Souder, Miller & Associates ♦ 201 S. Halagueno St.♦ Carlsbad, NM 88220
(575) 689-8801

February 24, 2025 5E33088 BG#23

EMNRD – Oil Conservation Division
506 W. Texas Ave
Artesia, NM 88210

SUBJECT: Closure Request Report for the Jasper 32 St 4 Battery, Incident ID # nAPP2435533264, Facility ID fAPP2130256417, Lease ID V049520001, Eddy County, New Mexico.

1.0 Introduction

On behalf of Devon Energy Production Company, LP (Devon), Souder, Miller & Associates (SMA) has prepared this Closure Request Report. This report describes the corrective actions for a produced water incident related to oil and gas production activities at the Jasper 32 St 4 Battery (Jasper), Incident ID nAPP2435533264, that occurred on December 19, 2024. The spill area is located at latitude N 32.623144 and longitude W -104.090913.

Devon completed a release notification to the New Mexico Energy, Minerals, and Natural Resources Department – Oil Conservation Division (OCD) via Operators Electronic Permitting and Payment Portal on December 20, 2024, for the submission of Notice of Release (NOR), followed by the submission of the Form C-141, Release Notification on December 20, 2024. This letter provides a description of the spill assessment and includes a request for spill closure.

Table 1: Release Information and Closure Criteria

Name	Jasper 32 St 4 Battery	Company	Devon Energy Production Company, LP
API Number	fAPP2130256417	PLSS	A-32-19S-29E
Lease ID	V049520001	GPS	N 32.623144, W -104.090913
Incident Number	nAPP2435533264	County	Eddy
Date of Release	December 19, 2024	Land Status	State Trust Land
Source of Release	2” check valve busted on the BS&W flow line		
Released Volume	8 bbls	Recovered Volume	8 bbls
NMOCD Closure Criteria	Depth to groundwater <50 feet below ground surface (bgs), high karst potential		

2.0 Background

On December 19, 2024, a 2” check valve on the BS&W flow line busted resulting in a fluid release into the secondary lined containment. The total volume of released fluids was 8 barrels (bbls) of crude oil. The release occurred within the secondary lined containment at Jasper. Initial response activities were conducted by the operator, including source elimination, photographs of standing fluids, recovery of approximately 8 bbls of oil, and verification that the affected area was properly exposed and cleaned for

visual observation. Documentation of the liner inspection, including photographs, is provided in the Site Assessment Report in Attachment 1.

3.0 Site Geology and Vegetation

The Geologic Map of New Mexico by New Mexico Bureau of Geology and Mineral Resources indicates the surface geology at the incident location area is comprised of primarily Qp – Piedmont alluvial deposits (Holocene to lower Pleistocene).

The surrounding geography and terrain are associated with uplands, plains, hill slopes, ridges, and some fan remnant areas at elevations between 2,842 and 5,000 feet above mean sea level (amsl). The annual average rainfall and precipitation ranges between 8 to 13 inches. The soil tends to be well drained with very low to negligible runoff and low available water supply.

The primary soil types on the location are Reeves Gypsum land complex that range from deep to moderately deep. Moderately deep soils have a petrocalic, petrogypsic, or gypsum horizon between 30 and 40 inches. Surface textures are loam, silt loam, very fine sandy loam, or clay loam. Substratum textures are loam, silty clay loam, clay loam, or silt loams. Subsoil textures are silt loam, clay loam, silty clay loam, gravelly loam, or very gravelly loam.

The ecological setting is vegetation of a grassland aspect dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Black grama, blue grama, and tobosa are the dominant grass species. Globemallow, verbena, groundsels, croton and filaree are forbs commonly found on this site. Fourwing saltbush and winterfat are two of the more palatable shrubs. Gypsum influenced soils typically have greater amounts of tobosa, burrograss, and ephedra. There is greater representation of sideoats and vine mesquite within the tobosa-blue grama community

4.0 Site Information and Closure Criteria

The Jasper is located approximately 10.90 miles northeast of Carlsbad, New Mexico, on State Trust Land at an elevation of approximately 3,275 feet amsl. SMA completed site assessment/characterization pursuant to 19.5.29.11-12 NMAC to determine potential environmental impacts and closure criteria. Site assessment and characterization results are included in Attachments 1 and 2.

There is no surface water located on site or within 300 feet of the site. The nearest significant watercourse is a riverine located approximately 2.08 miles to the northwest, a playa lake located 2.56 miles northwest, and a freshwater emergent wetland located 0.44 miles southeast of Jasper as defined in 19.15.17.7.P NMAC (U.S. Fish and Wildlife Service, National Wetlands Inventory, 2024). There are no continuous flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features within the specified search distances outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Depth to ground water was determined using New Mexico Office of the State Engineer (NMOSE) Water Rights Pod Location: ArcGIS Interactive Online Map. The only registered well withing ½ mile of Jasper is monitoring well CP-01999-POD2, located 0.39 miles southeast of Jasper. However, depth to groundwater information is currently unavailable for this well. The nearest active registered well with groundwater information is monitoring well Pod CP-00741, located 1.73 miles east-southeast of Jasper, is an exploratory well drilled to 230 feet bgs with a recorded depth to groundwater at 60 feet bgs. A private well used for livestock watering, Pod CP-01000, is located 1.75 miles north of Jasper.

Karst potential for the site is high. A medium karst potential area is 3.46 miles southeast, based on the New Mexico State Land Office Land Status Interactive Map (NMSLO).

According to FEMA's National Flood Hazard Layer, the Jasper is located in Zone A, determined to be within the 1-percent chance of flooding and referred to as the base flood or 100-year floodplain. Jasper is 0.11 miles north of Zone X, an area of minimal flood hazard (>500 year flood zone).

Due to Jasper having insufficient DTGW data within ½-mile, a high karst potential area, and within a 100-year flood plain, the closure criteria for the site are the constituent concentration limits associated with less than 50 feet depth to groundwater (DTGW), as stated in Table I of 19.15.29.12 NMAC.

Documentation of site characterization, including surface water features, depth to groundwater, nearest residence, unstable areas, and flood zone, is included in Attachment 2.

5.0 Remediation Activities

Notification of the liner inspection, scheduled for February 19, 2025, was provided to Devon through email by SMA personnel on February 13, 2025. Devon provided notification to NMOCD through the ENMRD Electronic Permitting and Payment Portal for Operators on February 13, 2025 and NMSLO via email. Notification documentation is included in Attachment 3.

On February 19, 2025, SMA personnel performed an on-site visual inspection of the secondary containment to verify liner integrity as outlined in in Paragraph (5)(a) of Subsection A of 19.15.29.11 NMAC.

Visual observation of the liner included a complete inspection of all sidewalls and the base of the containment, around equipment, and all seams of the liner. The inspection included looking for any potential perforations in the liner that could lead to a breach of the secondary containment. Observations concluded no signs of any cuts, rips, tears, or weathering of the liner condition which need repairs or replacement. Liner integrity was confirmed. Photo documentation of the liner inspection is in the Site Assessment and Photolog (Attachment 1).

6.0 Conclusions and Recommendations

Based on the liner inspection and assessment, SMA concludes the liner integrity is adequate to contain the release related to incident nAPP2435533264. There is no evidence of a release to the environment. Based on the professional activities and site assessment, Devon Energy Production Company respectfully requests closure of the incident that occurred at Jasper 32 St 4 Battery.

7.0 Scope and Limitations

The scope of our services included: visual inspection for liner integrity; regulatory liaison; and preparing this report. All work has been performed in accordance with accepted professional environmental consulting practices for oil and gas incidents in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact Stephanie Hinds at (505) 302-1127 or Monica Peppin at (575) 909-3418.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Monica Peppin, A.S.
Project Manager

Stephanie Hinds, P.E.
Senior Engineer

cc: New Mexico State Trust Land – Environmental Compliance Office

REFERENCES:

New Mexico Office of the State Engineer (NMOSE) online water well database
Httpe://gis.ose.state.nm.us/gisapps/ose_pod_locations/

USGS National Water Information System: Web interface online water well database
https://nwis.waterdata.usgs.gov/nwis/gwlevels?site_no=321205103544701&agency_cd=USGS&format=html

U.S. Fish and Wildlife Service: National Wetlands Inventory
Wetlands Mapper | U.S. Fish & Wildlife Service

New Mexico State Land Office: Land Status
NMSLO Land Status

United States Department of Agriculture: Natural Resources Conservation Service: Web Soil Survey
https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

USDA, USGS The National Map: Orthoimagry: FEMA's National Flood Hazard Layer (NFHL) Viewer
https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd

ATTACHMENTS:

Attachment 1: Site Assessment Photolog
Attachment 2: Closure Criteria Determination Research
Attachment 3: Correspondence

ATTACHMENT 1: SITE ASSESSMENT REPORT

Site Assessment Photolog

Client: Devon Energy
API #: 30-015-42050
Lease ID: V049520001
Site: Jasper 32 St 4 Battery

Incident ID: nAPP2435533264
Project Manager: Monica Peppin
Project Owner: Jim Raley

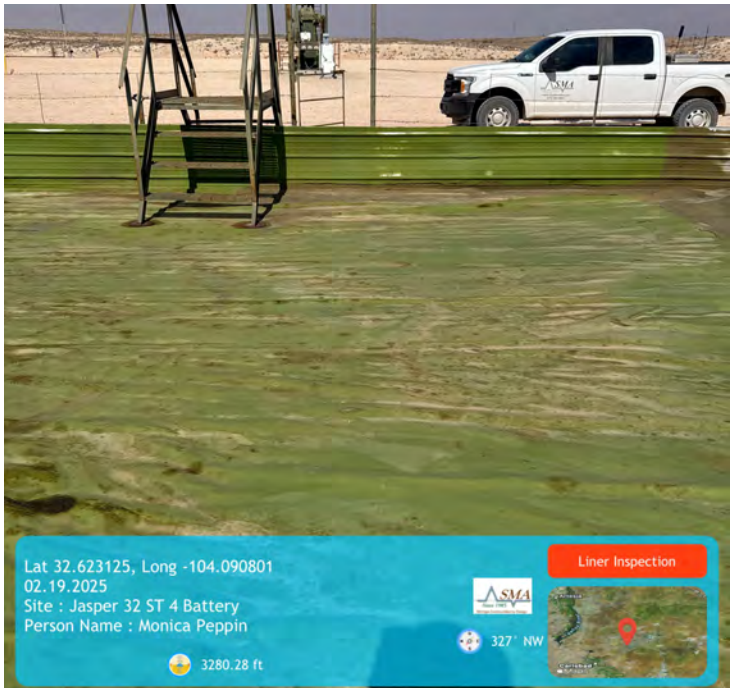
Field Notes

February 19, 2025

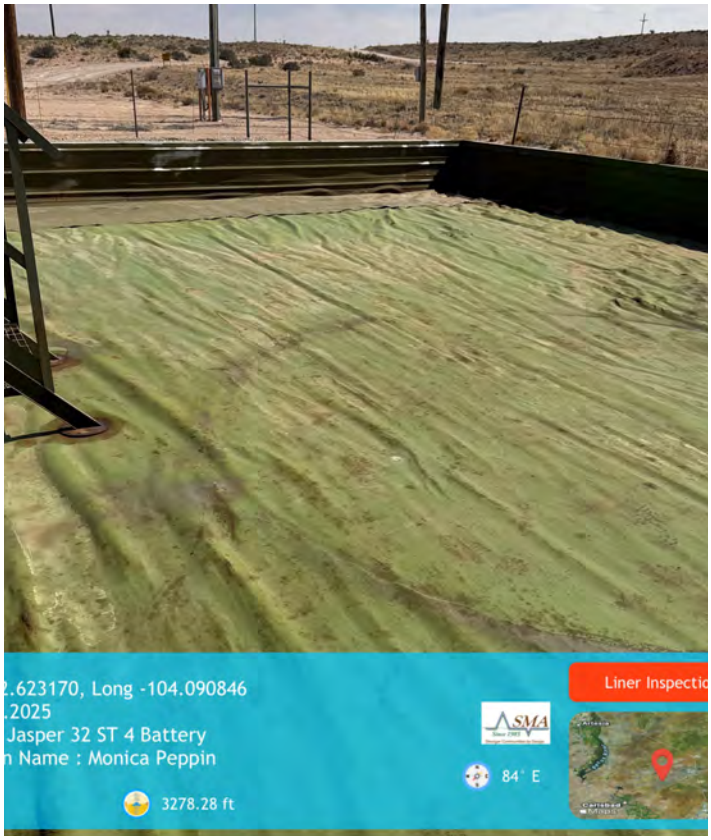
- Arrive on site.
- Complete Safety form.
- Walk around containment to get visual of liner and begin inspection.
- Conduct visual inspection of secondary containment by taking pictures from each cardinal direction.
- Additional photos taken from around the containment and between tanks to verify liner integrity in different positions.
- Inspected for any visible perforations, cuts, rips, tears, or substantial weathering that could lead to the potential breach through the liner.
- Inspection concluded that there are no signs of permeation through the liner and the barrier between the secondary containment and ground surface is isolated to withhold fluids.

