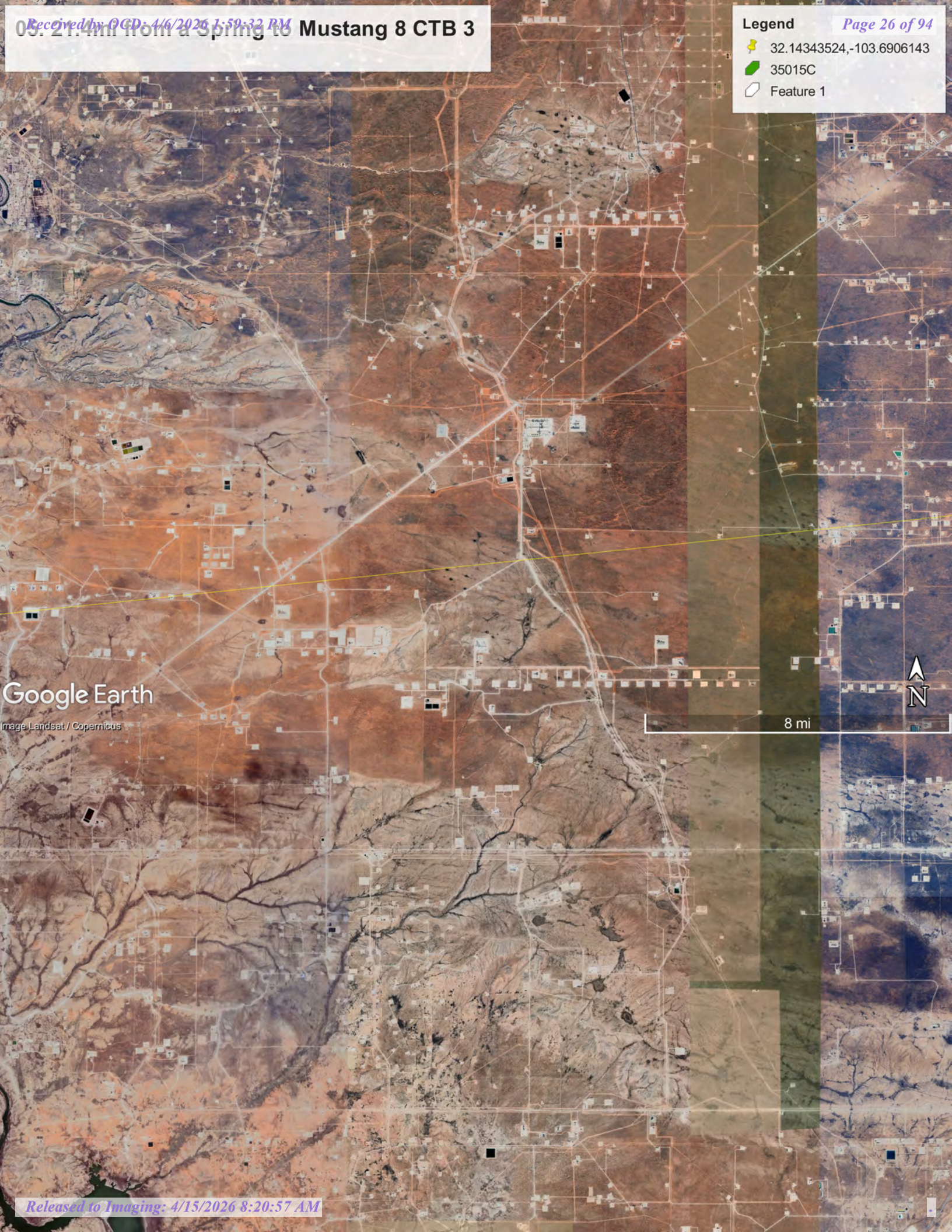
Google Earth

Image © 2025 Airbus

32.14343524, -103.6906143

**Legend** Page 26 of 94

- ★ 32.14343524,-103.6906143
- 35015C
- Feature 1

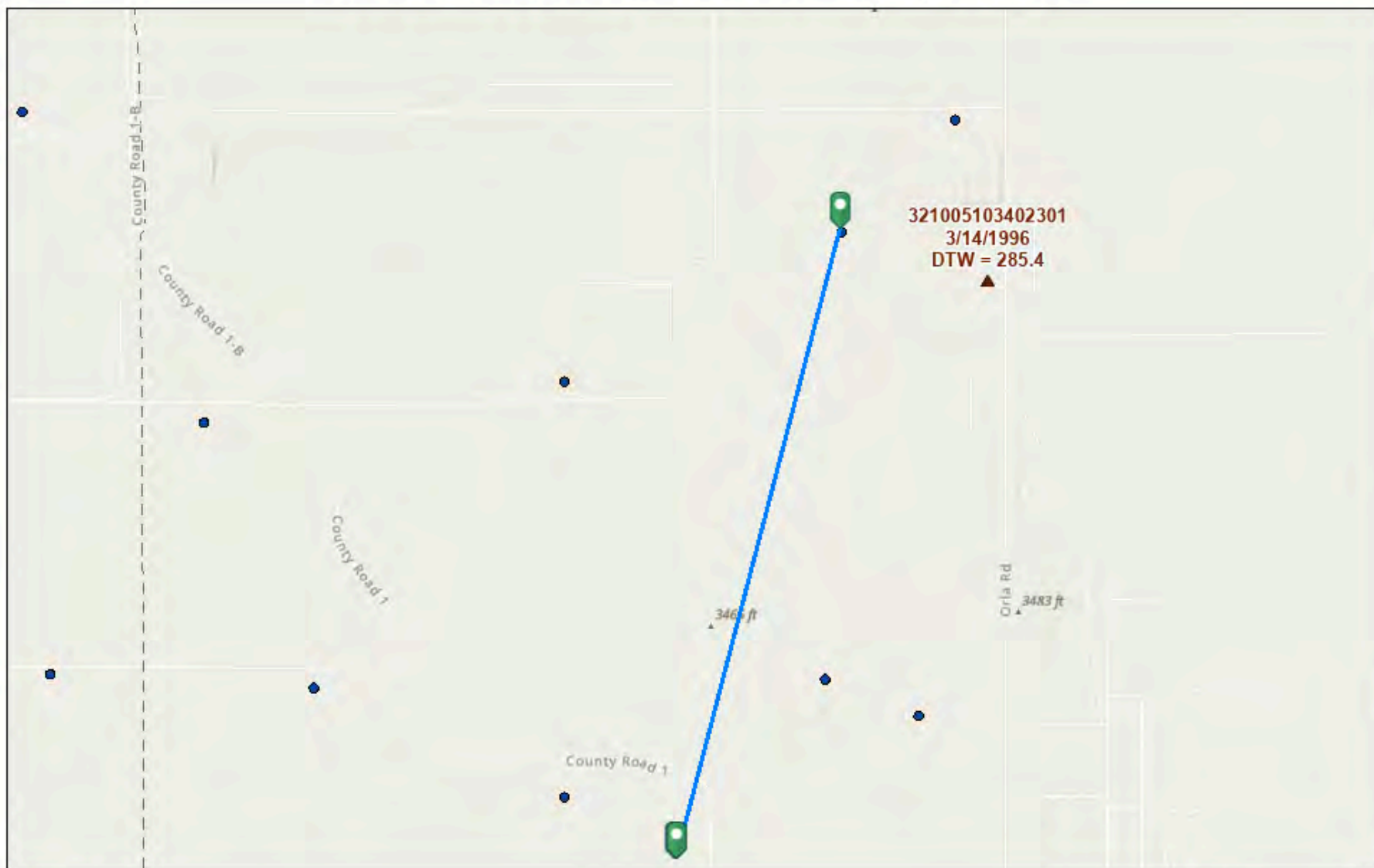


Google Earth  
 Image Landsat / Copernicus

8 mi

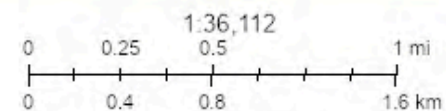


### 05.1. Livestock Well 2.1mi from Mustang 8 CTB 3



10/13/2025, 12:40:27 PM

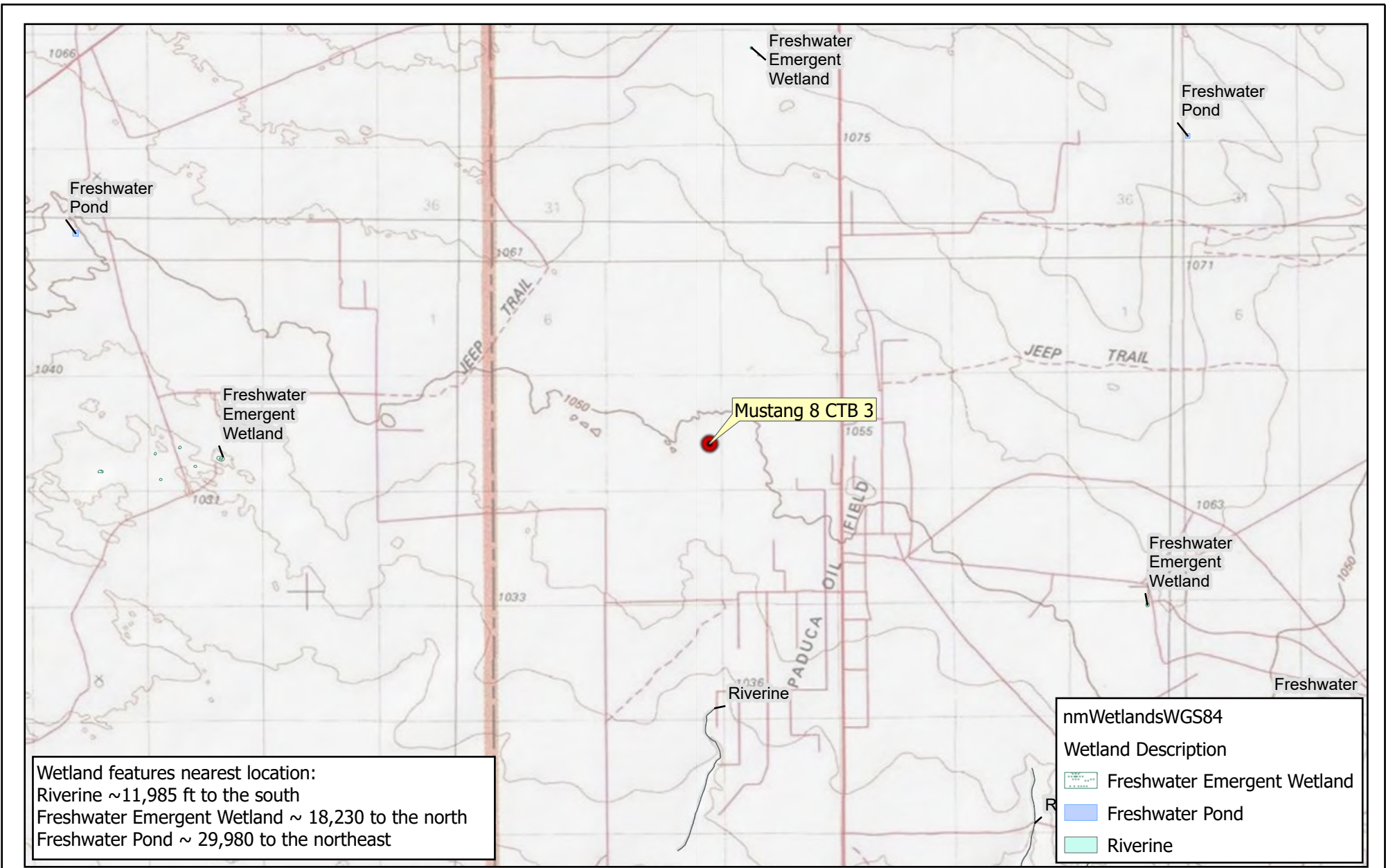
- OSE Water PODs
- ▲ USGS Historical GW Wells



Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community.

