



October 23, 2020

Spill Closure Report: Arena Roja Federal Unit #15H/16H (CTB 2)
Unit I, Section 15, Township 26 South, Range 35 East
County: Lea
Tracking Number: NOY1823236138

Prepared For: Devon Energy Production Company
6488 Seven Rivers Highway
Artesia, New Mexico 88210

New Mexico Oil Conservation Division – District 1 – Hobbs

1625 North French Drive
Hobbs, New Mexico 88240

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation for a produced water release that occurred at Arena Roja Federal Unit 15H/16H (CTB 2)(hereafter referred to as “Arena Roja”). Devon provided notification of the release to New Mexico Oil Conservation Division (NM OCD) District 1 and the Bureau of Land Management (BLM), who owns the property, on August 20th, 2018, via an initial C-141 (Attachment 1). The NM OCD tracking number assigned to this release is NOY1823236138.

This letter provides a description of the spill assessment and liner inspection, and demonstrates that closure criteria established in 19.15.29.12 *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) have been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NM OCD for closure of this release.

Incident Description

On August 20, 2018, a release occurred at Devon’s Arena Roja site when a seal on a transfer pump began to leak. This incident resulted in the release of approximately 10 barrels (bbls) of produced water into the lined secondary containment. Upon discovery of the release, the pump was isolated to stop the flow of produced water and a hydrovac truck was dispatched to the site to recover free liquids. Approximately 9 bbls of produced water were recovered from the secondary containment and removed for disposal off-site. The liner was checked for holes/rips and none were found. The remaining fluid was recovered during the containment cleaning. All fluids were contained within the lined Spill Prevention Control and Countermeasures containment and no produced water was released into undisturbed areas or waterways.

Site Characterization

The release at Arena Roja occurred on federally-owned land, N 32.04041, W 103.34902, approximately 10 miles southwest of Jal, New Mexico. The legal description for the site is Unit I, Section 15, Township 26 South, Range 35 East, Lea County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and rangeland. An aerial photograph and site schematic are included in Attachment 2.

Arena Roja is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production, and storage. The following sections specifically describe the area surrounding the constructed wellpad where the storage tanks are located.

The surrounding landscape is associated with sandy plains and is not prime farmland. The climate is semi-arid, with average annual precipitation ranging between 10 and 12 inches. The historical plant community is a uniformly distributed grassland dominated by black grama, dropseeds and bluestems, with scattered shinnery oak and sand sage. Perennial and annual forbs are common, but their abundance and distribution fluctuate with precipitation. Litter and, to a lesser extent, bare ground, make up a significant proportion of the ground cover (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted wellpad.

The *Geological Map of New Mexico* indicates the surface geology at Arena Roja is comprised primarily of Qep-Eolian and piedmont deposits (Holocene to middle Pleistocene) characterized by interlaid eolian sand and piedmont deposits (New Mexico Bureau of Geology and Mineral Resources, 2020). The National Resources Conservation Service Web Soil Survey characterizes the soil at the site as Pyote and Maljamar fine sands, which are associated with sandy eolian deposits derived from sedimentary rock, and tend to be fine sand and sandy clay loam over a cemented material. This type of soil, typically found at elevations of 3,000 to 3,900 feet above sea level, tends to be well-drained with very low runoff and low available moisture in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near Arena Roja (United States Department of the Interior, Bureau of Land Management, 2020).

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is a draw located approximately 0.91 miles northeast of the site (New Mexico Office of the State Engineer, Interstate Stream Commission, 2020). 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.

The nearest recent groundwater well to Arena Roja is a New Mexico Office of the State Engineer well from 2015 located 1.9 miles southeast of the site. Data for that well shows a depth to groundwater at 250 feet below ground surface (bgs; New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet (Attachment 3) was completed to determine if the release would be subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC, if the release had escaped secondary containment.

Based on data included in the closure criteria determination worksheet, the release at Arena Roja would not be subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site would be determined to be associated with depth to groundwater. The nearest groundwater well is farther than ½ mile from the release site, which would nullify the depth to groundwater determination and change the closure criteria for the site to the below constituent concentration limits.

Devon Energy Production Company
Arena Roja Fed Unit 15H/16H

2020 Spill Assessment and Closure
June 2020

Table 1. Closure Criteria for Soils Impacted by a Release		
Depth to Groundwater	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH ¹ (GRO + DRO + MRO)	100 mg/kg
	BTEX ²	50 mg/kg
	Benzene	10 mg/kg

¹Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)

²Benzene, toluene, ethylbenzene and xylenes (BTEX)

Remedial Actions

On May 20, 2020, Vertex provided 48-hour notification of the liner inspection to the BLM and NM OCD, as required by Subparagraph (a) of Paragraph (5) of Subsection A 19.15.29.11 NMAC (Attachment 4). On May 22, 2020, Vertex conducted a visual inspection of the production equipment secondary containment liner for cracks, tears, cuts and other signs of damage to verify that the liner remained intact and had the ability to contain the release. The Daily Field Report (DFR) associated with the inspection is included in Attachment 5.

Closure Request

Vertex recommends no remediation action to address the release at Arena Roja. The secondary containment liner appeared to be intact and had the ability to contain the release in question, as shown in the inspection photographs included with the DFR (Attachment 5). There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that incident NRM2010659709 be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Devon certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NM OCD requirements to obtain closure on the April 6, 2020, release at Arena Roja.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 505.506.0040 or ngordon@vertex.ca.

Sincerely,



Natalie Gordon
PROJECT MANAGER

vertex.ca

3101 Boyd Drive, Carlsbad, New Mexico 88220, USA | P 575.725.5001

Devon Energy Production Company
Arena Roja Fed Unit 15H/16H

2020 Spill Assessment and Closure
June 2020

Attachments

- Attachment 1. NM OCD C-141 Report
- Attachment 2. Site Schematic
- Attachment 3. Closure Criteria for Soils Impacted by a Release Research Documentation
- Attachment 4. Required 48-hr Notification of Liner Inspection to Regulatory Agencies
- Attachment 5. Daily Field Report(s) with Photographs

Devon Energy Production Company
Arena Roja Fed Unit 15H/16H

2020 Spill Assessment and Closure
June 2020

References

New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map*. Retrieved from <http://geoinfo.nmt.edu>.

New Mexico Office of the State Engineer, Interstate Stream Commission. (2020). *OSE POD Locations*. Retrieved from https://gis.ose.state.nm.us/gisapps/ose_pod_locations/.

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2020). *Water Column/Average Depth to Water Report*. Retrieved from <http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html>.

New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code - Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.

United States Department of Agriculture, Natural Resources Conservation Service. (2020). *Web Soil Survey*. Retrieved from <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.

United States Department of the Interior, Bureau of Land Management. (2020). *New Mexico Cave/Karsts*. Retrieved from <https://www.blm.gov/programs/recreation/recreation-programs/caves/new-mexico>.

Devon Energy Production Company
Arena Roja Fed Unit 15H/16H

2020 Spill Assessment and Closure
June 2020

Limitations

This report has been prepared for the sole benefit of Devon Energy Production Company (Devon). This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division, without the express written consent of Vertex Resource Services Inc. (Vertex) and Devon. 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.