Photographs

Photograph #1: Lease sign with site information and geographic data.



Photograph #2: North view of liner on east end of containment from south wall.



Photograph #3: East area of containment facing southeast from north wall.

Photograph #4: West view of containment from middle north area.

Photograph #5: Facing southeast showing middle area of containment between tanks.

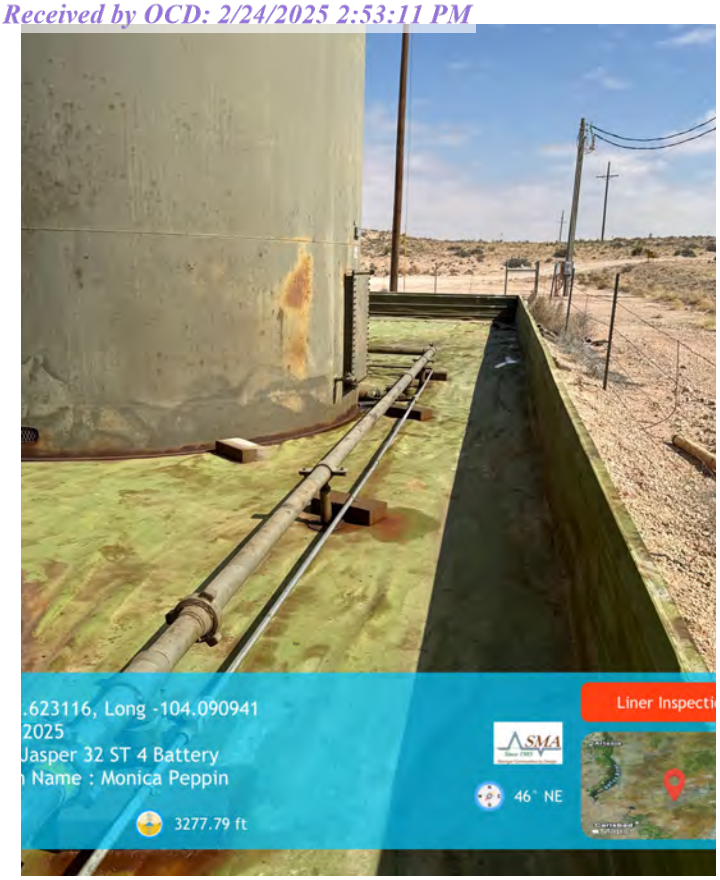
Photograph #6: Southwest view from middle area of north wall of liner near tank and steps.

Photograph #7: Facing southwest from northern side of containment.

Photograph #8: Viewing liner on west side of containment facing northeast.

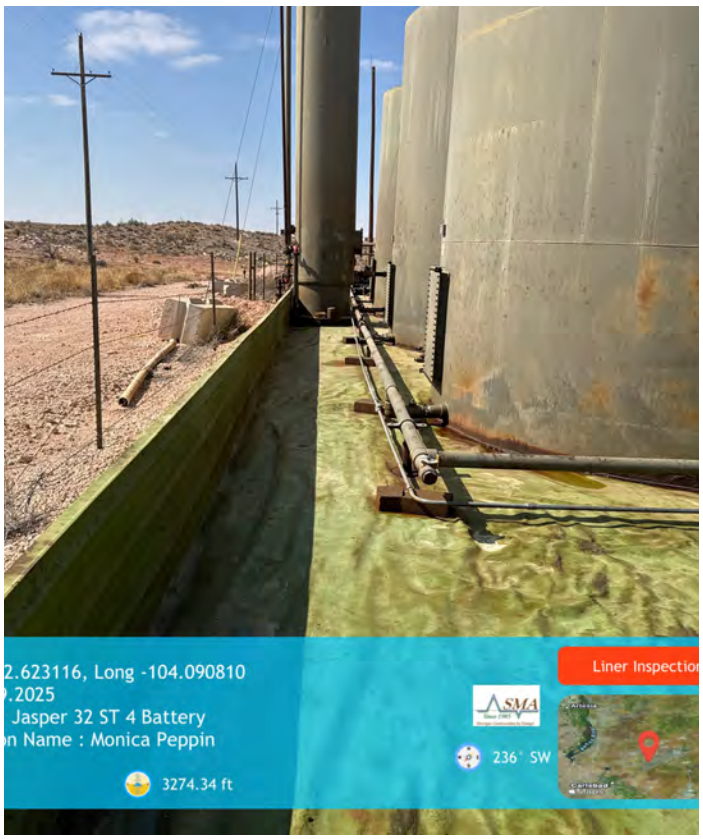
Photograph #9: West side of containment from northwest corner facing southeast.

Photograph #10: View of west area from south wall near tank.



Photograph #11: East view of south area behind tanks from middle area.

Photograph #12: Facing northeast viewing east area from south wall.



Photograph #13: South side of containment from east end facing west.

Photograph #14: View of north wall facing west from east end.

Photograph #15: Liner view from north wall facing south of east end of containment .

Technician: Monica Peppin Date: 2/19/2025

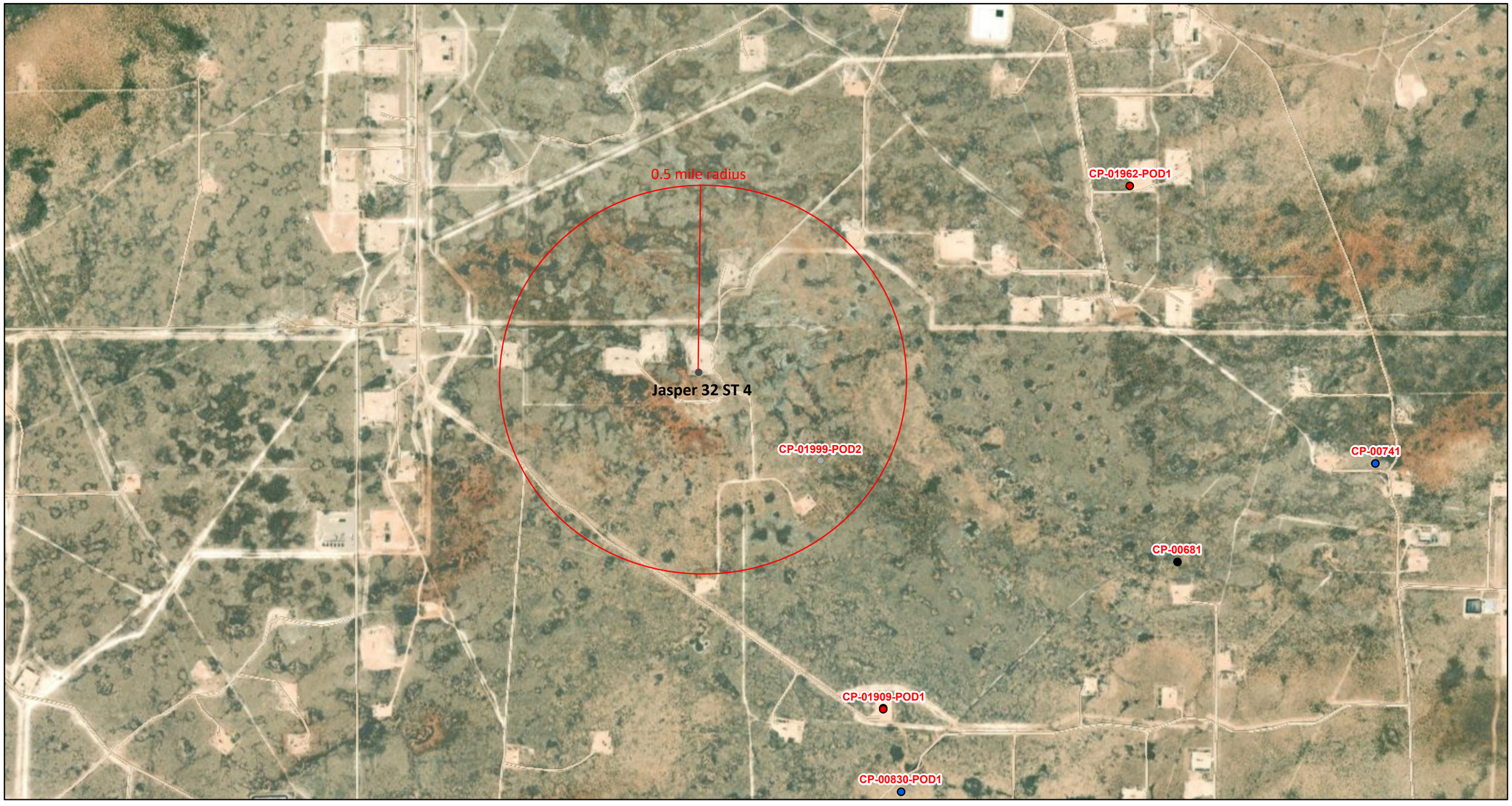
Signature: _____

ATTACHMENT 2: CLOSURE CRITERIA DETERMINATION RESEARCH

Jasper 32 State Com #004H

Coordinates: 32.623144, -104.090913
Containment Area: 3,035 square feet

OSE POD Location Map
Jasper 32 ST 4 Battery: Nearest Active POD CP-0074



2/24/2025, 11:22:40 AM

GIS WATERS PODs

- Active
- Inactive
- Plugged
- Other

CP-01999-POD2: monitoring well
Distance: 0.39 mi/2010 ft
Depth to groundwater: not available

CP-00741: active monitoring well
Distance: 1.73 mi/9117 ft
Depth to groundwater: 60 ft bgs

CP-01909-POD1: plugged
Distance: 0.95 mi/5040 ft
Depth to groundwater: >55 ft bgs

CP-00830-POD1: active
Distance: 1.15 mi/6088 ft
Depth to groundwater: not available

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar

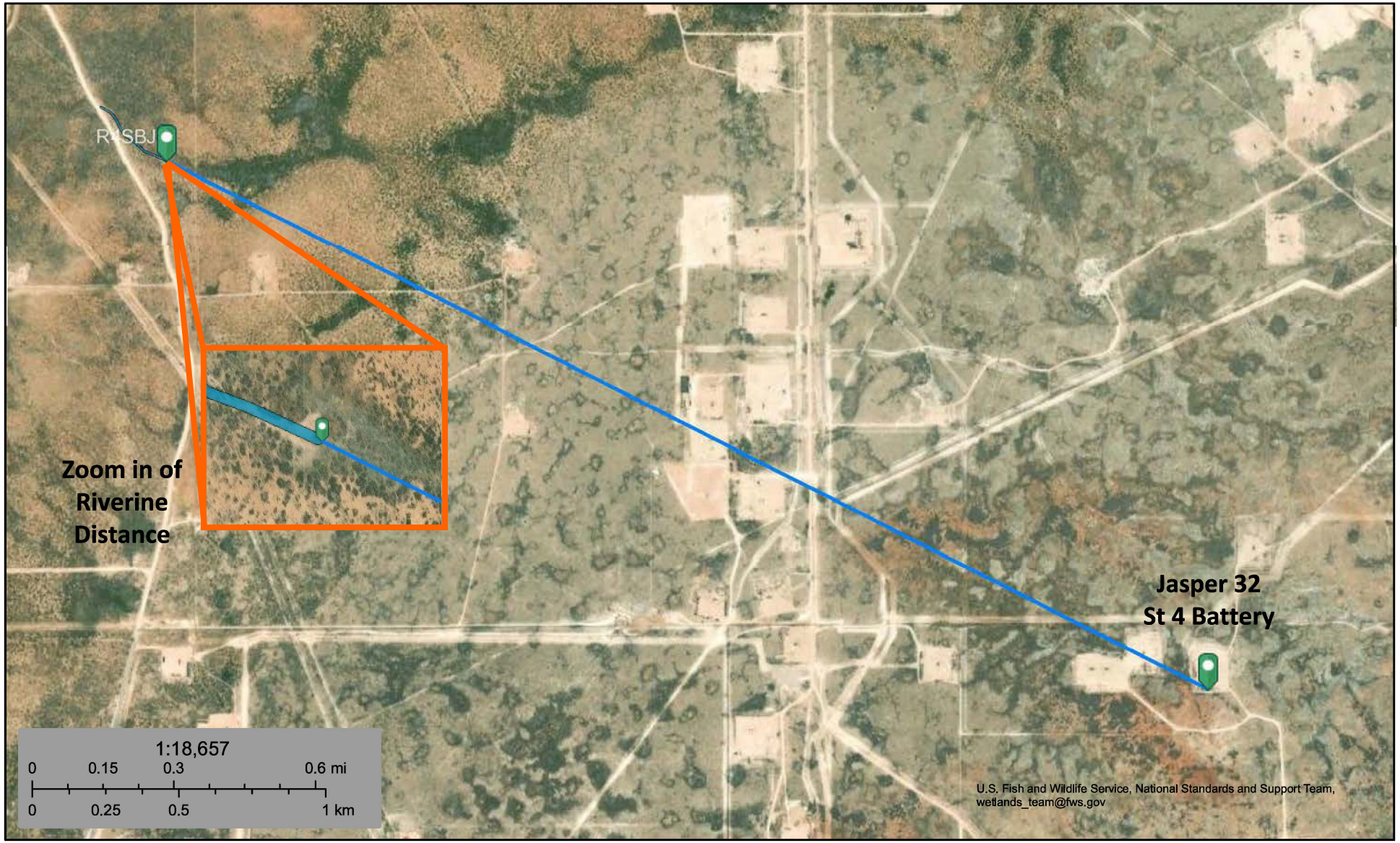
Online web user
This is an unofficial map from the OSE's online application.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Jasper 32 St 4 Battery

