



Incident Number: nAPP2406517742

## Release Assessment and Closure

Mesa Bronco CTB

Section 1, Township 26 South, Range 32 East

County: Lea

Vertex File Number: 24E-00238

**Prepared for:**

BTA Oil Producers, LLC

**Prepared by:**

Vertex Resource Services Inc.

**Date:**

April 2024



BTA Oil Producers, LLC  
Mesa Bronco CTB

Release Assessment and Closure  
April 2024

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**BTA Oil Producers, LLC**  
Mesa Bronco CTB

**Release Assessment and Closure**  
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## 1.0 Introduction

BTA Oil Producers, LLC (BTA) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water spill that occurred on March 4, 2024, at Mesa Bronco CTB (hereafter referred to as the “site”). BTA submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 1 on March 5, 2024. Incident ID number nAPP2406517742 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 the full incident closure of this release, with the understanding that restoration of the pad under the containment will commence when all oil and gas activities are terminated and the site is reclaimed as per NMAC 19.15.29.13.

## 2.0 Incident Description

The release occurred on March 4, 2024, due to the suction hose to the transfer pump disconnecting, releasing fluid to the lined secondary containment. The incident was reported on March 5, 2024, and involved the release of approximately 260 barrels (bbl.) of produced water into the lined containment. Approximately 260 bbl. of free fluid was removed during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report.

## 3.0 Site Characteristics

The site is located approximately 25 miles east of Jal, New Mexico (Google Inc., 2024). The legal location for the site is Section 1, Township 26 South and Range 32 East in Lea County, New Mexico. The spill area is located on Federal land.

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 surrounding the tank battery on the constructed pad.

*The Geological Map of New Mexico* (New Mexico Bureau of Geology and Mineral Resources, 2024) indicates the site’s surface geology primarily comprises TRcu – Upper Chinle Group, Garita Creek through Redonda Formations, undivided (Upper Triassic) which include ridges. The predominant soil texture on the site is gravelly fine sandy loam. Soil can be classified as well-drained with a very high runoff class. There is medium potential for karst geology at the site (United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with calcareous eolian deposits derived from sedimentary rock with elevations ranging between 3,000 and 4,400 feet. The climate is semiarid with average annual precipitation ranging between 10 and 16 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be black grama, tobosa, blue grama, and other mixed shrubs. Grasses with shrubs and half-shrubs dominate the historical plant community (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Limited to no vegetation is allowed to grow on the compacted production pad and access road.

#### **4.0 Closure Criteria Determination**

The depth to groundwater was determined using information from the Office of the State Engineer's Water Rights Database. A 0.5-mile search radius was used to determine groundwater depth. The closest recorded depth to groundwater was determined to be 260 feet below ground surface, located 1.62 miles from the site and used for stock watering purposes (New Mexico Office of the State Engineer, 2024a, 2024b and 2024c). Information pertaining to the depth to ground water 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 riverine area located approximately 945 feet southeast of the site (United States Fish and Wildlife Service, 2024).

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.

BTA Oil Producers, LLC  
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Closure Criteria Determination			
Mesa Bronco CTB			
Spill Coordinates: 32.07791, -103.62997		X: UTM easting	Y: UTM northing
Site Specific Conditions		Value	Unit
1	Depth to Groundwater (nearest reference)	<50	feet
	Distance between release and nearest DTGW reference	8,354	feet
		1.59	miles
	Date of nearest DTGW reference measurement	June 12, 2021	
	Depth to Groundwater (secondary reference)	280	feet
	Distance between release and secondary DTGW reference		feet
			miles
Date of secondary DTGW reference measurement			
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	940	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	80,464	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	420629 ft	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	42,723ft	feet
	ii) Within 1000 feet of any fresh water well or spring	42,723ft	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	(Y/N)
7	Within 300 feet of a wetland	6,871	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	127,039	feet
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
	Distance between release and nearest High Karst	17,424	feet
10	Within a 100-year Floodplain	500*	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	28,702	feet
11	Soil Type	Simona-Upton	
12	Ecological Classification	Shallow Sandy	
13	Geology	Trcu	
	<b>NMAC 19.15.29.12 E (Table 1) Closure Criteria</b>	<50'	<50' 51-100' >100'

Using site characterization information, a closure criteria determination worksheet was completed to determine if the release would be subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC, if the release had escaped secondary containment.

Based on data included in the closure criteria determination worksheet, the release at the site was not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site were determined to be associated with the following constituent concentration limits based on depth to groundwater. 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>
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 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 spill area was completed on March 25, 2024, which identified the area of the spill specified in the initial C-141 Report. Vertex was on-site to conduct an inspection of the lined containment and verify that the liner was intact and had the ability to contain the release. Visual observation of the liner was completed on all sides and the base of the containment, around equipment, and of all seams in the liner. The liner integrity was confirmed and documented in the Daily Field Report (Appendix C). Notification that a liner inspection was scheduled was provided to NMOCD on March 19, 2024 (Appendix D).

### 6.0 Closure Request

Vertex recommends no additional remediation action to address the release. The secondary containment liner was intact and contained the release. There are no anticipated risks to human, ecological, or hydrological receptors associated with the release site. Reclamation for the containment where the release took place will take place as soon as all oil and gas activities are terminated per 19.15.29.13 NMAC. Vertex requests that this incident (nAPP2406517742) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. BTA certifies that all information in this report and the attachments are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the release at Mesa Bronco CTB.

Should you have any questions or concerns, please do not hesitate to contact Chance Dixon at 575.988.1472 or cdixon@vertex.ca.

## 7.0 References

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**BTA Oil Producers, LLC**  
Mesa Bronco CTB

**Release Assessment and Closure**  
April 2024

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## **8.0 Limitations**

This report has been prepared for the sole benefit of BTA Oil Producers, LLC (BTA). 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 BTA. 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.

**FIGURE 1**  
**SITE SCHEMATIC**



 Containment (~18,450 sq. ft.)



0 25 50 100 ft

NAD 1983 UTM Zone 13N  
Date: Feb 07/24



Containment Schematic  
Mesa Bronco CTB

FIGURE:

1



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, 2023. Site features drawn from imagery by Vertex Professional Services Ltd., 2024.

**VERSATILITY. EXPERTISE.**

Document Path: D:\Vertex\GeoRequest\24E-00238\Figure 1 Containment Schematic (24E-00238)ID17809.mxd

## **APPENDIX A**

### **NMOCD C-141 REPORT**

<b>Action Type</b>	Spill
<b>Submitted by</b>	kbeaird@btaoil.com
<b>State</b>	New Mexico
<b>County</b>	Lea
<b>Operating Area</b>	RedHills
<b>Venture Number</b>	8105
<b>Facility / Well Name</b>	Mesa Bronco Battery
<b>Latitude / Longitude</b>	32.077917 -103.629977
<b>Incident Number</b>	85
<b>Incident date</b>	03/04/2024
<b>Cause</b>	Loose/Disconnected
<b>Product Released</b>	Produced Water
<b>Barrels Released</b>	260
<b>Barrels Recovered</b>	260.00
<b>Property Impacted</b>	Lined Containment
<b>Regulatory Recordable</b>	yes
<b>Regulatory Report Number</b>	napp2406517742
<b>Incident Details</b>	The suction hose to transfer pump #2 disconnected, releasing fluid inside the lined secondary containment.
<b>Contractor(s) Assigned</b>	Vertex
<b>Incident Status</b>	Open
<b>Remediation Notes</b>	Invoice clean-up to all wells. Containment will be washed, followed by a liner inspection.
<b>Updated Cost</b>	\$0.00
<b>Assigned To</b>	Kelton Beaird

Images



The fluid was recovered by a vac truck, isolated into a vessel and gauged to determine the amount.

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

QUESTIONS

Action 320655

**QUESTIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 320655
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2406517742
Incident Name	NAPP2406517742 MESA BRONCO CTB @ 0
Incident Type	Produced Water Release
Incident Status	Initial C-141 Received
Incident Facility	[fAPP2322134217] Mesa Bronco CTB

**Location of Release Source**

Please answer all the questions in this group.

Site Name	Mesa Bronco CTB
Date Release Discovered	03/04/2024
Surface Owner	Federal

**Incident Details**

Please answer all the questions in this group.

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

**Nature and Volume of Release**

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

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Other   Pump   Produced Water   Released: 260 BBL   Recovered: 260 BBL   Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	The suction hose to the transfer pump disconnected, releasing fluid inside the lined secondary containment.

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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 2

Action 320655

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 320655
	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	<b>True</b>
The impacted area has been secured to protect human health and the environment	<b>True</b>
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	<b>True</b>
All free liquids and recoverable materials have been removed and managed appropriately	<b>True</b>
If all the actions described above have not been undertaken, explain why	<i>Not answered.</i>

*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: BTA VERTEX Title: Environmental Manager Email: kbeaird@btaoil.com Date: 03/06/2024
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QUESTIONS, Page 3

Action 320655

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 320655
	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.

<b>Remediation Plan</b>	
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
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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CONDITIONS  
 Action 320655

**CONDITIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 320655
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**CONDITIONS**

Created By	Condition	Condition Date
scwells	None	3/6/2024

## **APPENDIX B**

### **CLOSURE CRITERIA RESEARCH DOCUMENTATION**



# New Mexico Office of the State Engineer

## Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE)				(quarters are smallest to largest)		(NAD83 UTM in meters)	
		Q64	Q16	Q4	Sec	Tws	Rng	X	Y
20E6C	C 04537 POD1	4	4	4	31	25S	33E	631847	3550243

**Driller License:** 1706      **Driller Company:** ELITE DRILLERS CORPORATION

**Driller Name:** WALLACE, BRYCE J.LEE.NER

**Drill Start Date:** 06/11/2021      **Drill Finish Date:** 06/12/2021      **Plug Date:**

**Log File Date:** 06/21/2021      **PCW Rev Date:**      **Source:** Shallow

**Pump Type:**      **Pipe Discharge Size:**      **Estimated Yield:** 5 GPM

**Casing Size:** 4.00      **Depth Well:** 500 feet      **Depth Water:** 280 feet

Water Bearing Stratifications:	Top	Bottom	Description
	220	340	Sandstone/Gravel/Conglomerate