ATTACHMENT 1

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Devon Energy Production Company	Contact Aaron Pina, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No. 575-748-3371
Facility Name Arena Roja Fed Unit 15	Facility Type Oil
Surface Owner Federal	Mineral Owner Federal
API No. 30-025-42671	

LOCATION OF RELEASE

Unit Letter D	Section 27	Township 26S	Range 35E	Feet from the 200	North/South Line FNL	Feet from the 10	East/West Line FWL	County Lea
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Latitude_32.0209382_ Longitude_103.3638311_ NAD83

NATURE OF RELEASE

Type of Release Produced Water (PW)	Volume of Release 9.7BBLS PW	Volume Recovered 9 BBLS PW
Source of Release Leak on transfer pump	Date and Hour of Occurrence July 26, 2018 @ 12:05 PM MST	Date and Hour of Discovery July 26, 2018 @ 12:05 PM MST
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Via C141	
By Whom?	Date and Hour N/A	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* Lease operator discovered a leak on transfer pump. Nipple broke off due to corrosion. The tank was isolated to prevent any further release. Repairs made.		
Describe Area Affected and Cleanup Action Taken.* Approximately 9.7 bbls of pw was released into SPCC lined containment. The liner was checked for holes and none were found. Approximately 9 bbls of pw was recovered during initial response via vacuum truck, the remainder was recovered during the containment washing. All fluid was recovered.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: Dana DeLaRosa	OIL CONSERVATION DIVISION	
Printed Name: Dana DeLaRosa		
Title: Field Admin Support	Approval Date:	Expiration Date:
E-mail Address: dana.delarosa@dvn.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: Phone: 575.748.3371		

* Attach Additional Sheets If Necessary

NOY1823236138 -- Incident ONLY

TYBNUM (EHS SHARED SAFETY CONT

Searches ▾ Operate

OCD Permitting

Home > Searches > Incidents > Incident Details

NOY1823236138 2018 MINOR A SWS @ 30-025-42671

General Incident Information

Site Name:

Well: [30-025-42671] ARENA ROJA FEDERAL UNIT #015H

Facility:

Operator: [6137] DEVON ENERGY PRODUCTION COMPANY, LP

Status: Closure Not Approved

Type: Produced Water Release

District: Hobbs

Severity: Minor

Surface Owner:

County: Lea (25)

Incident Location: D-27-26S-35E 200 FNL 10 FWL

Lat/Long: 32.0209382,-103.3638311 NAD83

Directions:

Notes

Source of Referral: Industry Rep

Action / Escalation:

Resulted In Fire: ☐

Will or Has Reached Watercourse: ☐

Endangered Public Health: ☐

Property Or Environmental Damage: ☐

Contact Details

Contact Name:

Contact Title:

Event Dates

Date of Discovery: 08/20/2018

Extension Date: 11/15/2018

OCD Notified of Major Release: 08/11/2018

Cancelled Date:

Initial C-141 Received:

Characterization Report Received:

Remediation Plan Received:

Closure Report Received:

Characterization Report Approved:

Remediation Plan Approved:

Remediation Due:

Closure Report Approved:

Incidents Materials

Cause	Source	Material	Volume				Units
			Unk.	Spilled	Recovered	Lost	
		Produced Water	<input type="checkbox"/>	10	9	1	BBL

Incident Events

Date	Detail
08/20/2018	No RP issued. Incident only. Lined facility. Lease operator discovered a leak on transfer pump. A connection failed due to corrosion. The tank was isolated to prevent any further release. Repairs made. Approx. 9.7 bbls of PW was released into lined secondary containment. The liner was checked for holes and none were found. All fluid was recovered.

Orders

No Orders Found

Incident ID	NOY1823236138
District RP	
Facility ID	
Application ID	

Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

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.

Printed Name: Tom Bynum Title: EHS Consultant
Signature: Tom Bynum Date: 10/23/2020
email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 2

Arena Roja Fed Unit 15

9.7BBLs PW_7.26.2018

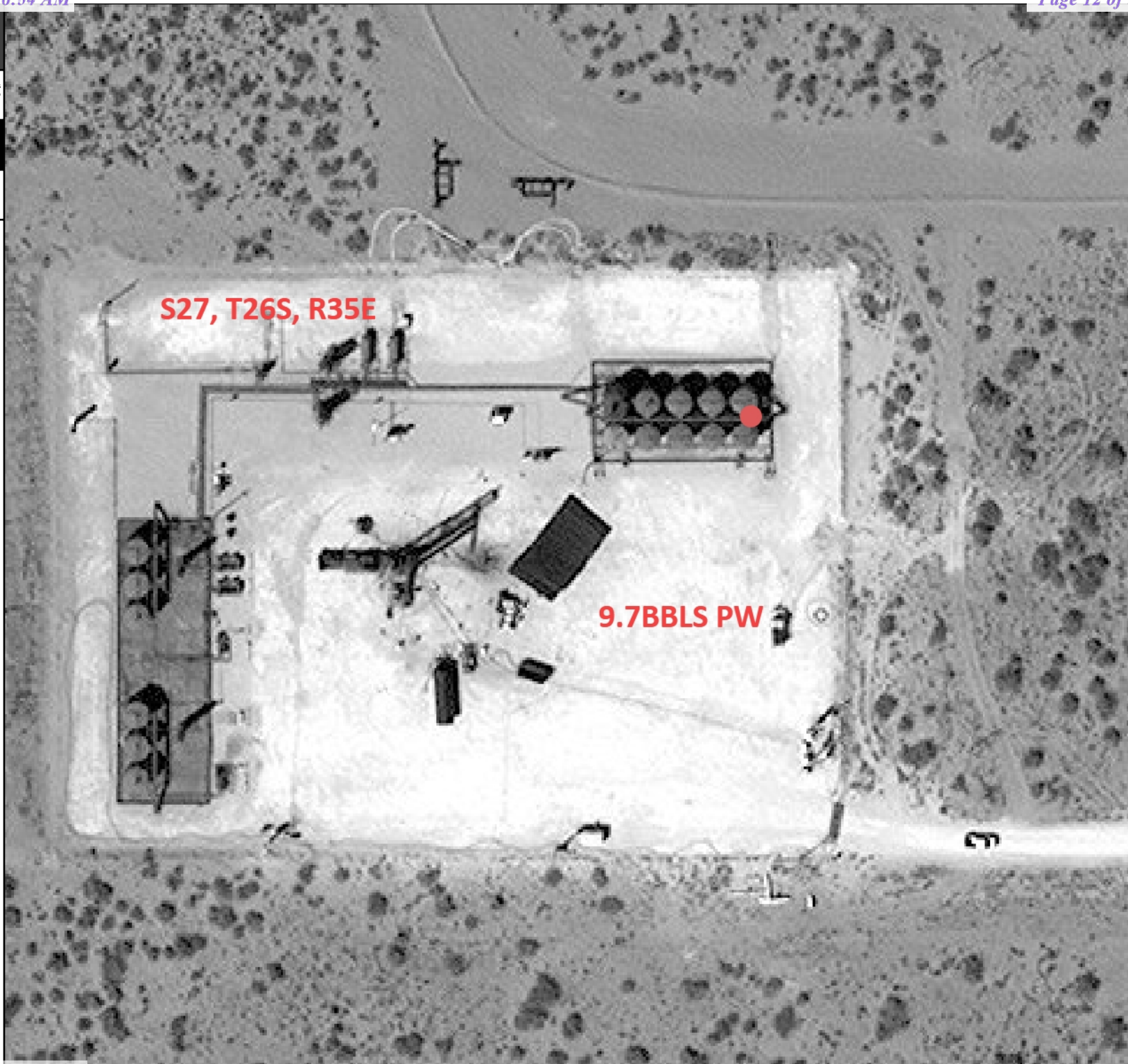


This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: Dana DeLaRosa
Map is current as of: 01-Aug-2018



Miles
0 0.00 0.01 0.02 1:889





ATTACHMENT 3

Table 1.			
Site Name: Arena Roja 15 CTB 2			
Spill Coordinates:		X: 32.0404	Y: -103.34902
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	250	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	158928	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	16115	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	15808	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	10402	feet
	ii) Within 1000 feet of any fresh water well or spring	10402	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	3856	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	Undetermined	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>100'	<50' 51-100' >100'

Arena Roja 15 CTB 2

Nearest NM OSE water well
Distance = 1.97 miles from release
Depth to water = 250 Feet

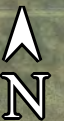
Legend

-  Feature 1
-  Line Measure

Arena Roja 15 CTB 2

C 03795 POD1

Google Earth



4 km



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	03795 POD1	4	4	3	24	26S	35E	658419	3544221

Driller License: 1607 **Driller Company:** DURAN DRILLING

Driller Name: DURAN, LUIS (TONY)

Drill Start Date: 02/02/2015

Drill Finish Date: 02/06/2015

Plug Date:

Log File Date: 02/19/2015

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield: 180 GPM

Casing Size: 7.00

Depth Well: 496 feet

Depth Water: 250 feet

Water Bearing Stratifications:

Top Bottom Description

320 324 Sandstone/Gravel/Conglomerate

460 492 Sandstone/Gravel/Conglomerate

Casing Perforations:

Top Bottom

195 495

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.