Nearest Significant Watercourse: Riverine

Distance: 2.08 miles/11,004 feet



February 21, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

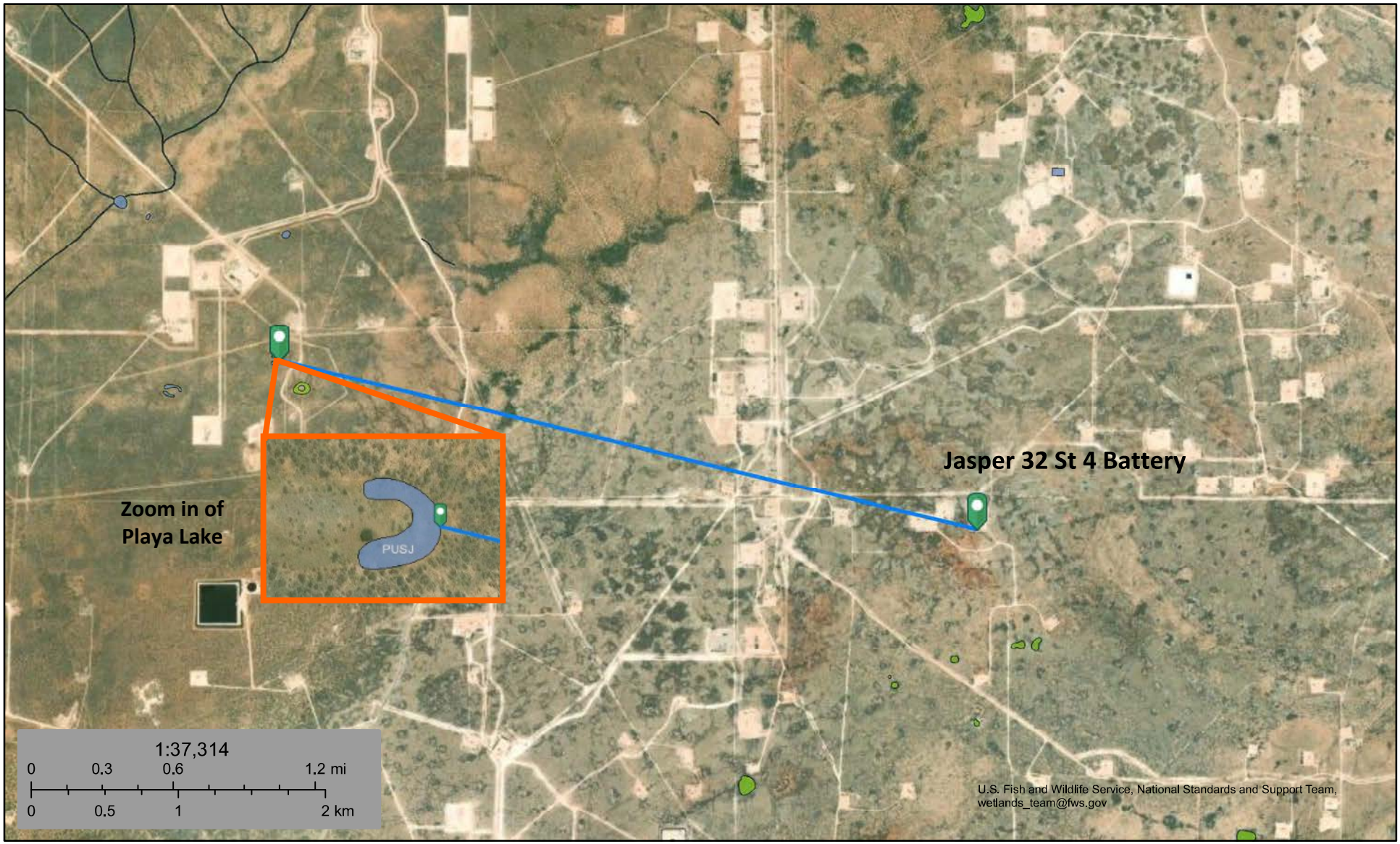
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Jasper 32 St 4 Battery

Nearest Playa Lake Distance: 2.56 miles/13,511 feet



February 21, 2025

Wetlands

- Estuarine and Marine Deepwater
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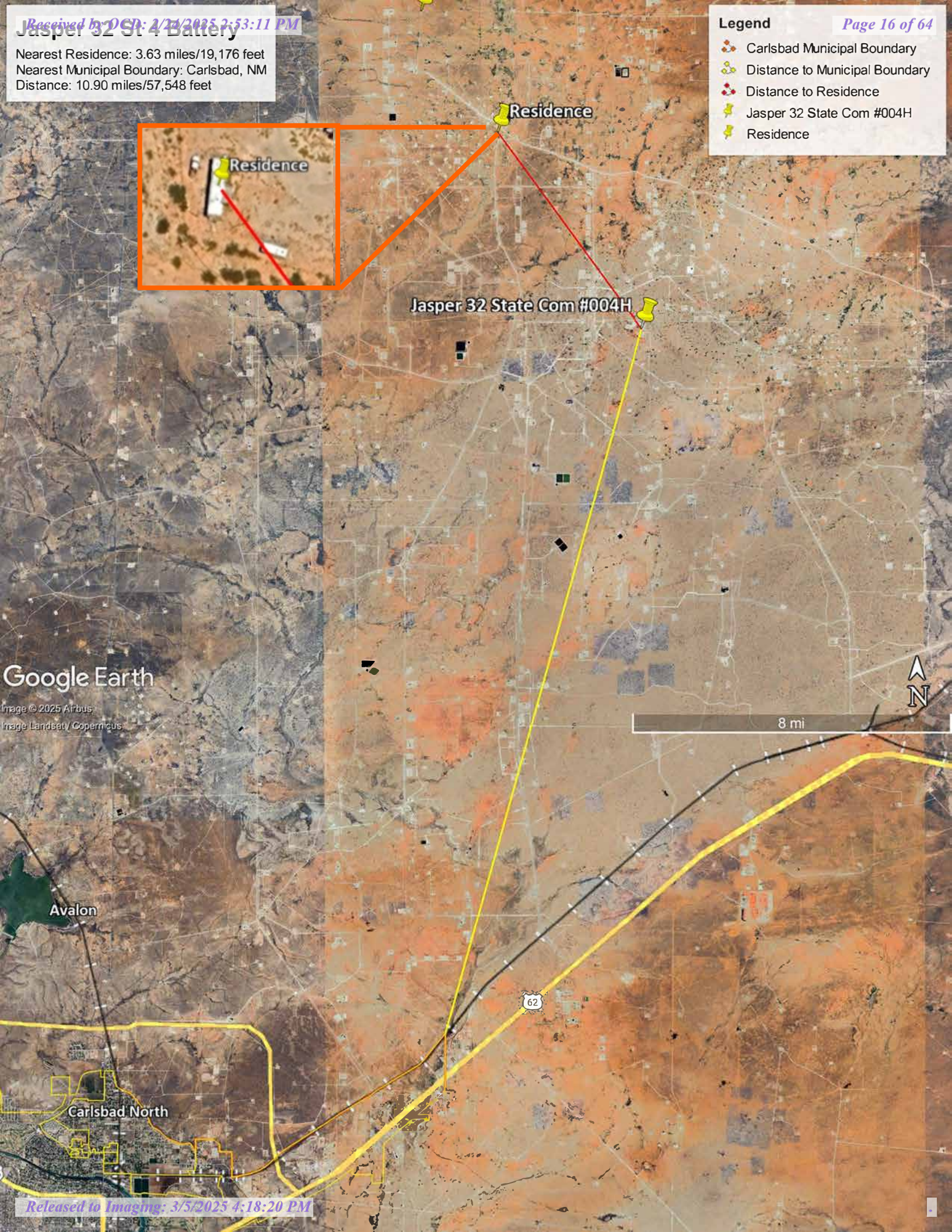
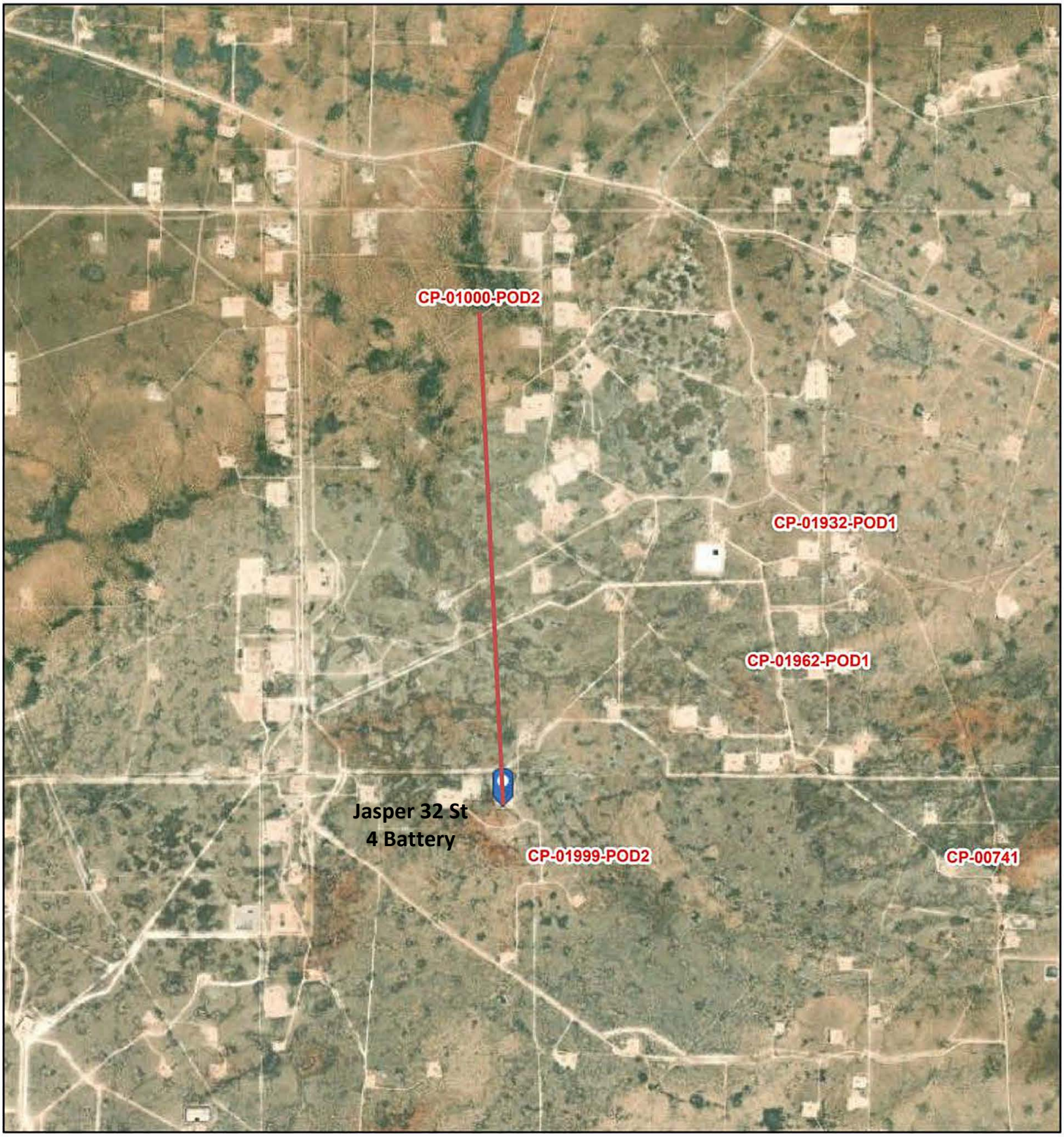
Jasper 32 St 4 Battery

Nearest Residence: 3.63 miles/19,176 feet
Nearest Municipal Boundary: Carlsbad, NM
Distance: 10.90 miles/57,548 feet



Jasper 32 St 4 Battery Nearest Domestic Well/Livestock Watering Distance: 1.75 miles/9,239 feet