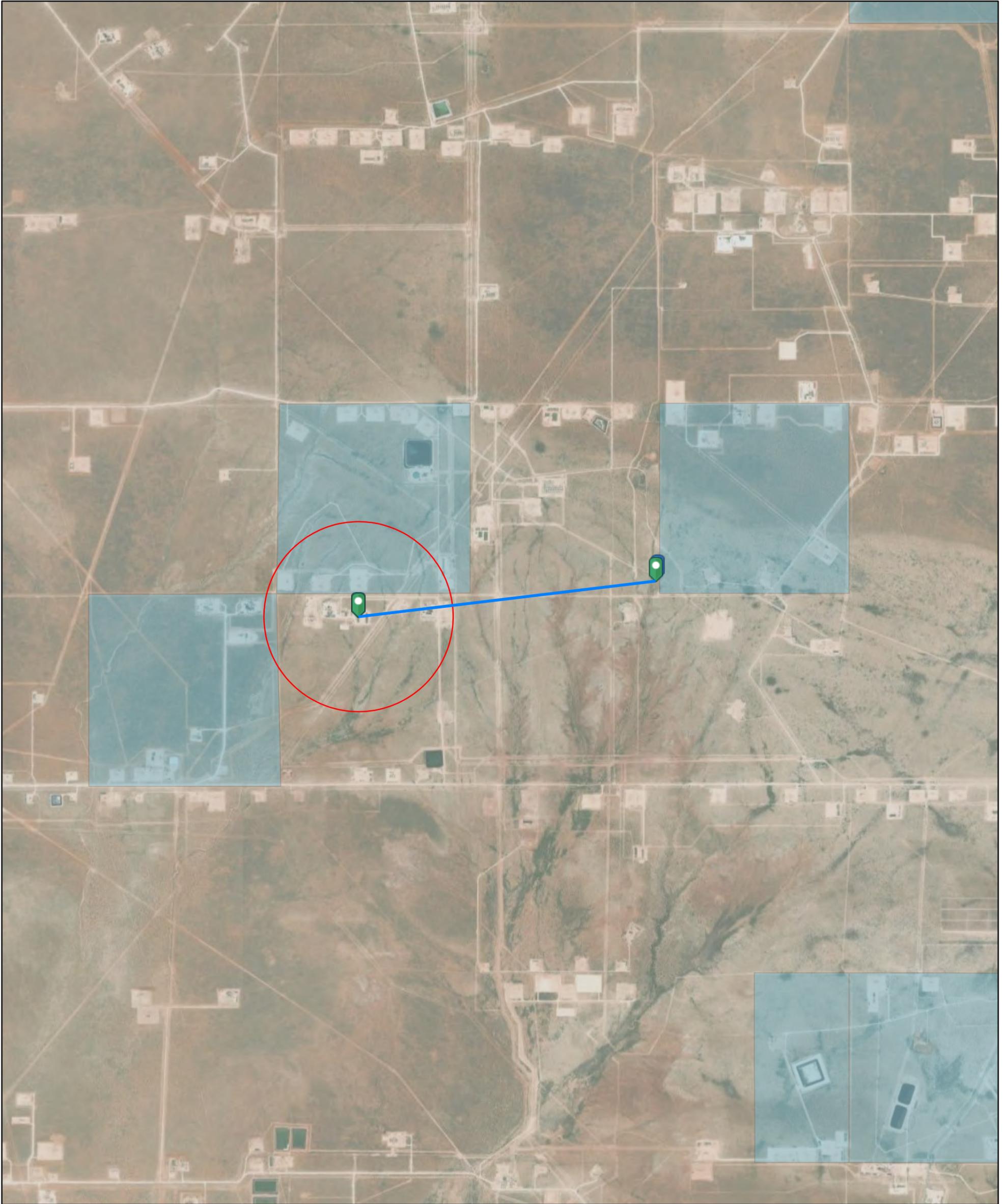
Casing Perforations:	Top	Bottom
	300	500

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

1/26/24 9:03 AM

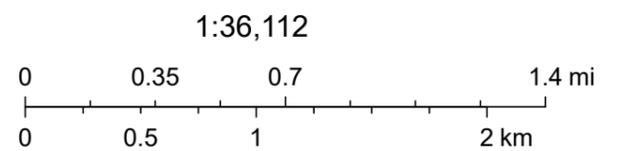
POINT OF DIVERSION SUMMARY

# 01\_Mesa Bronco CTB\_POD Location and Distance 8354 ft



1/26/2024, 8:49:11 AM

- Override 1
- OSE District Boundary
- Water Right Regulations
- Closure Area
- New Mexico State Trust Lands
- Both Estates



Esri, HERE, Garmin, Esri, HERE, Maxar



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE 07 JUN 21 2021 #10113

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) C-4537 <b>POD1</b>		WELL TAG ID NO. 20E6C		OSE FILE NO(S) C-4537	
	WELL OWNER NAME(S) BASIN PROPERTIES RANCHES LLC				PHONE (OPTIONAL)	
	WELL OWNER MAILING ADDRESS 3300 N A STREET, BLDG 1, STE 220				CITY MIDLAND	STATE TX
					ZIP 79705	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE	MINUTES 04	SECONDS 50.8	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND
	LONGITUDE	103	36	10.7	W	* DATUM REQUIRED: WGS 84
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE						

2. DRILLING & CASING INFORMATION	LICENSE NO. WD1706	NAME OF LICENSED DRILLER Bryce Wallace			NAME OF WELL DRILLING COMPANY Elite Drillers Corporation			
	DRILLING STARTED 06/11/21	DRILLING ENDED 06/12/21	DEPTH OF COMPLETED WELL (FT) 500	BORE HOLE DEPTH (FT) 500	DEPTH WATER FIRST ENCOUNTERED (FT) 280			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 280			
	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						
	0	20	12 3/4	STEEL	N/A	8.28	.337	
	0	300	7 7/8	SDR17 PVC	SPLINE	4.3	SDR17	
	300	500	7 7/8	SDR17 PVC	SPLINE	4.3	SDR17	.032

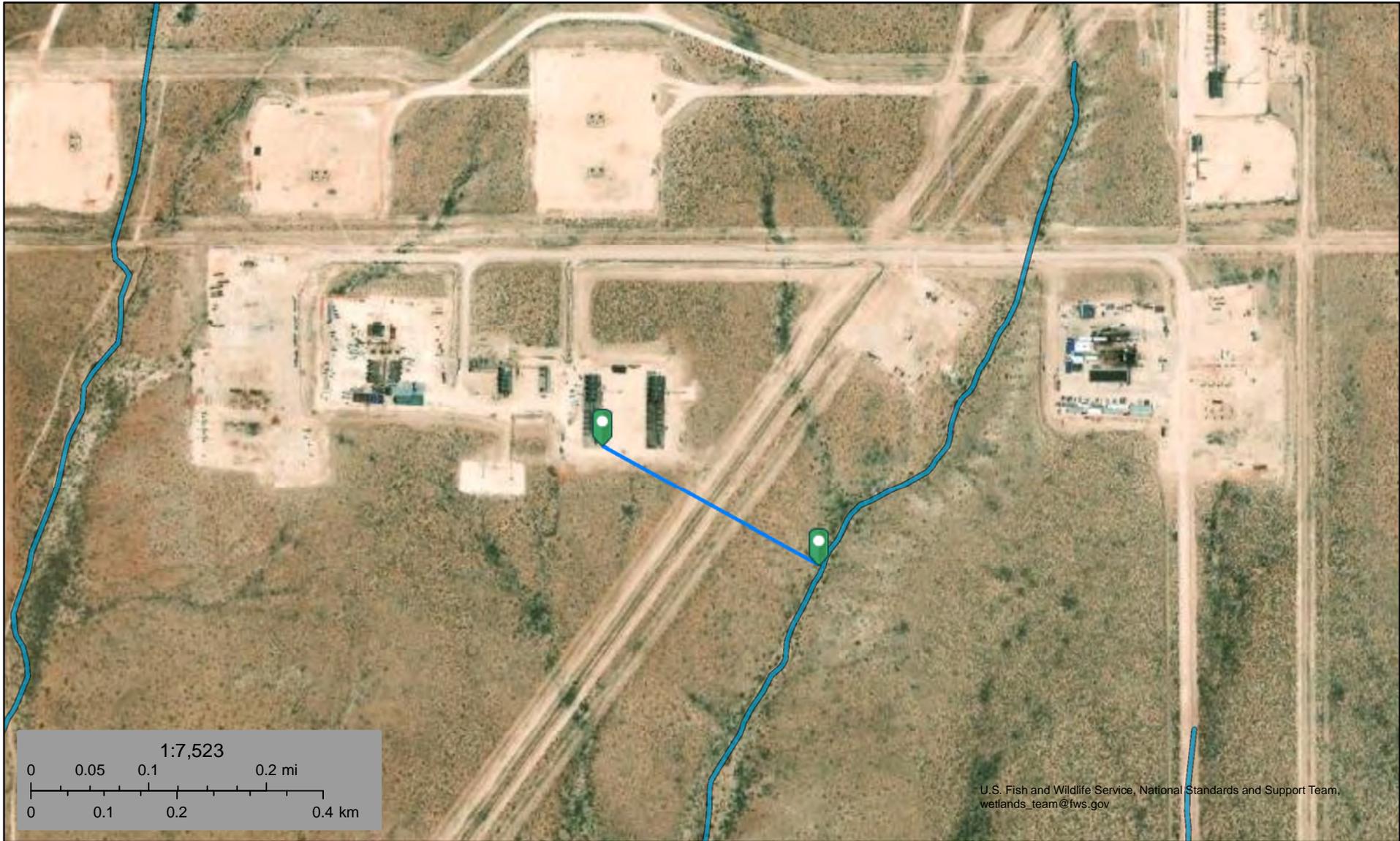
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
	FROM	TO				
	0	20	12 3/4	CEMENT	10	TOP FILL
	0	20	7 7/8	CEMENT	6	TOP FILL
	300	500	7 7/8	8/16 SILICA SAND	46	TOP FILL

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	<b>C-4537</b>	POD NO.	<b>1</b>	TRN NO.	<b>095385</b>
LOCATION	<b>SHK</b>	<b>25S.33E.31.444</b>	WELL TAG ID NO.	<b>20E6C</b>	PAGE 1 OF 2