5/28/20 8:45 AM

POINT OF DIVERSION SUMMARY



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	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C_03795 POD1		C	LE	4	4	3	24	26S	35E	658419	3544221	3106	496	250	246
J_00005 POD1		J	LE	2	2	2	13	26S	35E	659200	3547174*	3480	601	230	371
J_00041 POD1		J	LE	1	1	1	19	26N	36E	659404	3545621	3523		270	
J_00001	R	J	LE	1	1	3	18	26S	36E	659416	3546374*	3524	550	253	297
J_00001 POD3		J	LE	1	1	3	18	26S	36E	659416	3546374*	3524	550	253	297
J_00002 X3		J	LE		3	1	19	26S	36E	659536	3545067*	3759	710	216	494
J_00002 X2		J	LE		4	3	18	26S	36E	659929	3545879*	4025	650	214	436
J_00043 POD1		J	LE	1	1	2	19	26S	36E	660221	3545607	4337			
J_00001 POD4		J	LE	1	3	2	19	26S	36E	660244	3545180*	4423	640	250	390
J_00001 X		J	LE	1	3	2	19	26S	36E	660244	3545180*	4423	640	250	390
CP_01170 POD1		CP	LE	3	3	3	06	26S	36E	659282	3548984	4473	500	280	220
CP_01170 POD1	C	CP	LE	3	3	3	06	26S	36E	659282	3548984	4473	500	280	220
CP_01267 POD1		CP	LE	3	4	3	06	26S	36E	659759	3548807	4738	585	200	385

Average Depth to Water: **245 feet**

Minimum Depth: **200 feet**

Maximum Depth: **280 feet**

Record Count: 13

UTMNAD83 Radius Search (in meters):

Easting (X): 655906.63

Northing (Y): 3546048.55

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.

5/28/20 8:41 AM

WATER COLUMN/ AVERAGE DEPTH TO
WATER



New Mexico Office of the State Engineer

Water Right Summary



[get image list](#)

WR File Number: C 03795 **Subbasin:** C **Cross Reference:** -
Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
Primary Status: PMT PERMIT
Total Acres: **Subfile:** - **Header:** -
Total Diversion: 3 **Cause/Case:** -
Owner: BECKHAM RANCH INC
Contact: M STAPLETON LLC
Owner: BUREAU OF LAND MANAGEMENT
Contact: GEORGE MACDONEIL

Documents on File

	Trn #	Doc	File/Act	Status			Transaction Desc.	From/ To	Acres	Diversion	Consumptive
				1	2						
	564689	COWNF	2015-03-09	CHG	PRC		C 03795	T		0	
	556733	72121	2014-10-24	PMT	LOG		C 03795 POD1	T		3	

Current Points of Diversion

(NAD83 UTM in meters)											
POD Number	Well Tag	Source	Q					X	Y	Other Location Desc	
			64	Q16	Q4	Sec	Tws				Rng
C 03795 POD1		Shallow	4	4	3	24	26S	35E	658419	3544221	

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.

5/28/20 9:39 AM

WATER RIGHT SUMMARY




[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface[USGS Water Resources](#)**Data Category:**
Groundwater ▼**Geographic Area:**
New Mexico ▼

GO

Click to hideNews Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Click to hide state-specific text

Search Results -- No sites found

No sites were found for groundwater level data using your search criteria.

The sites you requested may be available offline. For more information, contact [USGS Water Data Inquiries](#).

lat_long_bounding_box

=

Position	Latitude	Longitude
Corner 1	32.039822	-103.349135
Corner 2	32.039822	-103.349135
Coordinates are entered as Decimal Degrees. DMS values are converted to Decimal degrees using NAD83 as the datum. Make your bounding box bigger if you are using NAD27 Datum for your DMS values		



Minimum number of 1
levels =

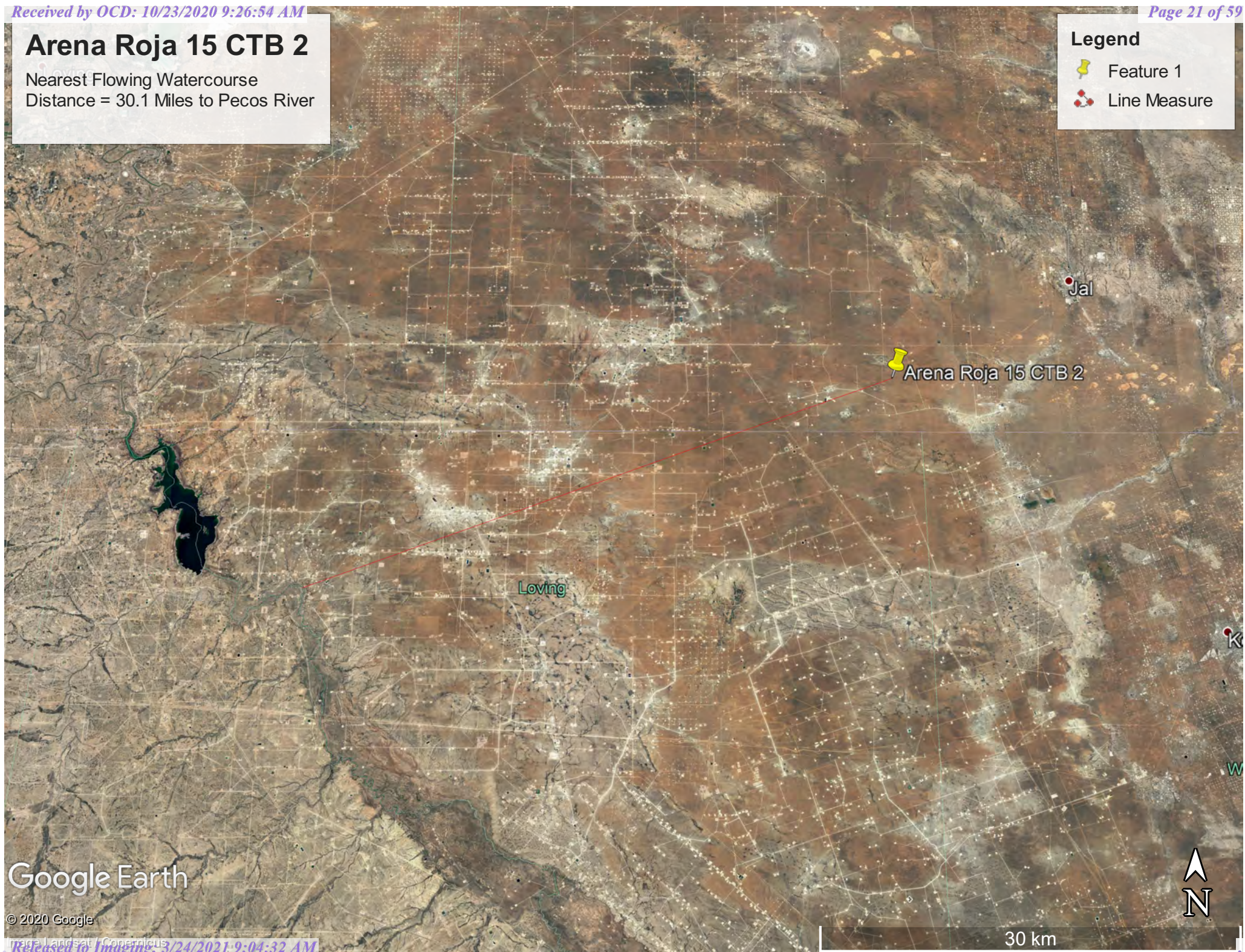
Use the "Back" button on your browser to change your search criteria.