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0 0.28 0.55 1.1 mi

0 0.42 0.85 1.7 km

Override 1

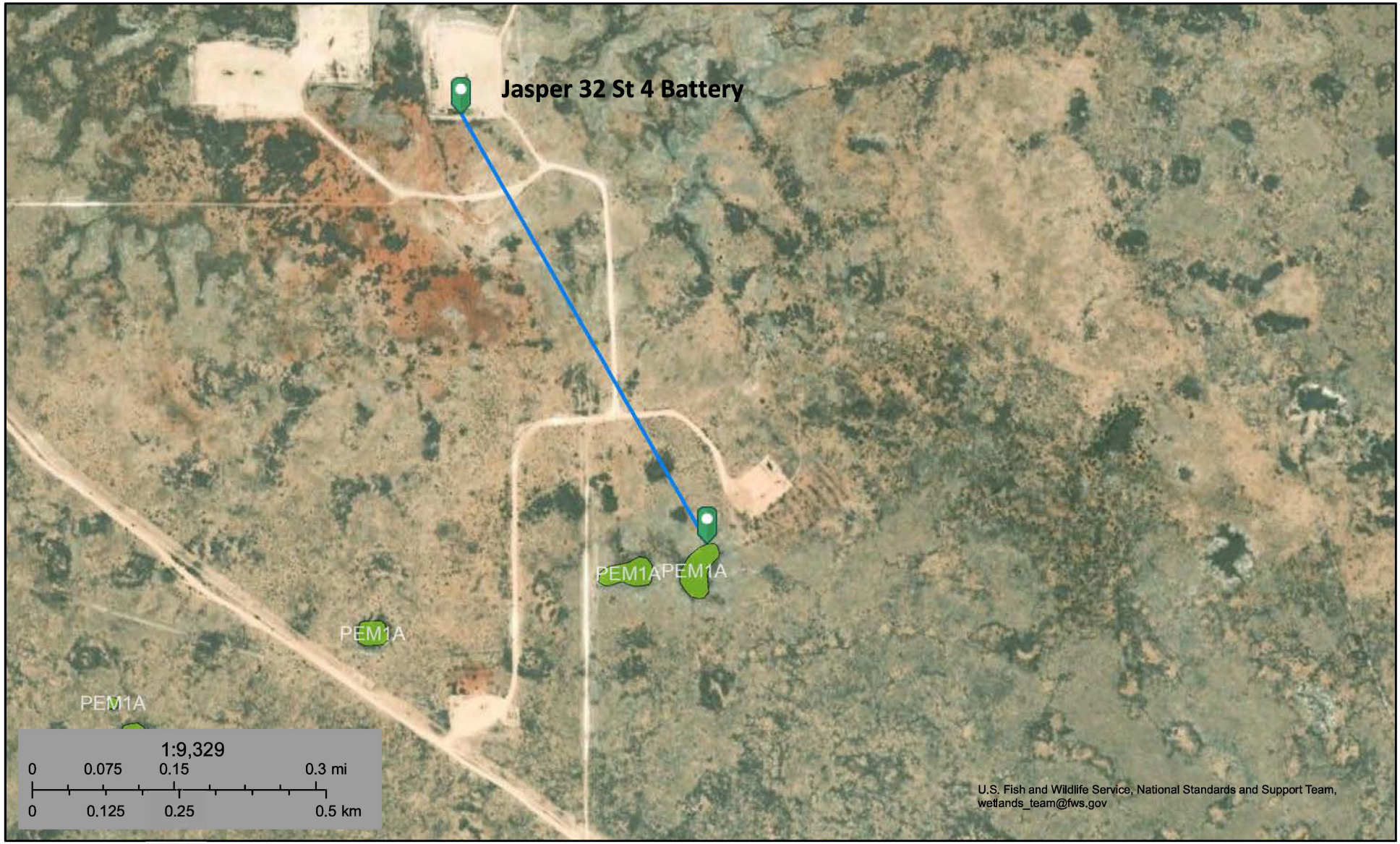
Declared Groundwater Basins

Surface Water Sub Basins

Esri, HERE, Garmin, Esri, HERE, Maxar

U.S. Fish and Wildlife Service
National Wetlands Inventory

Jasper 32 St 4 Battery
Nearest Wetland: Freshwater Emergent Wetland
Distance: 0.44 miles/2,323 feet



February 21, 2025

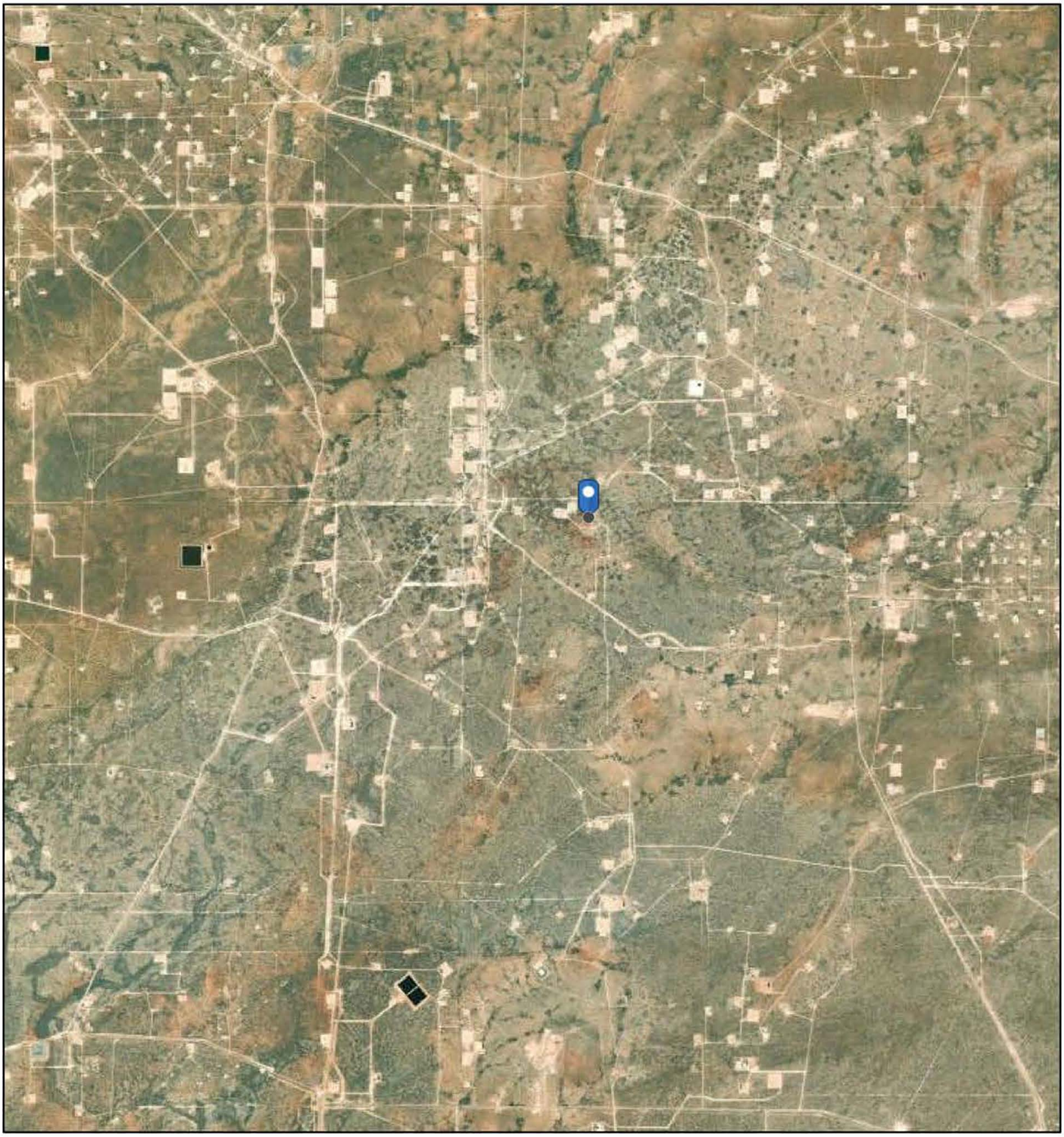
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

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

Jasper 32 St 4 Battery Subsurface Mines



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1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

Mining_Ghost_Towns

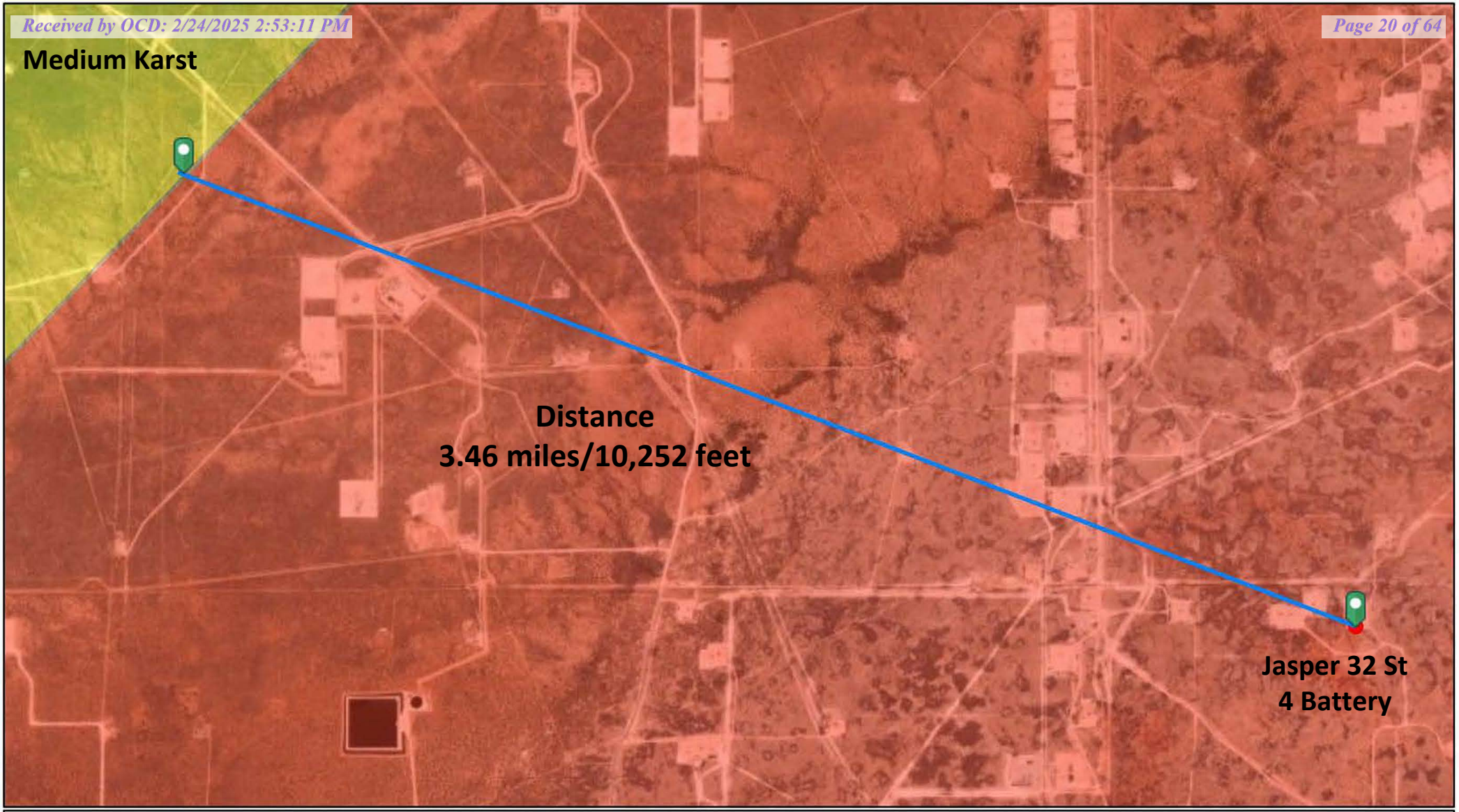
Counties

REE_Districts

Fe skarn, carbonate-hosted Pb-Zn

REE-Th-U veins, fluorite veins

New Mexico Bureau of Geology and Mineral Resources, New Mexico Bureau of Geology & Mineral Resources, Earthstar Geographics, NMBGMR



Jasper 32 St 4 Battery Karst Potential & Distance

0 0.15 0.3 0.6 mi

N

New Mexico State Land Office

Disclaimer:
The New Mexico State Land Office assumes no responsibility or liability for, or in connection with the accuracy, reliability or use of the information provided herein with respect to State Land Office data or data from other sources.

Data pertaining to New Mexico State Trust Lands are provisional and subject to revision, and do not constitute an official record of title. Official records may be reviewed at the New Mexico State Land Office in Santa Fe, New Mexico.

