



Incident Number: nAPP2333127239

Release Assessment and Closure

Harroun Ranch West Battery

Section 20, Township 23 South, Range 29 East

County: Eddy

Vertex File Number: 23E-05202

Prepared for:

BTA Oil Producers, LLC

Prepared by:

Vertex Resource Services Inc.

Date:

December 2023

BTA Oil Producers, LLC
Harroun Ranch West Battery

Release Assessment and Closure
December 2023

Release Assessment and Closure
Harroun Ranch West Battery
Section 20, Township 23 South, Range 29 East
County: Eddy

Prepared for:
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104 S. Pecos
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New Mexico Oil Conservation Division – District 2
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Date

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PROJECT MANAGER, REPORT REVIEW

Date

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1.0 Introduction

BTA Oil Producers, LLC (BTA) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water and crude oil release that occurred on November 22, 2023, at Harroun Ranch West Battery (hereafter referred to as the "site") facility ID: fAPP2129830816. BTA submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on November 28, 2023. Incident ID number nAPP2333127239 was assigned to this incident.

This report describes the release assessment and liner inspection activities associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for the closure of this release as per NMAC 19.15.29.13.

2.0 Incident Description

The release occurred on November 22, 2023, due to a plug in the water leg to the Gun Barrel Tank, which caused the skim tank to overflow into the lined secondary containment. The incident was reported on November 28, 2023, and involved the release of 60 barrels (bbl.) of crude oil and 760 bbl. of produced water into lined containment. Approximately 60 bbl. of crude oil and 760 bbl. of produced water were recovered during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report.

3.0 Site Characteristics

The site is located approximately 5.2 miles east of Loving, New Mexico (Google Inc., 2023). The legal location for the site is Section 20, Township 23 South and Range 29 East in Eddy County, New Mexico. The release area is located on Bureau of Land Management property. An aerial photograph and site schematic are presented on Figure 1.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2023) indicates the site's surface geology primarily comprises Qp – Piedmont alluvial deposits. The predominant soil texture on the site is Simona-Bippus complex, 0 to 5% slopes. Additional soil characteristics include a drainage class of well drained with a runoff class of very low. The karst geology potential for the site is medium (United States Department of the Interior, Bureau of Land Management, 2018). The site was determined to be approximately 3.2 miles northeast from an unstable high karst area.

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

The surrounding landscape is associated with flood plains and alluvial fans with elevations ranging between 2,500 and 4,500 feet. The climate is semiarid with average annual precipitation ranging between 8 and 14 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be grasses with shrubs and half-shrubs (United States Department of Agriculture, Natural Resources Conservation Service, 2023). Limited to no vegetation is allowed to grow on the compacted production pad, right-of-way and access road. The site

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is not located in the vicinity of a subsurface mine. The nearest subsurface mine is located approximately 8.5 miles northeast from the site. It was determined that the lateral extents of the release area were not located within a 100-year floodplain. The nearest 100-year floodplain is located approximately 0.47 miles northeast of the site.

4.0 Closure Criteria Determination

The nearest active well to the site is a New Mexico Office of the State Engineer (NMOSE) monitoring well located approximately 1.01 miles southwest of the site (United States Geological Survey, 2023). Data from 2013 shows the NMOSE borehole recorded a depth to groundwater of 44 feet below the ground surface. Information pertaining to the depth to groundwater determination is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is a lakebed located approximately 1.08 miles northwest of the site (United States Fish and Wildlife Service, 2023).

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

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Table 1. Closure Criteria Worksheet			
Site Name: Harroun Ranch West Battery			
Spill Coordinates: 32.28333, -104.00263		X: 32.28333	Y: -104.00263
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	44	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	5,689	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	1,543	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	9,687	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or	2,461	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	3,152	feet
8	Within a subsurface mine area	No	(Y/N)
	Distance from a subsurface mine area	44,870	feet
9	Within an unstable area (Karst Map) and distance from unstable area	Medium	
	Distance from an unstable area	16,896	feet
10	Within a 100-year floodplain	No	(Y/N)
	Distance from a 100-year floodplain	2,500	feet
11	Soil Type	Gravelly Fine to Sandy Loam	
12	Ecological Classification	Simona-Bippus	
13	Geology	Qp	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

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

Table 2. Closure Criteria for Soils Impacted by a Release		
Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids

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

BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Liner Inspection

Notification that a liner inspection was scheduled to be completed was provided to the NMOCD on December 14, 2023. Visual observation of the liner was completed on all sides and the base of the containment, around equipment, and of all seams in the liner. It was verified that the liner was intact and had the ability to contain the release. The Daily Field Report with photographs of the liner inspection is included in Appendix C. The Liner Inspection Notification email is included in Appendix D.

6.0 Closure Request

Vertex recommends no remediation action to address the release at the site. The secondary containment was intact and contained the release. There are no anticipated risks to human, ecological, or hydrological receptors associated with the release site. Reclamation for the pad will take place as soon as all oil and gas activities are terminated per 19.15.29.13 NMAC.

Vertex requests that this incident (nAPP2333127239) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. BTA certifies that all information in this report and the appendices are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the release at the site.

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

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7.0 References

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- United States Fish and Wildlife Service. (2023). *National Wetland Inventory - Surface Waters and Wetlands*. Retrieved from <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>
- United States Geological Survey. (2023). *National Water Information System: Web Interface*. Retrieved from <https://waterdata.usgs.gov/nwis>

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8.0 Limitations

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

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

FIGURES

Document Path: G:\Projects\US PROJECTS\BTA Oil Producers LLC\2023\BTA - Harroun\Figure 1 Characterization Schematic (23E-05202).mxd



Release Area in Containment (~9,619 sq.ft.)



0 15 30 ft
Map Center:
Lat/Long: 32.285858, -104.006498

NAD 1983 UTM Zone 13N
Date: Oct 10/23



Characterization Site Schematic Harroun Ranch West Tank Battery

FIGURE:

1



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

Note: Georeferenced image from Esri, 2022. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (Vertex), 2023. Site features from GPS by Vertex, 2023.

VERSATILITY. EXPERTISE.

APPENDIX A - NMOCD C-141 Report

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAPP2333127239
District RP	
Facility ID	FAPP2129830816
Application ID	

Release Notification

Responsible Party

Responsible Party: BTA Oil Producers	OGRID: 260297
Contact Name: Kelton Beaird	Contact Telephone: 432-312-2203
Contact email: kbeaird@btaoil.com	Incident # (assigned by OCD)NAPP2333127239
Contact mailing address 104 S. Pecos, Midland, TX 79701	

Location of Release Source

Latitude 32.28333 _____ Longitude -104.00263 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Harroun Ranch West Battery	Site Type: Tank Battery
Date Release Discovered: 11-22-23	API# (if applicable)

Unit Letter	Section	Township	Range	County
P	20	23S	29E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls): 60	Volume Recovered (bbls): 60
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): 760	Volume Recovered (bbls): 760
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A transfer pump failed causing the tanks to overflow into the lined secondary containment.

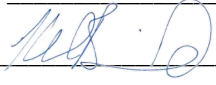
Calculation method for amount released:
Recovered fluids were placed into an isolated tank and gauged to determine the amount released.

Incident ID	NAPP2333127239
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? 25 bbls. or greater
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by Kelton Beaird to OCD.Enviro & Mike Bratcher on 11-23-23 by email.	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
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.	
Printed Name: <u>Kelton Beaird</u>	Title: <u>Environmental Manager</u>
Signature: <u></u>	Date: <u>11-28-23</u>
email: <u>kbeaird@btaoil.com</u>	Telephone: <u>432-312-2203</u>
<u>OCD Only</u>	
Received by: <u>Shelly Wells</u>	Date: <u>11/28/2023</u>

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

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

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

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

State of New Mexico

Energy, Minerals and Natural Resources

Oil Conservation Division

1220 S. St Francis Dr.

Santa Fe, NM 87505

CONDITIONS

Action 288679

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 288679
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	11/28/2023

APPENDIX B – Closure Criteria Research Documentation



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)
