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. <http://nm-emrhd.maps.arcgis.com/apps/webappviewer/index.html?id=4d01712306164de29fd2fb9f835ca75>; New Mexico Oil Conservation Division



Wetland features nearest location:  
 Riverine ~11,985 ft to the south  
 Freshwater Emergent Wetland ~ 18,230 to the north  
 Freshwater Pond ~ 29,980 to the northeast

nmWetlandsWGS84  
 Wetland Description

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

Map Center:  
 Lat/Long: 32.143221°N, 103.69261°W

Date: Oct 14/25

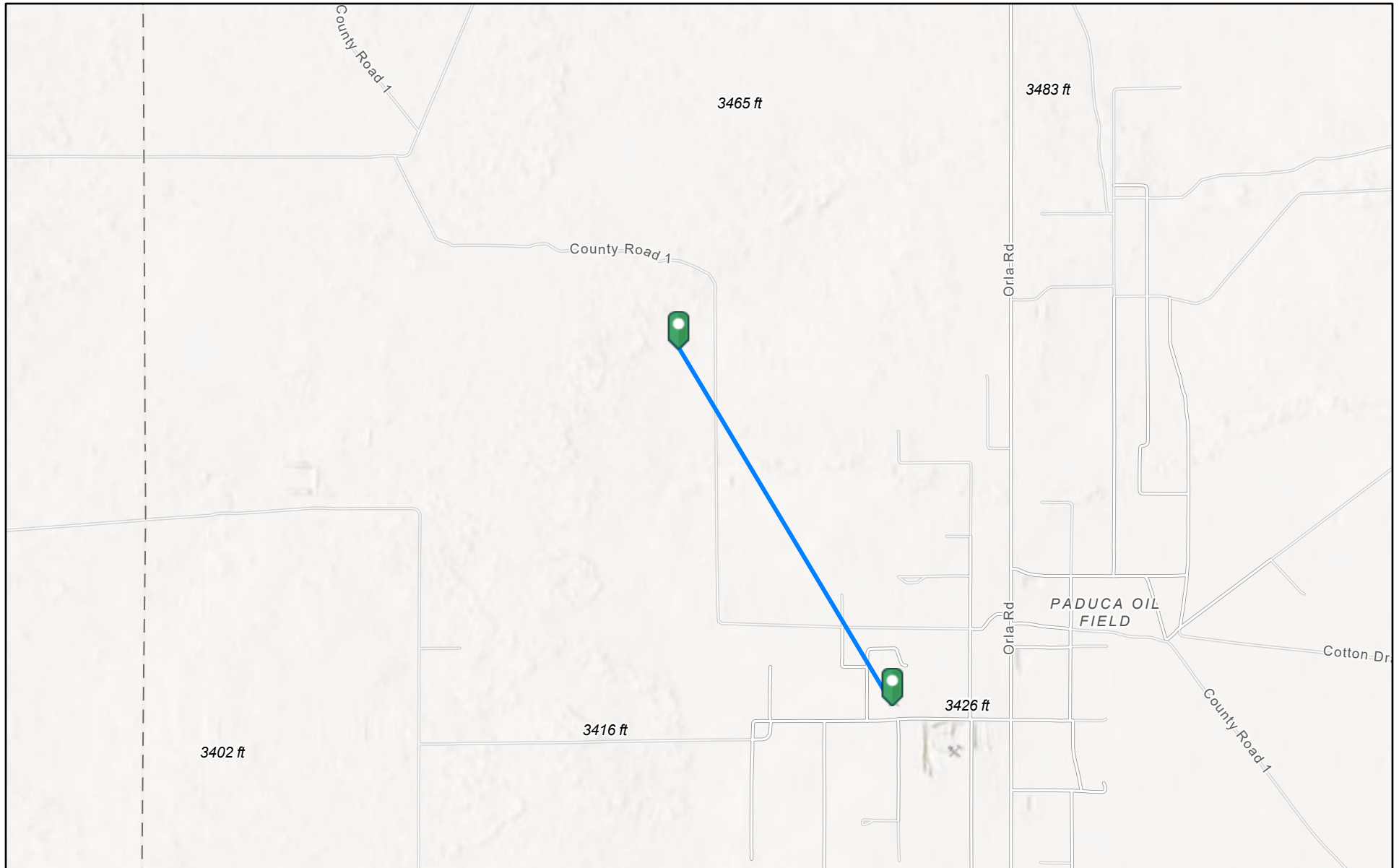
NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

**Wetlands**  
**Mustang 8 CTB 3**

FIGURE:  
7

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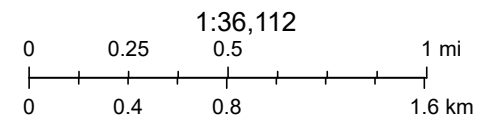
# 08. Mine 1.44mi from Mustang 8 CTB 3



10/13/2025, 1:05:58 PM

Registered Mines

✕ Aggregate, Stone etc.

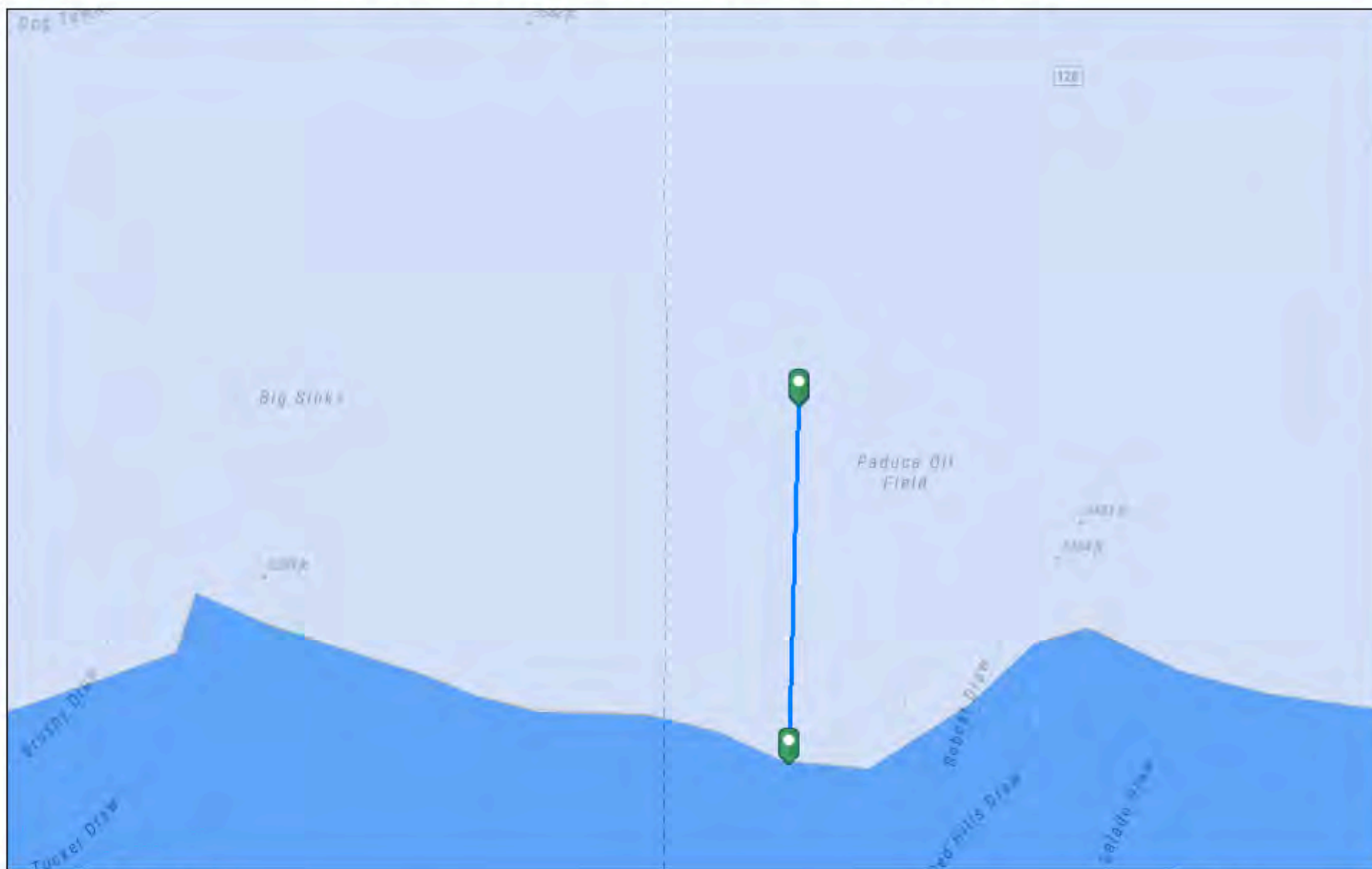


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EMNRD MMD GIS Coordinator

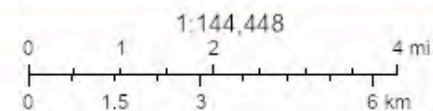
NM Energy, Minerals and Natural Resources Department (<http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795>)

### 09. Unstable Karst 5mi from Mustang 8 CTB 3



10/13/2025, 12:44:36 PM

Karst Occurrence Potential  Low  
 Medium






BLM, OCD, New Mexico Tech, Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and

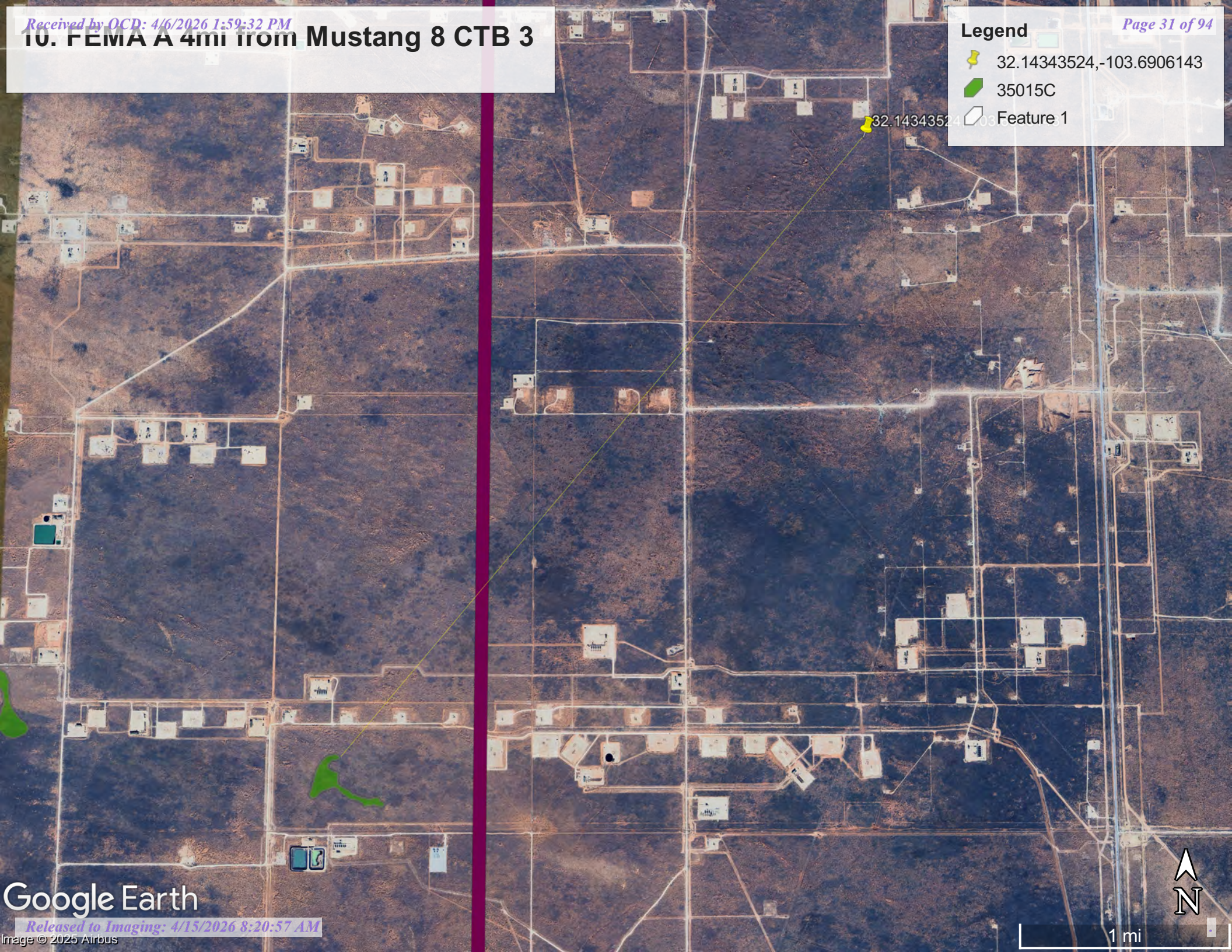
New Mexico Oil Conservation Division

NM OCD Oil and Gas Map, <http://nm-emrird.maps.arcgis.com/apps/webappviewer/index.html?id=4d01712306164de29fd2fb9f835ca75>; New Mexico Oil Conservation Division

# 10. FEMA A 4mi from Mustang 8 CTB 3

## Legend

-  32.14343524,-103.6906143
-  35015C
-  Feature 1



# National Flood Hazard Layer FIRMMette



103°41'45"W 32°8'52"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
		Hydrographic Feature

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 10/13/2025 at 7:13 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.