User drawn points

Karst_Potential_NM

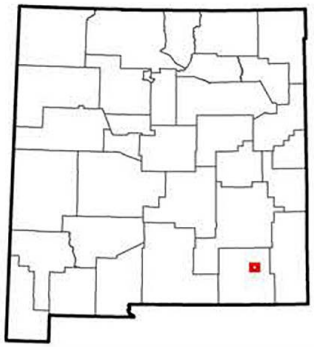
Potential

High

Medium

Low

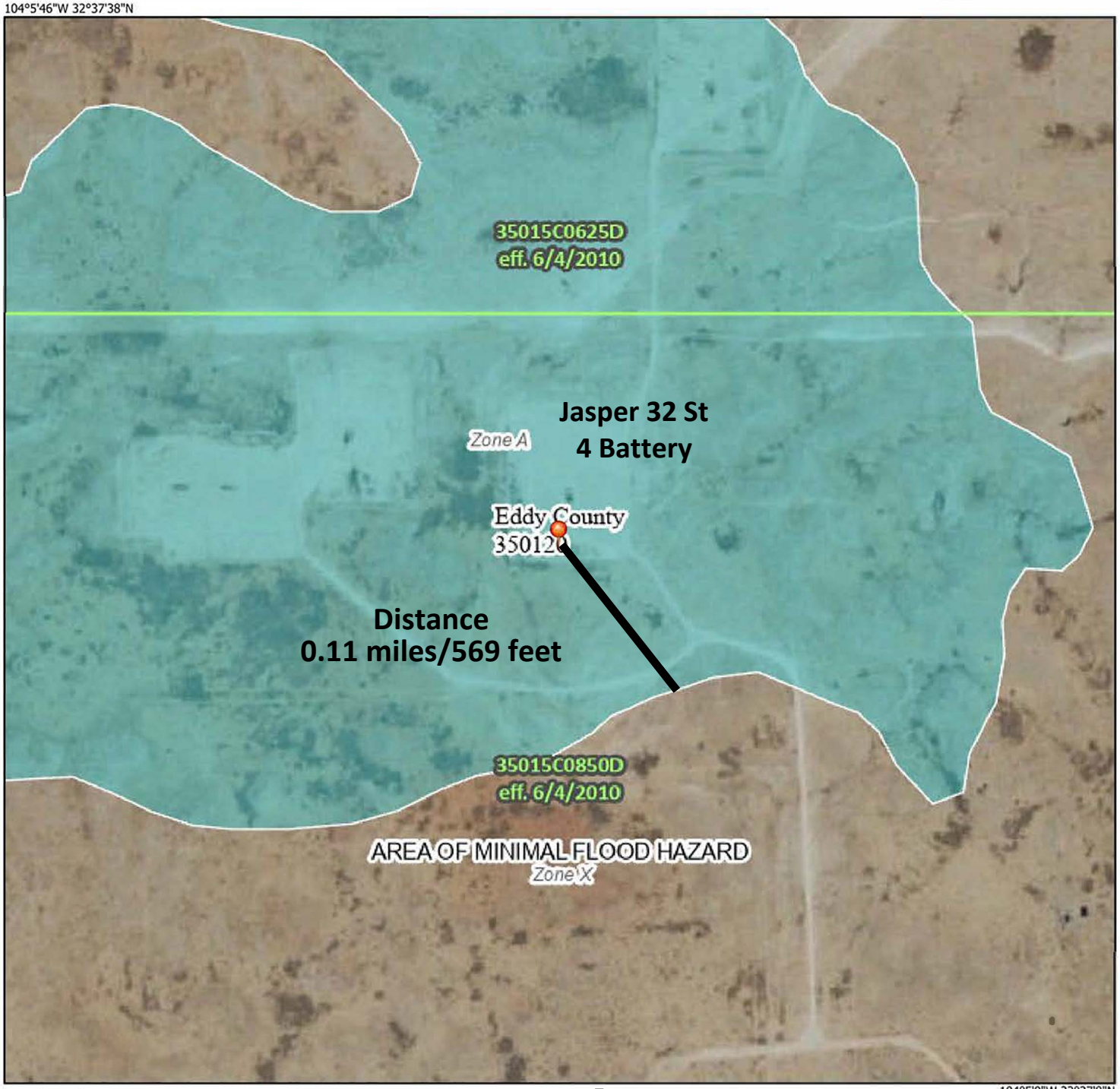
Critical_Karst_Zone_NM



Map Created: 2/21/2025

National Flood Hazard Layer FIRMette

FEMA



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

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/21/2025 at 10:00 AM 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.

Soil Map—Eddy Area, New Mexico

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 20, Sep 3, 2024

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

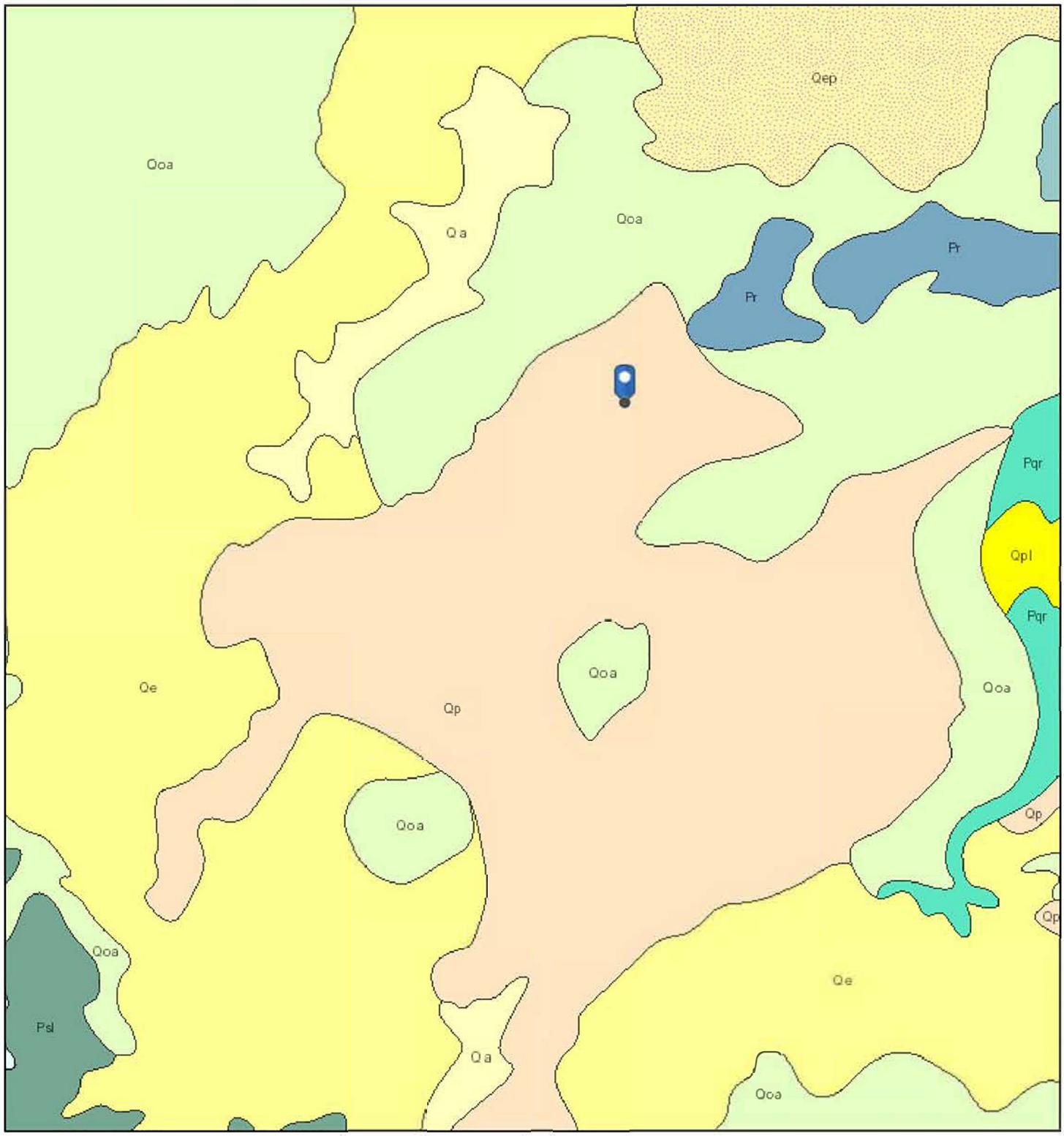
Date(s) aerial images were photographed: Nov 12, 2022—Dec 2, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RG	Reeves-Gypsum land complex, 0 to 3 percent slopes	4.6	100.0%
Totals for Area of Interest		**4.6**	**100.0%**

Jasper 32 St 4 Battery Geological Map



2/21/2025, 3:05:57 AM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Lithologic Contacts

- Contact, Exposed
- Contact, Gradational
- Nomenclature change
- Map Boundary

Earthstar Geographics, NMBGMR

Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Siete Oil & Gas Owner's Well No. Osage Federal #8
Street or Post Office Address P.O. Box 2523
City and State Roswell, New Mexico

Well was drilled under Permit No. CP-741 and is located in the:

a. NW ¼ SW ¼ NE ¼ ¼ of Section 34 Township 19S Range 29E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Dubose Drilling, Inc. License No. WD-1107

Address 5407 N. Golder Odessa, Texas

Drilling Began 4-17-89 Completed 4-20-89 Type tools Air Rotary Size of hole 9 7/8 in.

Elevation of land surface or _____ at well is 3320 ft. Total depth of well 230 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 60' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
60	230	170	Unknown (Loss drilling Returns @ 60')	20GMP

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8	PVC		0	230	20	None	230	170

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received April 24, 1989

Quad _____ FWL _____ FSL _____

File No. CP-741 Use OWD Location No. 19.29.34.23144

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	3	3	Surface soil
3	10	7	White Powder Caliche
10	18	8	Grey Sand
18	29	11	Red Hard Clay
29	33	4	White Powder caliche
33	39	6	Brown Coarse sandy clay w/quartz conglomerate
39	46	7	Red Brown sandy clay conglomerate
46	50	4	Lt. Brown sand & gravel
50	60	10	Lt. Brown sand stone (possible lime)
60	230	170	Unknown (Lost returns)

Section 7. REMARKS AND ADDITIONAL INFORMATION

Loss Returns at 60 ft. - Drilled blind to 230' - Air Rotary
Inject fresh water.

'89 APR 24 AM 8 28
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Lee Dixon
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this [redacted] is used as a plugging record, only Section 1(a) and Section 5 need be completed.

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: CP-1909 POD1

Well owner: Devon Energy Corporation Phone No.: 405-318-4697

Mailing address: 6488 Seven Rivers Highway

City: Artesia State: NM Zip code: 88210

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Hungry Horse, LLC

2) New Mexico Well Driller License No.: 1755 Expiration Date: 10/14/23

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): John Norris

4) Date well plugging began: 7/19/2022 Date well plugging concluded: 7/9/2022

5) GPS Well Location: Latitude: 32 deg, 36 min, 39.32 sec
Longitude: 104 deg, 4 min, 58.53 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 55 ft below ground level (bgl), by the following manner: measuring tape

7) Static water level measured at initiation of plugging: N/A ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 6/28/2022

9) Were all plugging activities consistent with an approved plugging plan? yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

RECEIVED OCD AUG 5 2022

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Bentonite grout	80.79		tremie	

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, John Norris, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller — Date: 7/25/2022

Version: September 8, 2009
Page 2 of 2

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL

Mike A. Hamman, P.E.
State Engineer

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623-8559

June 28, 2022

Devon Energy Corporation
6488 Seven Rivers Highway
Artesia, NM 88219

RE: Well Plugging Plan of Operations for well No. CP-1909-POD1

Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced well subject to the attached Conditions of Approval. The proposed method of operation is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 30, 2017 by the State Engineer. subject to the attached Conditions of Approval.

Well Plugging Plan of Operations form (WD-08) has been updated. Current form can be found on the OSE website at the following link https://www.ose.state.nm.us/Statewide/wdForms.php.

Within 30 days after the well is plugged, the well driller is required to file a complete plugging record with the OSE and the permit holder.

Sincerely,

K. Parekh

Kashyap Parekh
Water Resources Manager I

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623- 8559

Applicant has identified a well, listed below, to be plugged. Hungry Horse LLC (WD-1755) will perform the plugging.

Permittee: Devon Energy Corporation
NMOSE Permit Number: CP-1909-POD1

NMOSE File	Casing diameter (inches)	Well depth (feet bgl)	Approximate static water level (feet bgl)	Latitude	Longitude
CP-1909-POD1	N/A	55	Unknown	32° 36' 39.32"	104° 4' 58.53"

Specific Plugging Conditions of Approval for Well located in Eddy County, NM.

1. Water well drilling and well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.

2. Bentonite chips is the approved sealant. When bentonite chips are added above static water level, a minimum of 5-gallons of fresh water shall be added to the borehole per 50-lb of bentonite chips.

3. The bentonite shall be hydrated separately with its required increments of water prior to being mixed into the cement slurry.

4. Placement of the sealant within the wells shall be by pumping through a tremie pipe extended to near well bottom and kept below top of the slurry column as the well is plugged from bottom-upwards in a manner that displaces the standing water column.