(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Q 20	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C 02613		CUB	ED	4	4	2	20	23S	29E		594203	3573176*	942	400		
C 02721		CUB	ED		2	3	21	23S	29E		594915	3572879*	1164	150		
C 03057 EXPLORE		CUB	ED	4	1	1	21	23S	29E		594605	3573586*	1477	150		
C 03587 POD1		CUB	ED	1	4	3	29	23S	29E		593338	3570754	1630	99	44	55
C 02707		C	ED		2	28	23S	29E			595535	3571868*	1668	40	18	22
C 02720		CUB	ED		2	1	21	23S	29E		594911	3573690*	1726	150		
C 03587 POD2		CUB	ED	1	2	4	19	23S	29E		592213	3572706	1757	77	16	61
C 02182		C	ED		4	30	23S	29E			592328	3571048*	2010	75	30	45
C 02608		CUB	ED	3	1	4	17	23S	29E		593598	3574387*	2133	400		
C 01627		C	ED	1	4	4	28	23S	29E		595649	3570959*	2176	170		
C 03059 EXPLORE		CUB	ED	4	1	3	17	23S	29E		592993	3574378*	2294		65	
C 02808		CUB	ED		2	3	16	23S	29E		594909	3574501*	2433	100		
C 02809		CUB	ED		2	3	16	23S	29E		594909	3574501*	2433	100		
C 02716		CUB	ED	4	4	4	16	23S	29E		595818	3574002*	2565	400		
C 02706		C	ED		4	18	23S	29E			592302	3574291*	2581	17	10	7
C 01217 S		CUB	ED	4	1	4	16	23S	29E		595413	3574403*	2598	350		
C 02704		C	ED		1	19	23S	29E			591531	3573493*	2678	174		
C 02797		CUB	ED		2	3	22	23S	29E		596540	3572895*	2693	200		
C 02705		C	ED		2	17	23S	29E			593902	3575093*	2815	68	28	40
C 02717		CUB	ED	4	2	4	16	23S	29E		595817	3574407*	2852	400		
C 00571		CUB	ED	1	3	3	30	23S	29E		591241	3570957*	2985	90	38	52
C 03058 EXPLORE		CUB	ED	4	1	1	16	23S	29E		594605	3575206*	3007	150		
C 04490 POD1		CUB	ED	1	4	4	24	23S	28E		590876	3572492	3049	37	25	12
C 00571 CLW241602	O	CUB	ED	3	3	3	30	23S	29E		591241	3570757*	3078	89	38	51
C 02715		CUB	ED	4	1	3	15	23S	29E		596221	3574411*	3139	400		
C 02718		CUB	ED	4	4	2	16	23S	29E		595816	3574812*	3166	400		
C 00136 A		CUB	ED	4	4	4	25	23S	28E		591037	3570753*	3259	100	60	40
C 04556 POD3		CUB	ED	4	3	1	24	23S	28E		590567	3573265	3493	40	36	4
C 00136 S		CUB	ED	1	1	2	25	23S	28E		590426	3572167*	3493	122	45	77
C 00136		CUB	ED	3	1	2	25	23S	28E		590426	3571967*	3505	200	42	158
C 00136 CLW194026	O	CUB	ED	3	1	2	25	23S	28E		590426	3571967*	3505	200	52	148
C 00136 CLW235233	O	CUB	ED	3	1	2	25	23S	28E		590426	3571967*	3505	200	42	158

C_04490 POD3	CUB	ED	4	1	2	24	23S	28E	590596	3573502		3539	37	33	4
C_03001 EXPLORE	CUB	ED	1	1	4	25	23S	28E	590430	3571355*		3608	140		
C_01443	C	ED		2	1	25	23S	28E	590123	3572064*		3801	50	27	23
C_04556 POD2	CUB	ED	4	3	1	24	23S	28E	589891	3573239		4140	40	36	4
C_03965 POD4	CUB	ED		1	4	24	23S	28E	589918	3573381		4149	40	31	9
C_04584 POD3	CUB	ED	3	2	2	13	23S	28E	590887	3575129		4161	31		
C_00475	CUB	ED	2	1	3	25	23S	28E	589822	3571347*		4200	144	38	106
C_00500	CUB	ED	4	3	1	24	23S	28E	589811	3573176*		4204	130		
C_00868	CUB	ED	4	3	1	24	23S	28E	589811	3573176*		4204	190		
C_03965 POD5	CUB	ED	4	1	1	24	23S	28E	589864	3573534		4244	35	31	4
C_03615 POD1	CUB	ED	1	3	2	06	24S	29E	591964	3568500		4253	60	36	24
C_01215	CUB	ED	4	2	3	13	23S	28E	590210	3574397*		4270	104	15	89
C_02702	C	ED			2	13	23S	28E	590715	3575108*		4274	38	20	18
C_04326 POD14	CUB	ED	4	2	3	23	23S	29E	598191	3572765		4300	58	54	4
C_04556 POD1	CUB	ED	4	3	1	24	23S	28E	589720	3573237		4306	40	36	4
C_04326 POD16	CUB	ED	2	4	3	23	23S	29E	598209	3572664		4308	64	54	10
C_02794	CUB	ED		4	3	10	23S	29E	596518	3575731*		4322	100		
C_02795	CUB	ED		4	3	10	23S	29E	596518	3575731*		4322	200		
C_03535 POD1	C	ED	4	3	3	25	23S	28E	589860	3570751		4335	210	25	185
C_03146	C	ED	1	1	3	24	23S	28E	589613	3572970*		4360	82	36	46
C_01967	C	ED		2	3	13	23S	28E	590111	3574498*		4407	264	200	64
C_03615 POD2	CUB	ED	4	2	4	06	24S	29E	592661	3568013		4445	60	26	34
C_04490 POD2	CUB	ED	2	3	3	13	23S	28E	589899	3574259		4481	23	19	4
C_01214	CUB	ED	1	2	3	13	23S	28E	590010	3574597*		4544	70	20	50
C_01217	CUB	ED	4	1	3	13	23S	28E	589789	3574371		4629	87	50	37
C_04470 POD1	CUB	ED	3	1	3	07	23S	29E	591280	3576086		4632			
C_04584 POD2	CUB	ED	4	2	1	13	23S	28E	590250	3575123		4642	34	19	15
C_02804	CUB	ED		2	1	08	23S	29E	593262	3576905*		4673	100		
C_02805	CUB	ED		2	1	08	23S	29E	593262	3576905*		4673	100		
C_02806	CUB	ED		1	1	09	23S	29E	594473	3576927*		4682	100		
C_02807	CUB	ED		1	1	09	23S	29E	594473	3576927*		4682	100		

Average Depth to Water: **38 feet**

Minimum Depth: **10 feet**

Maximum Depth: **200 feet**

Record Count: 63

UTMNAD83 Radius Search (in meters):

Easting (X): 593918

Northing (Y): 3572278

Radius: 5000

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

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


9/14/23 2:07 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(quarters are smallest to largest)				(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y		
C	03587 POD1	1	4	3	29	23S	29E	593338	3570754		
x											
Driller License:		1348		Driller Company:			TAYLOR WATER WELL SERVICE				
Driller Name:		TAYLOR, CLINTON E. (LD)									
Drill Start Date:		04/13/2013		Drill Finish Date:			04/14/2013		Plug Date:		
Log File Date:		05/07/2013		PCW Rev Date:			Source:			Shallow	
Pump Type:					Pipe Discharge Size:			Estimated Yield:			1 GPM
Casing Size:		4.00		Depth Well:			99 feet		Depth Water:		44 feet
x											
Water Bearing Stratifications:					Top	Bottom	Description				
					98	99	Limestone/Dolomite/Chalk				
x											
Casing Perforations:					Top	Bottom					
					89	99					
x											

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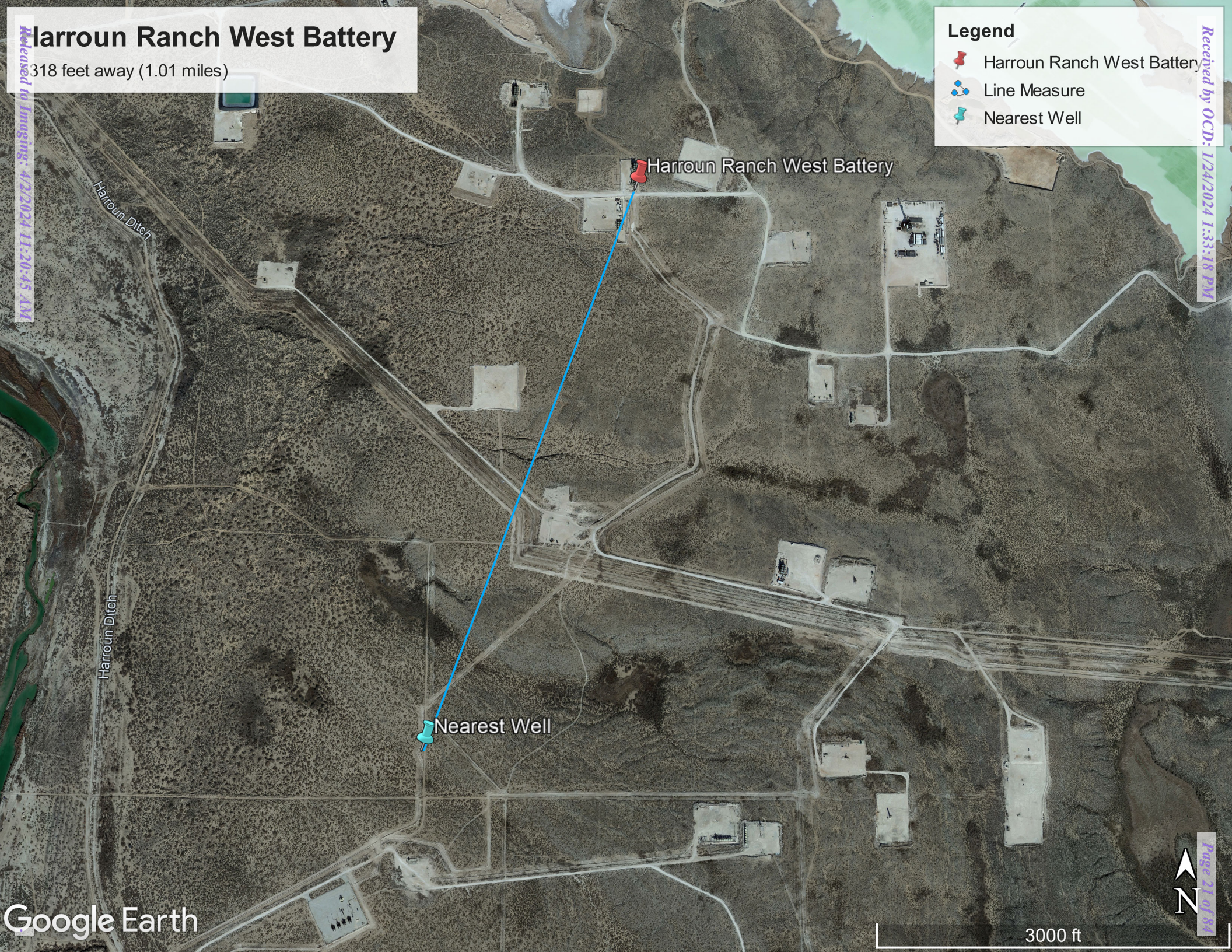
Harroun Ranch West Battery

318 feet away (1.01 miles)

Legend

- Harroun Ranch West Battery
- Line Measure
- Nearest Well

Received by OCD: 1/24/2024 1:33:18 PM



Harroun Ditch

Harroun Ditch

Harroun Ranch West Battery

Nearest Well



U.S. Fish and Wildlife Service

National Wetlands Inventory

02 - Watercourse - 5689 feet away (1.08 mi)
Harroun Ranch West Battery



September 14, 2023

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.