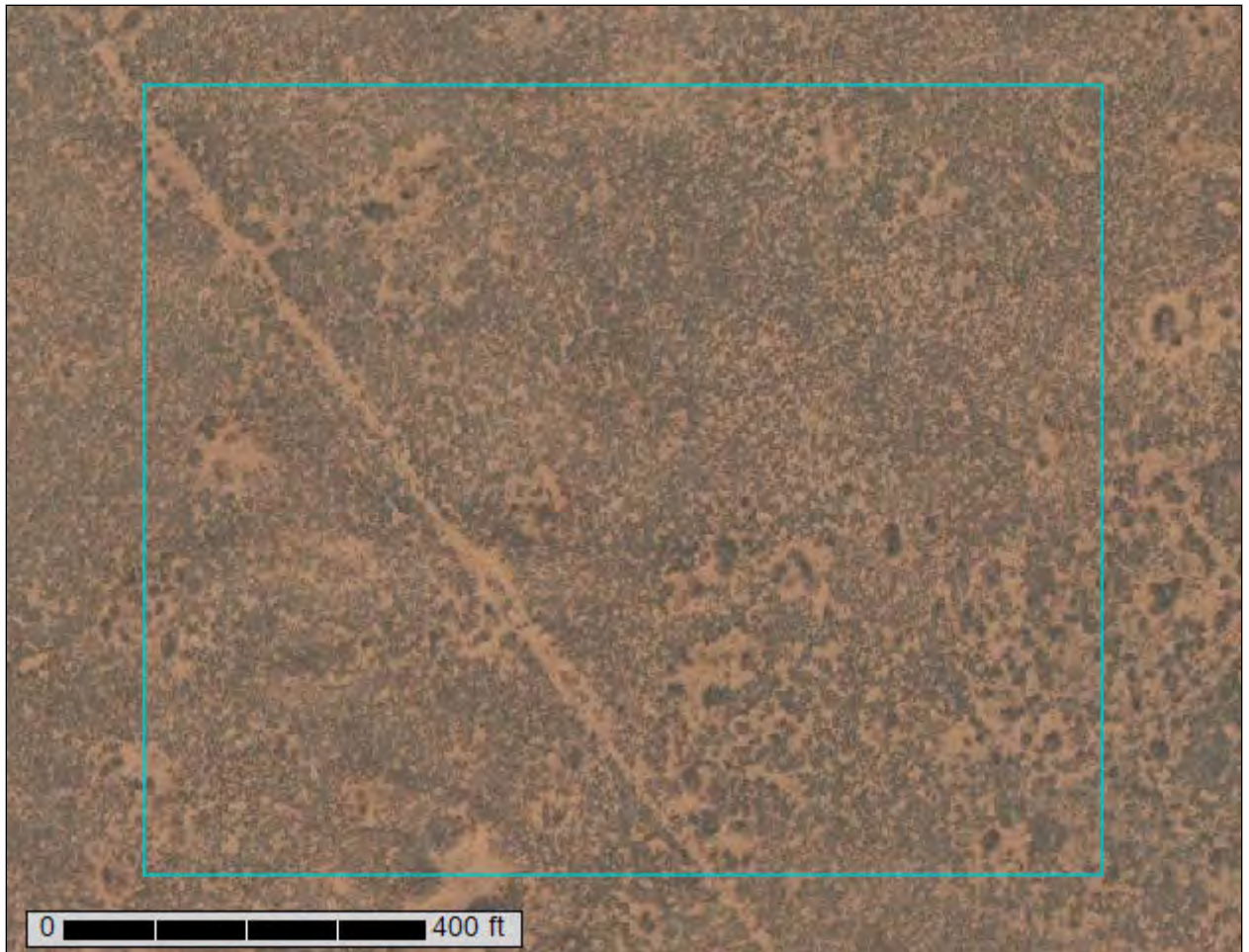
1:6,000

103°41'17"W 32°8'21"N



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Lea County, New Mexico



October 13, 2025

# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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## How Soil Surveys Are Made

---

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

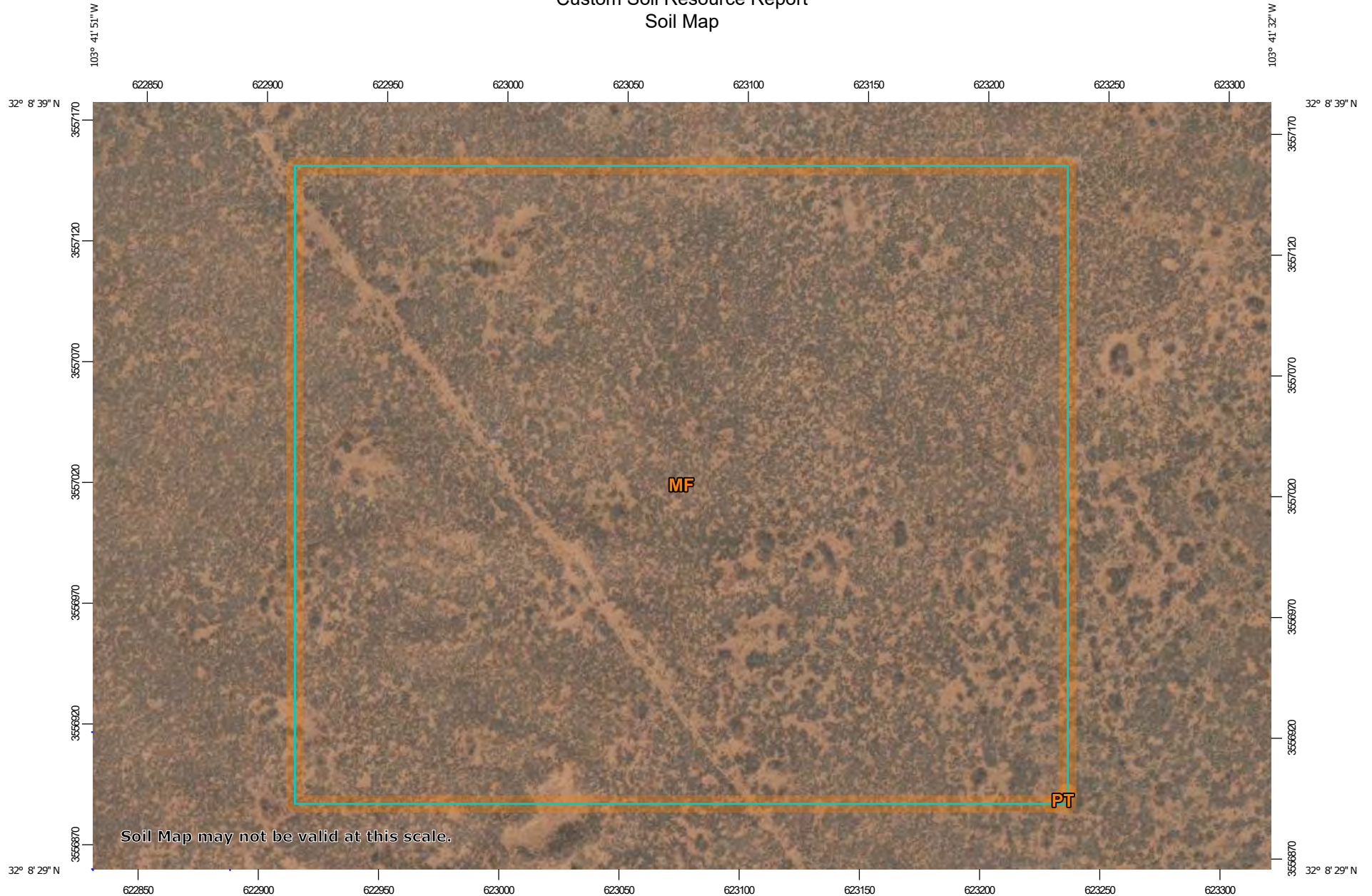
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

## Soil Map

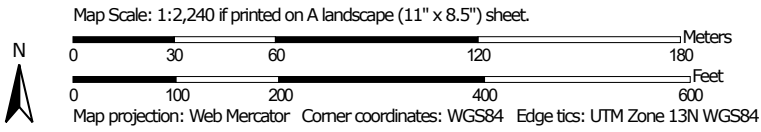
---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

### Custom Soil Resource Report Soil Map




Soil Map may not be valid at this scale.



Custom Soil Resource Report


**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 22, Sep 9, 2025

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.

## Custom Soil Resource Report

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MF	Maljamar and Palomas fine sands, 0 to 3 percent slopes	21.1	100.0%
PT	Pyote loamy fine sand	0.0	0.0%
<b>Totals for Area of Interest</b>		<b>21.1</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

## Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Custom Soil Resource Report

**Lea County, New Mexico****MF—Maljamar and Palomas fine sands, 0 to 3 percent slopes****Map Unit Setting***National map unit symbol:* dmqb*Elevation:* 3,000 to 3,900 feet*Mean annual precipitation:* 10 to 15 inches*Mean annual air temperature:* 60 to 62 degrees F*Frost-free period:* 190 to 205 days*Farmland classification:* Farmland of statewide importance**Map Unit Composition***Maljamar and similar soils:* 46 percent*Palomas and similar soils:* 44 percent*Minor components:* 10 percent*Estimates are based on observations, descriptions, and transects of the mapunit.***Description of Maljamar****Setting***Landform:* Plains*Landform position (three-dimensional):* Rise*Down-slope shape:* Linear*Across-slope shape:* Linear*Parent material:* Sandy eolian deposits derived from sedimentary rock**Typical profile***A - 0 to 24 inches:* fine sand*Bt - 24 to 50 inches:* sandy clay loam*Bkm - 50 to 60 inches:* cemented material**Properties and qualities***Slope:* 0 to 3 percent*Depth to restrictive feature:* 40 to 60 inches to petrocalcic*Drainage class:* Well drained*Runoff class:* Very low*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:* 5 percent*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*Sodium adsorption ratio, maximum:* 2.0*Available water supply, 0 to 60 inches:* Low (about 5.6 inches)**Interpretive groups***Land capability classification (irrigated):* 7e*Land capability classification (nonirrigated):* 7e*Hydrologic Soil Group:* B*Ecological site:* R070BD003NM - Loamy Sand*Hydric soil rating:* No

## Custom Soil Resource Report

**Description of Palomas****Setting**

*Landform:* Plains  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sandstone

**Typical profile**

*A - 0 to 16 inches:* fine sand  
*Bt - 16 to 60 inches:* sandy clay loam  
*Bk - 60 to 66 inches:* sandy loam

**Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 45 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Moderate (about 7.5 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* B  
*Ecological site:* R070BD003NM - Loamy Sand  
*Hydric soil rating:* No

**Minor Components****Kermit**

*Percent of map unit:* 5 percent  
*Ecological site:* R070BC022NM - Sandhills  
*Hydric soil rating:* No

**Wink**

*Percent of map unit:* 5 percent  
*Ecological site:* R070BD003NM - Loamy Sand  
*Hydric soil rating:* No

## Custom Soil Resource Report

**PT—Pyote loamy fine sand****Map Unit Setting***National map unit symbol:* dmqp*Elevation:* 3,000 to 3,900 feet*Mean annual precipitation:* 10 to 12 inches*Mean annual air temperature:* 60 to 62 degrees F*Frost-free period:* 190 to 200 days*Farmland classification:* Farmland of statewide importance**Map Unit Composition***Pyote and similar soils:* 85 percent*Minor components:* 15 percent*Estimates are based on observations, descriptions, and transects of the mapunit.***Description of Pyote****Setting***Landform:* Plains*Landform position (three-dimensional):* Rise*Down-slope shape:* Linear*Across-slope shape:* Linear*Parent material:* Sandy eolian deposits derived from sedimentary rock**Typical profile***A - 0 to 25 inches:* loamy fine sand*Bt - 25 to 60 inches:* fine sandy loam**Properties and qualities***Slope:* 0 to 3 percent*Depth to restrictive feature:* More than 80 inches*Drainage class:* Well drained*Runoff class:* Negligible*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)*Depth to water table:* More than 80 inches*Frequency of flooding:* None*Frequency of ponding:* None*Calcium carbonate, maximum content:* 5 percent*Gypsum, maximum content:* 1 percent*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*Sodium adsorption ratio, maximum:* 2.0*Available water supply, 0 to 60 inches:* Low (about 5.3 inches)**Interpretive groups***Land capability classification (irrigated):* 6e*Land capability classification (nonirrigated):* 7s*Hydrologic Soil Group:* A*Ecological site:* R070BD003NM - Loamy Sand

Custom Soil Resource Report

*Hydric soil rating:* No

**Minor Components**

**Maljamar**

*Percent of map unit:* 8 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Palomas**

*Percent of map unit:* 7 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

# Soil Information for All Uses

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## Ecological Sites

Individual soil map unit components can be correlated to a particular ecological site. The Ecological Site Assessment section includes ecological site descriptions, plant growth curves, state and transition models, and selected National Plants database information.