5. Should cement "shrinks-back" occur in the well, use of a tremie for topping off is required for cement placement deeper than 20 feet below land surface or if water is present in the casing. The approved sealant for topping off is identified in condition 3. of these Specific Conditions of Approval.

6. Any open annulus encountered surrounding the casing shall also be sealed by the placement of the approved sealant. When plugging shallow wells with no construction or environmental concerns, and if the well record on a well to be plugged shows a proper 20-foot annular seal, a plugging plan can propose the use of clean fill material to a nominal 30 feet bgs, then placing an OSE approved sealant to surface. Lacking that information, we would require an excavation of at least 2-feet which shall then be filled in its entirety with sealant to surface.

7. Should the NMED, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.

8. NMOSE witnessing of the plugging of the non-artesian well will not be required.

9. Any deviation from this plan must obtain an approved variance from this office prior to implementation.

10. A Well Plugging Record itemizing actual abandonment process and materials used shall be filed with the State Engineer within 30 days after completion of well plugging. For the plugging record, please resurvey coordinate location for well and note coordinate system for GPS unit. Please attach a copy of these plugging conditions.

The NMOSE Well Plugging Plan of Operations is hereby approved with the aforesaid conditions applied.

Witness my hand and seal this 28th day of June 2022

Mike A. Hamman, P.E. State Engineer

By: K. Parekh

Kashyap Parekh
Water Resources Manager I

WELL PLUGGING PLAN OF OPERATIONS

NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nmt.edu/resources/water/cgmn/ if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email nmbg-waterlevels@nmt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP: ☐ Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: CP-1909-POD1

Name of well owner: Devon Energy Corporation

Mailing address: 6488 Seven Rivers Highway County: Eddy

City: Artesia State: NM Zip code: 88219

Phone number: (405) 318-4697 E-mail: dale.woodall@dvn.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Hungry Horse, LLC

New Mexico Well Driller License No.: 1755 Expiration Date: 10-14-2023

IV. WELL INFORMATION: ☐ **Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.**

Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 32 deg, 36 min, 39.32 sec
Longitude: 104 deg, 4 min, 58.53 sec, NAD 83

2) Reason(s) for plugging well(s):

No water present

OSE DII JUN 27 2022 PM3:38

3) Was well used for any type of monitoring program? Yes If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? No If yes, provide additional detail, including analytical results and/or laboratory report(s): N/A

5) Static water level: >100 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 55' feet

7) Inside diameter of innermost casing: N/A inches.

8) Casing material: N/A

9) The well was constructed with:

☐ an open-hole production interval, state the open interval: N/A

☐ a well screen or perforated pipe, state the screened interval(s): N/A

10) What annular interval surrounding the artesian casing of this well is cement-grouted? N/A

11) Was the well built with surface casing? No If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? N/A If yes, please describe:

N/A

12) Has all pumping equipment and associated piping been removed from the well? N/A If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING:

☐ **If plugging method differs between multiple wells on same site, a separate form must be completed for each method.**

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.

Also, if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.

1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:

The borehole will be grouted using a tremie pie, from the bottom to the surface.

2) Will well head be cut-off below land surface after plugging? N/A

VI. PLUGGING AND SEALING MATERIALS:

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe from the cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.

1) For plugging intervals that employ cement grout, complete and attach Table A.

2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.

3) Theoretical volume of grout required to plug the well to land surface: 5 bags

4) Type of Cement proposed: Bentonite Pellets

5) Proposed cement grout mix: N/A gallons of water per 94 pound sack of Portland cement.

6) Will the grout be: ____ batch-mixed and delivered to the site

X mixed on site

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7) Grout additives requested, and percent by dry weight relative to cement:

N/A

8) Additional notes and calculations:

N/A

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s):

72 hours after drilling, the well (32.610921, -104.082926) will be gauged for the presence of water. If water is present the NMOSE and NMOCD will be notified for guidance on possible conversion to monitor well. If no water is present the well will be plugged according to NMOSE Well Plugging Handbook, Appendix A, Permit Condition 6E. Within 20 days of well plugging, driller will submit Well Plugging Record WD-11 to NMOSE. The maximum period of time for completion of the operation will be 30 days.

VIII. SIGNATURE:

I, Dale Woodall, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Dale Woodall — Signature of Applicant

6/20/2022 — Date

OSE DII JUN 27 2022 PM3:39

IX. ACTION OF THE STATE ENGINEER:

This Well Plugging Plan of Operations is:

X Approved subject to the attached conditions.

____ Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this 28th day of June, 2022

Mike A. Hammon

~~John R. D'Antonio~~ Jr. P.E., New Mexico State Engineer

By: K. Parekh

KASHYAP PAREKH

W.R.M.I

GREAT SEAL OF THE STATE OF NEW MEXICO 1912

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)			
Bottom of proposed interval of grout placement (ft bgl)			
Theoretical volume of grout required per interval (gallons)			
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			
Mixed on-site or batch-mixed and delivered?			
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)	10	0	
Bottom of proposed sealant of grout placement (ft bgl)	55	10	
Theoretical volume of sealant required per interval (gallons)	N/A	N/A	
Proposed abandonment sealant (manufacturer and trade name)	native soil	bentonite	

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Water Right Summary

get image list

WR File Number:	CP 01000	**Subbasin:**	CP	**Cross Reference:**
Primary Purpose:	PLS NON 72-12-1 LIVESTOCK WATERING			
Primary Status:	DCL Declaration			
Total Acres:	0.000	**Subfile:**		**Header:**
Total Diversion:	3.000	**Cause/Case:**		
Owner:	DAGGER DRAW RANCH INC	**Owner Class:**	Owner	
Contact:	STEVE MCCUTCHEON			

Documents on File

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	D
get images	602075	EXPL	2010-11-09	PMT	APR	CP 01000	T	0.000	0.
get images	602073	REPAR	2010-11-09	PMT	APR	CP 01000	T	0.000	0.
get images	602068	DCL	2008-09-25	DCL	PRC	CP 01000	T	0.000	3.

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Locatio
CP 01000 POD1			NW	SE	NE	20	19S	29E	585196.7	3612703.6		
CP 01000 POD2			NW	SE	NE	20	19S	29E	585123.9	3612693.7		

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

Priority Summary

Priority	Status	Acres	Diversion	POD Number	Source
1948-12-31	DCL	0.000	3.000	CP 01000 POD1	

Place of Use

Q256	Q64	Q16	Q4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location I
							0.000	3.000		PLS	1948-12-31	DCL	NO PLACE OF US

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0.000	0.000		PLS	1948-12-31	GW	

2/21/25 2:40 AM MST **Water Rights Summary**

Eddy Area, New Mexico

RG—Reeves-Gypsum land complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w5f
Elevation: 1,250 to 5,000 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 190 to 235 days
Farmland classification: Not prime farmland

Map Unit Composition

Reeves and similar soils: 55 percent
Gypsum land: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reeves

Setting

Landform: Ridges, plains, hills
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gypsum

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 32 inches: clay loam
H3 - 32 to 60 inches: gypsiferous material

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Gypsum, maximum content: 80 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Description of Gypsum Land

Setting

Landform: Ridges, plains, hills
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gypsum

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Largo

Percent of map unit: 5 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Reagan

Percent of map unit: 5 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Cottonwood

Percent of map unit: 5 percent
Ecological site: R070BC033NM - Salty Bottomland
Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 20, Sep 3, 2024

USDA Natural Resources Conservation Service

Ecological site R070BC007NM
Loamy

Accessed: 11/19/2024

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.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on uplands landforms, mainly on hill slopes, ridges, plains, terraces and some fan remnants. Slopes range from 1 to 5 percent and average about 3 percent. Average annual precipitation is about 8 to 14 inches. Elevations range from 2,842 to 5,000 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Terrace (3) Fan piedmont
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–5,000 ft
Slope	0–5%
Aspect	E, S, W

Climatic features

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

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.

The average frost-free season is 207 to 220 days. The last killing frost 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 this site. Strong winds blow from the southwest in January through June rapidly drying out the soil during a critical time for cool season plant growth.

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

Table 3. Representative climatic features

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

Influencing water features

This site is not influenced by wetland or streams.

Soil features

The soils of this site are deep to moderately deep. The moderately deep soils have either a petrocalcic, petrogypsic or gypsum horizon between 30 and 40 inches.

Surface textures are loam, silt loam, very fine sandy loam, or clay loam. Substratum textures are loam, silty clay loam, clay loam, or silt loams. Subsoil textures are silt loam , clay loam silty clay loam, gravelly loam, gravelly clay loam or very gravelly loam. Permeability is moderate to slow and the available water holding capacity is high to moderate. The Atoka, Reeves, Russler, Milner soils may have highr amounts of CaC03, ranging as high as 40 percent in the subsoil. Rock fragments range fro 5 to 50 percent in the subsoil. Reeves, Rusler, Milner, Holloman soils will have 40 to 80 percent gypsum in the underlying material.

Maximum and minimum values listed below represent the characteristic soils for this site.

Characteristic Soils:

Atoka (petrocalcic)
Bigetty
Reagan
Reakor
Reeves (gypsum)
Russler (gypsum)
Largo
Russler (gypsum)
Largo
Berino
Tinney
Midessa
Ratliff
Holloman (gypsum)
Milner (gypsum)

Table 4. Representative soil features

Surface texture	(1) Loam (2) Very fine sandy loam (3) Silt loam
Family particle size	(1) Loamy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to slow
Soil depth	30–72 in

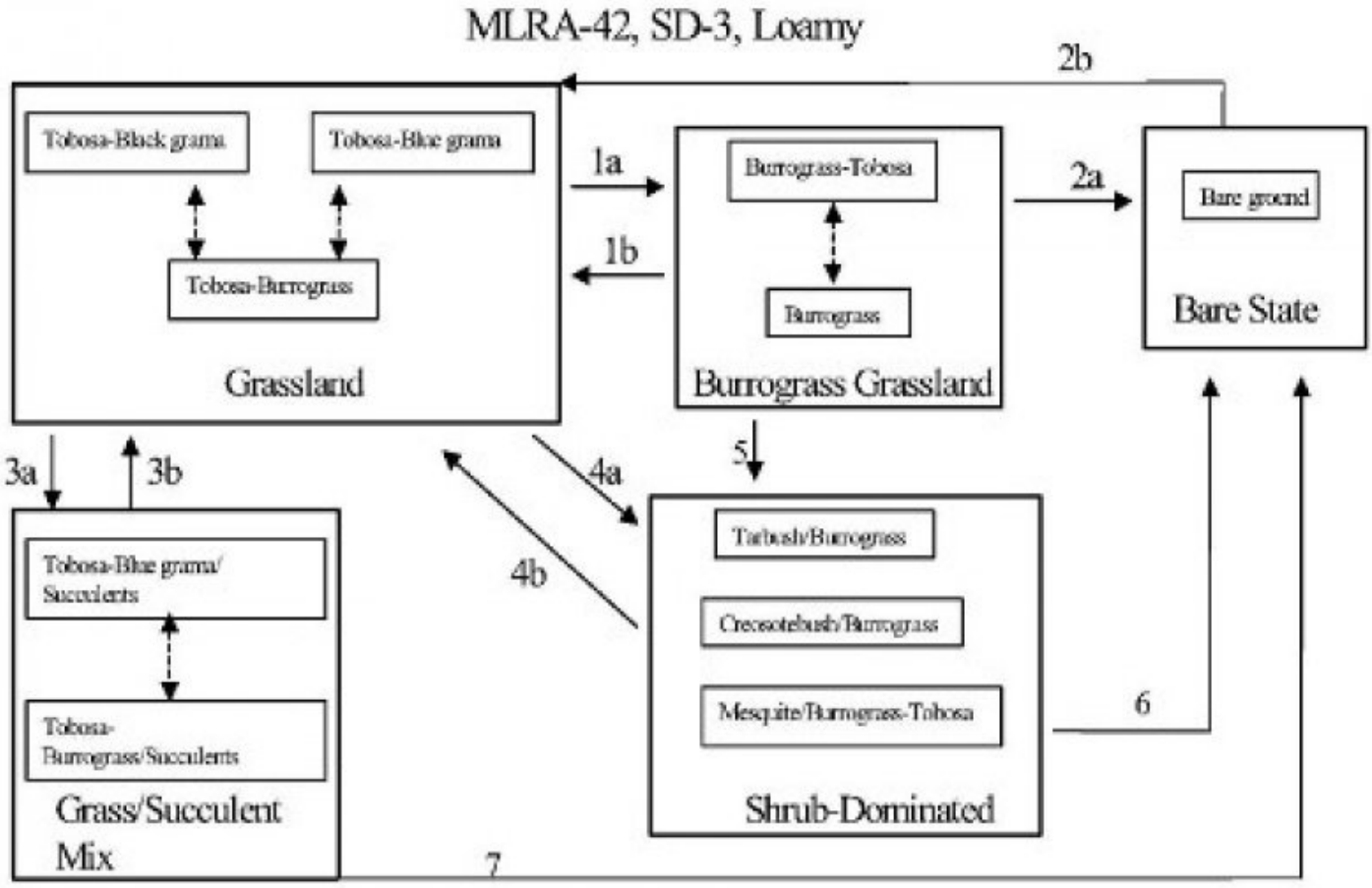
Surface fragment cover <=3"	0–5%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–12 in
Calcium carbonate equivalent (0-40in)	0–10%
Electrical conductivity (0-40in)	0–8 mmhos/cm
Sodium adsorption ratio (0-40in)	0–6
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	0–5%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview: The Loamy site is associated with the Gyp Upland ecological site with which it intergrades. There is a pronounced increase in alkali sacaton along this interface. The loamy site is also associated with the Gravelly and Shallow ecological sites from which it receives run-on water. The Draw site often dissects Loamy sites and is distinguished from the Loamy site by increased production or greater densities of woody species. The historic plant community has a grassland aspect, dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Tobosa, black grama and blue grama are the dominant species. Retrogression within this state is characterized by a decrease in black and blue grama and an increase in burrograss. Continuous overgrazing and drought can initiate a transition to a Burrograss- Grassland state. Continued reduction in grass cover and resulting infiltration problems may eventually effect a change to a Bare State, with very little or no remaining grass cover. Alternatively, creosotebush, tarbush or mesquite may expand or invade. Transitions back to a Grassland State from a Bare or Shrub-Dominated state are costly and may not be economically feasible. Decreased fire frequency may play a part in the transition to the Grass/Succulent Mix state with increased amounts of cholla and prickly pear.