January 26, 2024

**Wetlands**

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland

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

-  Lake
-  Other
-  Riverine

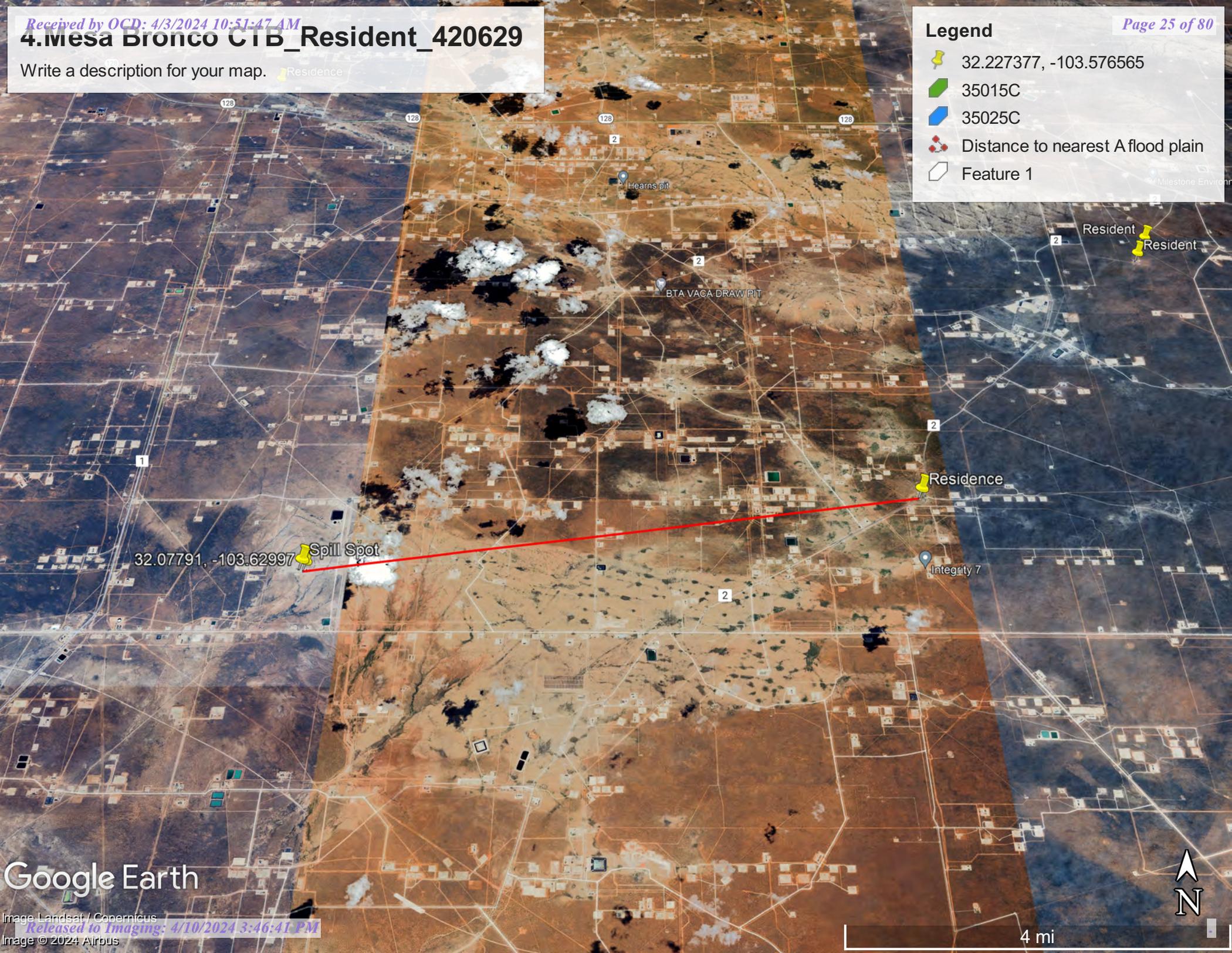
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# 4.Mesa Bronco CTB\_Resident\_420629

Write a description for your map. Residence

**Legend**

- 32.227377, -103.576565
- 35015C
- 35025C
- Distance to nearest A flood plain
- Feature 1



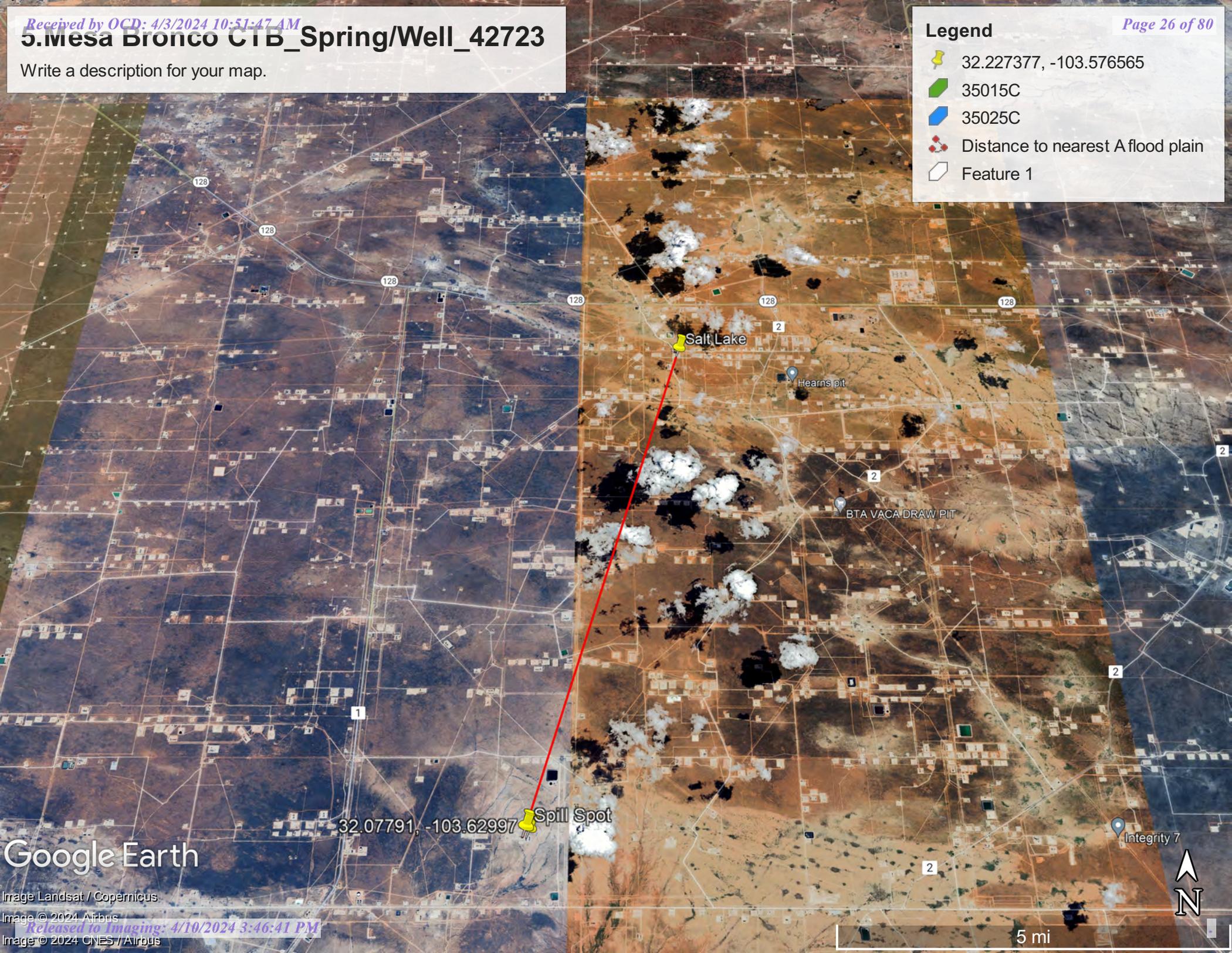
Google Earth

# 5.Mesa Bronco CTB\_Spring/Well\_42723

Write a description for your map.

### Legend

-  32.227377, -103.576565
-  35015C
-  35025C
-  Distance to nearest A flood plain
-  Feature 1



Google Earth

Image Landsat / Copernicus

Image © 2024 Airbus

Released to Imaging: 4/10/2024 3:46:41 PM

Image © 2024 CNES / Airbus

32.07791, -103.62997

Spill Spot

Salt Lake

Hearns pit

BTA VACA DRAW PIT

Integrity 7

5 mi



January 26, 2024

**Wetlands**

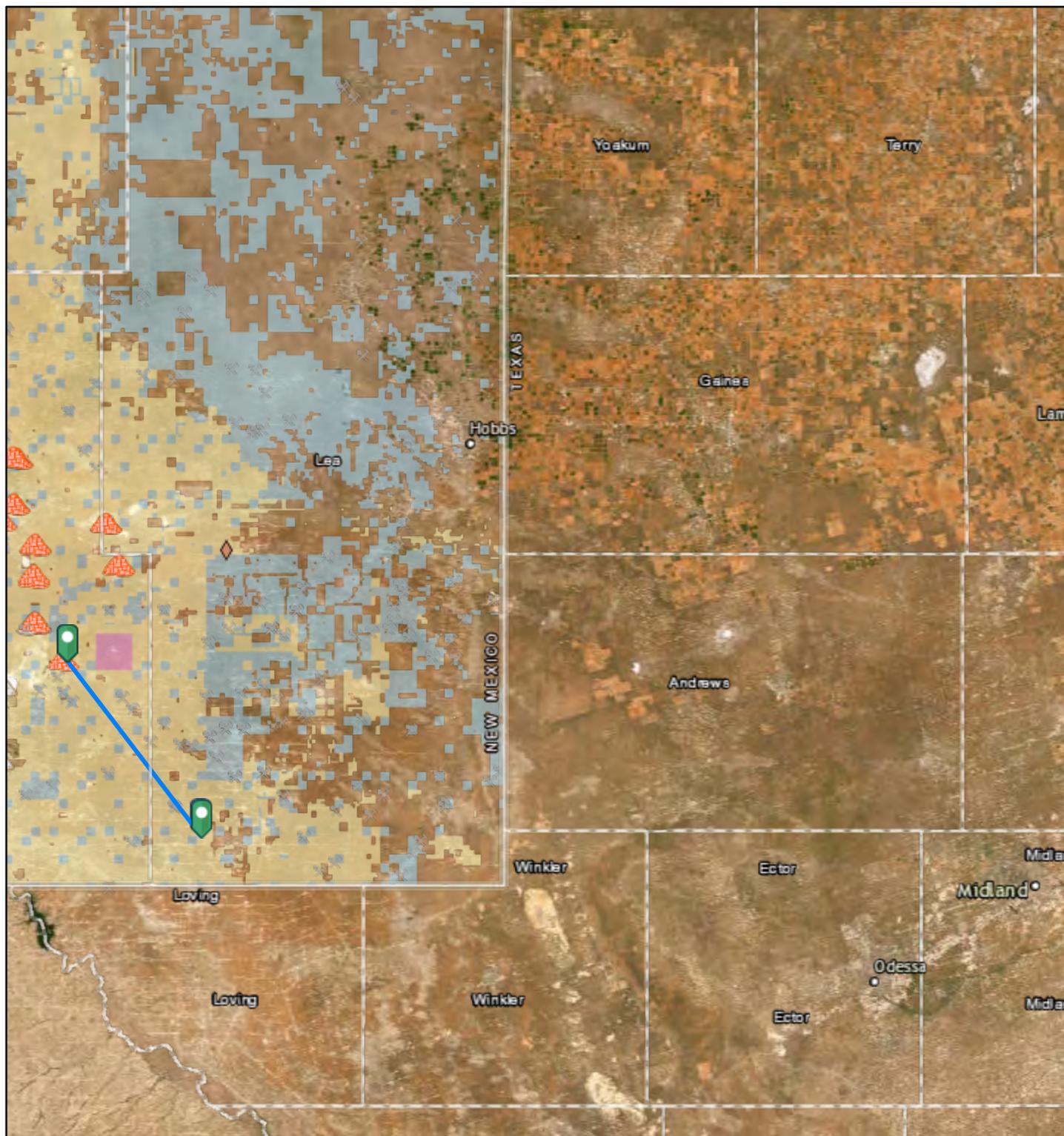
-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland

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

-  Lake
-  Other
-  Riverine

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

# 08\_Mesa Bronco CTB\_Subsurface Mine\_127039



1/26/2024, 10:08:37 AM

1:1,155,581

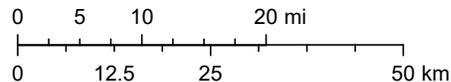
### Registered Mines

- ◆ Industrial Minerals (Other)
- × Aggregate, Stone etc.