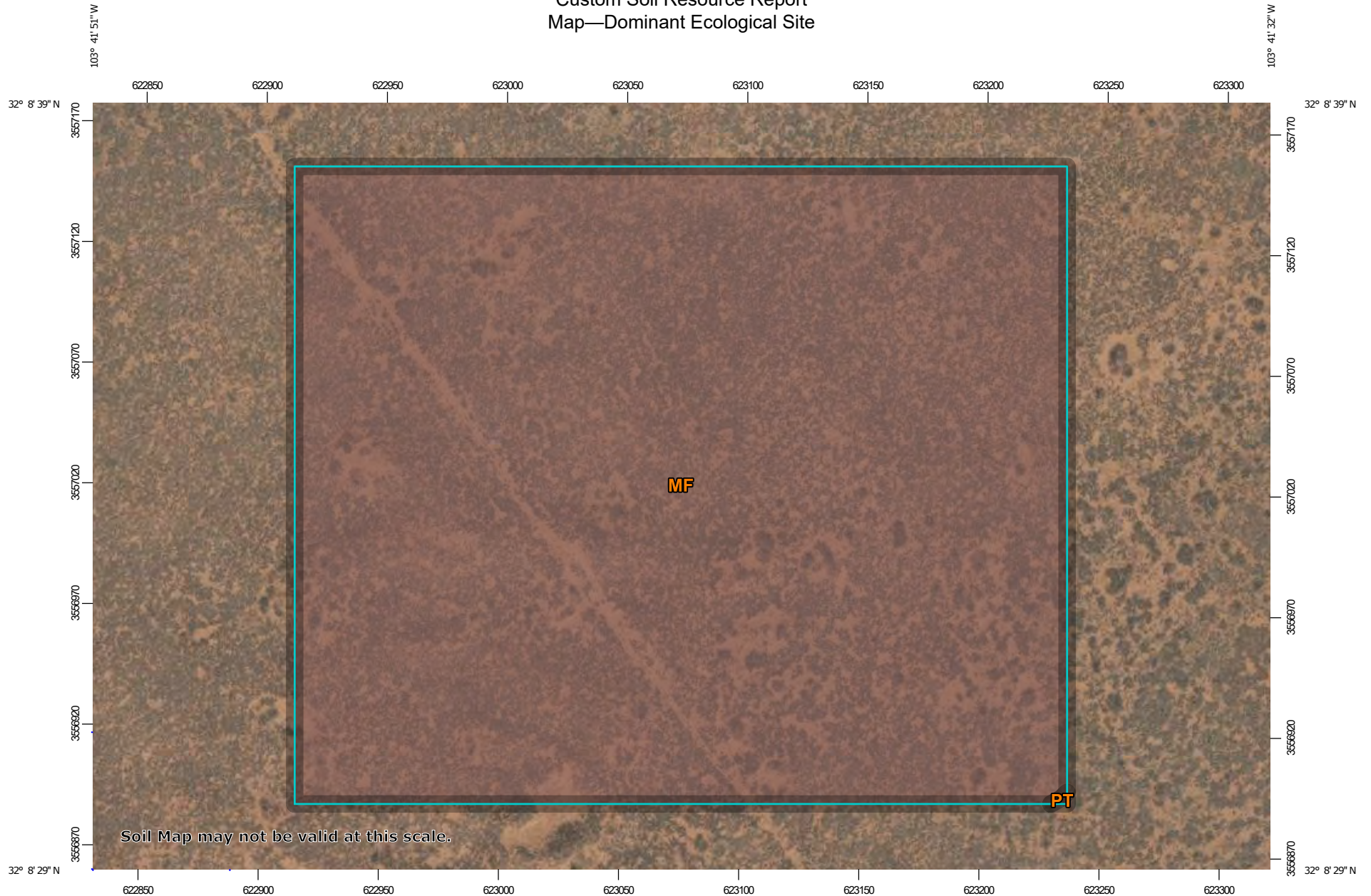
## All Ecological Sites —

An "ecological site" is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. For example, the hydrology of the site is influenced by development of the soil and plant community. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production.

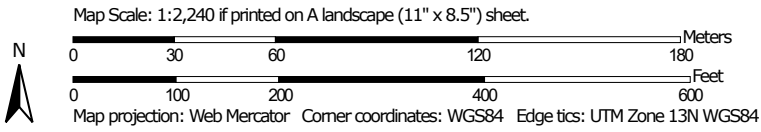
An ecological site name provides a general description of a particular ecological site. For example, "Loamy Upland" is the name of a rangeland ecological site. An "ecological site ID" is the symbol assigned to a particular ecological site.

The map identifies the dominant ecological site for each map unit, aggregated by dominant condition. Other ecological sites may occur within each map unit. Each map unit typically consists of one or more components (soils and/or miscellaneous areas). Each soil component is associated with an ecological site. Miscellaneous areas, such as rock outcrop, sand dunes, and badlands, have little or no soil material and support little or no vegetation and therefore are not linked to an ecological site. The table below the map lists all of the ecological sites for each map unit component in your area of interest.

### Custom Soil Resource Report Map—Dominant Ecological Site




Soil Map may not be valid at this scale.



Custom Soil Resource Report


**MAP LEGEND**


**Area of Interest (AOI)**

 Area of Interest (AOI)


**Soils**

**Soil Rating Polygons**

 R070BD003NM


 Not rated or not available

**Soil Rating Lines**

 R070BD003NM


 Not rated or not available

**Soil Rating Points**

 R070BD003NM

 Not rated or not available

**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 22, Sep 9, 2025

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.

Custom Soil Resource Report

**Table—Ecological Sites by Map Unit Component**

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
MF	Maljamar and Palomas fine sands, 0 to 3 percent slopes	Maljamar (46%)	R070BD003NM — Loamy Sand	21.1	100.0%
		Palomas (44%)	R070BD003NM — Loamy Sand		
		Kermit (5%)	R070BC022NM — Sandhills		
		Wink (5%)	R070BD003NM — Loamy Sand		
PT	Pyote loamy fine sand	Pyote (85%)	R070BD003NM — Loamy Sand	0.0	0.0%
		Maljamar (8%)	R070BD003NM — Loamy Sand		
		Palomas (7%)	R070BD003NM — Loamy Sand		
<b>Totals for Area of Interest</b>				<b>21.1</b>	<b>100.0%</b>

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

## Ecological site R070BD003NM Loamy Sand

Accessed: 10/13/2025

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### General information

**Provisional.** A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

#### Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

### Associated sites

R070BD004NM	<b>Sandy</b> Sandy
R070BD005NM	<b>Deep Sand</b> Deep Sand

**Table 1. Dominant plant species**

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

### Physiographic features

This site is on uplands, plains, dunes, fan piedmonts and in inter dunal areas. The parent material consists of mixed alluvium and or eolian sands derived from sedimentary rock. Slope range on this site range from 0 to 9 percent with the average of 5 percent.

Low stabilized dunes may occur occasionally on this site. Elevations range from 2,800 to 5,000 feet.

**Table 2. Representative physiographic features**

Landforms	(1) Fan piedmont (2) Alluvial fan (3) Dune
Elevation	2,800–5,000 ft
Slope	0–9%
Aspect	Aspect is not a significant factor

## Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer. The average frost-free season is 207 to 220 days. The last killing frost being late March or early April and the first killing frost being in later October or early November. Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Strong winds blow from the southwest from January through June, which accelerates soil drying during a critical period for cool season plant growth.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

**Table 3. Representative climatic features**

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

## Influencing water features

This site is not influenced from water from wetlands or streams.

## Soil features

Soils are moderately deep or very deep. Surface textures are loamy fine sand, fine sandy loam, loamy very fine sand or gravelly sandy loam.

Subsurface is a loamy fine sand, coarse sandy loam, fine sandy loam or loam that averages less than 18 percent clay and less than 15 percent carbonates.

Substratum is a fine sandy loam or gravelly fine sandy loam with less than 15 percent gravel and with less than 40 percent calcium carbonate. Some layers high in lime or with caliche fragments may occur at depths of 20 to 30 inches.

These soils, if unprotected by plant cover and organic residue, become wind blown and low hummocks are formed.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils are:

Maljamar

Berino

Parjarito

Palomas

Wink

Pyote

**Table 4. Representative soil features**

Surface texture	(1) Fine sand (2) Fine sandy loam (3) Loamy fine sand
Family particle size	(1) Sandy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to moderately rapid
Soil depth	40–72 in
Surface fragment cover ≤3"	0–10%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–7 in
Calcium carbonate equivalent (0-40in)	3–40%
Electrical conductivity (0-40in)	2–4 mmhos/cm

Sodium adsorption ratio (0-40in)	0–2
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	4–12%
Subsurface fragment volume >3" (Depth not specified)	0%

## Ecological dynamics

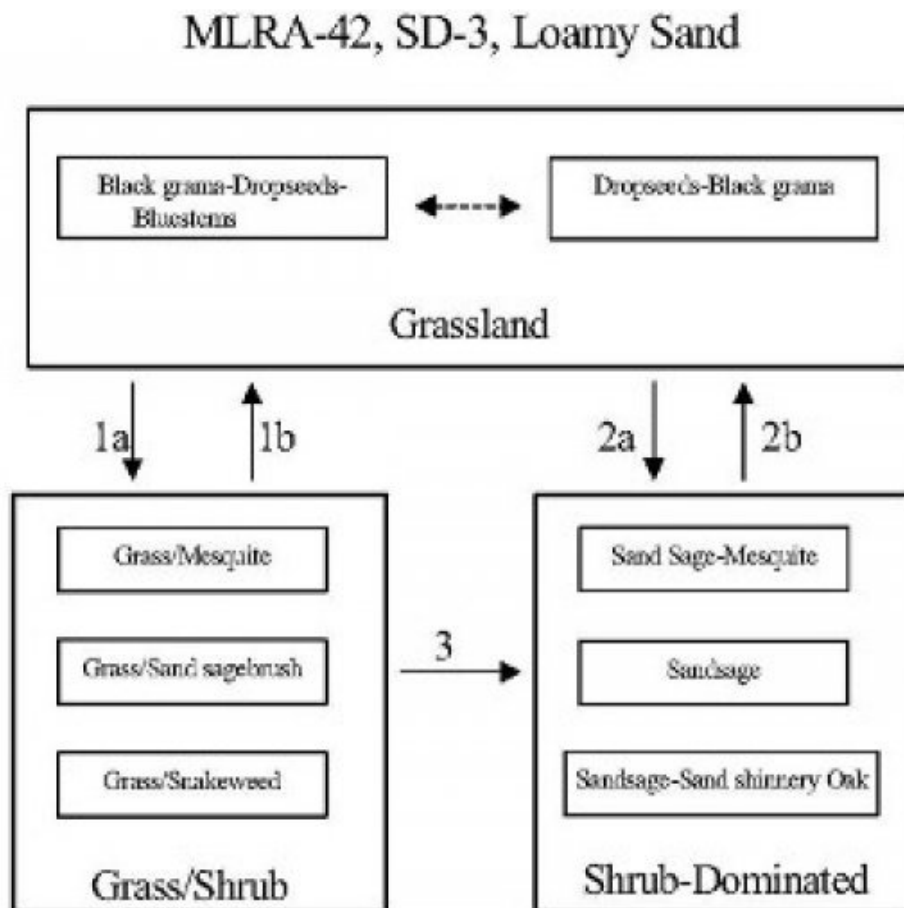
### Overview

The Loamy Sand site intergrades with the Deep Sand and Sandy sites (SD-3). These sites can be differentiated by surface soil texture and depth to a textural change. Loamy Sand and Deep Sand sites have coarse textured (sands and loamy sand) surface soils while Sandy sites have moderately coarse textured (sandy loam and fine sandy loam) surfaces. Although Loamy Sand and Deep Sand sites have similar surface textures, the depth to a textural change is different—Loamy Sand sub-surface textures typically increase in clay at approximately 20 to 30 inches, and Deep Sand sites not until around 40 inches.