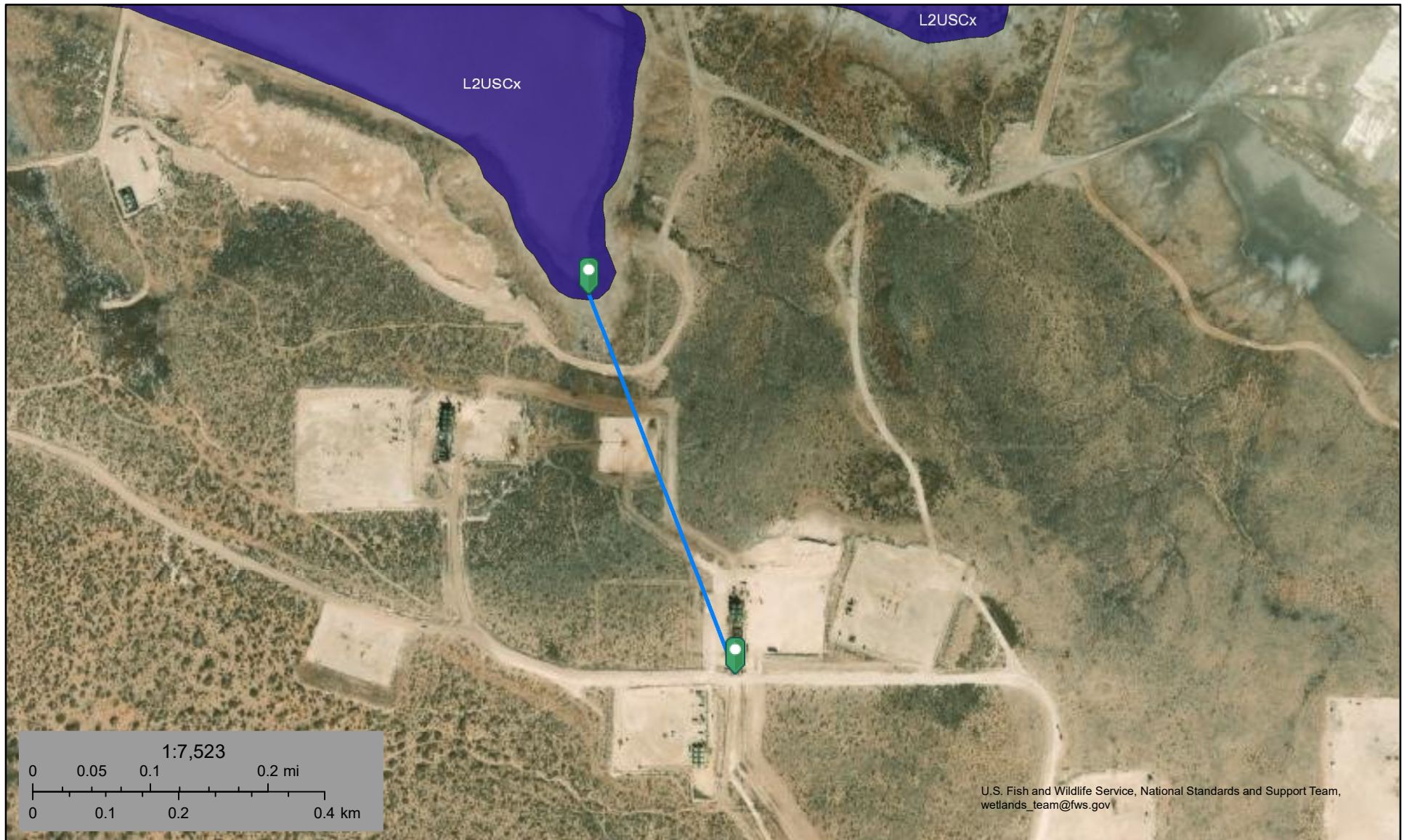


U.S. Fish and Wildlife Service

National Wetlands Inventory

03 - Lakebed - 1543 miles away (0.29 mi)

Harroun Ranch West Battery



September 14, 2023

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.


Harroun Ranch West Battery

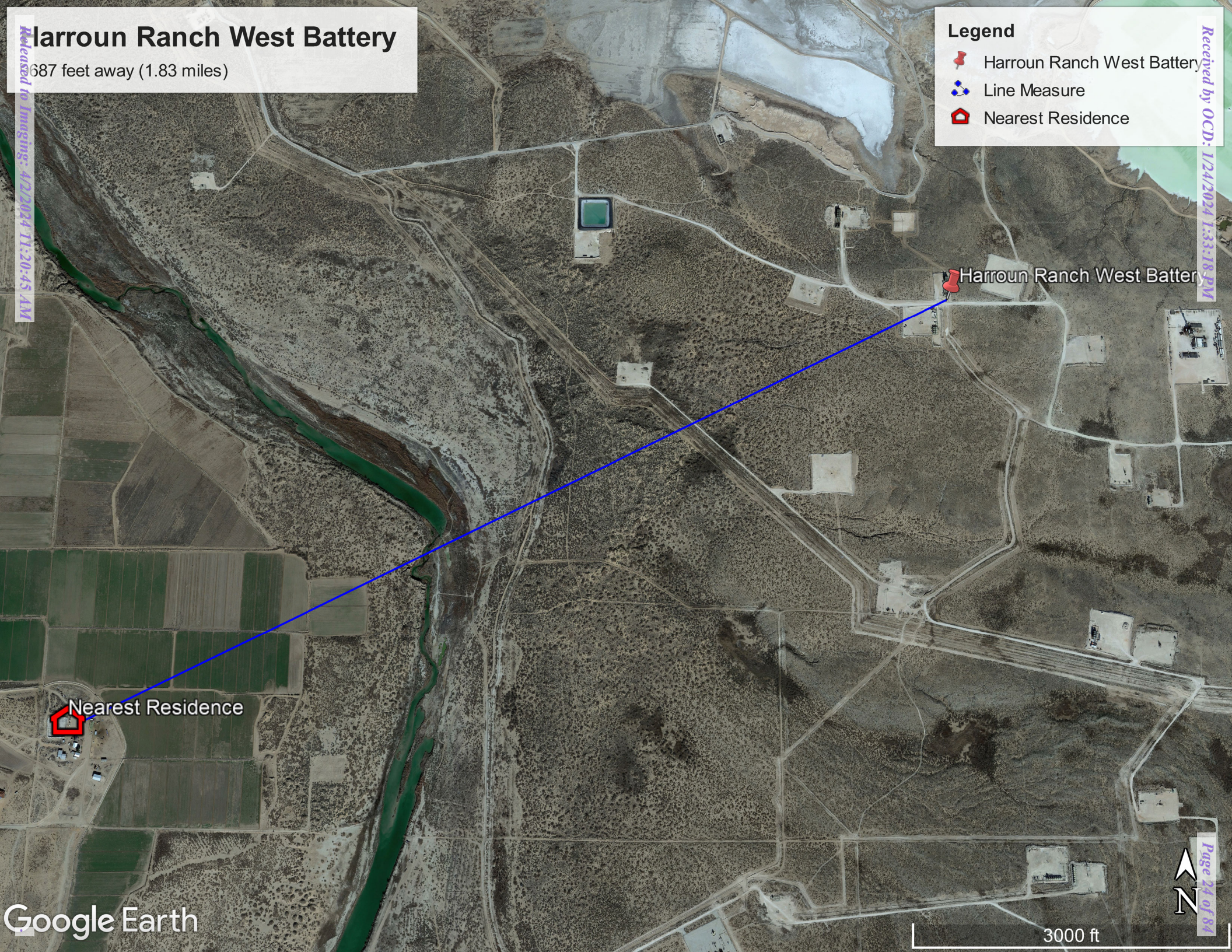
687 feet away (1.83 miles)

Legend

 Harroun Ranch West Battery

 Line Measure

 Nearest Residence



Nearest Residence


Harroun Ranch West Battery

Harroun Ranch West Battery

461 feet away (0.47 miles)