State and transition model

Plant Communities and Transitional Pathways (diagram)



1a. Soil drying, overgrazing, drought, soil surface sealing. 1b. Restore natural overland flow, increase infiltration, prescribed grazing.

2a. Severe reduction in cover, soil surface sealing, decreased infiltration, erosion. 2b. Restore hydrology, break up physical crust, range seeding, prescribed grazing.

3a. Lack of fire, overgrazing, hail storms or other physical disturbance, drought. 3b. Prescribed fire, brush control, prescribed grazing.

4a. Seed dispersal of shrubs, persistent loss of grass cover, competition by shrubs, lack of fire. 4b. Brush control, range seeding -dependent on amount of grass (seed bank) remaining.

5. Loss of grass cover, seed dispersal of shrubs, competition by shrubs.

6. & 7. Brush control with continued loss of grass cover, soil sealing, erosion.

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

State Containing Historic Climax Plant Community Grassland: The historic plant community has a grassland aspect, dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Black grama, blue grama, and tobosa are the dominant grass species. There are a variety of perennial forbs and their production varies widely by season and year. Globemallow, verbena, groundsels, croton and filaree are forbs commonly found on this site. Fourwing saltbush and winterfat are two of the more palatable shrubs. The Loamy ecological site encompasses a

wide variety of soils, with surface textures ranging from sandy loams to clay loams. Soil depths range from shallow to very deep and can include sub surface features such as calcic, petrocalcic, and gypsic horizons. These variations cause differences in plant community composition and dynamics. Black grama is found at highest densities on coarser textured sandy loams, with blue grama preferring finer textured loam and silt loam, and tobosa favoring lower landscape positions and loam to clay loam surface textures. Burrograss may often be the dominant grass species on silty soils, perhaps in part due to the seedlings ability to auger into and establish on physically crusted soils. Gypsum influenced soils typically have greater amounts of tobosa, burrograss, and ephedra. There is greater representation of sideoats and vine mesquite within the tobosa-blue grama community. Retrogression under continuous heavy grazing results in a decrease of black grama, blue grama, sideoats grama, plains bristlegrass, bush muhly, cane bluestem, vine mesquite, winterfat, and fourwing saltbush. Species such as burrograss, threeawns, sand dropseed, sand muhly, and broom snakeweed increase under continuous heavy grazing or prolonged periods of drought. Under continued retrogression burrograss can completely dominate the site. Creosotebush, tarbush, and mesquite, can also dominate. Cholla and prickly pear can increase on areas that are disturbed or overgrazed. Diagnosis: Tobosa, black grama, and blue grama are the dominant species. Grass cover is uniformly distributed with few large bare areas. Shrubs are sparse and evenly distributed. Slopes range from level to gently sloping and usually display limited evidence of active rills and gully formation if plant cover remains intact. Litter movement associated with overland flow is limited to smaller size class litter and short distances. Other shrubs include: yucca, mesquite, tarbush, cholla and creosote bush. Other forbs include: desert holly, scorpionweed, bladderpod, flax, nama, fleabane, Indianwheat, Indian blanket flower, groundcherry, deerstongue, and rayless goldenrod.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	585	833	1080
Forb	39	55	72
Shrub/Vine	26	37	48
Total	**650**	**925**	**1200**

Table 6. Ground cover

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

Figure 5. Plant community growth curve (percent production by month). NM2807, R042XC007NM Loamy HCPC. R042XC007NM Loamy HCPC Warm Season Plant Community..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	10	10	25	30	15	5	0	0

State 2

Burrograss-Grassland

Community 2.1
Burrograss-Grassland

Burrograss-Grassland: Changes in hydrology resulting in decreased available soil moisture, reduces grass cover and increases bare ground. Burrograss is the dominant grass. Tobosa cover is variable and can range from sizeable areas to small patches occupying only depressions or the lowest and wettest positions within the site. Threeawns, ear muhly, sand muhly, and fluffgrass occur at increased densities compared to the grassland state. Shrub densities may increase especially mesquite, creosotebush or tarbush. Retrogression within this state is characterized by a further decrease in grass cover and increased bare ground. Further deterioration of this site can result in the transition to a bare state or becoming shrub dominated. Diagnosis: Burrograss is the dominant species. Grass cover is no longer uniformly distributed, instead tending to be patchy with large areas of bare ground present. Physical crusts are present in bare areas reducing infiltration and suppressing seedling establishment by any grass species other than burrograss. Transition to Burrograss-Grassland (1a): Transitions from grassland to a burrograss-grassland state may occur due to changes in hydrology. Gullies, roads or obstructions that alter natural water flow patterns may cause this transition. Changes in surface hydrology may also occur due to overgrazing or drought. The reduction in grass cover promotes increased soil physical crusts and reduces infiltration. 5 Key indicators of approach to transition: ? Diversion of overland flow resulting in decreased soil moisture. ? Increase in amount of burrograss cover ? Reduction in grass cover and increase in size and frequency of bare patches. ? Formation of physical crusts—indicating reduced infiltration. ? Evidence of litter movement—indicating loss or redistribution of organic matter. Transition back to Grassland (1b) The natural hydrology of the site must be returned. Culverts, turnouts, or rerouting roads may help re-establish natural overland flow, if roads or trails have altered the hydrology. Erosion control structures or shaping and filling gullies may help regain natural flow patterns and establish vegetation if the flow has been channeled. Breaking up physical crusts by soil disturbance may promote infiltration and seedling emergence. Allow natural revegetation to take place. Prescribed grazing will help ensure proper forage utilization and reduce grass loss due to grazing.

State 3
Bare State

Community 3.1
Bare State

Bare State: Extremely low ground cover, soil degradation and erosion characterize this state. Very little vegetation remains. Burrograss is the dominant grass and cover is extremely patchy. Physical soil crusts are extensive. Erosion and resource depletion increase as site degrades. Diagnosis: Very little cover remains. Erosion is evident by soil sealing, water flow patterns, pedestals or terracettes. Rills and gullies may be present and active. Transition to Bare State (2a): Extended drought, continuous heavy grazing, or other disturbance that severely depletes grass cover can effect this transition. As grass cover decreases, sheet flow and erosion increase, and physical soil crusts form, thereby further reducing infiltration. Key indicators of approach to transition: ? Continued reduction in grass cover. ? Increased soil surface sealing. ? Increased erosion. ? Reduced aggregate stability in bare areas. Transition back to Grassland (2b) Restore the hydrology, see (1a). With the extent of grass loss range seeding may be necessary. Utilizing livestock or mechanical means to break up the physical crusts may increase infiltration and aid seedling establishment. Prescribed grazing will help ensure adequate deferment period following seeding, and proper forage utilization once the grass stand is well established. The degree to which this site is capable of recovery depends on the restoration of hydrology, extent of degradation to soil resources, and adequate rainfall necessary to establish grasses.

State 4
Grass/Succulent Mix

Community 4.1
Grass/Succulent Mix

Grass / Succulent Mix: Increased representations of succulents characterize this site. Increased densities of cholla or pricklypear is recognized as a management concern, but their impact on grass production is unclear. Light to

medium cholla or prickly pear infestation doesn't seem to greatly reduce grass production, however it limits access to palatable grasses and interferes with livestock movement and handling. Tobosa and blue grama are the dominant species on this site. Retrogression within this site is characterized by a decrease in blue grama and an increase in succulents, tobosa and burrograss. Diagnosis: Cholla or prickly pear is found at increased densities. Grass cover is variable ranging from uniformly distributed to patchy with frequent areas of bare ground present. Tobosa or blue grama is the dominant grass species. Transition to Grass/Succulent Mix (3a): If fire was historically a part of desert grassland ecosystem and played a role in suppressing seedlings of shrubs and succulents, then fire suppression may favor the increase of succulents.1 Heavy grazing by livestock or other physical disturbances may help disseminate seed and increase the establishment of succulents. Areas historically overgrazed by sheep are sometimes associated with higher densities of Succulents. Intense hailstorms can spread pricklypear by breaking off joints causing new plants to take root.3 During severe drought perennial grass cover can decline significantly, leaving resources available for use by more drought tolerant succulents. Cholla and pricklypear are both adapted to and favored by drought due to the ability of their shallow, wide spreading root systems to absorb and store water.4 Key indicators of approach to transition: ? Decrease or change in distribution of grass cover. ? Increase in amount of succulent seedlings. ? Increased cover of succulents. Transition back to Grassland (3b) Fire is an effective means of controlling cholla and prickly pear if adequate grass cover remains to carry fire.2 Cholla greater than two feet tall or pricklypear with a large amount of pads (>15-20) are harder to kill. Chemical control is effective in controlling prickly pear and cholla; apply when growth starts in May. Hand grubbing is also effective if cholla or pricklypear is severed 2-4 inches below ground and care is taken not to let broken joints or pads take root. Stacking and burning piles and grubbing during winter or drought help keeps broken joints and pads from rooting. Prescribed grazing will help ensure proper forage utilization and sustain grass cover.

State 5
Shrub Dominated

Community 5.1
Shrub Dominated

Shrub Dominated: Increased shrub cover characterizes this state. Mesquite, creosotebush, and/or tarbush are the dominant shrub species. Burrograss or tobosa is the dominant grass species. Grass cover is decreased, typically patchy with large bare areas present; however, sometimes grass cover can remain relatively high for extended periods when associated with light to moderate infestations of mesquite. Variations in soil characteristics play a part in determining which shrub species increase. Mesquite is well adapted to a wide range of soil types, but increases more often on deep soils low in carbonates, that have a sandy surface overlying finer textured soils. Tarbush prefers finer textured, calcareous soils, usually in lower positions that receive some extra water. Creosotebush is less tolerant of fine textured soils, preferring sandy, calcareous soils that have some gravel. Creosotebush also does well on soils that are shallow over caliche. Retrogression within this state is characterized by a decrease in tobosa, and an increase in burrograss. As the site continues to degrade shrub cover continues to increase and grass cover is severely reduced. Diagnosis: Mesquite, Creosotebush, and/or tarbush are the dominant shrubs. Blue grama and black grama cover is low or absent. Burrograss or tobosa are the dominant grasses. Typically grass cover is patchy with large interconnected bare areas present. Physical soil crusts are present, especially on silt loam surface soils. Transition to Shrub Dominated (4a): Wildlife and livestock consume and disperse mesquite seeds. Flood events may wash creosote or tarbush seeds off adjacent gravelly sites onto the loamy site and supply adequate moisture for germination. Persistent loss of grass cover due to overgrazing or drought can cause large bare patches, providing competition free areas for shrub seedling establishment. As shrub cover increases, competition for soil resources, especially water, becomes a major factor in further reducing grass cover. Reduction of fire, due to either fire suppression policy or loss of adequate fine fuels may increase the probability of shrub encroachment. Increased soil surface physical crusts and associated decreased infiltration, may prevent the establishment of grass seedlings. Transition to Shrub Dominated (5): The dispersal of creosotebush, tarbush or mesquite seed, combined with loss of grass cover and resource competition by shrubs may cause this transition. Key indicators of approach to transition: ? Decreased grass and litter cover. ? Increased bare patch size. ? Increased physical soil crusts. ? Increased amount of mesquite, creosotebush, or tarbush seedlings. ? Increased shrub cover. Transition back to Grassland (4b) Brush control will be necessary to remove shrubs and eliminate competition for resources necessary for grass establishment or reproduction. Seeding may be necessary on those sites where desired grass species are absent or very limited. Pitting and seeding may increase the chances of successful grass establishment. Prescribed grazing will help ensure adequate time is elapsed before grazing seeded area is allowed and proper forage utilization following seeding establishment. Transition to Bare State (6): If grass cover on the shrub-dominated state is

severely limited and shrubs are removed a bare state may result. This transition will depend on amount of grasses or seed remaining, whether site is seeded, or if seeding is successful. Transition to Bare State (7): Removal of succulents and continued overgrazing or drought may cause loss of remaining grasses and erosion. Soil surface physical crusting may also be an important factor in inhibiting grass seedling establishment