Arena Roja 15 CTB 2

Nearest Flowing Watercourse
Distance = 30.1 Miles to Pecos River

Legend

-  Feature 1
-  Line Measure



Google Earth



© 2020 Google

Released to Imaging: 3/24/2021 9:04:32 AM

Arena Roja 15 CTB 2

Nearest Watering Stock POD = 10,408' from site

Legend

-  Feature 1
-  Line Measure

Arena Roja 15 CTB 2

C 03795 POD1

Google Earth

3 km


















New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)						(R=POD has been replaced and no longer serves this file, C=the file is closed)			(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)					(NAD83 UTM in meters)								
WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q	q	q	16	4	Sec	Tws	Rng	X	Y	Distance	
J 00002	J	MUN	986	CITY OF JAL	LE	J 00002 X					3	4	13	26S	35E			658717	3545861*		2841	
					LE	J 00002					3	2	13	26S	35E			658705	3546666*		2876	
C 03795	C	STK	3	BUREAU OF LAND MANAGEMENT	LE	C 03795 POD1			NON	Shallow	4	4	3	24	26S	35E			658419	3544221		3153
C 03845	C	PRO	0	DEVON ENERGY CO	LE	C 03795 POD1			NON	Shallow	4	4	3	24	26S	35E			658419	3544221		3153
C 03846	C	PRO	0	DEVON ENERGY CO	LE	C 03795 POD1			NON	Shallow	4	4	3	24	26S	35E			658419	3544221		3153
C 03847	C	PRO	0	DEVON ENERGY CO	LE	C 03795 POD1			NON	Shallow	4	4	3	24	26S	35E			658419	3544221		3153
J 00003	J	COM	30	NGL SOUTH RANCH INC	LE	J 00003	NA			Shallow	4	2	13	26S	35E			659042	3546648		3205	
C 02272	C	STK	3	BUREAU OF LAND MANAGEMENT	LE	C 02272					4	4	3	24	26S	35E			658439	3544144*		3215
J 00005	J	MUN	383.97	EL PASO NATURAL GAS COMPANY	LE	J 00005 POD1				Shallow	2	2	2	13	26S	35E			659200	3547174*		3485
J 00005 A	J	COM	0	EL PASO NATURAL GAS COMPANY	LE	J 00005 POD1				Shallow	2	2	2	13	26S	35E			659200	3547174*		3485
J 00042	J	EXP	0	GLORIETA GEOSCIENCE INC	LE	J 00042 POD1	NA				3	1	3	18	26S	36E			659423	3546152		3538
J 00001	J	MUN	600	CITY OF JAL	LE	J 00001		R		Shallow	1	1	3	18	26S	36E			659416	3546374*		3541
					LE	J 00001 POD3				Shallow	1	1	3	18	26S	36E			659416	3546374*		3541
J 00041	J	EXP	0	CITY OF JAL	LE	J 00041 POD1	NA				1	1	1	19	26N	36E			659404	3545621		3551
C 04021	C	DOM	1	MARCOS YANEZ	LE	C 04021 POD1			NON		2	4	4	26	26S	35E			657601	3542791		3724
J 00002	J	MUN	986	CITY OF JAL	LE	J 00002 X3				Shallow	3	1	19	26S	36E			659536	3545067*		3793	
J 00045	J	EXP	0	CITY OF JAL	LE	J 00045 POD1	NA				3	4	3	18	26S	36E			659827	3545781		3954
J 00002	J	MUN	986	CITY OF JAL	LE	J 00002 X2				Shallow	4	3	18	26S	36E			659929	3545879*		4049	
					LE	J 00002 X4		R			3	1	20	26S	36E			660021	3546381*		4145	
J 00043	J	EXP	0	GLORIETA GEOSCIENCE INC	LE	J 00043 POD1	NA			Shallow	1	1	2	19	26S	36E			660221	3545607		4363
J 00001	J	MUN	600	CITY OF JAL	LE	J 00001 POD4				Shallow	1	3	2	19	26S	36E			660244	3545180*		4454
					LE	J 00001 X				Shallow	1	3	2	19	26S	36E			660244	3545180*		4454
CP 01170	CP	COM	300	NGL SOUTH RANCH INC	LE	CP 01170 POD1				Shallow	3	3	3	06	26S	36E			659281	3548984		4457
CP 01194	CP	CLS	0	BECKHAM RANCH INC	LE	CP 01170 POD1		C		Shallow	3	3	3	06	26S	36E			659281	3548984		4457
CP 01170	CP	COM	300	NGL SOUTH RANCH INC	LE	CP 01267 POD1				Shallow	3	4	3	06	26S	36E			659759	3548807		4727
CP 01263	CP	COM	200	NGL SOUTH RANCH INC	LE	CP 01267 POD1				Shallow	3	4	3	06	26S	36E			659759	3548807		4727
CP 01267	CP	EXP	0	BECKHAM RANCH INC	LE	CP 01267 POD1				Shallow	3	4	3	06	26S	36E			659759	3548807		4727

CP 01292	CP	PRO	0	CONCHO OIL AND GAS	LE	CP 01267 POD1	C	Shallow	3	4	3	06	26S	36E	659759	3548807		4727
CP 01293	CP	PRO	0	GRR, INC	LE	CP 01267 POD1		Shallow	3	4	3	06	26S	36E	659759	3548807		4727
CP 01294	CP	PRO	0	CONCHO OIL AND GAS	LE	CP 01267 POD1		Shallow	3	4	3	06	26S	36E	659759	3548807		4727
CP 01263	CP	COM	200	NGL SOUTH RANCH INC	LE	CP 01263 POD2			2	4	1	07	26S	36E	660060	3548343		4741
CP 01170	CP	COM	300	NGL SOUTH RANCH INC	LE	CP 01170 POD2			2	3	3	06	26S	36E	659541	3549183		4784
CP 01342	CP	CLS	0	BECKHAM RANCH INC	LE	CP 01170 POD2			2	3	3	06	26S	36E	659541	3549183		4784
J 00002	J	MUN	986	CITY OF JAL	LE	J 00003 POD2		Shallow	1	1	2	30	26S	36E	660265	3543972		4868
J 00003	J	COM	30	NGL SOUTH RANCH INC	LE	J 00003 POD2		Shallow	1	1	2	30	26S	36E	660265	3543972		4868
J 00004	J	COM	5	NGL SOUTH RANCH INC	LE	J 00003 POD2		Shallow	1	1	2	30	26S	36E	660265	3543972		4868
J 00022	J	DOL	0	BECKHAM RANCH, INC.	LE	J 00003 POD2		Shallow	1	1	2	30	26S	36E	660265	3543972		4868
J 00025	J	COM	500	NGL SOUTH RANCH INC	LE	J 00003 POD2		Shallow	1	1	2	30	26S	36E	660265	3543972		4868
J 00026	J	COM	500	NGL SOUTH RANCH INC	LE	J 00003 POD2		Shallow	1	1	2	30	26S	36E	660265	3543972		4868
CP 01305	CP	COM	100	FULFER OIL & CATTLE COMPANY	LE	CP 01305 POD1		Artesian		1	4	31	25S	37E	655627	3551065		4974