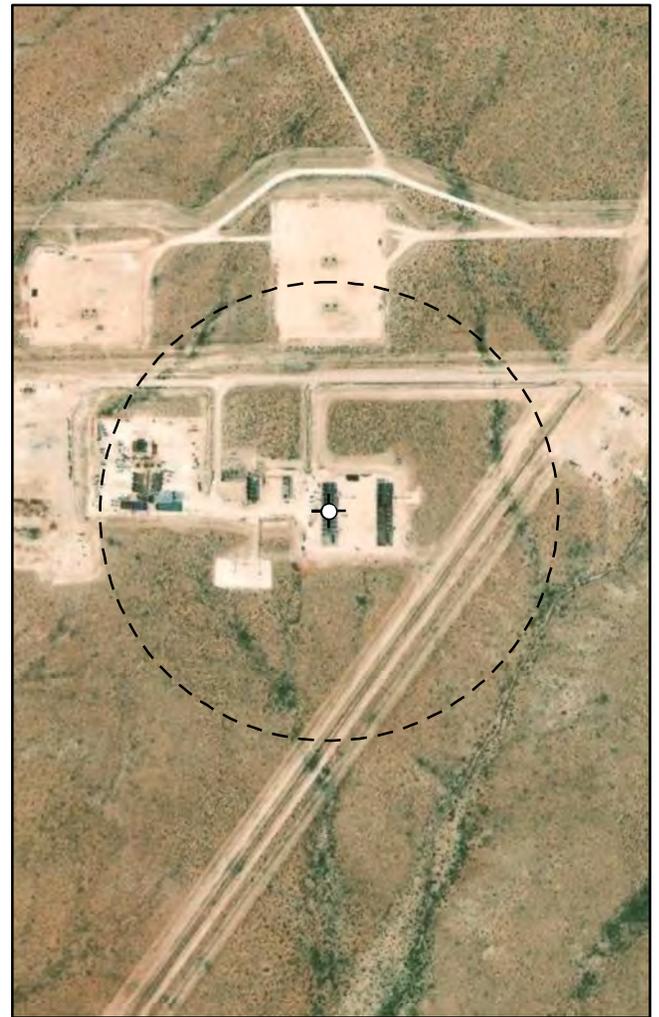
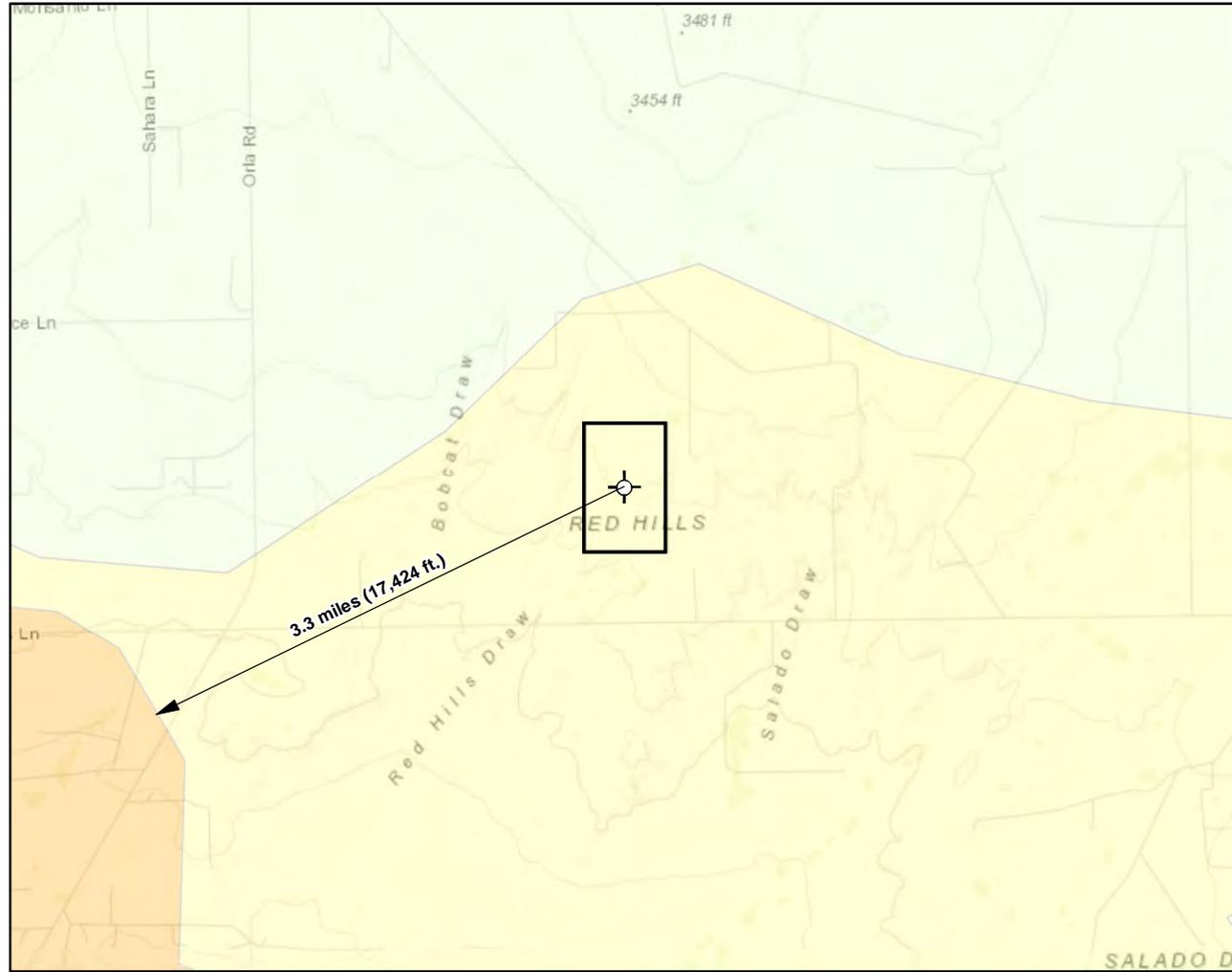


### Land Ownership

BLM



U.S. BLM, Esri, HERE, Garmin, Earthstar Geographics



**Name**

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1000 ft.)

**Overview Map**

0 0.25 0.5 1 mi

**Detail Map**

0 150 300 600 ft



Map Center:  
Lat/Long: 32.077910, -103.629970

NAD 1983 UTM Zone 13N  
Date: Jan 29/24



**Karst Potential Map  
BTA Mesa Bronco CTB**

FIGURE:

X



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: Inset Map, Esri 2023; Overview Map: Esri World Topographic. Karst potential data sourced from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

**VERSATILITY. EXPERTISE.**

Document Path: G:\Projects\US PROJECTS\BTA Oil Producers LLC\2024\Mesa Bronco CTB\Figure X Karst Potential (24E-00238)ID17740.mxd

# National Flood Hazard Layer FIRMette



103°38'7"W 32°4'56"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**
  - Cross Sections with 1% Annual Chance Water Surface Elevation
  - Coastal Transect
  - Base Flood Elevation Line (BFE)
  - Limit of Study
  - Jurisdiction Boundary
  - Coastal Transect Baseline
  - Profile Baseline
  - 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 1/26/2024 at 12:13 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.