The historic plant community of Loamy Sand sites is dominated by black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus*, *S. contractus*, *S. cryptandrus*), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), with scattered shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*). Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and to a lesser extent, bare ground, are a significant proportion of ground cover while grasses compose the remainder. Decreases in black grama indicate a transition to either a grass/shrub or shrub-dominated state. The grass/shrub state is composed of grasses/honey mesquite (*Prosopis glandulosa*), grasses/broom snakeweed (*Gutierrezia sarothrae*), or grasses/sand sage. The shrub-dominated state occurs after a severe loss of grass cover and a prevalence of sand sage with secondary shinnery oak and mesquite. Heavy grazing intensity and/or drought are influential drivers in decreasing black grama and bluestems and subsequently increasing shrub cover, erosion, and bare patches. Historical fire suppression also encourages shrub pervasiveness and a competitive advantage over grass species (McPherson 1995). Brush and grazing management, however, may reverse grass/shrub and shrub-dominated states toward the grassland-dominated historic plant community.

## State and transition model

**Plant Communities and Transitional Pathways (diagram):**



- 1a. Drought, over grazing, fire suppression.
- 1b. Brush control, prescribed grazing
  
- 2.a Severe loss of grass cover, fire suppression, erosion.
- 2b. Brush control, seeding, prescribed grazing.
  
- 3. Continued loss of grass cover, erosion.

**State 1  
Historic Climax Plant Community**

**Community 1.1  
Historic Climax Plant Community**

Grassland: The historic plant community is a uniformly distributed grassland dominated by black grama, dropseeds, and bluestems. Sand sage and shinnery oak are evenly dispersed throughout the grassland due to the coarse soil surface texture. Perennial and annual forbs are common but their abundance and distribution are reflective of precipitation. Bluestems initially, followed by black grama, decrease with drought and heavy grazing intensity. Historical fire frequency is unknown but likely occurred enough to remove small shrubs to the competitive advantage of grass species. Fire suppression, drought conditions, and excessive grazing drive most grass species out of competition with shrub species. Diagnosis: Grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability.

**Table 5. Annual production by plant type**

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	442	833	1224
Forb	110	208	306
Shrub/Vine	98	184	270
<b>Total</b>	<b>650</b>	<b>1225</b>	<b>1800</b>

**Table 6. Ground cover**

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	28%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	22%

**Figure 5. Plant community growth curve (percent production by month). NM2803, R042XC003NM-Loamy Sand-HCPC. SD-3 Loamy Sand - Warm season plant community .**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

**State 2  
Grass/Shrub**

**Community 2.1  
Grass/Shrub**



Grass/Shrub State: The grass/shrub state is dominated by communities of grasses/mesquite, grasses/snakeweed, or grasses/sand sage. Decreases in black grama and bluestem species lead to an increase in bare patches and mesquite which further competes with grass species. An increase of dropseeds and threeawns occurs. Grass distribution becomes more patchy with an absence or severe decrease in black grama and bluestems. Mesquite provides nitrogen and soil organic matter to co-dominant grasses (Ansley and Jacoby 1998, Ansley et al. 1998). Mesquite mortality when exposed

to fire is low due to aggressive resprouting abilities. Herbicide application combined with subsequent prescribed fire may be more effective in mesquite reduction (Britton and Wright 1971). Diagnosis: This state is dominated by an increased abundance of communities including grass/mesquite, grass/snakeweed, or grass/sand sage. Dropseeds and threeawns have a patchy distribution. Transition to Grass/Shrub State (1a): The historic plant community begins to shift toward the grass/shrub state as drivers such as drought, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by a decrease in black grama with a subsequent increase of dropseeds, threeawns, mesquite, and snakeweed. Snakeweed has been documented to outcompete black grama especially under conditions of fire suppression and drought (McDaniel et al. 1984). Key indicators of approach to transition: • Loss of black grama cover • Surface soil erosion • Bare patch expansion • Increased dropseed/threeawn and mesquite, snakeweed, or sand sage abundances Transition to Historic Plant Community (1b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community.

## **State 3**

### **Shrub Dominated**

#### **Community 3.1**

##### **Shrub Dominated**

Shrub-Dominated State: The shrub-dominated state results from a severe loss of grass cover. This state's primary species is sand sage. Shinnery oak and mesquite also occur; however, grass cover is limited to intershrub distribution. Sand sage stabilizes light sandy soils from wind erosion, which enhances protected grass/forb cover (Davis and Bonham 1979). However, shinnery oak also responds to the sandy soils with dense stands due to an aggressive rhizome system. Shinnery oak's extensive root system promotes competitive exclusion of grasses and forbs. Sand sage, shinnery oak, and mesquite can be controlled with herbicide (Herbel et al. 1979, Pettit 1986). Transition to Shrub-Dominated (2a): Severe loss of grass species with increased erosion and fire suppression will result in a transition to a shrub-dominated state with sand sage, Shin oak, and honey mesquite directly from the grassland-dominated state. Key indicators of approach to transition: • Severe loss of grass species cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite abundance Transition to Historic Plant Community (2b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community. In addition, seeding with native grass species will augment the transition to a grassland-dominated state. Transition to Shrub-Dominated (3): If the grass/shrub site continues to lose grass cover with soil erosion, the site will transition to a shrub-dominated state with sand sage, shinnery oak, and honey mesquite. Key indicators of approach to transition: • Continual loss of dropseeds/threeawns cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite/dropseed/threeawn

and mesquite/snakeweed abundance

**Additional community tables**

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
<b>Grass/Grasslike</b>					
1	<b>Warm Season</b>			61–123	
	little bluestem	SCSC	<i>Schizachyrium scoparium</i>	61–123	–
2	<b>Warm Season</b>			37–61	
	sand bluestem	ANHA	<i>Andropogon hallii</i>	37–61	–
3	<b>Warm Season</b>			37–61	
	cane bluestem	BOBA3	<i>Bothriochloa barbinodis</i>	37–61	–
	silver bluestem	BOSA	<i>Bothriochloa saccharoides</i>	37–61	–
4	<b>Warm Season</b>			123–184	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	123–184	–
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	123–184	–
5	<b>Warm Season</b>			123–184	
	thin paspalum	PASE5	<i>Paspalum setaceum</i>	123–184	–
	plains bristlegrass	SEVU2	<i>Setaria vulpiseta</i>	123–184	–
	fringed signalgrass	URCI	<i>Urochloa ciliatissima</i>	123–184	–
6	<b>Warm Season</b>			123–184	
	spike dropseed	SPCO4	<i>Sporobolus contractus</i>	123–184	–
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	123–184	–
	mesa dropseed	SPFL2	<i>Sporobolus flexuosus</i>	123–184	–
7	<b>Warm Season</b>			61–123	
	hooded windmill grass	CHCU2	<i>Chloris cucullata</i>	61–123	–
	Arizona cottontop	DICA8	<i>Digitaria californica</i>	61–123	–
9	<b>Other Perennial Grasses</b>			37–61	
	Grass, perennial	2GP	<i>Grass, perennial</i>	37–61	–
<b>Shrub/Vine</b>					
8	<b>Warm Season</b>			37–61	
	New Mexico feathergrass	HENE5	<i>Hesperostipa</i>	37–61	–

			<i>neomexicana</i>		
	giant dropseed	SPGI	<i>Sporobolus giganteus</i>	37–61	–
10	<b>Shrub</b>			61–123	
	sand sagebrush	ARFI2	<i>Artemisia filifolia</i>	61–123	–
	Havard oak	QUHA3	<i>Quercus havardii</i>	61–123	–
11	<b>Shrub</b>			34–61	
	fourwing saltbush	ATCA2	<i>Atriplex canescens</i>	37–61	–
	featherplume	DAFO	<i>Dalea formosa</i>	37–61	–
12	<b>Shrub</b>			37–61	
	jointfir	EPHED	<i>Ephedra</i>	37–61	–
	littleleaf ratany	KRER	<i>Krameria erecta</i>	37–61	–
13	<b>Other Shrubs</b>			37–61	
	Shrub (>.5m)	2SHRUB	<i>Shrub (&gt;.5m)</i>	37–61	–
<b>Forb</b>					
14	<b>Forb</b>			61–123	
	leatherweed	CRPOP	<i>Croton pottsii var. pottsii</i>	61–123	–
	Indian blanket	GAPU	<i>Gaillardia pulchella</i>	61–123	–
	globemallow	SPHAE	<i>Sphaeralcea</i>	61–123	–
15	<b>Forb</b>			12–37	
	woolly groundsel	PACA15	<i>Packera cana</i>	12–37	–
16	<b>Forb</b>			61–123	
	touristplant	DIWI2	<i>Dimorphocarpa wislizeni</i>	61–123	–
	woolly plantain	PLPA2	<i>Plantago patagonica</i>	61–123	–
17	<b>Other Forbs</b>			37–61	
	Forb (herbaceous, not grass nor grass-like)	2FORB	<i>Forb (herbaceous, not grass nor grass-like)</i>	37–61	–

## Animal community

This Ecological Site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, desert cottontail, spotted ground squirrel, black-tailed prairie dog, yellow faced pocket gopher, Ord's kangaroo rat, northern grasshopper mouse, southern plains woodrat, badger, roadrunner, meadowlark, burrowing owl, white necked raven, lesser prairie chicken, morning dove, scaled quail, Harris hawk, side blotched lizard, marbled whiptail, Texas horned lizard, western diamondback rattlesnake, dusty hognose snake and ornate box turtle.

Where mesquite has invaded, most resident birds and scissor-tailed flycatcher, morning dove and Swainson's hawk, nest. Vesper and grasshopper sparrows utilize the site during migration.

## Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series Hydrologic Group

Berino B

Kinco A

Maljamar B

Pajarito B

Palomas B

Wink B

Pyote A

## Recreational uses

This site offers recreation potential for hiking, borseback riding, nature observation, photography and hunting. During years of abundant spring moisture, this site displays a colorful array of wildflowers during May and June.

## Wood products

This site has no potential for wood products.

## Other products

This site is suitable for grazing by all kinds and classes of livestock at any time of year. In cases where this site has been invaded by brush species it is especially suited for goats. Mismanagement of this site will cause a decrease in species such as the bluestems, black grama, bush muhly, plains bristlegrass, New Mexico feathergrass, Arizona cottontop and fourwing saltbush. A corresponding increase in the dropseeds, windmill grass, fall witchgrass, silver bluestem, sand sagebrush, shiner oak and ephedra will occur. This will also cause an increase in bare ground which will increase soil erodibility. This site will respond well to a system of management that rotates the season of use.

## Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index Ac/AUM

100 - 76 2.3 – 3.5

75 – 51 3.0 – 4.5

50 – 26 4.6 – 9.0

25 – 0 9.1 +

## Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

## Other references

Literature Cited:

Ansley, R. J.; Jacoby, P. W. 1998. Manipulation of fire intensity to achieve mesquite management goals in north Texas. In: Pruden, Teresa L.; Brennan, Leonard A., eds. Fire in ecosystem management: shifting the paradigm from suppression to prescription: Proceedings, Tall Timbers fire ecology conference; 1996 May 7-10; Boise, ID. No. 20. Tallahassee, FL: Tall Timbers Research Station: 195-204.

Ansley, R. J.; Jones, D. L.; Tunnell, T. R.; [and others]. 1998. Honey mesquite canopy responses to single winter fires: relation to herbaceous fuel, weather and fire temperature. *International Journal of Wildland Fire* 8(4):241-252.