Legend

 Harroun Ranch West Battery

 Line Measure

 Livestock Well


Harroun Ranch West Battery


Livestock Well


Harroun Ranch West Battery

Loving municipality
7,479 feet away (5.20 miles)

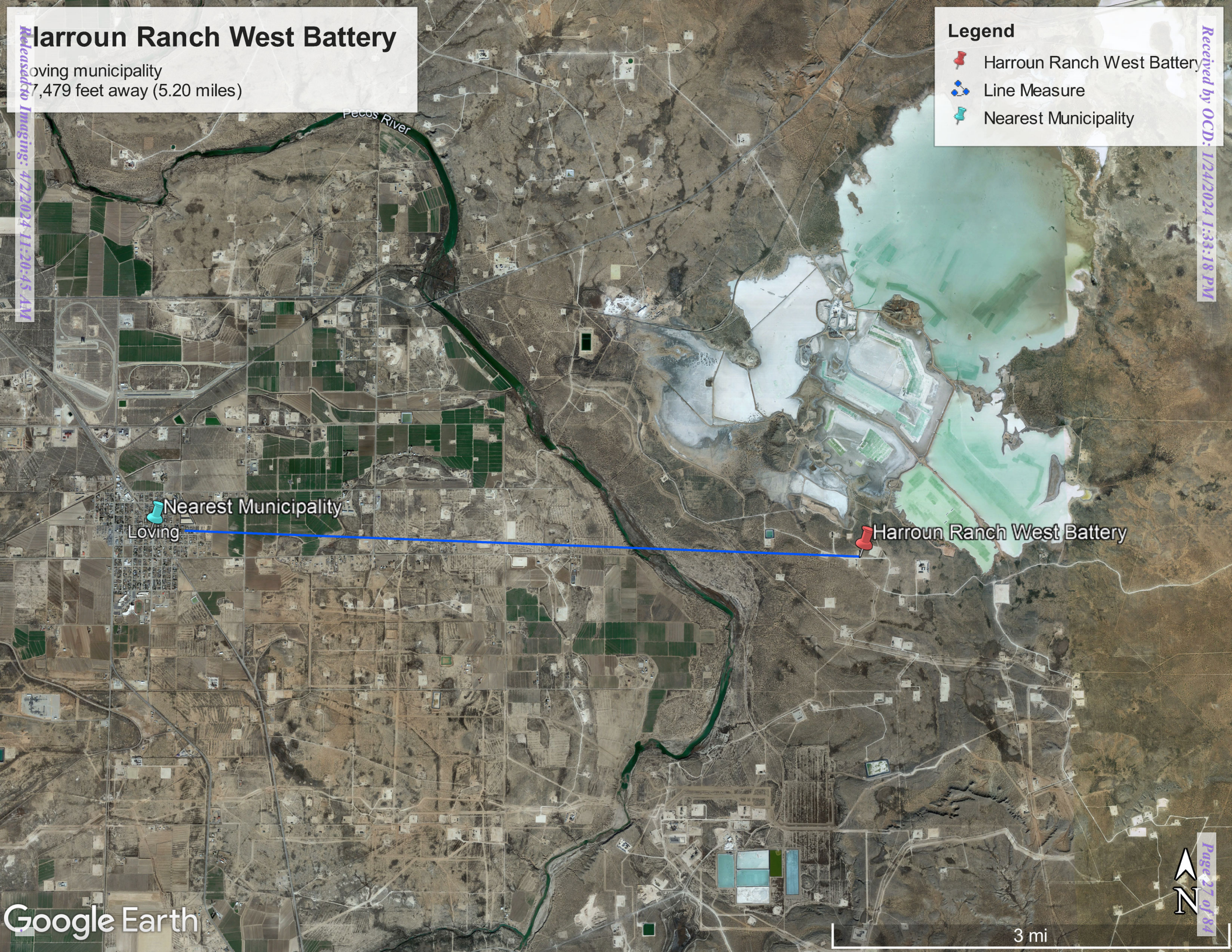
Legend

 Harroun Ranch West Battery

 Line Measure

 Nearest Municipality

Received by OCD: 1/24/2024 1:33:18 PM



Nearest Municipality
Loving

Harroun Ranch West Battery



U.S. Fish and Wildlife Service

National Wetlands Inventory

07 - Wetland - 3152 feet away (0.6 miles)
Harroun Ranch West Battery



September 14, 2023

Wetlands

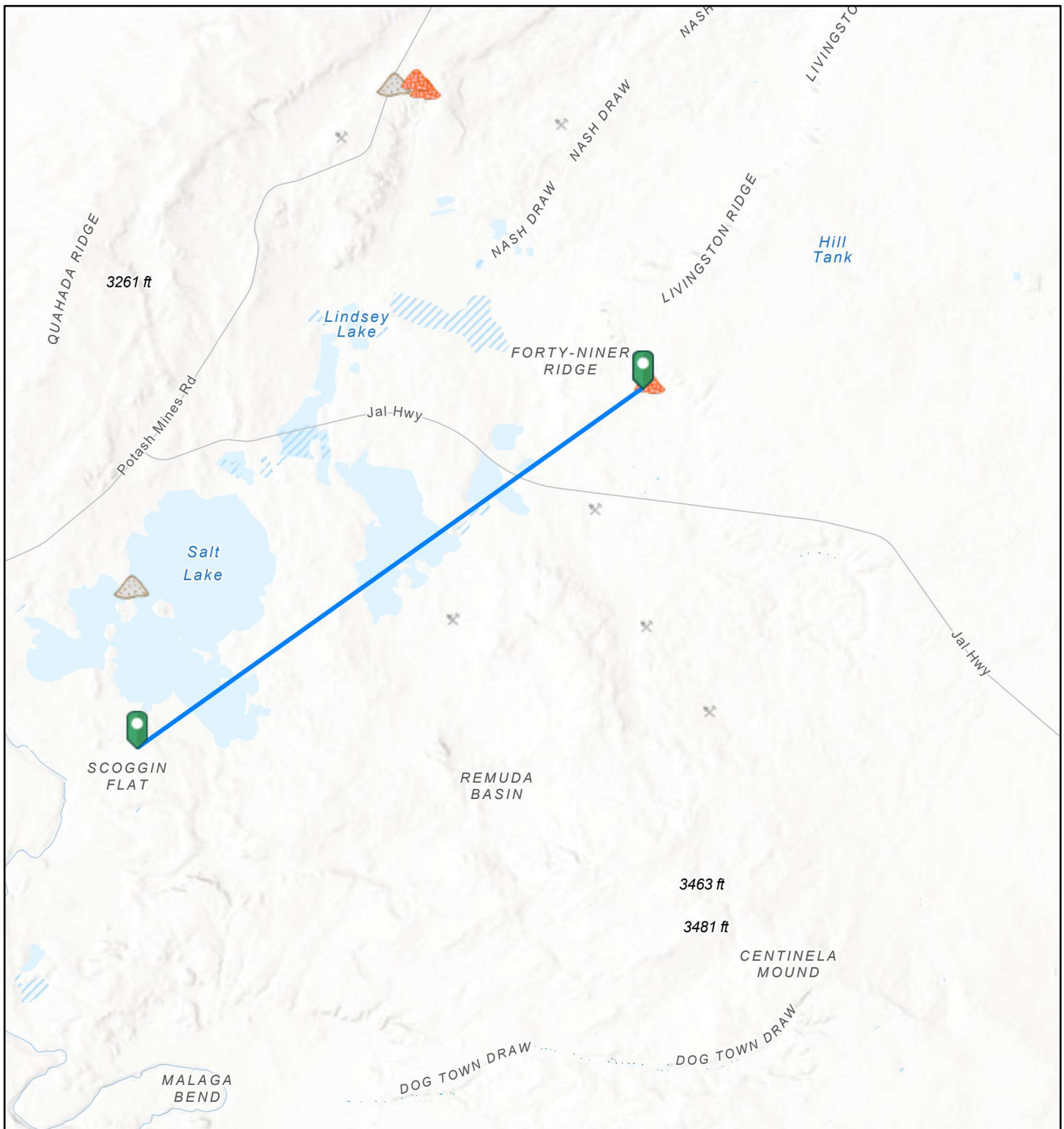
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- 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.