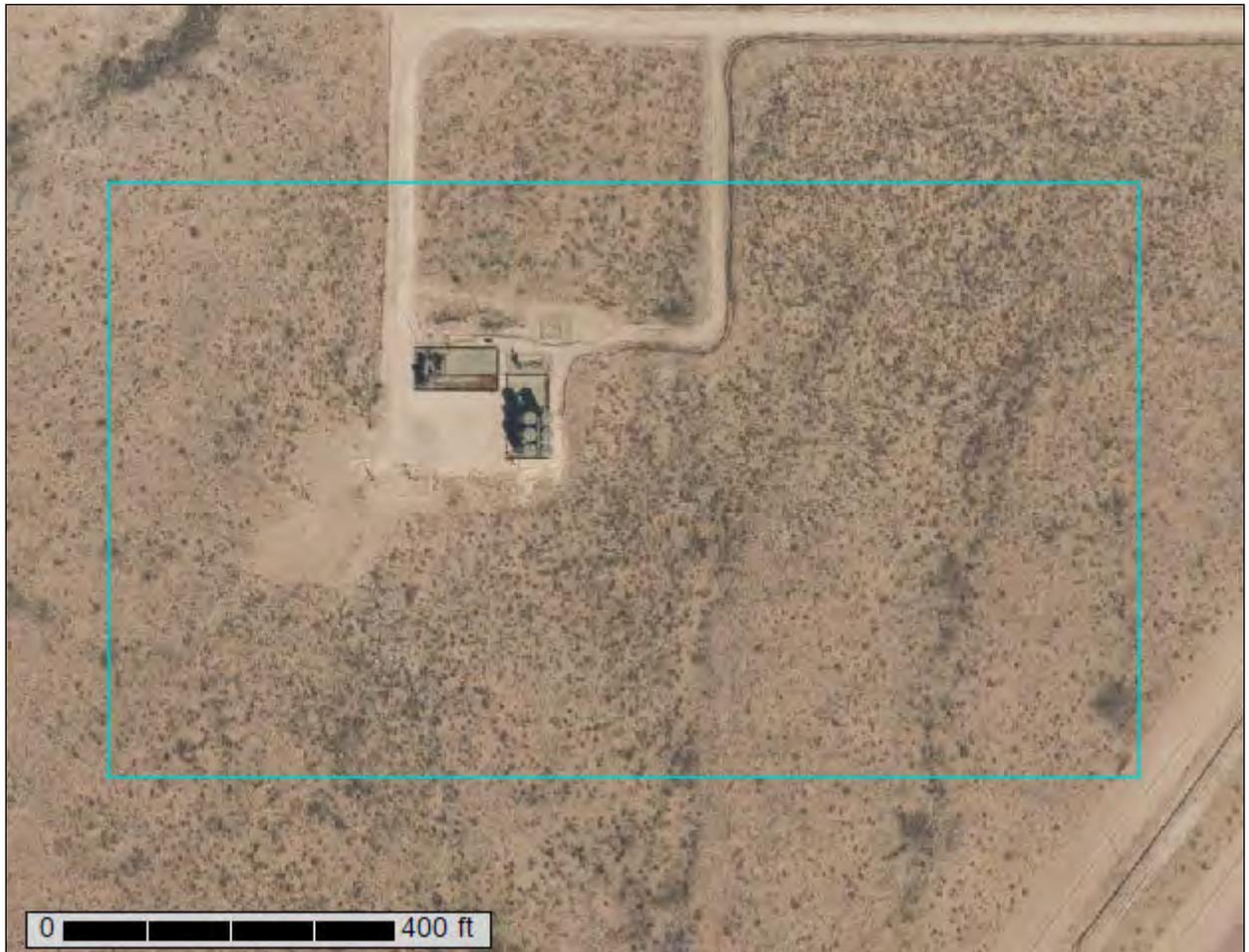
1:6,000

103°37'29"W 32°4'25"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



January 26, 2024

# 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

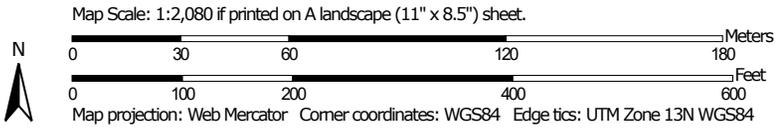
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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce 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 20, Sep 6, 2023

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

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

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

## Custom Soil Resource Report

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SR	Simona-Upton association	20.5	100.0%
<b>Totals for Area of Interest</b>		<b>20.5</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, onsite investigation is needed to define and locate the soils and miscellaneous areas.

## Custom Soil Resource Report

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

## SR—Simona-Upton association

**Map Unit Setting**

*National map unit symbol:* dmr3  
*Elevation:* 3,000 to 4,400 feet  
*Mean annual precipitation:* 10 to 16 inches  
*Mean annual air temperature:* 58 to 62 degrees F  
*Frost-free period:* 190 to 205 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Simona and similar soils:* 50 percent  
*Upton and similar soils:* 35 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Simona****Setting**

*Landform:* Ridges  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Calcareous eolian deposits derived from sedimentary rock

**Typical profile**

*A - 0 to 8 inches:* gravelly fine sandy loam  
*Bk - 8 to 16 inches:* fine sandy loam  
*Bkm - 16 to 26 inches:* cemented material

**Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* 7 to 20 inches to petrocalcic  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 50 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:* Very low (about 1.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* D  
*Ecological site:* R070BD002NM - Shallow Sandy  
*Hydric soil rating:* No

## Custom Soil Resource Report

**Description of Upton****Setting**

*Landform:* Ridges  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Calcareous eolian deposits derived from sedimentary rock

**Typical profile**

*A - 0 to 8 inches:* gravelly loam  
*Bkm - 8 to 18 inches:* cemented material  
*Bck - 18 to 60 inches:* very gravelly loam

**Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* 7 to 20 inches to petrocalcic  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Low to moderately high  
 (0.01 to 0.60 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 75 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:* Very low (about 0.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 6e  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* D  
*Ecological site:* R070BC025NM - Shallow  
*Hydric soil rating:* No

**Minor Components****Kimbrough**

*Percent of map unit:* 6 percent  
*Ecological site:* R077CY037TX - Very Shallow 16-21" PZ  
*Hydric soil rating:* No

**Stegall**

*Percent of map unit:* 5 percent  
*Ecological site:* R077CY028TX - Limy Upland 16-21" PZ  
*Hydric soil rating:* No

**Slaughter**

*Percent of map unit:* 4 percent  
*Ecological site:* R077CY028TX - Limy Upland 16-21" PZ  
*Hydric soil rating:* No

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Custom Soil Resource Report

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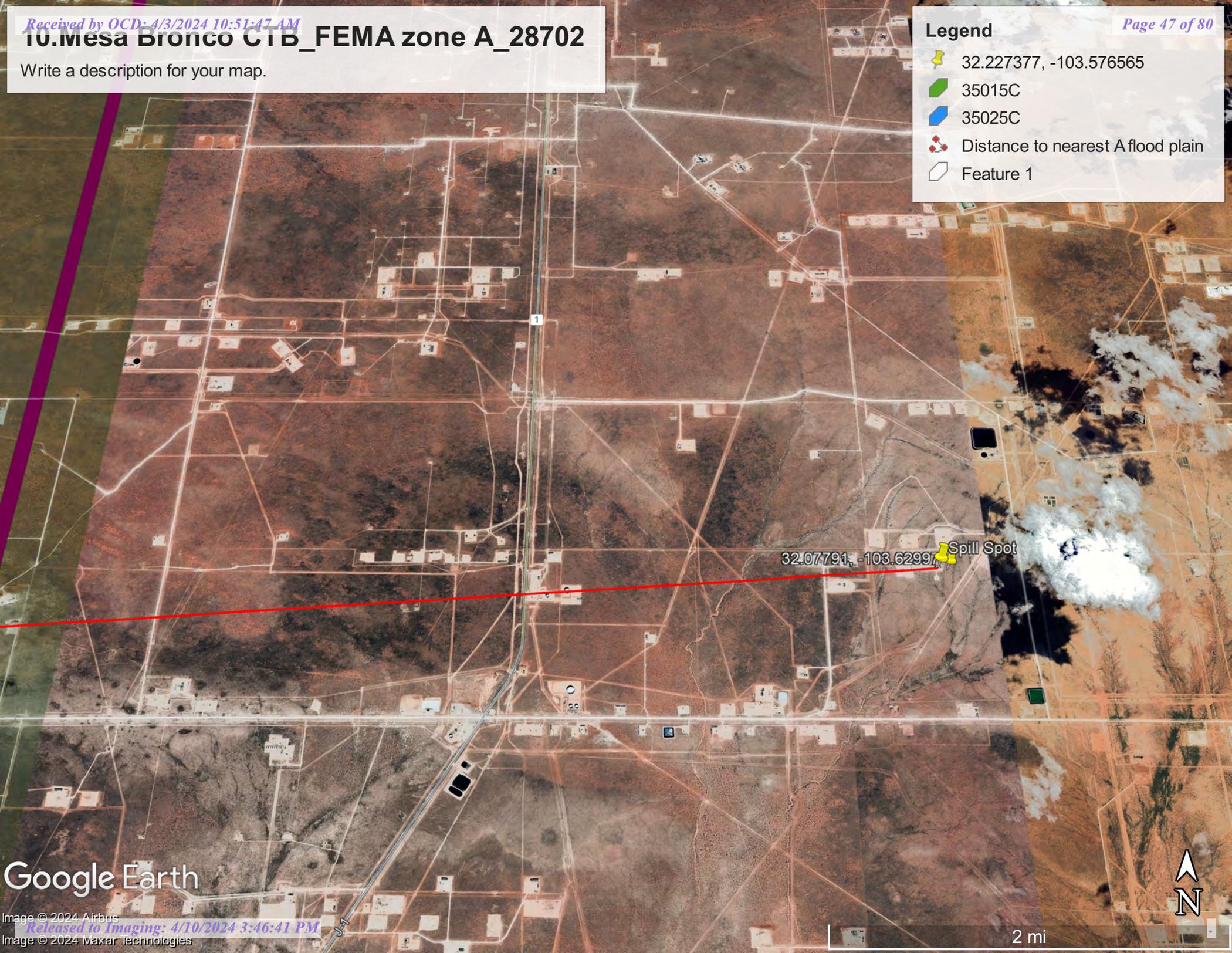
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# 10.Mesa Bronco CTB\_FEMA zone A\_28702

Write a description for your map.

## Legend

-  32.227377, -103.576565
-  35015C
-  35025C
-  Distance to nearest A flood plain
-  Feature 1



32.07791, -103.6299 Spill Spot

Google Earth



## Ecological site R070BD002NM Shallow Sandy

Accessed: 01/26/2024

### 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 sites often occur in association or in a complex with Shallow Sandy Sites.
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### Similar sites

R070BD004NM	<b>Sandy</b> Sandy ecological sites are similar to Shallow Sandy sites in species composition and Transition pathways.
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**Table 1. Dominant plant species**

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

### Physiographic features

This site occurs on plains, alluvial fans, uplands, or fan piedmonts. The parent material consists of mixed loamy alluvium or eolian material derived from igneous and sedimentary bedrock. The petrocalcic layer is at a depth of 10 to 25 inches and undulating.

Slopes are nearly level to undulating, usually less than 9 percent. Elevations range from 2,842 to 4,500 feet.

**Table 2. Representative physiographic features**

Landforms	(1) Plain (2) Fan piedmont (3) Alluvial fan
Elevation	2,842–4,500 ft
Slope	1–9%
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 from 207 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late 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 the site. The vegetation of this site can take advantage of the moisture and the time it falls. Because of the soil profile, little moisture can be stored in the soil for any length of time. Moisture is readily available to the plants from the time it falls. Strong winds from the southwest blow from January through June which rapidly dries out the soil profile during a critical period for 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 very shallow to shallow, less than 20 inches in depth. Surface and subsurface textures are gravelly loamy sand, gravelly fine sandy loam or fine sandy loam.

An indurated caliche layer occurs at depths of 6 to 25 inches and is at an average of 15 inches from the surface. Underlying material textures are very gravelly fine sandy loam, very gravelly sandy loam, gravelly fine sandy loam. Gravels are calcium carbonate concretions, calcium carbonate content ranges from 30 to 65 percent.

The indurated caliche layer typically holds water up in the profile for short periods within the root zone of plants. These soils will blow if left unprotected by vegetation.