Britton, Carlton M.; Wright, Henry A. 1971. Correlation of weather and fuel variables to mesquite damage by fire. *Journal of Range Management* 24:136-141.

Davis, Joseph H., III and Bonham, Charles D. 1979. Interference of sand sagebrush canopy with needleandthread. *Journal of Range Management* 32(5):384-386.

Herbel, C. H, Steger, R, Gould, W. L. 1974. Managing semidesert ranges of the Southwest Circular 456. Las Cruces, NM: New Mexico State University, Cooperative Extension Service. 48 p.

McDaniel, Kirk C.; Pieper, Rex D.; Loomis, Lyn E.; Osman, Abdelgader A. 1984. Taxonomy and ecology of perennial snakeweeds in New Mexico. Bulletin 711. Las Cruces, NM: New Mexico State University, Agricultural Experiment Station. 34 p.

McPherson, Guy R. 1995. The role of fire in the desert grasslands. In: McClaran, Mitchel P.; Van Devender, Thomas R., eds. *The desert grassland*. Tucson, AZ: The University of Arizona Press: 130-151.

Pettit, Russell D. 1986. Sand shinnery oak: control and management. Management Note 8. Lubbock, TX: Texas Tech University, College of Agricultural Sciences, Department of Range and Wildlife Management. 5 p.

## Contributors

Don Sylvester  
 Quinn Hodgson

## Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

## Indicators

1. **Number and extent of rills:**

---

2. **Presence of water flow patterns:**

---

3. **Number and height of erosional pedestals or terracettes:**

---

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

---

5. **Number of gullies and erosion associated with gullies:**

---

6. **Extent of wind scoured, blowouts and/or depositional areas:**

---

7. **Amount of litter movement (describe size and distance expected to travel):**

---

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

---

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

---

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

---

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

---

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

Dominant:

Sub-dominant:

Other:

Additional:

---

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

---

14. **Average percent litter cover (%) and depth ( in):**

---

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

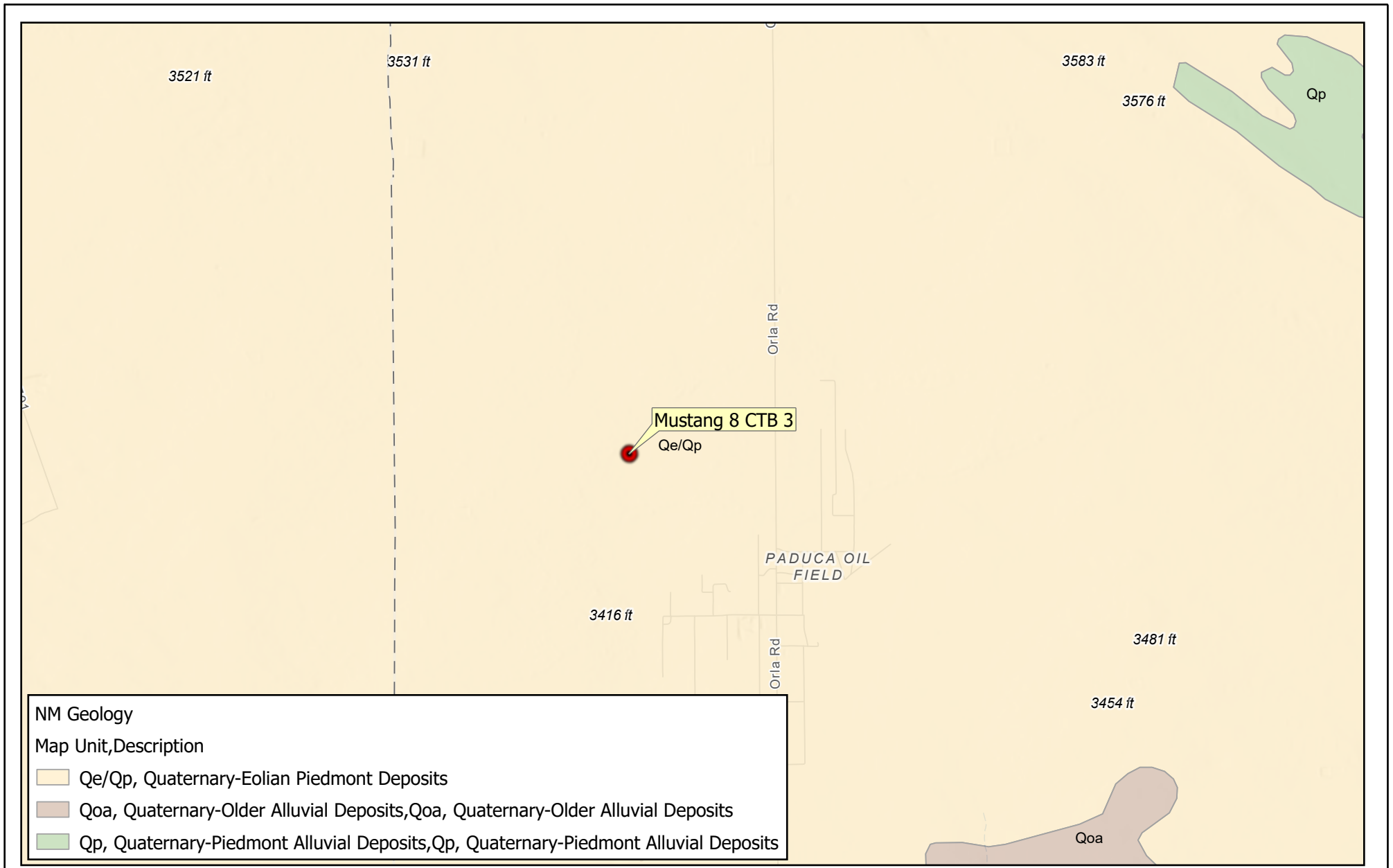
---


16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

---


17. **Perennial plant reproductive capability:**

---




 Map Center: Lat/Long: 32.144507°N, 103.682064°W  
 Date: Oct 14/25  
 NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

**Geology Schematic**  
**Mustang 8 CTB 3**

FIGURE: **13**


Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes. Note: Georeferenced image from Esri, 2025. Site features from GPS, Vertex, 2025.

## **APPENDIX C – Daily Field Report**



### Daily Field Log

Site: Mustang 8 CTB 3

03/18/2026

Location: Mustang 8 CTB 3

By: Steph McCarty

Weather	Warm Clear	Contractor	
Staff On-site	Steph McCarty	Contractor Crew	N/A
Staff From Time		Equipment On Site	N/A
Tailgate meeting conducted	Yes	Incident ID Number	nAPP2532848889

### Work Summary:

Liner Inspection, report 1

Time	Observations
10:01:09	Arrived on site at 10:00 and completed safety evaluation paperwork. Liner was power washed on 3-17-2026 (previous day). Commenced liner inspection at Mustang 8 CTB 3; Facility number FAPP2510041275 for incident ID nAPP2532848889.
10:35:07	10:35 Inspected North section of the liner. Examined along seams, containment 1 ft walls, inside and outside, corners of walls, around contact points of equipment and infrastructure to liner, and bends on the liner for deterioration, breachable areas such as damage, tears, separator of seams, etc., damage in walls and any other compromise to the containment. Liner was clean and majority clear of sediment and debris. Sumps were inspected and appeared in working condition and clear of debris.

Inspector: Steph McCarty

### Pictures/Attachments

Date: 3/18/2026  
 Time: 10:35  
 Notes: Northwest section in lined containment. Integrity of liner and 1 ft walls are intact with no breachable areas or damage.  
 Latitude: 32.14384166666667  
 Longitude: -103.69078055555556  
 Direction: W





Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
 Time: 10:35  
 Notes: West section on north between separators. Integrity of liner and walls are intact with no breachable areas or damage.  
 Latitude: 32.14384444444445  
 Longitude: -103.69078055555556  
 Direction: W



Date: 3/18/2026  
 Time: 10:35  
 Notes: West section on north end around separators. Integrity of liner and 1 ft walls are intact with no breachable areas or damage.  
 Latitude: 32.14384444444445  
 Longitude: -103.69078055555556  
 Direction: W





Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
 Time: 10:36  
 Notes: West section on north end between separators. Integrity of liner and 1 ft walls are intact with no breachable areas or damage.  
 Latitude: 32.14384444444445  
 Longitude: -103.69078055555556  
 Direction: W



Date: 3/18/2026  
 Time: 10:36  
 Notes: West section on north end looking across liner to east 1 ft wall. Integrity of line and walls are intact with no breachable areas or damage.  
 Latitude: 32.14384444444445  
 Longitude: -103.69078055555556  
 Direction: W





### Daily Field Log

Site: Mustang 8 CTB 3

#### Pictures/Attachments

Date: 3/18/2026  
 Time: 10:37  
 Notes: West section on north end. Integrity of liner and 1 ft walls are intact with no breachable areas or damage.  
 Latitude: 32.14384444444445  
 Longitude: -103.69078055555556  
 Direction: W



Date: 3/18/2026  
 Time: 10:37  
 Notes: Middle section on north end. Integrity of liner is intact with no breachable areas or damage. Seams in middle were inspected and are fully sealed.  
 Latitude: 32.14384444444445  
 Longitude: -103.69078055555556  
 Direction: W





Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
 Time: 10:38  
 Notes: Middle section on north end along pipe run. View north. Integrity of liner and 1ft walls are intact with no breachable areas or damage. Some blow sand exists.  
 Latitude: 32.14384444444445  
 Longitude: -103.69078055555556  
 Direction: W



Date: 3/18/2026  
 Time: 10:39  
 Notes: East section on north end around Vertical separator. Integrity of line and 1 ft walls are intact with no breachable areas or damage.  
 Latitude: 32.14376111111111  
 Longitude: -103.69032222222222  
 Direction: W





Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
Time: 10:40  
Notes: Middle section on east side. Integrity of line and 1 ft walls are intact with no breachable areas or damage. Sump appears mostly clear, in working condition and not clogged.  
Latitude: 32.14376111111111  
Longitude: -103.69032222222222  
Direction: W





### Daily Field Log

Site: Mustang 8 CTB 3

03/18/2026

Location: Mustang 8 CTB 3

By: Steph McCarty

Weather	Clear Warm	Contractor	
Staff On-site	Steph McCarty	Contractor Crew	N/A
Staff From Time		Equipment On Site	N/A
Tailgate meeting conducted	Yes	Incident ID Number	nAPP2532848889

### Work Summary:

Liner Inspection, report 2

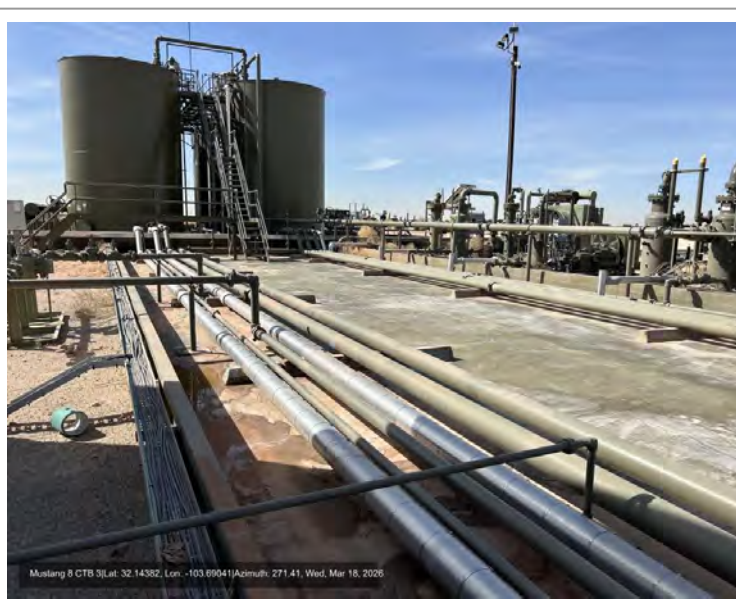
### Time Observations

10:01:09	Arrived on site at 10:00 and completed safety evaluation paperwork. Liner was power washed on 3-17-2026 (previous day). Commenced liner inspection at Mustang 8 CTB 3; Facility number FAPP2510041275 for incident ID nAPP2532848889.
10:42:00	10:42 Inspected middle to south section of the liner. Examined along seams, containment 1 ft walls, inside and outside, corners of walls, around contact points of equipment and infrastructure to liner, and bends on the liner for deterioration, breachable areas such as damage, tears, separator of seams, etc., damage in walls and any other compromise to the containment. Liner was clean and majority clear of sediment and debris. Sumps were inspected and appeared in working condition and clear of debris.