Subsurface Mine - Harroun Ranch West Battery - 44,870' away (8.5 mi)

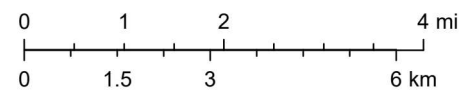


12/15/2023, 8:12:24 AM

1:144,448

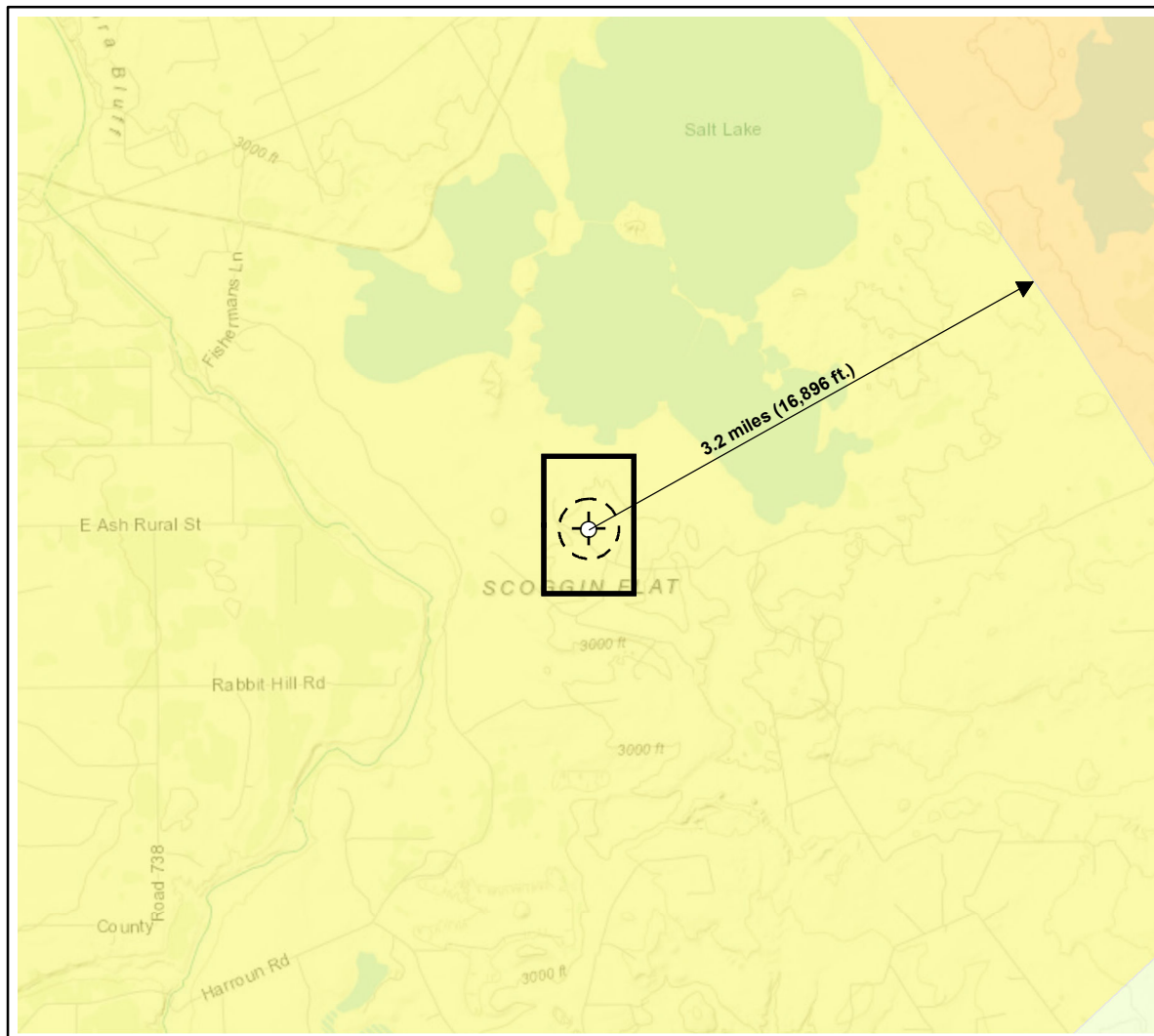
Registered Mines

-  Aggregate, Stone etc.
-  Potash
-  Salt



Esri, NASA, NGA, USGS, New Mexico State University, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

EMNRD MMD GIS Coordinator



Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Buffer Location (1000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft



Map Center:
32.2833, -104.0026

NAD 1983 UTM Zone 13N
Date: Dec 19/23



Karst Potential Map Harroun Ranch West Battery

Figure:
X



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

Note: Inset Map, Esri 2022; Overview Map: Esri World Topographic. Karst potential data sources from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management, (2018). Karst Potential.

National Flood Hazard Layer FIRMette



104°0'28"W 32°17'15"N



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

1:6,000

103°59'51"W 32°16'45"N

Released to Imaging: 4/2/2024 11:20:45 AM

Basemap Imagery Source: USGS National Map 2023

Legend

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

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



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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/14/2023 at 5:33 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for Eddy Area, New Mexico



September 14, 2023

Preface

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

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

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

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

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

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

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 An—Arno silty clay loam, 0 to 1 percent slopes..... 14

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 SM—Simona-Bippus complex, 0 to 5 percent slopes..... 17

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How Soil Surveys Are Made

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

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

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

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

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

Custom Soil Resource Report

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

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

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

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

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

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

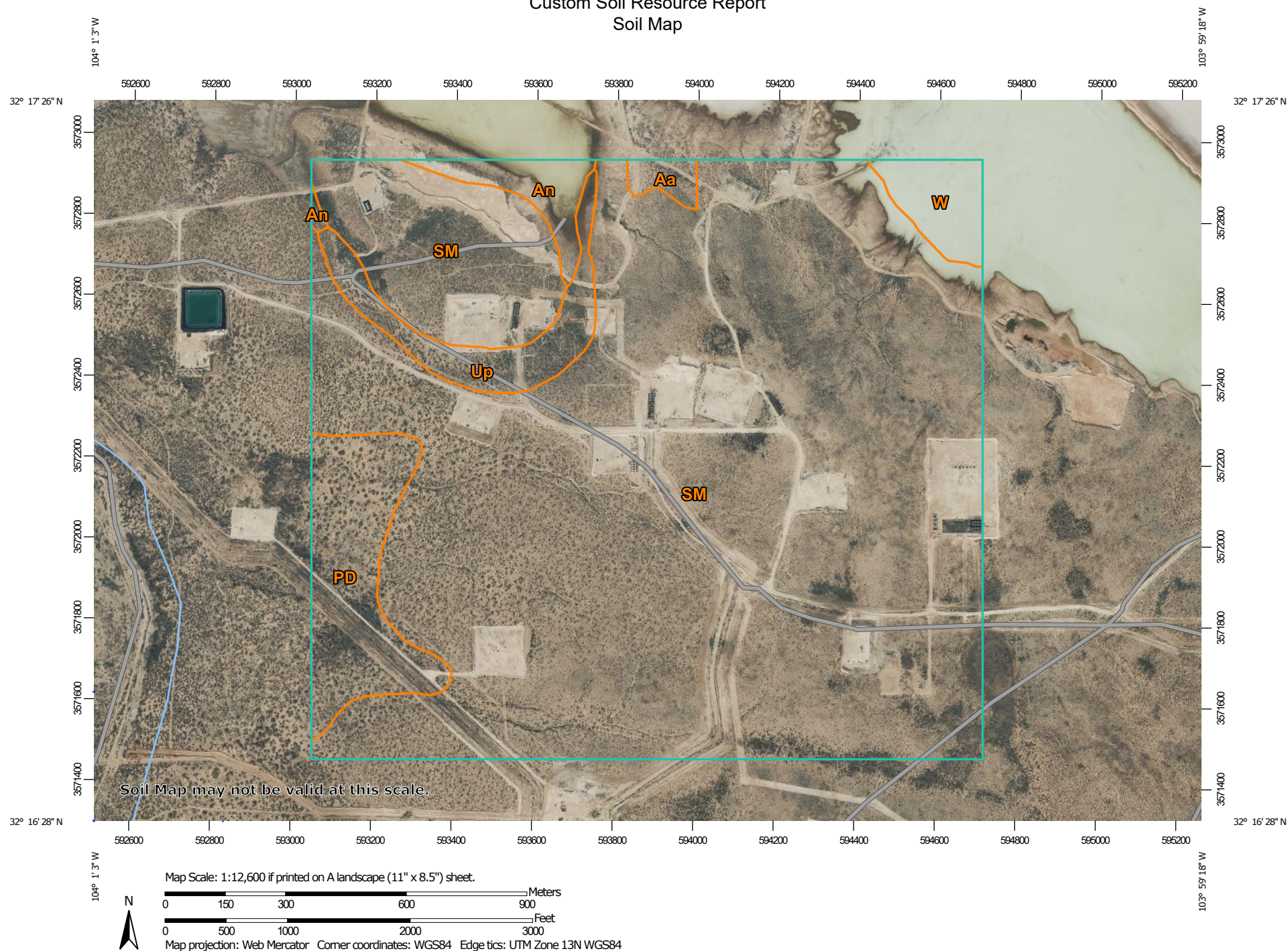
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

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

Soil Map


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

Custom Soil Resource Report
Soil Map


Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry


 Miscellaneous Water


 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

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.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Aa	Anthony sandy loam, 0 to 1 percent slopes	3.9	0.6%
An	Arno silty clay loam, 0 to 1 percent slopes	11.3	1.8%
PD	Pajarito-Dune land complex, 0 to 3 percent slopes	38.3	6.2%
SM	Simona-Bippus complex, 0 to 5 percent slopes	526.1	85.8%
Up	Upton soils, 0 to 1 percent slopes	21.0	3.4%
W	Water	12.2	2.0%
Totals for Area of Interest		612.8	100.0%