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

Characteristic soils are:

- Simona
- Jerag

**Table 4. Representative soil features**

Surface texture	(1) Fine sandy loam (2) Loamy fine sand (3) Gravelly fine sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained to moderately well drained
Permeability class	Moderately slow to moderate

Soil depth	7–24 in
Surface fragment cover <=3"	5–25%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	1–2 in
Calcium carbonate equivalent (0-40in)	5–15%
Electrical conductivity (0-40in)	0–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8
Subsurface fragment volume <=3" (Depth not specified)	5–25%
Subsurface fragment volume >3" (Depth not specified)	0%

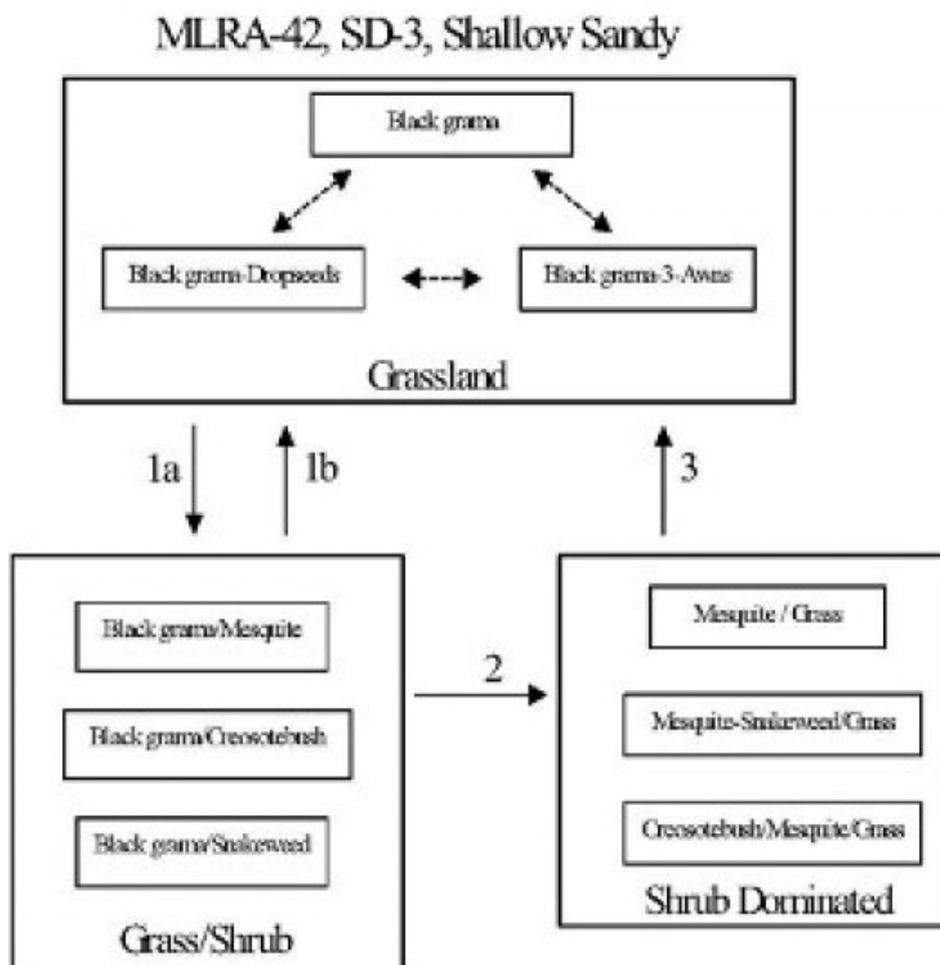
## Ecological dynamics

### Overview

The Shallow Sandy site occurs on upland plains, and tops of low ridges and mesas, associated with Sandy, Loamy Sand, and Shallow sites. Coarse to moderately coarse soil surface textures, shallow depth (<20 inches) to an indurated caliche layer (petrocalcic horizon), and an overwhelming dominance by black grama help to distinguish this site. The historic plant community of the Shallow Sandy site is a black grama dominated grassland sparsely dotted with shrubs. Shrubs, especially mesquite and creosotebush can increase or colonize due to the dispersal of shrub seeds by livestock or wildlife. This increase in mesquite and colonization of creosotebush may be enhanced by proximity to areas with existing high shrub densities. Fire suppression, and the loss of grass cover due to overgrazing or drought may facilitate the increase and encroachment of shrubs. Persistent loss of grass cover, competition for resources by shrubs, and periods of climate with increased winter precipitation and dry summers, may initiate the transition to a shrub-dominated state.

## State and transition model

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



1a. Seed dispersal, drought, overgrazing, fire suppression.

1b. Prescribed fire, brush control, prescribed grazing.

2. Persistent loss of grass cover, resource competition, increased winter precipitation.

3. Brush control, range seeding, prescribed grazing.

**State 1  
Historic Climax Plant Community**

**Community 1.1  
Historic Climax Plant Community**

Grassland: This site responds well to management and is resistant to state change, due to the shallow depth to petrocalcic horizon and sandy surface textures. The sandy surface textures allow rapid water infiltration and the petrocalcic horizon helps to keep water perched and available to shallow rooted grasses. Black grama is the dominant species in the historic plant community, averaging 50 to 60 percent of the total production for this site. Bush muhly, blue grama, and dropseeds are present as sub-dominants. Typically, yucca, javalinabush, range ratany, prickly pear, and mesquite are sparsely dotted across the landscape. Leatherweed croton, cutleaf

happlopappus, wooly groundsel, and threadleaf groundsel are common forbs. Continuous heavy grazing or extended periods of drought will cause a loss of grass cover characterized by a decrease in black grama, bush muhly, blue and sideoats grama, plains bristlegrass, and Arizona cottontop. Dropseeds and or threeawns may increase and become sub-dominant to black grama. Continued loss of grass cover in conjunction with dispersal of shrub seeds and fire suppression is believed to cause the transition to a state with increased amounts of shrubs (Grass/Shrub state). Diagnosis: Black grama is the dominant grass species. Grass cover uniformly distributed. Shrubs are a minor component averaging only two to five percent canopy cover. Litter cover is high (40-50 percent of area), and litter movement is limited to smaller size class litter and short distances (< . 5m). Other grasses that could appear on this site would include: six-weeks grama, fluffgrass, false-buffalograss, hairy grama, little bluestem, bristle panicum, cane bluestem, Indian ricegrass, tridens spp., and red lovegrass. Other woody plants include: pricklypear, cholla, fourwing saltbush, catclaw mimosa, winterfat, American tarbush and mesquite. Other forbs include: globemallow, verbena, desert holly, senna, plains blackfoot, trailing fleabane, fiddleneck, deerstongue, wooly Indianwheat, and locoweed.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	474	652	830
Forb	78	107	136
Shrub/Vine	48	66	84
<b>Total</b>	<b>600</b>	<b>825</b>	<b>1050</b>

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	30-35%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	40-50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	15-25%

Figure 5. Plant community growth curve (percent production by month). NM2802, R042XC002NM-Shallow Sandy-HCPC. SD-3 Shallow Sandy - 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: This state is characterized by the notable presence of shrubs, especially mesquite, broom snakeweed, and/or creosotebush, however grasses remain as the dominant species. Black grama is the dominant

grass species. Threeawns and or dropseeds are sub-dominant. The susceptibility of the Shallow Sandy site to shrub encroachment may be higher when located adjacent to other sites with high densities of mesquite or creosotebush. Retrogression within this site is characterized by decreases in grass cover and increasing densities of shrubs. Diagnosis: Black grama remains as the dominant grass species. Grass cover varies in response to the amount of shrub increase, ranging from uniform to patchy. Shrubs are found at increased densities relative to the grassland state, especially mesquite, creosotebush, or broom snakeweed. Transition to Grass/Shrub (1a) Historically fire may have kept mesquite and other shrubs in check by completely killing some species and disrupting seed production cycles and suppressing the establishment of shrub seedlings in others. Fire suppression combined with seed dispersal by livestock and wildlife is believed to be the factors responsible for the establishment and increase in shrubs. 1, 3 Loss of grass cover due to overgrazing, prolonged periods of drought, or their combination, reduces fire fuel loads and increases the susceptibility of the site to shrub establishment. Key indicators of approach to transition: Increase in the relative abundance of dropseeds and threeawns Presence of shrub seedlings Loss of organic matter—evidenced by an increase in physical soil crusts 8 Transition back to Grassland (1b) Brush control is necessary to initiate the transition back to the grassland state. If adequate fuel loads remain, possibly the reintroduction of fire as a management tool will assist in the transition back, however, mixed results have been observed concerning the effects of fire on black grama grasslands.6 Prescribed grazing will help ensure adequate rest following brush control and will assist in the establishment and maintenance of grass cover capable of sustaining fire.

**State 3  
Shrub Dominated**

**Community 3.1  
Shrub Dominated**

Shrub-Dominated: Across the range of soil types included in the Shallow Sandy site, mesquite is typically the dominant shrub, but it does occur as a co-dominant or sub-dominant species with creosotebush or broom snakeweed. Mesquite tends to dominate when the Shallow Sandy site occurs as part of a complex or in association with Sandy or Loamy Sand sites. Creosotebush tends to dominate on Shallow Sandy sites that occur as part of, or adjacent to Shallow Sites. Broom snakeweed increases in response to heavy grazing, but tends to cycle in and out depending on timing of rainfall. However, once the site is dominated by shrubs and snakeweed becomes well established, it tends to remain as a major component in the shrub dominated state. Diagnosis: Mesquite, creosotebush, or snakeweed cover is high, exceeding that of grasses. Grass cover is patchy with large connected bare areas present. Black grama, threeawns, or dropseeds may be the dominant grass. Evidence of accelerated wind erosion in the form of pedestalling of plants, and soil deposition around shrub bases may be common. Transition to Shrub-Dominated (2) Persistent loss of grass cover and the resulting increased competition between shrubs and remaining grasses for dwindling resources (especially soil moisture) may drive this transition.5 Additionally periods of increased winter precipitation may facilitate periodic episodes of shrub expansion and establishment. 4 Key indicators of approach to transition: Increase in size and frequency of bare patches. Loss of grass cover in shrub interspaces. Increased signs of erosion, evidenced by pedestalling of plants, and soil and litter deposition on leeward side of plants. 7 Transition back to Grassland (3) Brush control is necessary to reduce competition from shrubs and reestablish grasses. Range seeding may be necessary if insufficient grasses remain, The benefits, and costs, will vary depending upon the degree of site degradation, and adequate precipitation following seeding.