Inspector: Steph McCarty

### Pictures/Attachments

Date: 3/18/2026  
 Time: 10:42  
 Notes: Middle section on east side along pipes. Integrity of liner and 1 ft walls are intact with no breachable areas or damage. A small amount of water with blow sand exists against the wall of the containment remaining from power washing.  
 Latitude: 32.143816666666666  
 Longitude: -103.69040555555556  
 Direction: N





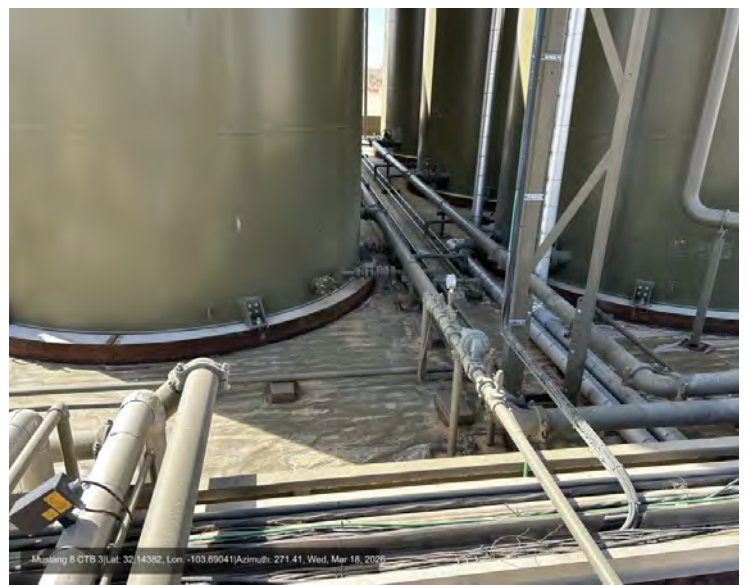
Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
 Time: 10:42  
 Notes: South section of the 1 ft wall containment adjoining 2 ft wall. Integrity of liner and 1 ft walls are intact with no breachable areas or damage. Contact points with metal infrastructure such as the stairs contain a cushion barrier to protect liner.  
 Latitude: 32.143816666666666  
 Longitude: -103.69040555555556  
 Direction: N



Date: 3/18/2026  
 Time: 10:43  
 Notes: West section of the 2 ft wall containment around tank batteries. Integrity of liner and 2 ft walls are intact with no breachable areas or damage. Contact points with metal infrastructure such as the stairs contain a cushion/barrier to protect liner.  
 Latitude: 32.143816666666666  
 Longitude: -103.69040555555556  
 Direction: N





Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
 Time: 10:42  
 Notes: Site Information placard.  
 Latitude: 32.14371944444444  
 Longitude: -103.69028611111112  
 Direction: N



Date: 3/18/2026  
 Time: 10:44  
 Notes: East section of the 2 ft wall containment around tank batteries. Integrity of liner and 2 ft walls are intact with no breachable areas or damage. Contact points with metal infrastructure such as the stairs contain a cushion barrier to protect liner. Some small amount of water exists against the wall of the containment remaining from power washing.  
 Latitude: 32.14371944444444  
 Longitude: -103.69028611111112  
 Direction: N





Daily Field Log  
Site: Mustang 8 CTB 3

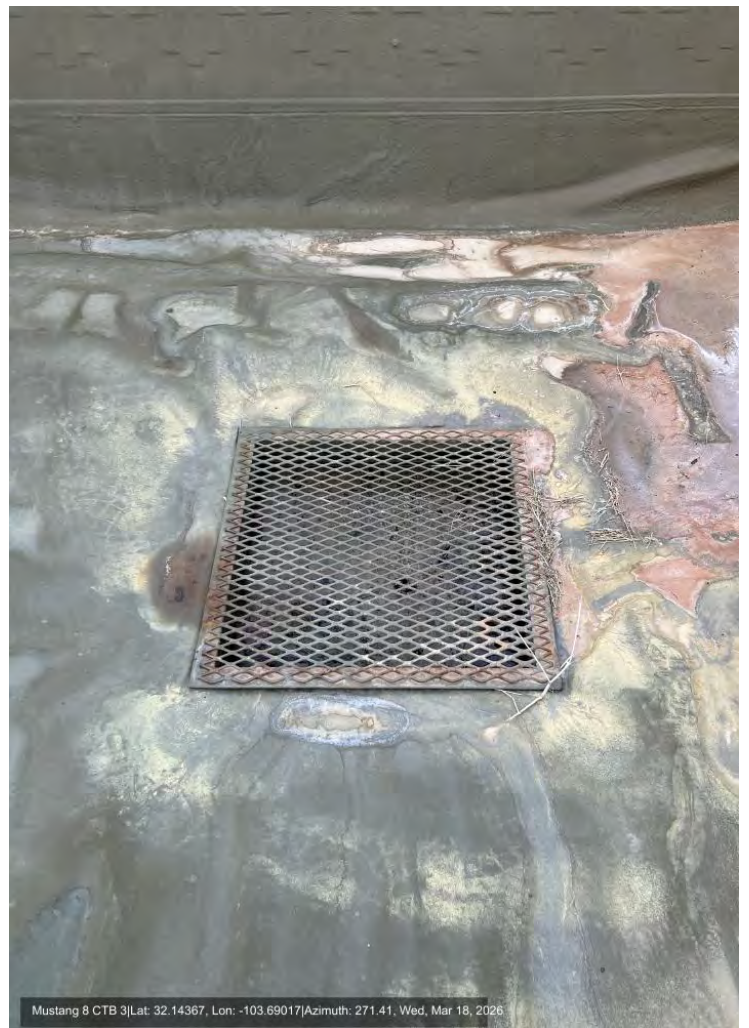
Pictures/Attachments

Date: 3/18/2026  
 Time: 10:44  
 Notes: North section of the 2 ft wall containment around tank batteries. Integrity of liner and 2 ft walls are intact with no breachable areas or damage. Contact points with metal infrastructure such as the stairs contain a cushion barrier to protect liner.  
 Latitude: 32.14371944444444  
 Longitude: -103.69028611111112  
 Direction: N



Mustang 8 CTB 3|Lat: 32.14372, Lon: -103.69029|Azimuth: 271.41, Wed, Mar 18, 2026

Date: 3/18/2026  
 Time: 10:44  
 Notes: North east section of the 2 ft wall containment around tank batteries. Sump appear clear of debris and in working order. Integrity of liner and 2 ft walls are intact with no breachable areas or damage.  
 Latitude: 32.14367222222222  
 Longitude: -103.69016944444445  
 Direction: N



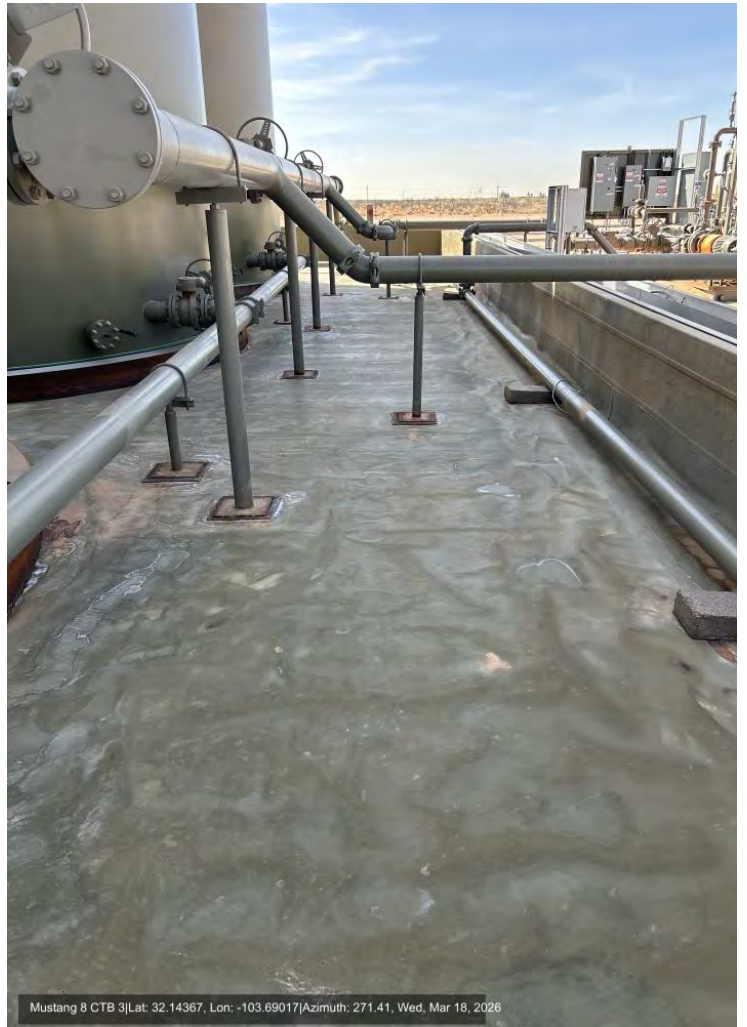
Mustang 8 CTB 3|Lat: 32.14367, Lon: -103.69017|Azimuth: 271.41, Wed, Mar 18, 2026



Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
Time: 10:45  
Notes: West section of the 2 ft wall containment around tank batteries. Integrity of liner and 2 ft walls are intact with no breachable areas or damage. Contact points with metal infrastructure such as the stairs contain a cushion barrier to protect liner.  
Latitude: 32.14367222222222  
Longitude: -103.69016944444445  
Direction: N

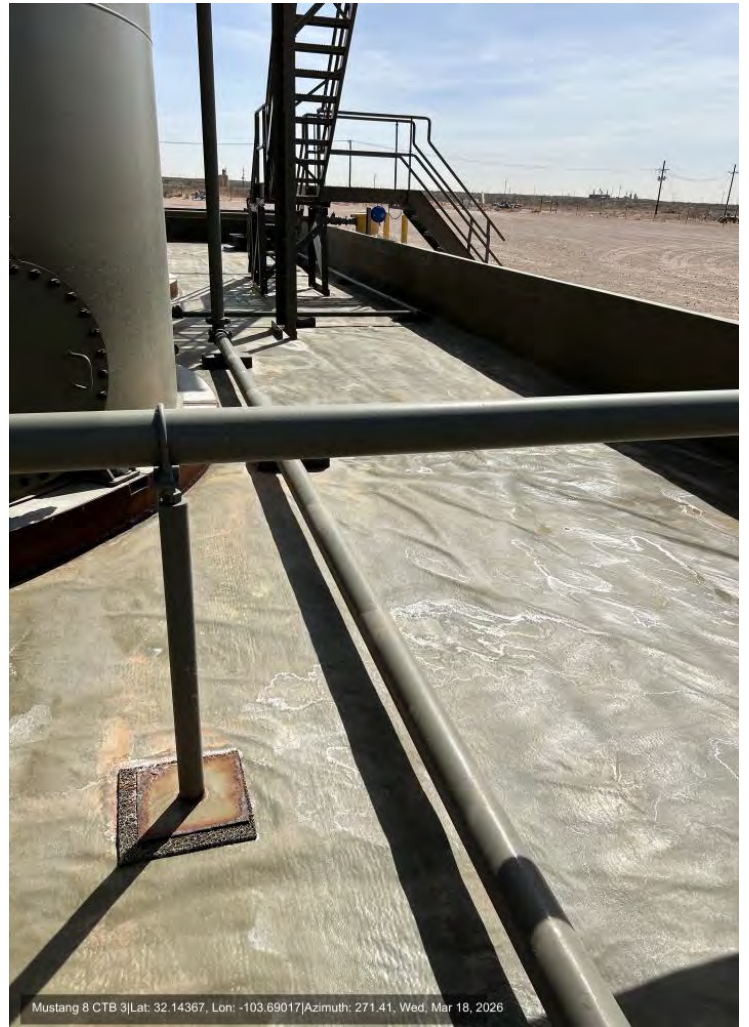




Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
Time: 10:47  
Notes: South section of the 2 ft wall containment around tank batteries. Integrity of liner and 2 ft walls are intact with no breachable areas or damage. Contact points with metal infrastructure such as the stairs contain a cushion barrier to protect liner.  
Latitude: 32.14367222222222  
Longitude: -103.69016944444445  
Direction: N





Daily Field Log
Site: Mustang 8 CTB 3

03/18/2026

Location: Mustang 8 CTB 3

By: Steph McCarty

Table with 4 columns: Field Name, Value, Field Name, Value. Includes Weather (Clear|Warm), Staff On-site (Steph McCarty), Contractor, Contractor Crew (N/A), Staff From Time, Equipment On Site (N/A), Tailgate meeting conducted (Yes), Incident ID Number (nAPP2532848889).