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season**			278–324	
	tobosagrass	PLMU3	*Pleuraphis mutica*	278–324	–
2	**Warm Season**			9–46	
	burrograss	SCBR2	*Scleropogon brevifolius*	9–46	–
3	**Warm Season**			231–278	
	black grama	BOER4	*Bouteloua eriopoda*	231–278	–
	blue grama	BOGR2	*Bouteloua gracilis*	231–278	–
4	**Warm Season**			28–46	
	sideoats grama	BOCU	*Bouteloua curtipendula*	28–46	–
5	**Warm Season**			46–93	
	bush muhly	MUPO2	*Muhlenbergia porteri*	46–93	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	46–93	–
6	**Warm Season**			9–28	
	Arizona cottontop	DICA8	*Digitaria californica*	9–28	–
7	**Warm Season**			46–93	
	threeawn	ARIST	*Aristida*	46–93	–
	muhly	MUHLE	*Muhlenbergia*	46–93	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	46–93	–
8	**Warm Season**			28–46	
	Graminoid (grass or grass-like)	2GRAM	*Graminoid (grass or grass-like)*	28–46	–
Shrub/Vine					
9	**Shrub**			9–28	
	fourwing saltbush	ATCA2	*Atriplex canescens*	9–28	–
	jointfir	EPHED	*Ephedra*	9–28	–
	winterfat	KRLA2	*Krascheninnikovia lanata*	9–28	–
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	5–24	–
	Arizona cottontop	DICA8	*Digitaria californica*	5–24	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	5–24	–
10	**Shrub**			9–28	
	javelina bush	COER5	*Condalia ericoides*	9–28	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	9–28	–
	Grass, annual	2GA	*Grass, annual*	5–15	–
11	**Shrubs**			9–28	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	9–28	–
Forb					

12	**Forb**			9–46	
	threadleaf ragwort	SEFLF	*Senecio flaccidus var. flaccidus*	9–46	–
	globemallow	SPHAE	*Sphaeralcea*	9–46	–
	verbena	VEPO4	*Verbena polystachya*	9–46	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	5–15	–
	pricklypear	OPUNT	*Opuntia*	5–15	–
13	**Forb**			9–28	
	croton	CROTO	*Croton*	9–28	–
	woolly groundsel	PACA15	*Packera cana*	9–28	–
14	**Forb**			9–28	
	Goodding's tansyaster	MAPIG2	*Machaeranthera pinnatifida ssp. gooddingii var. gooddingii*	9–28	–
	woolly paperflower	PSTA	*Psilostrophe tagetina*	9–28	–
15	**Forb**			9–28	
	redstem stork's bill	ERCI6	*Erodium cicutarium*	9–28	–
	Texas stork's bill	ERTE13	*Erodium texanum*	9–28	–
16	**Forb**			9–28	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	9–28	–

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, black-tailed jackrabbit, black tailed prairie dog, yellow-faced pocket gopher, banner-tailed kangaroo rat, hispid cotton rat, swift fox, burrowing owl, horned lark, mockingbird, meadowlark, mourning dove, scaled quail, Great Plains toad, plains spadefoot toad, prairie rattlesnake and western coachwhip shake.

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
Atoka C
Bigetty B
Ratliff B
Reyab B
Holloman B
Largo B
Holloman B
Bigetty B
Berino B
Reagan B
Reakor B
Reeves B
Russler C

Recreational uses

This site offers limited potential for hiking, horseback riding, nature observation and photography. Game bird, antelope and predator hunting are also limited.

Wood products

This site has no potential for wood products

Other products

This site is suitable for grazing by all kinds and classes of livestock, during all seasons of the year. Under retrogression, such plants as black grama, blue grama, sideoats grama, bush muhly, plains bristlegrass, Arizona cottontop, fourwing saltbush and winterfat decrease and there is an increase in burrograss, threeawns, sand dropseed, muhlys, broom snakeweed and javilinabush. Under continued retrogression, burrograss can completely dominate the site. Creosotebush, mesquite, and tarbush can also dominate. Grazing management alone will not improve the site in the above situation. This site is well suited 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 3.0 – 4.2
75 – 51 4.1 – 5.5
50 – 26 5.3 – 7.0
25 – 0 7.1 +

Inventory data references

Other 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 Chavez County.

Other references

Literature References:

1. Brooks, M.L., AND D.A. Pyke. 2001. Invasive plants and fire in the deserts of North America. Pages 1–14 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species.

2. Bunting, S.C., H.A. Wright, and L.F. Neuenschwander. 1980. Long-term effects of fire on cactus in the Southern Mixed Prairie of Texas. J. Range. Manage. 33: 85-88.

3. Laycock, W.A. 1982. Hail as an ecological factor in the increase of prickly
pear cactus. p. 359-361. In: J.A. Smith and V.W. Hays (eds.) Proc. XIV Int. Grassland Congr. Westview Press, Boulder, Colo.

4. Vallentine, J.F. 1989. Range Developments and Improvements. 3rd Edition. Academic Press. San Diego, California.

5. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheet. Rangeland Soil Quality—Physical and Biological Soil Crusts. Rangeland Sheet 6, [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

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:**

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

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

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

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

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

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

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial**

distribution on infiltration and runoff:

---

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

---

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

    Dominant:

    Sub-dominant:

    Other:

    Additional:

---

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

---

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

---

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

---

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

---

17. **Perennial plant reproductive capability:**

ATTACHMENT 3: CORRESPONDENCE

Outlook

RE: [EXTERNAL] nAPP2435652226 Jayhawk 6 CTB 2 Liner Inspection Notification

From Raley, Jim <jim.raley@dvn.com>
Date Mon 1/27/2025 6:08 AM
To Monica Peppin <Monica.Peppin@soudermiller.com>
Cc Stephanie Hinds <stephanie.hinds@soudermiller.com>

Submitted 1/27/2025

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | jim.raley@dvn.com

devon

From: Monica Peppin <Monica.Peppin@soudermiller.com>
Sent: Monday, January 27, 2025 6:00 AM
To: Raley, Jim <Jim.Raley@dvn.com>
Cc: ocd.enviro@emnrd.nm.gov; Stephanie Hinds <stephanie.hinds@soudermiller.com>; BLM Spill Email <blm_nm_cfo_spill@blm.gov>
Subject: [EXTERNAL] nAPP2435652226 Jayhawk 6 CTB 2 Liner Inspection Notification

All:

SMA anticipates conducting liner inspection activities at the following site on Thursday, January 30, 2025 at approximately TIME 12:30 PM - 1:30 PM. Details Below:

Proposed Date: Thursday, January 30, 2025
Time Frame: 12:30 PM - 1:30 PM
Site Name: Jayhawk 6 CTB 2
Incident ID: nAPP2435652226
API/Facility ID: fAPP2130256650

Liner Inspection Notification	
Incident ID and Site Name:	nAPP2435652226/Jayhawk 6 CTB 2
API # and Corresponding Agency:	fAPP2130256650
Question	Answer (Fill In)
What is the liner inspection surface area in square feet (secondary containmet):	Approx. 7,356 sq ft
Have all the impacted materials been removed from the liner and cleaned?	12:30 - 1:30 PM
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC: 48 HOURS PRIOR TO INSPECTION	1.30.25
Time liner inspection will commence:	
Please provide any information necessary for observers to contact inspector: (Name and Number)	Monica Peppin 575.909.3418

Please provide any information necessary for navigation to liner inspection site and coordinates (Lat/Long)	**Intersection of 128/Battle Axe Rd travel south on Battle Axe 12.3 miles, turn left onto lease road travel 0.07 miles, turn left on Anthony Rd travel 1.3 miles, turn right 0.07 miles, at Y stay right, continue on lease rd and follow onto location. 32.06140013, -103.5114962**

If you have any questions or concerns, feel free to reach out via email or phone.

Thanks,
MP

Monica Peppin, A.S.

Project Manager

Direct/Mobile: 575.909.3418

Office: 575.689.7040

201 S Halagueno St.

Carlsbad, NM 88220

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Outlook

RE: [EXTERNAL] nAPP2435533264 Jasper 32 ST 4 Battery Liner Inspection Notification 2.19.25

From Raley, Jim <Jim.Raley@dvn.com>
Date Thu 2/13/2025 1:46 PM
To Monica Peppin <Monica.Peppin@soudermiller.com>
Cc Stephanie Hinds <stephanie.hinds@soudermiller.com>

Submitted 2/13/2025

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | jim.raley@dvn.com

devon

From: Monica Peppin <Monica.Peppin@soudermiller.com>
Sent: Thursday, February 13, 2025 12:50 PM
To: Raley, Jim <Jim.Raley@dvn.com>
Cc: Stephanie Hinds <stephanie.hinds@soudermiller.com>
Subject: [EXTERNAL] nAPP2435533264 Jasper 32 ST 4 Battery Liner Inspection Notification 2.19.25

Jim,

Here is the rescheduled liner inspection for Jasper. Monday is President's Day so want to get this over to you sooner than later. SLO will need notification as well.

SMA anticipates conducting liner inspection activities at the following site on Wednesday, February 19, 2025 at approximately TIME 1:00 PM- 2:00 PM.
Details Below:

Proposed Date: Wednesday February 19, 2025
Time Frame: 1 PM - 2 PM
Site Name: Jasper 32 St 4 Battery
Incident ID: nAPP2435533264
API/Facility ID: fAPP2130256417

Liner Inspection Notification	
Incident ID and Site Name:	nAPP2435533264 Jasper 32 St 4 Battery
API # and Corresponding Agency:	fAPP2130256417/NMOCD & SLO
Question	Answer (Fill In)
What is the liner inspection surface area in square feet (secondary containmet):	Approx. 3,035 sq ft
Have all the impacted materials been removed from the liner and cleaned?	2.12.25
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC: 48 HRS PRIOR TO INSPECTION	2.19.25
Time liner inspection will commence:	1:30 PM
Please provide any info necessary for observers to contact inspector:(Name and Number)	Monica Peppin 575.909.3418
Please provide any information necessary for navigation to liner inspection site and coordinates (Lat/Long)	62/180 and Burton Flats Rd, travel north on Burton Flatts for 2.1 miles, turn left, travel west for for 1 mile, turn right travel north for 1.4 miles, turn left, travel northwest for 2.2 miles, turn left travel west following lease rd for 1.9 miles,

	turn right travel northeast through site for 0.3 miles turn right travel east for 0.3 miles, turn left travel north 0.24 miles, turn right at Y go 0.09 miles, end on location 32.623144, -104.090913

Monica Peppin, A.S.

Project Manager

Direct/Mobile: 575.909.3418

Office: 575.689.7040

201 S Halagueno St.

Carlsbad, NM 88220

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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 434798

QUESTIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 434798
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2435533264**
Incident Name	**NAPP2435533264 JASPER 32 ST 4 BATTERY @ 0**
Incident Type	**Oil Release**
Incident Status	**Remediation Closure Report Received**
Incident Facility	**[fAPP2130256417] JASPER 32 ST 4 BATTERY**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	JASPER 32 ST 4 BATTERY
Date Release Discovered	12/19/2024
Surface Owner	State

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure | Valve | Crude Oil | Released: 8 BBL | Recovered: 8 BBL | Lost: 0 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	2" check valve failed releasing oil to lined secondary containment.

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 434798
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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

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

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 02/24/2025

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QUESTIONS (continued)

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QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between ½ and 1 (mi.)
Categorize the risk of this well / site being in a karst geology	High
A 100-year floodplain	Zero feet, overlying, or within area
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	Yes
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	01/29/2025
On what date will (or did) the final sampling or liner inspection occur	02/19/2025
On what date will (or was) the remediation complete(d)	02/06/2025
What is the estimated surface area (in square feet) that will be remediated	3035
What is the estimated volume (in cubic yards) that will be remediated	0
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
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: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 02/24/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Liner Inspection Information	
Last liner inspection notification (C-141L) recorded	**431893**
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	**02/19/2025**
Was all the impacted materials removed from the liner	**Yes**
What was the liner inspection surface area in square feet	**3035**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**Yes**
What was the total surface area (in square feet) remediated	3035
What was the total volume (cubic yards) remediated	0
Summarize any additional remediation activities not included by answers (above)	Secondary Containment inspection completed. No breach through 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: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 02/24/2025

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CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	App ID 434798 Liner Inspection approved	3/5/2025