Map Unit Descriptions

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

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

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

Custom Soil Resource Report

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

Eddy Area, New Mexico**Aa—Anthony sandy loam, 0 to 1 percent slopes****Map Unit Setting***National map unit symbol:* 1w3w*Elevation:* 2,500 to 4,500 feet*Mean annual precipitation:* 8 to 14 inches*Mean annual air temperature:* 60 to 64 degrees F*Frost-free period:* 180 to 240 days*Farmland classification:* Farmland of statewide importance**Map Unit Composition***Anthony and similar soils:* 99 percent*Minor components:* 1 percent*Estimates are based on observations, descriptions, and transects of the mapunit.***Description of Anthony****Setting***Landform:* Flood plains, alluvial fans*Landform position (three-dimensional):* Talf, rise*Down-slope shape:* Convex, linear*Across-slope shape:* Linear*Parent material:* Alluvium derived from sedimentary rock**Typical profile***H1 - 0 to 6 inches:* sandy loam*H2 - 6 to 60 inches:* sandy loam**Properties and qualities***Slope:* 0 to 1 percent*Depth to restrictive feature:* More than 80 inches*Drainage class:* Well drained*Runoff class:* Very low*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)*Depth to water table:* More than 80 inches*Frequency of flooding:* None*Frequency of ponding:* None*Calcium carbonate, maximum content:* 15 percent*Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)*Sodium adsorption ratio, maximum:* 1.0*Available water supply, 0 to 60 inches:* Moderate (about 7.2 inches)**Interpretive groups***Land capability classification (irrigated):* 2s*Land capability classification (nonirrigated):* 7s*Hydrologic Soil Group:* A*Ecological site:* R070BD004NM - Sandy*Hydric soil rating:* No**Minor Components****Anthony***Percent of map unit:* 1 percent

Custom Soil Resource Report

Ecological site: R070BC036NM - Salt Flats

Hydric soil rating: No

An—Arno silty clay loam, 0 to 1 percent slopes**Map Unit Setting**

National map unit symbol: 1w3z

Elevation: 3,000 to 4,200 feet

Mean annual precipitation: 10 to 16 inches

Mean annual air temperature: 60 to 64 degrees F

Frost-free period: 180 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Arno and similar soils: 95 percent

Minor components: 5 percent

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

Description of Arno**Setting**

Landform: Flood plains, alluvial fans

Landform position (three-dimensional): Talf, rise

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium

Typical profile

H1 - 0 to 9 inches: silty clay loam

H2 - 9 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: RareNone

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Moderately saline to strongly saline (8.0 to 32.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 4s

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Custom Soil Resource Report

Ecological site: R070BC033NM - Salty Bottomland

Hydric soil rating: No

Minor Components**Unnamed soils**

Percent of map unit: 4 percent

Hydric soil rating: No

Pima variant

Percent of map unit: 1 percent

Landform: Flood plains, alluvial flats, alluvial fans

Landform position (three-dimensional): Talf, rise

Down-slope shape: Convex, linear

Across-slope shape: Linear, convex

Ecological site: R070BC017NM - Bottomland

Hydric soil rating: Yes

PD—Pajarito-Dune land complex, 0 to 3 percent slopes**Map Unit Setting**

National map unit symbol: 1w55

Elevation: 3,000 to 5,000 feet

Mean annual precipitation: 10 to 15 inches

Mean annual air temperature: 60 to 64 degrees F

Frost-free period: 190 to 220 days

Farmland classification: Not prime farmland

Map Unit Composition

Pajarito and similar soils: 46 percent

Dune land: 45 percent

Minor components: 9 percent

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

Description of Pajarito**Setting**

Landform: Plains, interdunes, dunes

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear

Across-slope shape: Linear, convex

Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: fine sandy loam

H2 - 9 to 36 inches: fine sandy loam

H3 - 36 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Custom Soil Resource Report

Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Description of Dune Land**Setting**

Landform: Dune fields
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 60 inches: sandy loam

Interpretive groups

Land capability classification (irrigated): None specified
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components**Rock outcrop**

Percent of map unit: 5 percent
Hydric soil rating: No

Largo

Percent of map unit: 4 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Custom Soil Resource Report

SM—Simona-Bippus complex, 0 to 5 percent slopes**Map Unit Setting**

National map unit symbol: 1w5x
Elevation: 1,800 to 5,000 feet
Mean annual precipitation: 8 to 24 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Simona**Setting**

Landform: Plains, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 19 inches: gravelly fine sandy loam
H2 - 19 to 23 inches: indurated

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R070BD002NM - Shallow Sandy

Custom Soil Resource Report

Hydric soil rating: No

Description of Bippus**Setting**

Landform: Flood plains, alluvial fans

Landform position (three-dimensional): Talf, rise

Down-slope shape: Convex, linear

Across-slope shape: Linear

Parent material: Mixed alluvium

Typical profile

H1 - 0 to 37 inches: silty clay loam

H2 - 37 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: OccasionalNone

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

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

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: R070BC017NM - Bottomland

Hydric soil rating: No

Minor Components**Simona**

Percent of map unit: 8 percent

Ecological site: R070BD002NM - Shallow Sandy

Hydric soil rating: No

Bippus

Percent of map unit: 7 percent

Ecological site: R070BC017NM - Bottomland

Hydric soil rating: No

Custom Soil Resource Report

Up—Upton soils, 0 to 1 percent slopes**Map Unit Setting**

National map unit symbol: 1w68
Elevation: 1,100 to 4,400 feet
Mean annual precipitation: 7 to 14 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Upton and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Upton**Setting**

Landform: Ridges, fans
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 8 inches: gravelly loam
H2 - 8 to 18 inches: gravelly loam
H3 - 18 to 40 inches: cemented
H4 - 40 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high
 (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Custom Soil Resource Report

Ecological site: R070BC025NM - Shallow

Hydric soil rating: No

Minor Components

Upton

Percent of map unit: 1 percent

Ecological site: R070BC025NM - Shallow

Hydric soil rating: No

Atoka

Percent of map unit: 1 percent

Ecological site: R070BC007NM - Loamy

Hydric soil rating: No

W—Water

Map Unit Composition

Water: 100 percent

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

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United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for Eddy Area, New Mexico



September 14, 2023

Preface

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

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

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

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

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

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

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Soil Information for All Uses

Ecological Sites

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

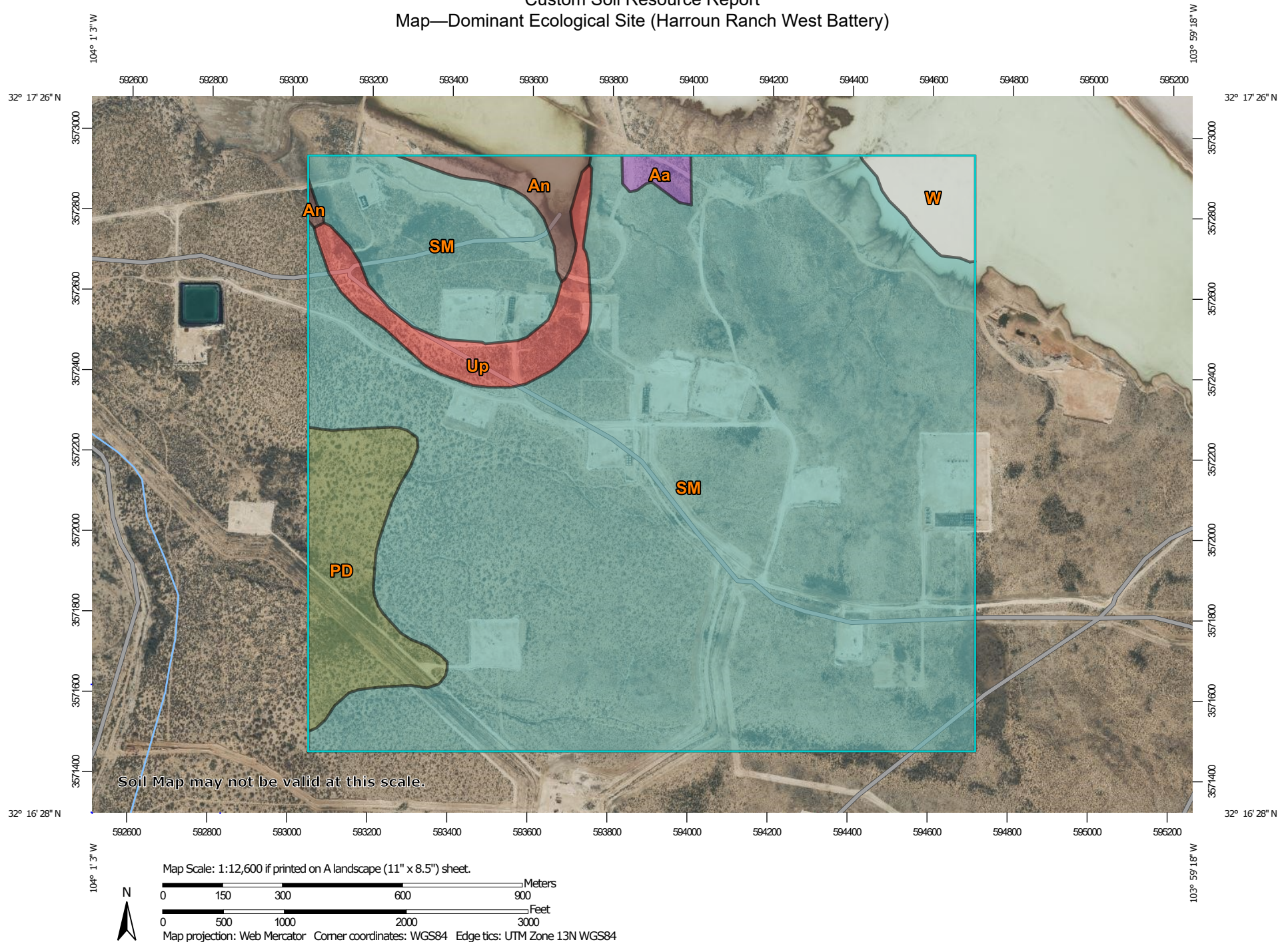
All Ecological Sites — (Harroun Ranch West Battery)

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

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

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


Custom Soil Resource Report
Map—Dominant Ecological Site (Harroun Ranch West Battery)



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)







 Area of Interest (AOI)

Soils







Soil Rating Polygons

 R070BC025NM
 R070BC033NM
 R070BD002NM
 R070BD003NM
 R070BD004NM
 Not rated or not available


Soil Rating Lines

 R070BC025NM
 R070BC033NM
 R070BD002NM
 R070BD003NM
 R070BD004NM
 Not rated or not available






Soil Rating Points

 R070BC025NM
 R070BC033NM
 R070BD002NM
 R070BD003NM
 R070BD004NM
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
 Survey Area Data: Version 18, Sep 8, 2022

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.