Record Count: 40

UTMNAD83 Radius Search (in meters):

Easting (X): 655884.98

Northing (Y): 3546097.51

Radius: 5000

Sorted by: Distance

*UTM location was derived from PLSS - see Help

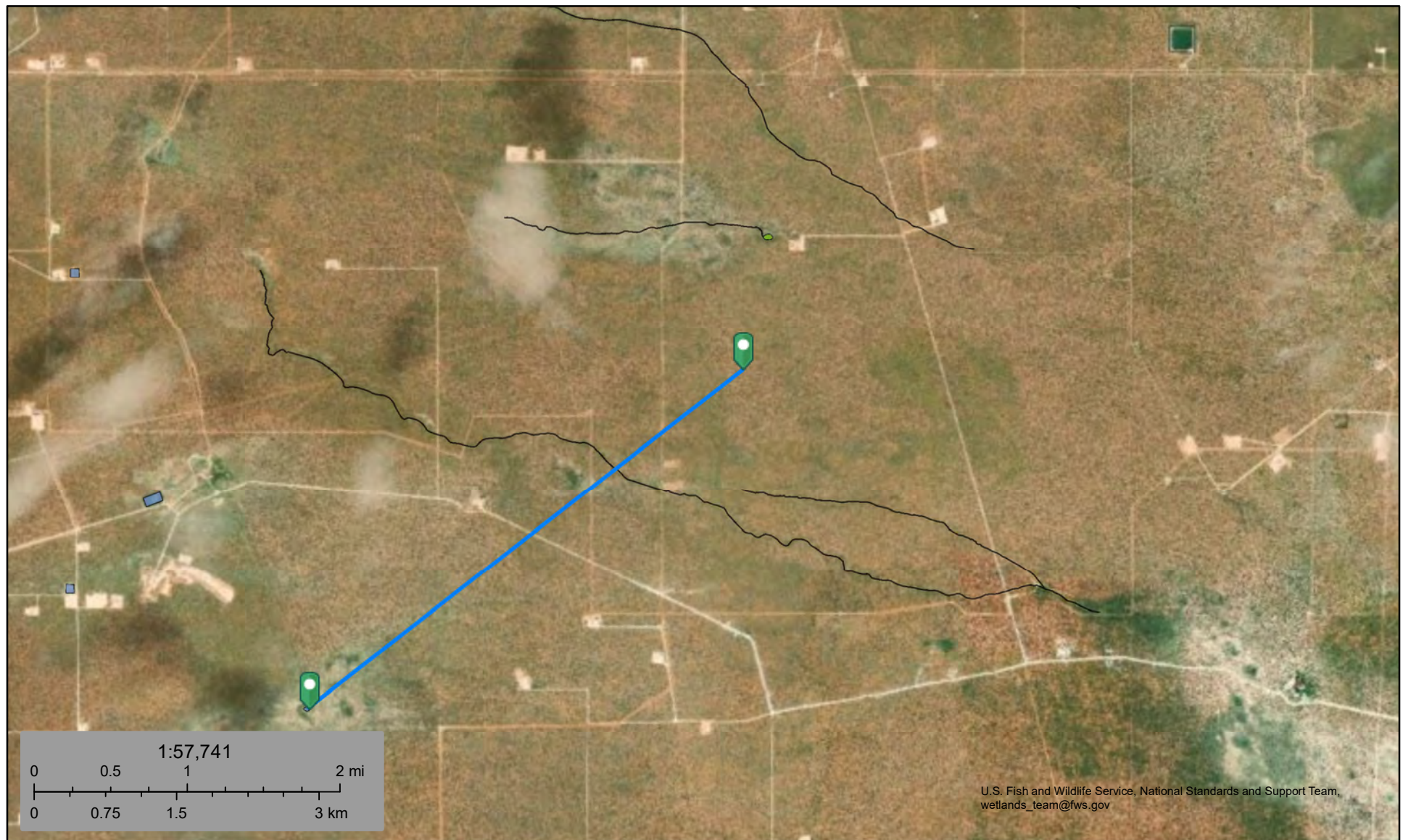
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

5/28/20 9:38 AM

ACTIVE & INACTIVE POINTS OF DIVERSION



Arena Roja 15 CTB 2 - Pond = 16115'



May 28, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

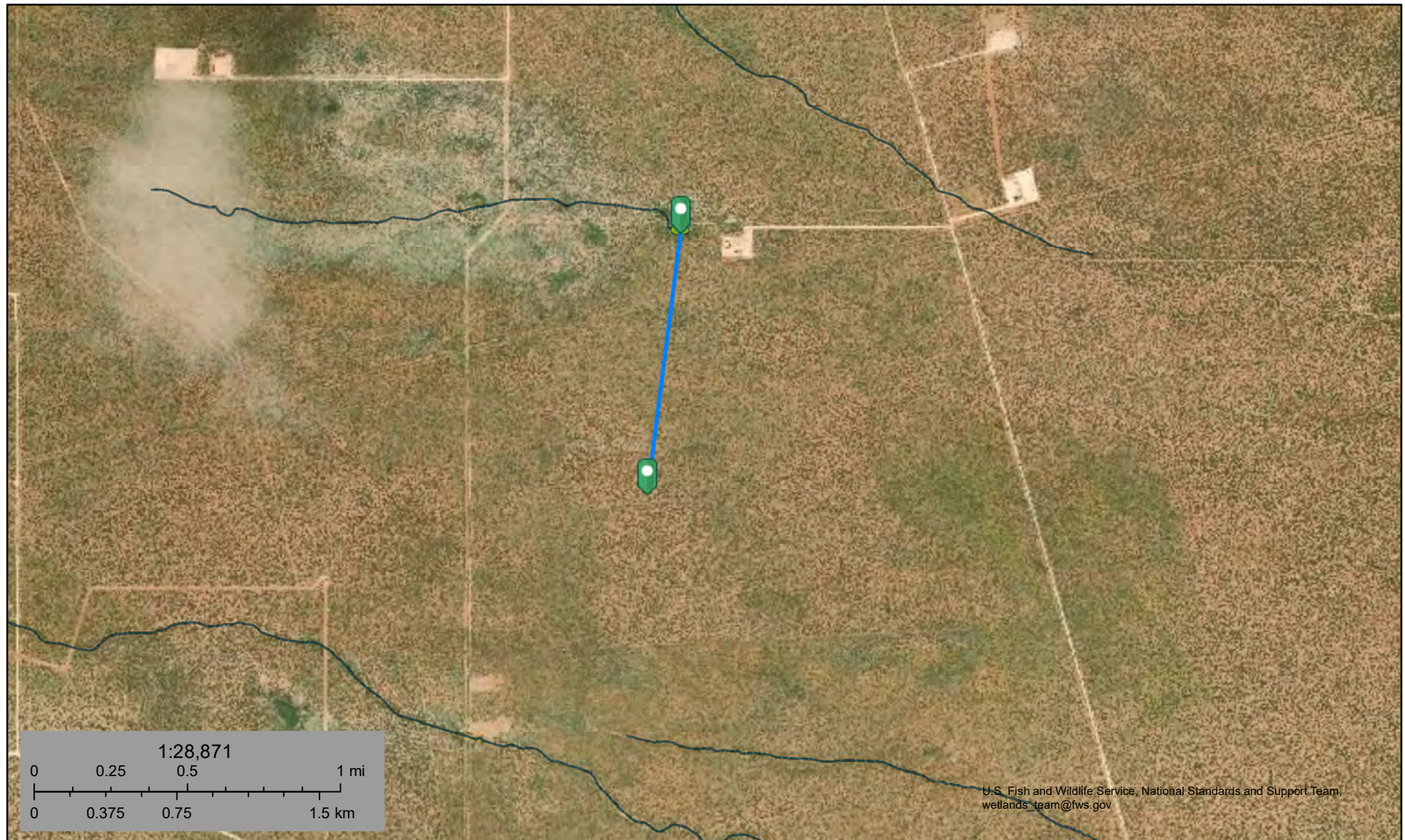
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- 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.