Work Summary:

Liner Inspection, report 3

Table with 2 columns: Time, Observations. Contains two entries: 10:01:09 (Arrived on site at 10:00 and completed safety evaluation paperwork...) and 10:51:45 (10:51 Inspected south section of the liner. Examined along seams, containment 2 ft walls, inside and outside, corners of walls, around contact points of equipment and infrastructure to liner, and bends on the liner for deterioration, breach-able areas such as damage, tears, separator of seams, etc., damage in walls and any other compromise to the containment. Liner was clean and majority clear of sediment and debris. Sumps were inspected and appeared in working condition and clear of debris.)

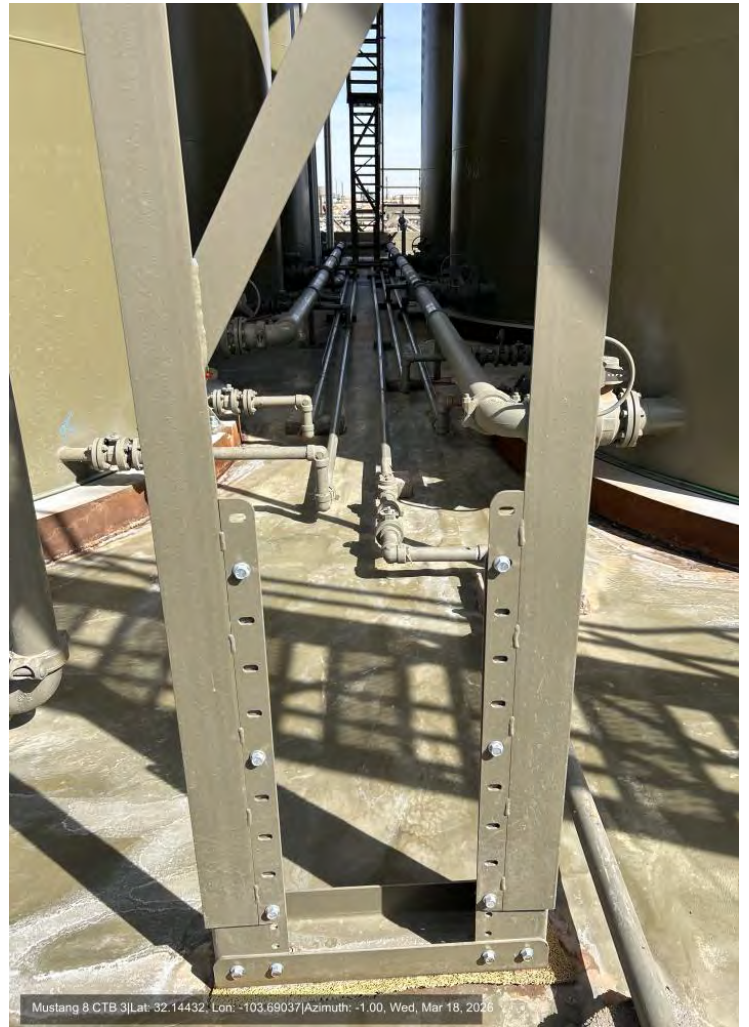
Inspector: Steph McCarty



Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
 Time: 10:51  
 Notes: Middle section of the 2 ft wall containment between tank batteries from south end. Integrity of liner and 2 ft walls are intact with no breachable areas or damage. Contact points with metal infrastructure contain a cushion barrier for protection.  
 Latitude: 32.14431666666667  
 Longitude: -103.69036944444444  
 Direction: N



Date: 3/18/2026  
 Time: 10:52  
 Notes: Southeast corner of 2 ft wall containment around tank batteris. Sump appears functioning and mostly clear of debris.  
 Latitude: 32.144325  
 Longitude: -103.69036111111112  
 Direction: N





### Daily Field Log

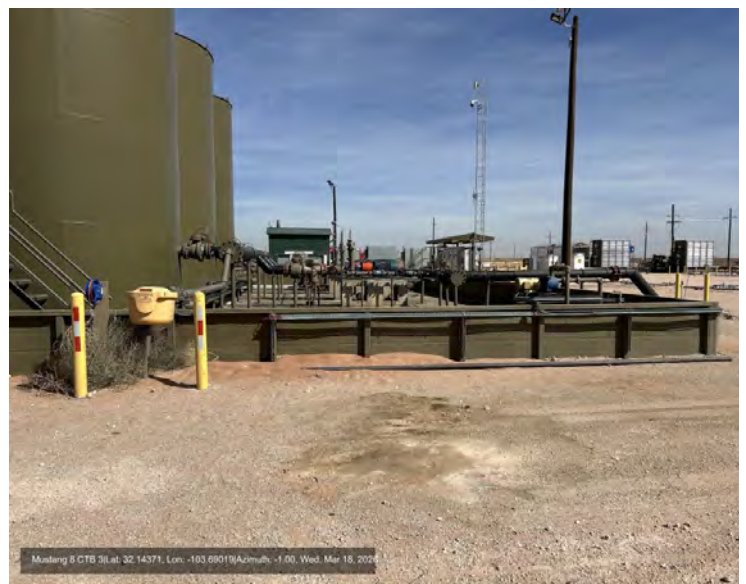
Site: Mustang 8 CTB 3

#### Pictures/Attachments

**Date:** 3/18/2026  
**Time:** 10:52  
**Notes:** South section of the 2 ft wall containment around tank batteries towards west. Integrity of liner and 2 ft walls are intact with no breachable areas or damage. Contact points with metal infrastructure contain a cushion barrier for protection.  
**Latitude:** 32.144325  
**Longitude:** -103.69036111111112  
**Direction:** N



**Date:** 3/18/2026  
**Time:** 10:54  
**Notes:** South section outside of tank batteries of the 2 ft wall containment towards north. Integrity of 2 ft walls are intact with no breachable areas or damage.  
**Latitude:** 32.143711111111111  
**Longitude:** -103.69018611111112  
**Direction:** NE

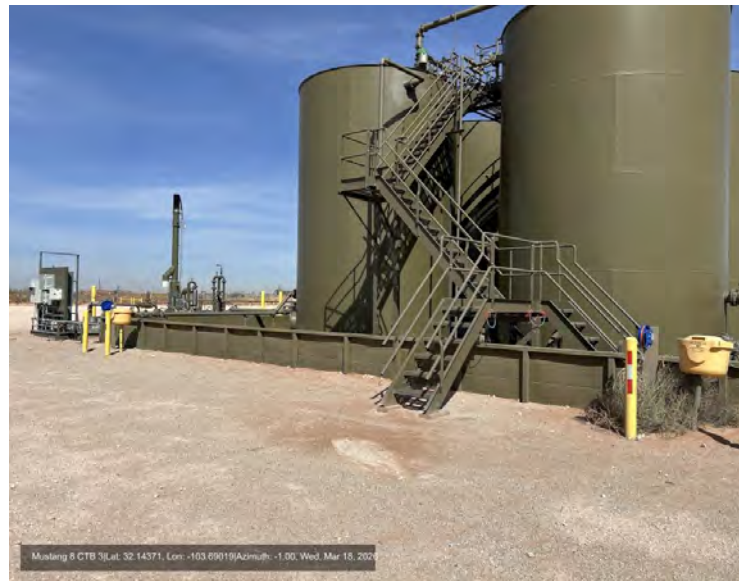




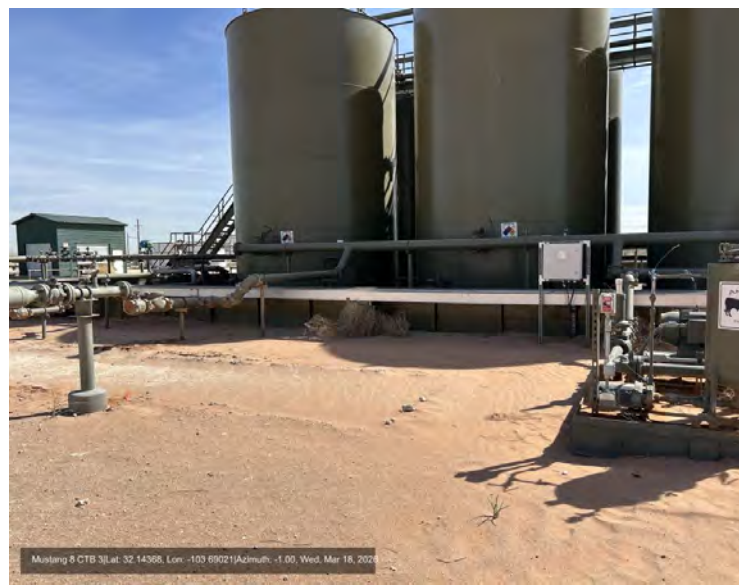
Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
 Time: 10:54  
 Notes: South section outside of tank batteries of the 2 ft wall containment towards northwest. Integrity of 2 ft walls are intact with no breachable areas or damage.  
 Latitude: 32.14371111111111  
 Longitude: -103.69018611111112  
 Direction: NE



Date: 3/18/2026  
 Time: 10:55  
 Notes: West section outside of tank batteries of the 2 ft wall containment towards east. Integrity of 2 ft walls are intact with no breachable areas or damage.  
 Latitude: 32.143683333333335  
 Longitude: -103.69020833333333  
 Direction: E





Daily Field Log  
Site: Mustang 8 CTB 3

Pictures/Attachments

Date: 3/18/2026  
Time: 10:56  
Notes: East section outside of tank batteries of the 2 ft wall containment towards west. Integrity of 2 ft walls are intact with no breachable areas or damage.  
Latitude: 32.1437  
Longitude: -103.69026111111111  
Direction: NE



Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 571867

**QUESTIONS**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 571867
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2532848889
Incident Name	NAPP2532848889 MUSTANG 8 CTB 3 @ FAPP2510041275
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2510041275] MUSTANG 8 CTB 3

<b>Location of Release Source</b>	
<i>Please answer all the questions in this group.</i>	
Site Name	MUSTANG 8 CTB 3
Date Release Discovered	11/23/2025
Surface Owner	Federal

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

<b>Nature and Volume of Release</b>	
<i>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.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Dump Line   Produced Water   Released: 160 BBL   Recovered: 160 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)	Meter developed a pinhole leak. Fluids fully contained.

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 2

Action 571867

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 571867
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

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

**Initial Response**

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

The source of the release has been stopped	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: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 04/06/2026
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Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

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

QUESTIONS, Page 3

Action 571867

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 571867
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

**Site Characterization**

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

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 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)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 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	Yes
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	03/17/2026
On what date will (or did) the final sampling or liner inspection occur	03/18/2026
On what date will (or was) the remediation complete(d)	03/18/2026
What is the estimated surface area (in square feet) that will be remediated	19327
What is the estimated volume (in cubic yards) that will be remediated	0

*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 571867

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 571867
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
Is (or was) there affected material present needing to be removed	No
Is (or was) there a power wash of the lined containment area (to be) performed	Yes
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: James Raley Title: EHS Professional Email: jim.raley@dvsn.com Date: 04/06/2026
<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 6

Action 571867

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 571867
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Liner Inspection Information</b>	
Last liner inspection notification (C-141L) recorded	563317
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	03/18/2026
Was all the impacted materials removed from the liner	Yes
What was the liner inspection surface area in square feet	19327

**Remediation Closure Request**

*Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.*

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	Yes
What was the total surface area (in square feet) remediated	19327
What was the total volume (cubic yards) remediated	0
Summarize any additional remediation activities not included by answers (above)	Remediation Complete

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

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

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dv.com Date: 04/06/2026
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CONDITIONS

Action 571867

**CONDITIONS**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 571867
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**CONDITIONS**

Created By	Condition	Condition Date
michael.buchanan	Liner inspection and remediation closure is approved. Liner has been power-washed with sediment removed and observed to be in great condition.	4/15/2026