Custom Soil Resource Report

**Table—Ecological Sites by Map Unit Component
(Harroun Ranch West Battery)**

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
Aa	Anthony sandy loam, 0 to 1 percent slopes	Anthony (99%)	R070BD004NM — Sandy	3.9	0.6%
		Anthony (1%)	R070BC036NM — Salt Flats		
An	Arno silty clay loam, 0 to 1 percent slopes	Arno (95%)	R070BC033NM — Salty Bottomland	11.3	1.8%
		Unnamed soils (4%)			
		Pima variant (1%)	R070BC017NM — Bottomland		
PD	Pajarito-Dune land complex, 0 to 3 percent slopes	Pajarito (46%)	R070BD003NM — Loamy Sand	38.3	6.2%
		Dune land (45%)	R070BD003NM — Loamy Sand		
		Rock outcrop (5%)			
		Largo (4%)	R070BC007NM — Loamy		
SM	Simona-Bippus complex, 0 to 5 percent slopes	Simona (55%)	R070BD002NM — Shallow Sandy	526.1	85.8%
		Bippus (30%)	R070BC017NM — Bottomland		
		Simona (8%)	R070BD002NM — Shallow Sandy		
		Bippus (7%)	R070BC017NM — Bottomland		
Up	Upton soils, 0 to 1 percent slopes	Upton (98%)	R070BC025NM — Shallow	21.0	3.4%
		Atoka (1%)	R070BC007NM — Loamy		
		Upton (1%)	R070BC025NM — Shallow		
W	Water	Water (100%)		12.2	2.0%
Totals for Area of Interest				612.8	100.0%

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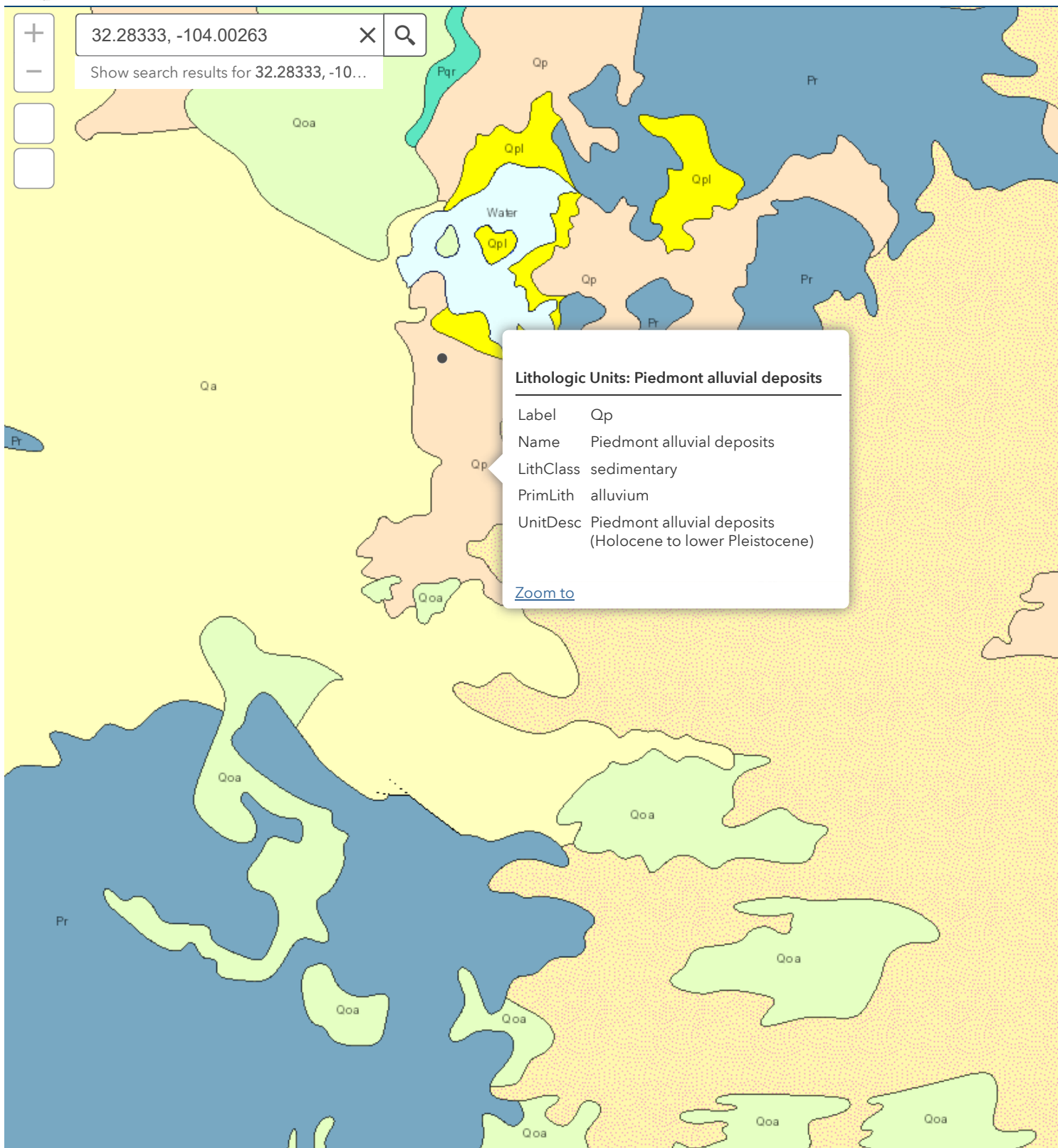
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NMBGMR Interactive Resources Map



2mi

-103.701 32.282 Degrees

App State

Click to restore the map extent and layers visibility where you left off.

APPENDIX C – Daily Field Report



Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	12/18/2023
Site Location Name:	Harroun Ranch West Battery	Report Run Date:	12/18/2023 9:54 PM
Client Contact Name:	Kelton Baird	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	12/18/2023 11:16 AM
Departed Site	12/18/2023 12:46 PM

Daily Site Visit Report



Site Sketch

Site Sketch

Daily Site Visit Report



Field Notes

11:20 Arrived on site to conduct liner inspection after release.

12:26 Inside and outside of containment has been inspected and there is no significant breaches or damages to be seen.

Next Steps & Recommendations

1

Daily Site Visit Report



Site Photos

Viewing Direction: South



Descriptive Photo - 1
Viewing Direction: South
Desc: Middle of tanks north side
Created: 12/18/2023 11:54:02 AM
Lat:32.285175, Long:-104.006463

Middle of tanks north side

Viewing Direction: West



Descriptive Photo - 2
Viewing Direction: West
Desc: Inside north edge of containment
Created: 12/18/2023 11:55:30 AM
Lat:32.285175, Long:-104.006507

Inside north edge of containment

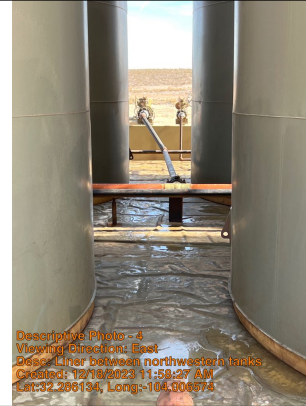
Viewing Direction: West



Descriptive Photo - 3
Viewing Direction: West
Desc: Inside of the south edge of containment
Created: 12/18/2023 11:53:32 AM
Lat:32.285623, Long:-104.006499

Inside of the south edge of containment

Viewing Direction: East



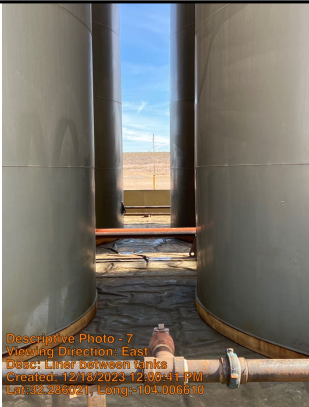



Descriptive Photo - 4
Viewing Direction: East
Desc: Liner between northwest tanks
Created: 12/18/2023 11:58:27 AM
Lat:32.285134, Long:-104.006574