Arena Roja 15 CTB 2 - Wetland = 3,856'



May 28, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

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

- Lake
- Other
- Riverine

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

National Flood Hazard Layer FIRMette



32°2'40.73"N

103°21'15.20"W



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 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



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 5/29/2020 at 3:15:56 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.

USGS The National Map: Orthoimagery, Data refreshed April, 2019.

0 250 500 1,000 1,500 2,000 Feet 1:6,000



32°2'10.23"N


103°20'37.74"W

Arena Roja 15 CTB 2

Nearest Residency
Distance = 15,808'

Legend

-  Feature 1
-  Line Measure

Arena Roja 15 CTB 2 

Google Earth



2 km



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 Lea County, New Mexico



May 29, 2020

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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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

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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

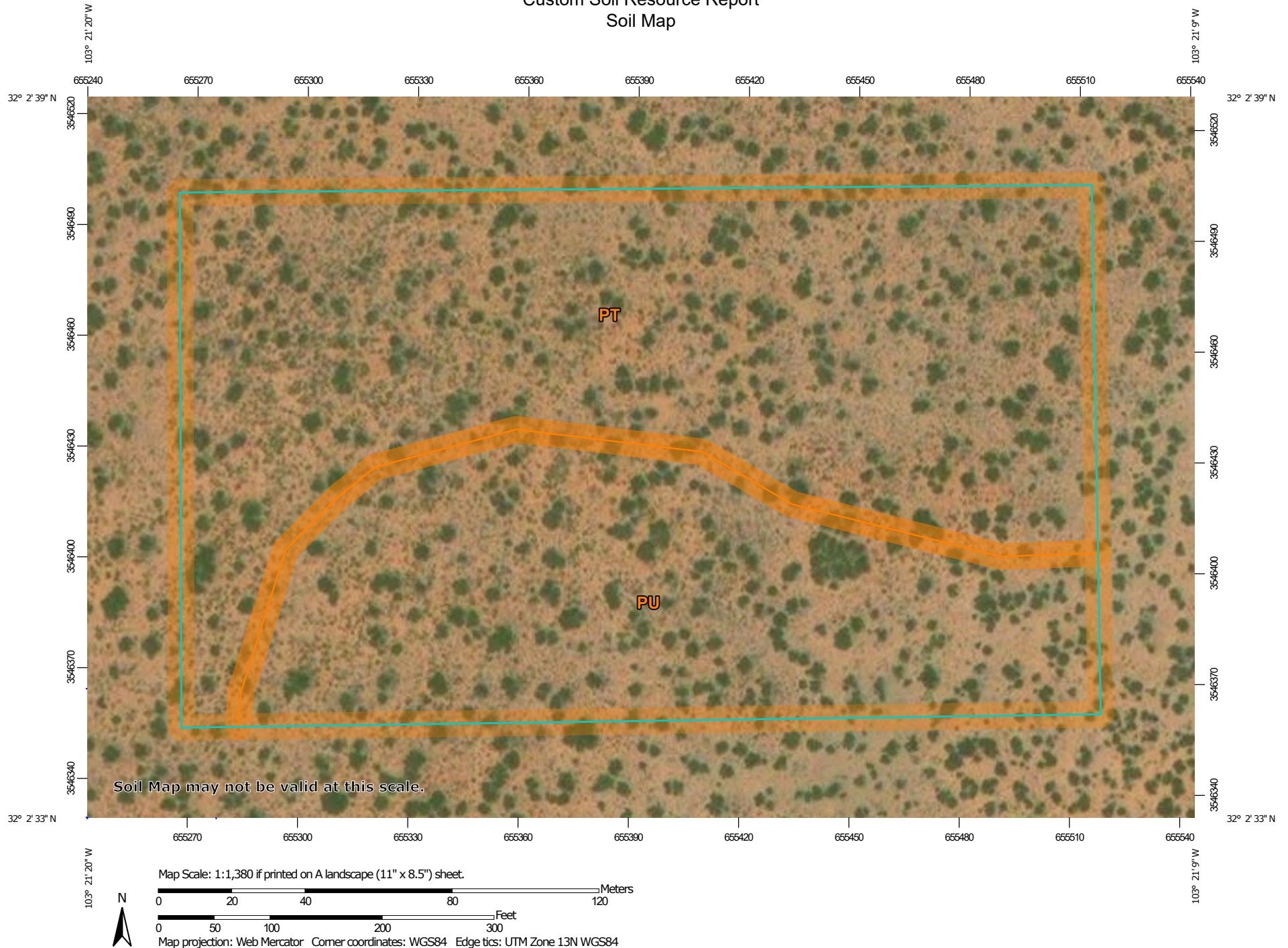
Custom Soil Resource Report

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: Lea County, New Mexico
Survey Area Data: Version 16, Sep 15, 2019

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 19, 2017

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

Custom Soil Resource Report

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PT	Pyote loamy fine sand	5.4	60.6%
PU	Pyote and maljamar fine sands	3.5	39.4%
Totals for Area of Interest		8.9	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 was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

Custom Soil Resource Report

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

Lea County, New Mexico

PT—Pyote loamy fine sand

Map Unit Setting

National map unit symbol: dmqp

Elevation: 3,000 to 3,900 feet

Mean annual precipitation: 10 to 12 inches

Mean annual air temperature: 60 to 62 degrees F

Frost-free period: 190 to 200 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Pyote and similar soils: 85 percent

Minor components: 15 percent

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

Description of Pyote

Setting

Landform: Plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 25 inches: loamy fine sand

Bt - 25 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Gypsum, maximum in profile: 1 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A

Ecological site: Loamy Sand (R042XC003NM)

Hydric soil rating: No

Custom Soil Resource Report

Minor Components**Maljamar***Percent of map unit:* 8 percent*Ecological site:* Loamy Sand (R042XC003NM)*Hydric soil rating:* No**Palomas***Percent of map unit:* 7 percent*Ecological site:* Loamy Sand (R042XC003NM)*Hydric soil rating:* No**PU—Pyote and maljamar fine sands****Map Unit Setting***National map unit symbol:* dmqq*Elevation:* 3,000 to 3,900 feet*Mean annual precipitation:* 10 to 12 inches*Mean annual air temperature:* 60 to 62 degrees F*Frost-free period:* 190 to 205 days*Farmland classification:* Not prime farmland**Map Unit Composition***Maljamar and similar soils:* 45 percent*Pyote and similar soils:* 45 percent*Minor components:* 10 percent*Estimates are based on observations, descriptions, and transects of the mapunit.***Description of Maljamar****Setting***Landform:* Plains*Landform position (three-dimensional):* Rise*Down-slope shape:* Linear*Across-slope shape:* Linear*Parent material:* Sandy eolian deposits derived from sedimentary rock**Typical profile***A - 0 to 24 inches:* fine sand*Bt - 24 to 50 inches:* sandy clay loam*Bkm - 50 to 60 inches:* cemented material**Properties and qualities***Slope:* 0 to 3 percent*Depth to restrictive feature:* 40 to 60 inches to petrocalcic*Natural drainage class:* Well drained*Runoff class:* Very low*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)*Depth to water table:* More than 80 inches

Custom Soil Resource Report

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Description of Pyote**Setting**