**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>			413–495	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	413–495	–
2	<b>Warm Season</b>			41–83	
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	41–83	–
3	<b>Warm Season</b>			41–83	

	blue grama	BOGR2	<i>Bouteloua gracilis</i>	41-83	-
4	<b>Warm Season</b>			25-41	
	sideoats grama	BOCU	<i>Bouteloua curtipendula</i>	25-41	-
5	<b>Warm Season</b>			41-83	
	spike dropseed	SPCO4	<i>Sporobolus contractus</i>	41-83	-
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	41-83	-
	mesa dropseed	SPFL2	<i>Sporobolus flexuosus</i>	41-83	-
6	<b>Warm Season</b>			17-41	
	threeawn	ARIST	<i>Aristida</i>	17-41	-
7	<b>Warm Season</b>			41-83	
	Arizona cottontop	DICA8	<i>Digitaria californica</i>	41-83	-
	plains bristlegrass	SEVU2	<i>Setaria vulpiseta</i>	41-83	-
8	<b>Warm Season</b>			41-83	
	mat sandbur	CELO3	<i>Cenchrus longispinus</i>	41-83	-
	hooded windmill grass	CHCU2	<i>Chloris cucullata</i>	41-83	-
9	<b>Other Perennial Grasses</b>			25-41	
	Grass, perennial	2GP	<i>Grass, perennial</i>	25-41	-
<b>Shrub/Vine</b>					
10	<b>Shrub</b>			8-25	
	javelina bush	COER5	<i>Condalia ericoides</i>	8-25	-
11	<b>Shrub</b>			8-25	
	yucca	YUCCA	<i>Yucca</i>	8-25	-
12	<b>Shrub</b>			8-25	
	jointfir	EPHED	<i>Ephedra</i>	8-25	-
	littleleaf ratany	KRER	<i>Krameria erecta</i>	8-25	-
13	<b>Shrub</b>			8-25	
	featherplume	DAFO	<i>Dalea formosa</i>	8-25	-
14	<b>Shrub</b>			8-25	
	broom snakeweed	GUSA2	<i>Gutierrezia sarothrae</i>	8-25	-
15	<b>Other Shrubs</b>			25-41	
	Shrub (>.5m)	2SHRUB	<i>Shrub (&gt;.5m)</i>	25-41	-
<b>Forb</b>					
16	<b>Forb</b>			17-41	
	leatherweed	CRPOP	<i>Croton pottsii var. pottsii</i>	17-41	-
	Goodding's tansyaster	MAPIG2	<i>Machaeranthera pinnatifida ssp. gooddingii var. gooddingii</i>	17-41	-
17	<b>Forb</b>			17-41	
	woolly groundsel	PACA15	<i>Packera cana</i>	17-41	-
	threadleaf ragwort	SEFLF	<i>Senecio flaccidus var. flaccidus</i>	17-41	-
18	<b>Forb</b>			8-25	
	whitest evening primrose	OEAL	<i>Oenothera albicaulis</i>	8-25	-
19	<b>Other Forbs</b>			8-25	
	Forb (herbaceous, not grass nor grass-like)	2FORB	<i>Forb (herbaceous, not grass nor grass-like)</i>	8-25	-

## **Animal community**

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, swift fox, black-tailed jackrabbit, spotted ground squirrel, Ord's kangaroo rat, northern grasshopper mouse, coyote, horned lark, meadowlark, lark bunting, scaled quail, morning dove, side-blotched lizard, round-tailed horned lizard, marbled whiptail, prairie rattlesnake and ornate box turtle.

## **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  
Jarag D  
Simona D

## **Recreational uses**

This site offers recreation for hiking, horseback riding, nature observation and photography, and quail and dove hunting. During years of abundant spring moisture, this site displays a riot of color from wildflowers during May and June. A few summer and fall flowers also occur.

## **Wood products**

The natural potential plant community of this site affords little or no wood products. Where the site has been invaded by mesquite or cholla cactus the roots and stems of these plants provide attractive material for a variety of curiosities, such as lamps and small furniture.

## **Other products**

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Because of the sandy textures and shallow profile, this site will respond rapidly to management. As this site deteriorates, plants such as black grama, bush muhly, blue and sideoats grama, plains bristlegrass and Arizona cottontop, will decrease and be replaced by plants such as threeawns, mesquite, creosote bush, and broom snakeweed. This also causes a decrease in ground cover, leaving the soil to blow. This site responds best 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 2.5 – 3.5  
75 – 51 3.2 – 4.6  
50 – 26 4.5 – 7.5  
25 – 0 7.6 +

## **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**

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**Contributors**

David Trujillo  
 Don Sylvester

**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:**  

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

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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):**

---

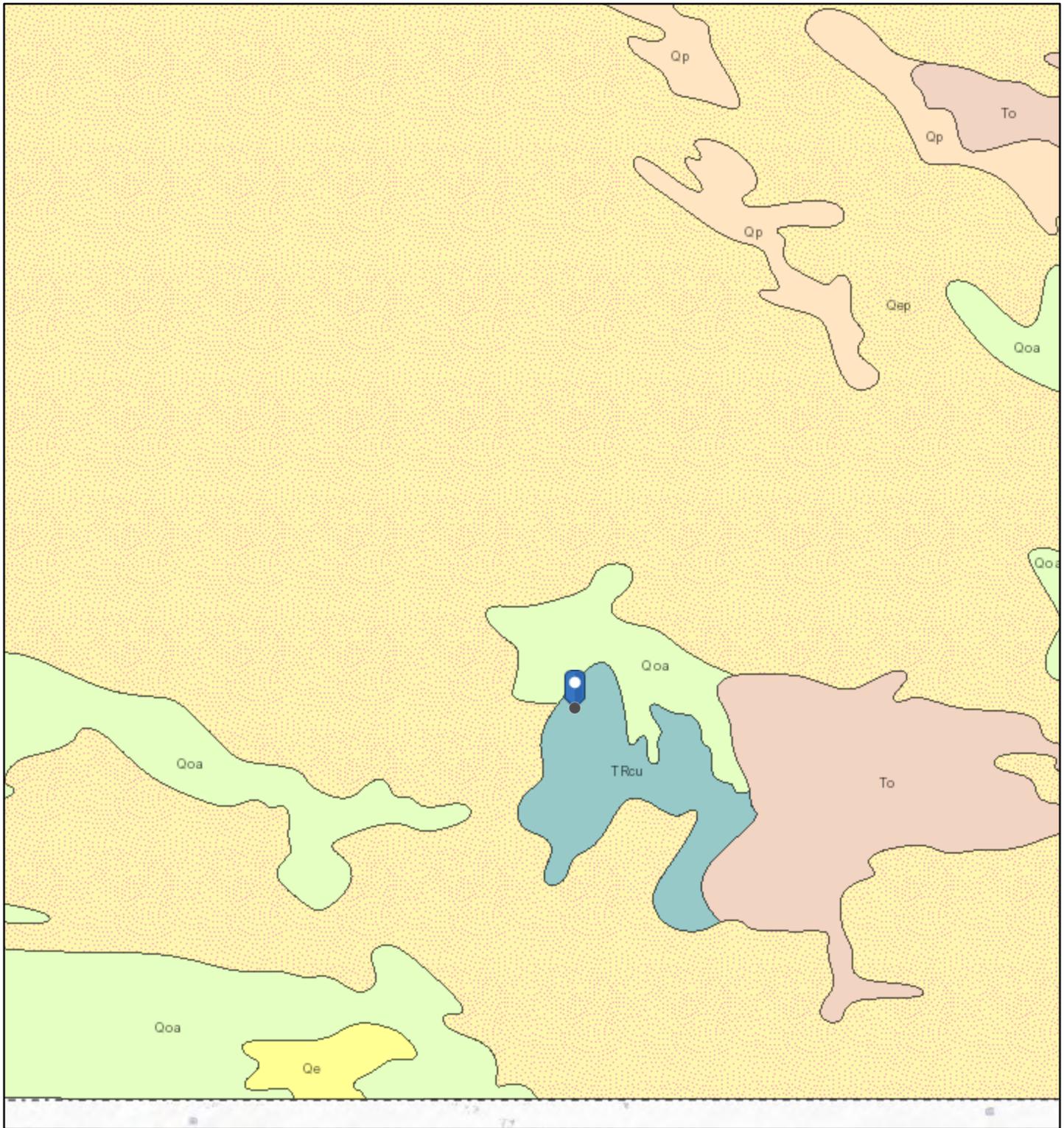
16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management 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:**

---

# ArcGIS Web Map

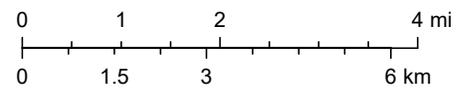


1/26/2024, 10:50:45 AM

1:144,448

### Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)
- Water—Perennial standing water
- Qa—Alluvium (Holocene to upper Pleistocene)



Esri, NASA, NGA, USGS, NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS

ArcGIS Web AppBuilder

**APPENDIX C**

**DAILY FIELD REPORT**



# Daily Site Visit Report

Client:	<u>BTA Oil Producers LLC</u>	Inspection Date:	<u>3/25/2024</u>
Site Location Name:	<u>Mesa Bronco CTB</u>	Report Run Date:	<u>3/25/2024 8:59 PM</u>
Client Contact Name:	<u>Kelton Baird</u>	API #:	<u></u>
Client Contact Phone #:	<u>432-312-2203</u>		
Unique Project ID	<u></u>	Project Owner:	<u></u>
Project Reference #	<u></u>	Project Manager:	<u></u>

### Summary of Times

Arrived at Site	<u>3/25/2024 10:45 AM</u>
Departed Site	<u>3/25/2024 11:29 AM</u>

# Daily Site Visit Report



## Field Notes

**10:54** Arrived on site, filled out paperwork and began inspecting liner

**11:29** Liner looks good; no rips, holes, or breaches

## Next Steps & Recommendations

1



# Daily Site Visit Report

## Site Photos

Viewing Direction: South



Descriptive Photo - 1  
Viewing Direction: South  
Desc: Northwest corner facing south  
Created: 3/25/2024 10:55:26 AM  
Lat:32.078251, Long:-103.830637

Northwest corner facing south

Viewing Direction: South



Descriptive Photo - 2  
Viewing Direction: South  
Desc: Midpoint of north wall looking south  
Created: 3/25/2024 10:58:04 AM  
Lat:32.078226, Long:-103.829991

Midpoint of north wall looking south

Viewing Direction: South



Descriptive Photo - 3  
Viewing Direction: South  
Desc: Northeast corner looking south  
Created: 3/25/2024 10:58:45 AM  
Lat:32.078257, Long:-103.829897

Northeast corner looking south

Viewing Direction: West



Descriptive Photo - 4  
Viewing Direction: West  
Desc: Looking west between northernmost tank rows 1 and 2  
Created: 3/25/2024 10:58:31 AM  
Lat:32.078189, Long:-103.829915

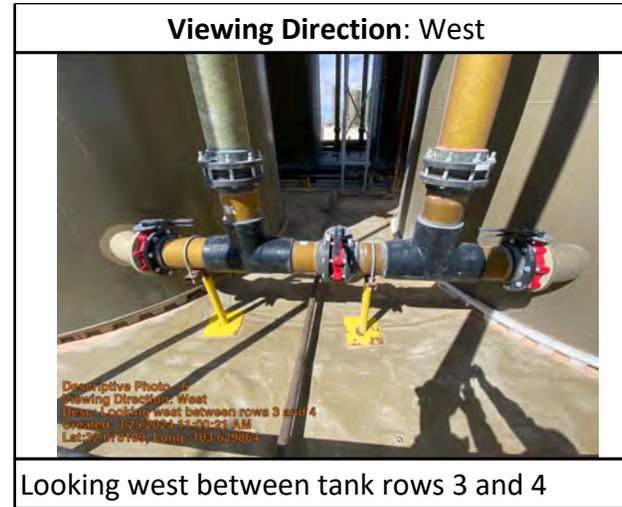
Looking west between northernmost tank rows 1 and 2