Liner between northwest tanks






Daily Site Visit Report

<p>Viewing Direction: South</p>  <p><small>Descriptive Photo - 5 Viewing Direction: South Desc: Inside of northwest edge of containment Created: 12/18/2023 11:59:38 AM Lat:32.286921, Long:-104.006550</small></p>	<p>Viewing Direction: East</p>  <p><small>Descriptive Photo - 6 Viewing Direction: East Desc: Liner between tanks Created: 12/18/2023 12:00:20 PM Lat:32.286921, Long:-104.006550</small></p>
<p>Inside of northwest edge of containment</p>	<p>Liner between tanks</p>
<p>Viewing Direction: East</p>  <p><small>Descriptive Photo - 7 Viewing Direction: East Desc: Liner between tanks Created: 12/18/2023 12:00:41 PM Lat:32.286921, Long:-104.006550</small></p>	<p>Viewing Direction: East</p>  <p><small>Descriptive Photo - 8 Viewing Direction: East Desc: Liner between tanks Created: 12/18/2023 12:01:18 PM Lat:32.286921, Long:-104.006550</small></p>
<p>Liner between tanks</p>	<p>Liner between tanks</p>







Daily Site Visit Report

<p>Viewing Direction: South</p>  <p><small>Descriptive Photo - 9 Viewing Direction: South Desc: Inside west edge of containment Created: 12/18/2023 12:02:08 PM Lat:32.285947, Long:-104.006665</small></p>	<p>Viewing Direction: South</p>  <p><small>Descriptive Photo - 10 Viewing Direction: South Desc: Inside of southwest edge of containment Created: 12/18/2023 12:03:05 PM Lat:32.285747, Long:-104.006812</small></p>
Inside of west edge of containment	Inside of southwest edge of containment
<p>Viewing Direction: Northwest</p>  <p><small>Descriptive Photo - 11 Viewing Direction: Northwest Desc: Outside of south edge of containment Created: 12/18/2023 12:04:58 PM Lat:32.285806, Long:-104.006476</small></p>	<p>Viewing Direction: North</p>  <p><small>Descriptive Photo - 12 Viewing Direction: North Desc: Inside of southeast edge of containment Created: 12/18/2023 12:04:22 PM Lat:32.285823, Long:-104.006508</small></p>
Outside of south edge of containment	Inside of southeast edge of containment







Daily Site Visit Report

<p>Viewing Direction: Northwest</p>  <p>Descriptive Photo - 13 Viewing Direction: Northwest Desc: Outside southeast edge of containment Created: 12/18/2023 12:06:16 PM Lat:32.285625, Long:-104.006673</p>	<p>Viewing Direction: Northeast</p>  <p>Descriptive Photo - 14 Viewing Direction: Northeast Desc: Outside of west edge of containment Created: 12/18/2023 12:07:31 PM Lat:32.285775, Long:-104.006673</p>
Outside of southeast edge of containment	Outside of west edge of containment
<p>Viewing Direction: Northeast</p>  <p>Descriptive Photo - 15 Viewing Direction: Northeast Desc: Outside of northwest edge of containment Created: 12/18/2023 12:08:18 PM Lat:32.285991, Long:-104.006665</p>	<p>Viewing Direction: Southeast</p>  <p>Descriptive Photo - 16 Viewing Direction: Southeast Desc: Outside of north edge of containment Created: 12/18/2023 12:08:37 PM Lat:32.286191, Long:-104.006500</p>
Outside of northwest edge of containment	Outside of north edge of containment



Daily Site Visit Report

<p>Viewing Direction: Southwest</p>  <p><small>Description Photo - 37 Viewing Direction: Southwest Desc: Outside of northeast edge of containment Created: 12/18/2023 12:10:31 PM Lat:32.288186, Long:-104.006397</small></p>	<p>Viewing Direction: Southwest</p>  <p><small>Description Photo - 38 Viewing Direction: Southwest Desc: Outside of east edge of containment Created: 12/18/2023 12:11:18 PM Lat:32.288022, Long:-104.006411</small></p>
Outside of northeast edge of containment	Outside of east edge of containment
<p>Viewing Direction: West</p>  <p><small>Description Photo - 39 Viewing Direction: West Desc: Liner between heater treaters Created: 12/18/2023 12:12:54 PM Lat:32.288555, Long:-104.006485</small></p>	<p>Viewing Direction: North</p>  <p><small>Description Photo - 40 Viewing Direction: North Desc: Inside of east edge of containment Created: 12/18/2023 12:14:05 PM Lat:32.288740, Long:-104.006408</small></p>
Liner between heater treaters	Inside of east edge of containment



Daily Site Visit Report

Viewing Direction: North



Between east edge of containment and tanks

Viewing Direction: North



Between northeast edge of containment and tanks

Viewing Direction: West



Liner between the north separators



Viewing Direction: West



Liner between the south separators



Daily Site Visit Report

Viewing Direction: Southeast	Viewing Direction: East
 <p>Description: Photo - 25 Viewing Direction: Southeast Desc: Outside of southwest edge of containment Created: 12/18/2023 12:23:02 PM Lat: 32.285705, Long: -104.006674</p>	 <p>Description: Photo - 26 Viewing Direction: East Desc: Liner south of tanks Created: 12/18/2023 12:24:36 PM Lat: 32.285892, Long: -104.006668</p>
Outside of southwest edge of containment	Liner south of tanks

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Bryce Mortimer

Signature:

A handwritten signature in black ink, appearing to be 'B M', written over a horizontal line. Below the line, the word 'Signature' is printed in a small font.

APPENDIX D – Notification

From: [Kelton Beaird](#)
To: [Chance Dixon](#)
Subject: Fwd: The Oil Conservation Division (OCD) has accepted the application, Application ID: 294645
Date: December 14, 2023 11:20:10 AM

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From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Thursday, December 14, 2023 12:11 PM
To: Kelton Beaird <KBeaird@btaoil.com>
Subject: The Oil Conservation Division (OCD) has accepted the application, Application ID: 294645

Caution: This email originated from outside of BTA. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern (c/o BTA VERTEX for BTA OIL PRODUCERS, LLC),

The OCD has received the submitted *Notification for Liner Inspection for a Release (C-141L)*, for incident ID (n#) nAPP2333127239.

The liner inspection is expected to take place:

When: 12/18/2023 @ 12:00

Where: P-20-23S-29E 0 FNL 0 FEL (32.28333,-104.00263)

Additional Information: Liner inspection to commence at 12:00 p.m.

Additional Instructions: No other information at this time.

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, liner inspection pursuant to 19.15.29.11.A(5)(a) NMAC is required. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of liner inspections including any changes in date/time per the requirements of 19.15.29.11.A(5)(a)(ii) NMAC, may result in the inspection not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

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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 307356

QUESTIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	307356
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2333127239
Incident Name	NAPP2333127239 HARROUN RANCH WEST BATTERY @ 0
Incident Type	Oil Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2129830816] Harroun Ranch West

Location of Release Source	
Please answer all the questions in this group.	
Site Name	HARROUN RANCH WEST BATTERY
Date Release Discovered	11/22/2023
Surface Owner	Federal

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: Overflow - Tank, Pit, Etc. Production Tank Crude Oil Released: 60 BBL Recovered: 60 BBL Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Overflow - Tank, Pit, Etc. Production Tank Produced Water Released: 760 BBL Recovered: 760 BBL Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	A transfer pump failure caused the tanks to overflow. All fluid released stayed inside the lined containment. 820 total bbls. was recovered and placed into an isolated tank for gauging purposes

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QUESTIONS, Page 2

Action 307356

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	307356
	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	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
<i>With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.</i>	

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: BTA VERTEX Title: Environmental Manager Email: kbeaird@btaoil.com Date: 01/24/2024
--	---

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QUESTIONS, Page 3

Action 307356

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	307356
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS**Site Characterization**

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

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (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 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1000 (ft.) and ½ (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

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

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	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	01/24/2024
On what date will (or did) the final sampling or liner inspection occur	01/24/2024
On what date will (or was) the remediation complete(d)	01/24/2024
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS, Page 4

Action 307356

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 307356
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS**Remediation Plan (continued)**

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

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

(Select all answers below that apply.)

Is (or was) there affected material present needing to be removed	No
Is (or was) there a power wash of the lined containment area (to be) performed	Yes
OTHER (Non-listed remedial process)	Not answered.

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

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

I hereby agree and sign off to the above statement	Name: BTA VERTEX Title: Environmental Manager Email: kbeaird@btaoil.com Date: 01/24/2024
--	---

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

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QUESTIONS, Page 6

Action 307356

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	307356
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Liner Inspection Information	
Last liner inspection notification (C-141L) recorded	294645
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	12/18/2023
Was all the impacted materials removed from the liner	Yes
What was the liner inspection surface area in square feet	9620

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	0
What was the total volume (cubic yards) remediated	0
Summarize any additional remediation activities not included by answers (above)	Release was contained inside the lined containment and no breaches were discovered.

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

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

I hereby agree and sign off to the above statement	Name: BTA VERTEX Title: Environmental Manager Email: kbeaird@btaoil.com Date: 01/24/2024
--	---

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CONDITIONS

Action 307356

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	307356
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2333127239 HARROUN RANCH WEST BATTERY, thank you. This Remediation Closure Report is approved.	4/2/2024