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 30 inches: fine sand
Bt - 30 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Minor Components**Kermit**

Percent of map unit: 10 percent

Custom Soil Resource Report

Ecological site: Sandhills (R042XC022NM)

Hydric soil rating: No

References

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>

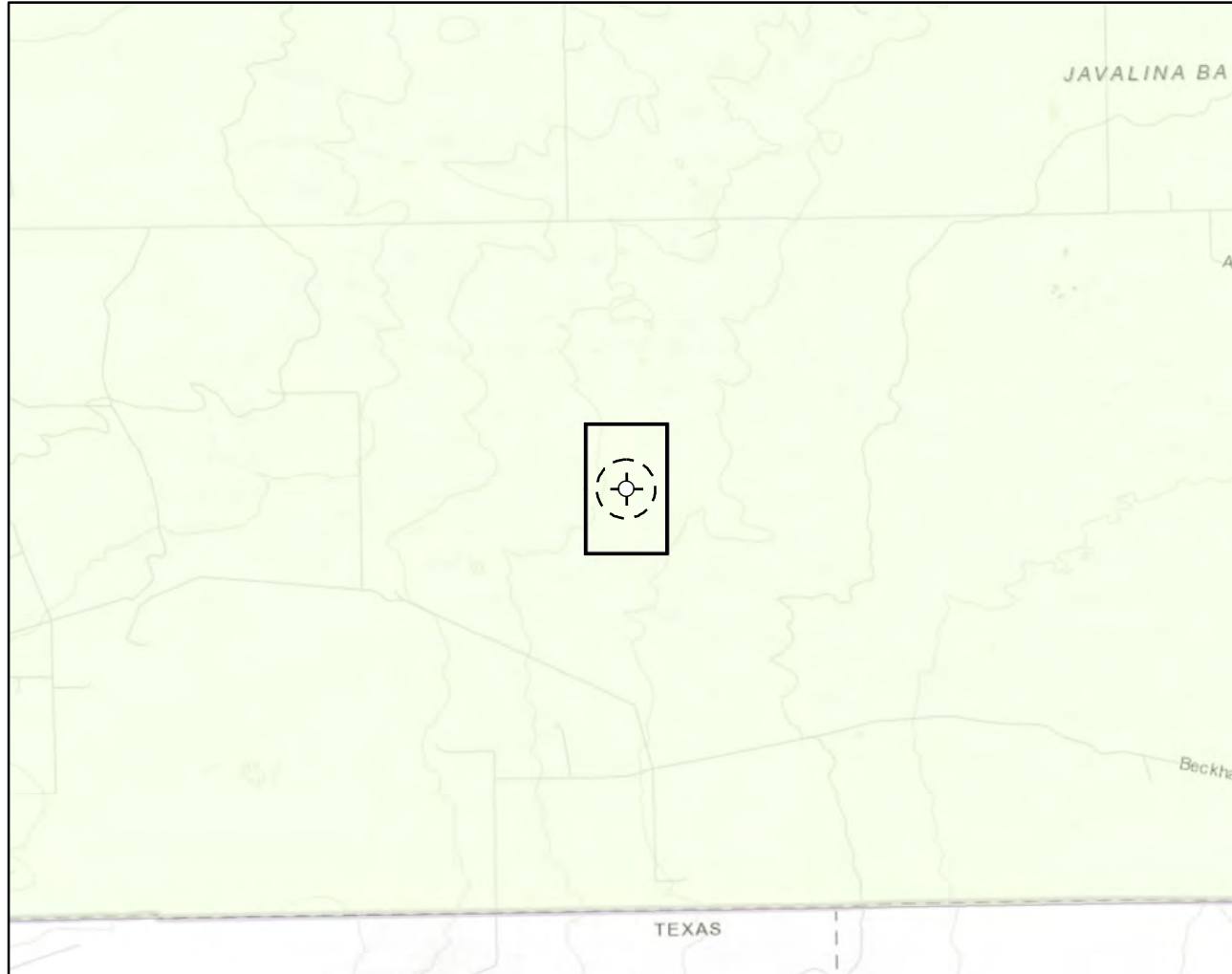
Custom Soil Resource Report

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United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

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Document Path: G:\Projects\US PROJECTS\Devon Energy Corporation\20E-00141051 - Arena Roja 15 CTB 2\Fig X Karst Potential Arena Roja 15 CTB 2.mxd



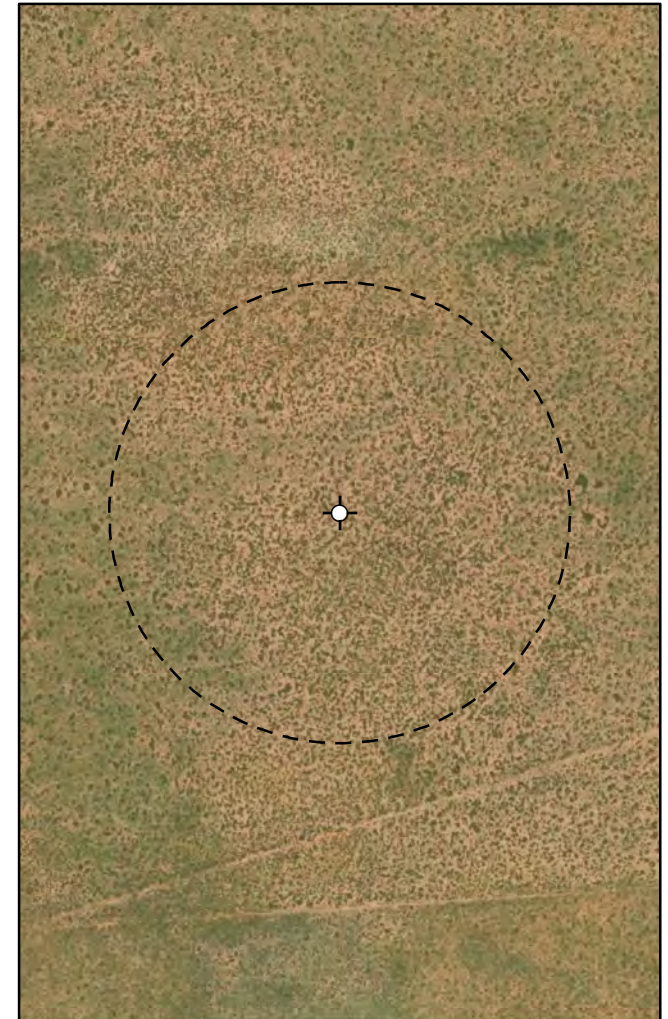
Karst Potential

- Critical
- High
- Medium
- Low

- Site
- Site Buffer

Overview Map

0 0.25 0.5 1 mi



Detail Map

0 150 300 600 ft.



Map Center:
Lat/Long: 32.039841, -103.349150

NAD 1983 UTM Zone 13N
Date: May 28/20



**Karst Potential
Arena Roja 15 CTB 2**

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 20XX; Overview Map: ESRI World Topographic

VERSATILITY. EXPERTISE.

Active Mines in New Mexico

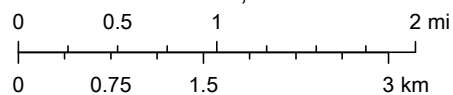


5/28/2020, 9:57:30 AM

Registered Mines

✕ Aggregate, Stone etc.