# Daily Site Visit Report



Looking west between tank rows 2 and 3



Looking west between tank rows 3 and 4



Looking west between tank rows 4 and 5



Looking west between tanks and separators



# Daily Site Visit Report





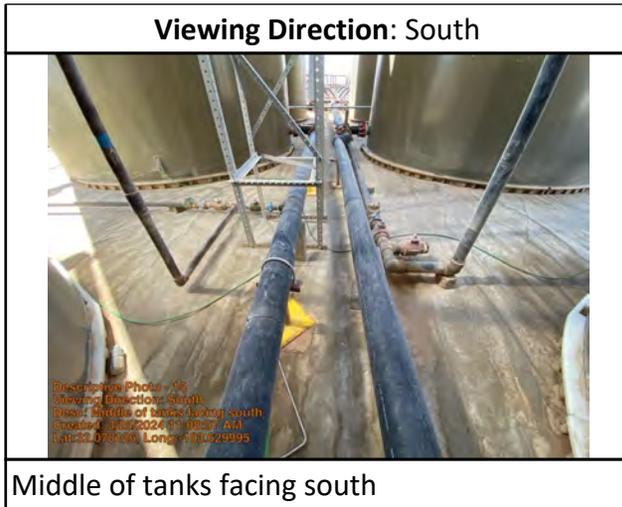
# Daily Site Visit Report



Between tank rows 2 and 3 facing East



Between tank rows 1 and 2 facing East



Middle of tanks facing south



Middle of tanks facing north



# Daily Site Visit Report



Southeast corner of tank area facing north



Between the East separators 1 and 2



Between East separators 2 and 3



Between East separators 3 and 4



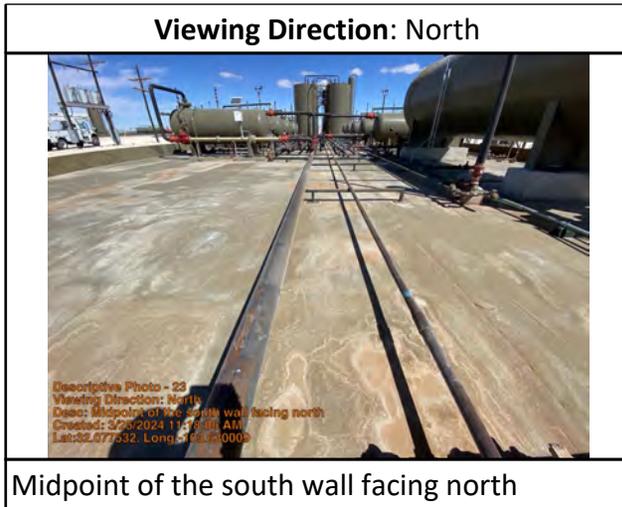
# Daily Site Visit Report



Between East separators 4 and 5



Southeast corner of containment facing north



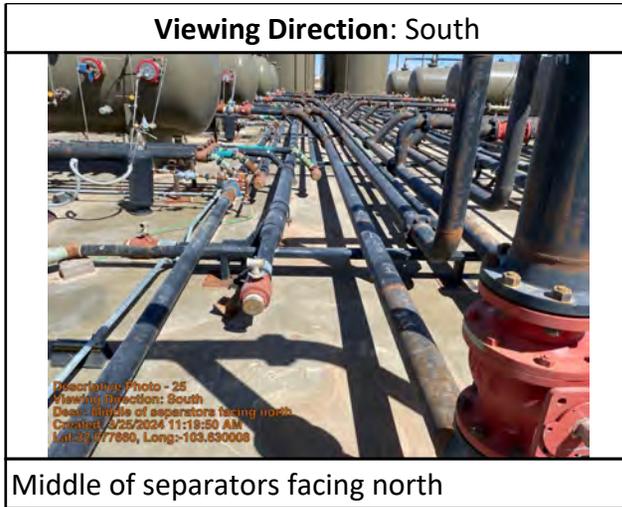
Midpoint of the south wall facing north



Southwest corner of containment facing north



# Daily Site Visit Report



Middle of separators facing north



Between Western separators 4 and 5



Between western separators 3 and 4



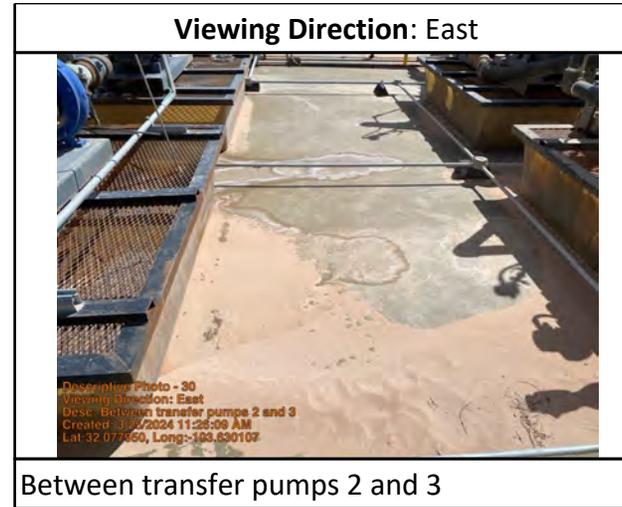
Between western separators 2 and 3



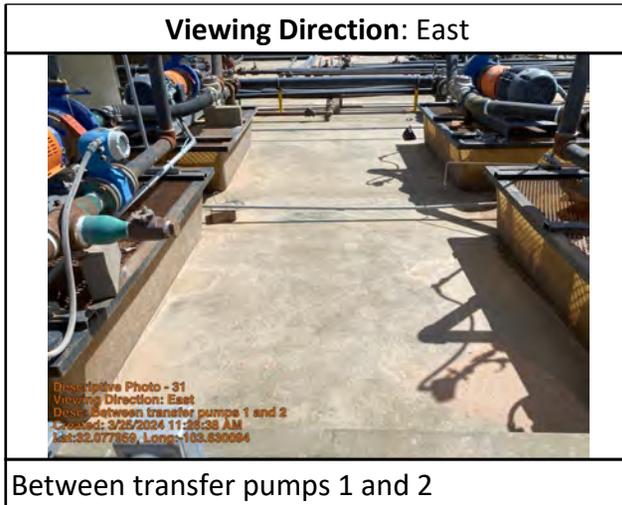
# Daily Site Visit Report



Between western separators 1 and 2



Between transfer pumps 2 and 3



Between transfer pumps 1 and 2

# Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Angela Mohle

**Signature:**

A handwritten signature in black ink, appearing to be 'AM', written over a horizontal line.

Signature

## **APPENDIX D**

### **48-HOUR NOTIFICATION OF LINER INSPECTION**

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 324799

**QUESTIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 324799
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2406517742
Incident Name	NAPP2406517742 MESA BRONCO CTB @ 0
Incident Type	Produced Water Release
Incident Status	Initial C-141 Approved
Incident Facility	[fAPP2322134217] Mesa Bronco CTB

<b>Location of Release Source</b>	
Site Name	Mesa Bronco CTB
Date Release Discovered	03/04/2024
Surface Owner	Federal

<b>Liner Inspection Event Information</b>	
<i>Please answer all the questions in this group.</i>	
What is the liner inspection surface area in square feet	18,500
Have all the impacted materials been removed from the liner	Yes
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	03/25/2024
Time liner inspection will commence	09:00 AM
Please provide any information necessary for observers to liner inspection	Angela Mohle with Vertex will be on site to conduct the liner inspection. She can be reached at 575-361-2689. If you need directions to the site or any other information, please do not hesitate to contact her.
Please provide any information necessary for navigation to liner inspection site	32.077917, -103.629977

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CONDITIONS

Action 324799

**CONDITIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 324799
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

**CONDITIONS**

Created By	Condition	Condition Date
btavertex	Failure to notify the OCD of liner inspections including any changes in date/time per the requirements of 19.15.29.11.A(5)(a)(ii) NMAC, may result in the inspection not being accepted.	3/19/2024

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

QUESTIONS

Action 329424

**QUESTIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 329424
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2406517742
Incident Name	NAPP2406517742 MESA BRONCO CTB @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2322134217] Mesa Bronco CTB

<b>Location of Release Source</b>	
<i>Please answer all the questions in this group.</i>	
Site Name	Mesa Bronco CTB
Date Release Discovered	03/04/2024
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: Other   Pump   Produced Water   Released: 260 BBL   Recovered: 260 BBL   Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	The suction hose to the transfer pump disconnected, releasing fluid inside the lined secondary containment.

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QUESTIONS, Page 2

Action 329424

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 329424
	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: BTA VERTEX Title: Environmental Manager Email: kbeaird@btaoil.com Date: 03/06/2024
--	---

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QUESTIONS, Page 3

Action 329424

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 329424
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Site Characterization</b>	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Less than or equal 25 (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 500 and 1000 (ft.)
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	Greater than 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	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

<b>Remediation Plan</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	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	03/25/2024
On what date will (or did) the final sampling or liner inspection occur	03/25/2024
On what date will (or was) the remediation complete(d)	03/25/2024
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 4

Action 329424

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	329424
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

**Remediation Plan (continued)**

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

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

*(Select all answers below that apply.)*

Is (or was) there affected material present needing to be removed	Yes
Is (or was) there a power wash of the lined containment area (to be) performed	Yes
OTHER (Non-listed remedial process)	Not answered.

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

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

I hereby agree and sign off to the above statement	Name: BTA VERTEX Title: Environmental Manager Email: kbeaird@btaoil.com Date: 04/03/2024
--	---

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

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**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 329424
	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	<b>324799</b>
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	<b>03/25/2024</b>
Was all the impacted materials removed from the liner	<b>Yes</b>
What was the liner inspection surface area in square feet	<b>18500</b>

<b>Remediation Closure Request</b>	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	<b>Yes</b>
Have the lateral and vertical extents of contamination been fully delineated	<b>Yes</b>
Was this release entirely contained within a lined containment area	<b>Yes</b>
What was the total surface area (in square feet) remediated	<b>0</b>
What was the total volume (cubic yards) remediated	<b>0</b>
Summarize any additional remediation activities not included by answers (above)	Liner inspection was conducted by Vertex with no breaches or significant damage to the liner.

*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: BTA VERTEX Title: Environmental Manager Email: kbeaird@btaoil.com Date: 04/03/2024
--	---

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**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 329424

**CONDITIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 329424
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**CONDITIONS**

Created By	Condition	Condition Date
scott.rodgers	App ID 329424 Liner Inspection approved.	4/10/2024