1:72,224



U.S. Bureau of Land Management - New Mexico State Office, Sources:
Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

EMNRD MMD GIS Coordinator

24/2021 9:04:32 AM NM Energy, Minerals and Natural Resources Department (<http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795>)

ATTACHMENT 4

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Wednesday, May 20, 2020 1:55 PM
To: Natalie Gordon
Subject: Fwd: NRM2010659709: Arena Roja 15 CTB 2 48-hr Notification of Liner Inspection

----- Forwarded message -----

From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Wed, May 20, 2020 at 1:54 PM
Subject: NRM2010659709: Arena Roja 15 CTB 2 48-hr Notification of Liner Inspection
To: EMNRD-OCD-District1spills <emnrd-ocd-district1spills@state.nm.us>, Bratcher, Mike, EMNRD <Mike.Bratcher@state.nm.us>, CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>, Amos, James A <Jamos@blm.gov>, Kelsey <KWade@blm.gov>
Cc: <Lupe.Carrasco@dvn.com>, <amanda.davis@dvn.com>, <wesley.mathews@dvn.com>, <tom.bynum@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services Inc. has scheduled a liner inspection to be conducted at Arena Roja 15 CTB 2 for the following open release:

NRM2010659709 - DOR: April 6, 2020

This work will be conducted on behalf of Devon Energy Production Company.

On Friday, May 22, 2020 at approximately 2:00p.m., Vertex will be onsite to conduct a final liner inspection for closure of the above reference incident. If you need directions to the site or have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

Natalie Gordon
Project Manager

Vertex Resource Group Ltd.
213 S. Mesa Street
Carlsbad, NM 88220

P 575.725.5001 ext 709
C 505.506.0040
F

www.vertex.ca

Confidentiality Notice: This message and any attachments are solely for the intended recipient and may contain confidential or privileged information. If you are not the intended recipient, any disclosure, copying, use, or distribution of the information included in this message and any attachment is prohibited. If you have received this communication in error, please notify us by reply email and immediately and permanently delete this message and any attachments. Thank you.

ATTACHMENT 5



Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	5/22/2020
Site Location Name:	Arena Roja 15 CTB 2	Report Run Date:	5/28/2020 2:32 PM
Project Owner:		File (Project) #:	
Project Manager:		API #:	N/A
Client Contact Name:	Amanda Davis	Reference	
Client Contact Phone #:	(575) 748-0176		

Summary of Times

Left Office	5/22/2020 1:01 PM
Arrived at Site	5/22/2020 1:01 PM
Departed Site	5/22/2020 1:45 PM
Returned to Office	5/22/2020 3:46 PM

Summary of Daily Operations

13:18 Conduct liner inspection

Next Steps & Recommendations

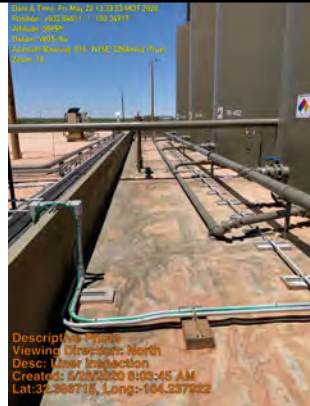
- 1 No tears, cracks or leaking areas identified in liner. No remediation necessary.
- 2 Upload photos and notes for closure report.
- 3 Complete closure report.

Daily Site Visit Report



Site Photos

Viewing Direction: North



Liner inspection

Viewing Direction: East



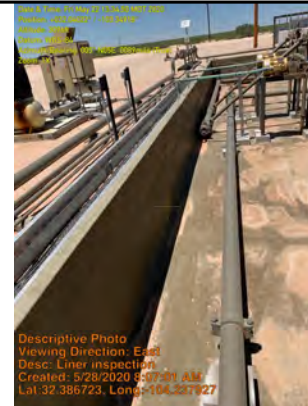
Liner inspection

Viewing Direction: North



Liner inspection





Viewing Direction: East



Liner inspection







Daily Site Visit Report

<p>Viewing Direction: East</p>  <p> <small> Date & Time: 30 May 22 12:58:40 PM Position: 432.58811, -104.237916 Altitude: 3794 Datum: WGS-84 Azimuth Bearing: 077° 00' 00" Magnetic True Zoom: 14 </small> </p> <p> <small> Descriptive Photo Viewing Direction: East Desc: Liner Inspection Created: 5/28/2020 9:57:53 AM Lat:32.386716, Long:-104.237916 </small> </p>	<p>Viewing Direction: South</p>  <p> <small> Date & Time: 30 May 22 12:58:40 PM Position: 432.58811, -104.237916 Altitude: 3794 Datum: WGS-84 Azimuth Bearing: 077° 00' 00" Magnetic True Zoom: 14 </small> </p> <p> <small> Descriptive Photo Viewing Direction: South Desc: Liner Inspection Created: 5/28/2020 9:58:25 AM Lat:32.386716, Long:-104.237916 </small> </p>
Liner inspection	Liner inspection
<p>Viewing Direction: North</p>  <p> <small> Date & Time: 30 May 22 12:58:40 PM Position: 432.58811, -104.237916 Altitude: 3794 Datum: WGS-84 Azimuth Bearing: 077° 00' 00" Magnetic True Zoom: 14 </small> </p> <p> <small> Descriptive Photo Viewing Direction: North Desc: Liner Inspection Created: 5/28/2020 9:59:14 AM Lat:32.386722, Long:-104.237953 </small> </p>	<p>Viewing Direction: North</p>  <p> <small> Date & Time: 30 May 22 12:58:40 PM Position: 432.58811, -104.237916 Altitude: 3794 Datum: WGS-84 Azimuth Bearing: 077° 00' 00" Magnetic True Zoom: 14 </small> </p> <p> <small> Descriptive Photo Viewing Direction: North Desc: Liner Inspection Created: 5/28/2020 9:59:15 AM Lat:32.386724, Long:-104.237948 </small> </p>
Liner inspection	Liner inspection





Daily Site Visit Report

<p>Viewing Direction: North</p>  <p>Descriptive Photo Viewing Direction: North Desc: Liner inspection Created: 5/28/2020 8:10:40 AM Lat: 32.385737, Long: -104.237925</p> <p>Liner inspection</p>	<p>Viewing Direction: West</p>  <p>Descriptive Photo Viewing Direction: West Desc: Liner inspection Created: 5/28/2020 8:17:18 AM Lat: 32.385713, Long: -104.237918</p> <p>Liner inspection</p>
<p>Viewing Direction: West</p>  <p>Descriptive Photo Viewing Direction: West Desc: Area adjacent to containment Created: 5/28/2020 8:17:33 AM Lat: 32.385713, Long: -104.237938</p> <p>Area adjacent to containment</p>	<p>Viewing Direction: East</p>  <p>Descriptive Photo Viewing Direction: East Desc: Area outside of containment Created: 5/28/2020 8:18:45 AM Lat: 32.385891, Long: -104.237931</p> <p>Area outside of containment</p>



Daily Site Visit Report

Viewing Direction: North	Viewing Direction: West
 <p>Descriptive Photo Viewing Direction: North Desc: Area outside of containment Created: 5/20/2020 8:10:27 AM Lat:32.308719, Long:-101.237927</p>	 <p>Descriptive Photo Viewing Direction: West Desc: Area outside of containment Created: 5/20/2020 8:10:29 AM Lat:32.308719, Long:-101.237927</p>
Area outside of containment	Area outside of containment

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Kevin Smith

Signature: 
Signature

Incident ID	NOY1823236138
District RP	
Facility ID	
Application ID	

Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

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.

Printed Name: Tom Bynum Title: EHS Consultant
Signature: Tom Bynum Date: 10/23/2020
email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: Robert Hamlet Date: 3/24/2021

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Robert Hamlet Date: 3/24/2021
Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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 10821

CONDITIONS OF APPROVAL

Operator:		OGRID:	Action Number:	Action Type:
PIMA ENVIRONMENTAL SERVICES, L		329999	10821	C-141
Suite 500 Hobbs, NM88240				

OCD Reviewer	Condition
rhamlet	We have received your closure report and final C-141 for Incident #NOY1823236138 E ARENA ROJA FED UNIT 15, thank you. This closure is approved.