April 17, 2020 Vertex Project #: 20E-00141-010

Spill Closure Report: Arena Roja Fed Unit 15H-16H and Unit 2 CTB
Unit A, Section 28, Township 26 South, Range 35 East
County: Lea
API: 30-025-42671, 42672
Tracking Number(s): nJXK1532330117, TBD

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 two releases that occurred at Arena Roja Fed Unit 15H-16H, API 30-025-42671, 42672 and the Unit 2 Central Tank Battery (CTB; hereafter referred to as "Arena Roja"). Devon provided notification of the spills to New Mexico Oil Conservation Division (NM OCD) District 1, and the Bureau of Land Management (BLM), on November 16, 2015, for the treated water release and December 24, 2019, for the oil release, followed by their respective initial C-141 Release Notifications (Attachment 1). The tracking number assigned to the 2015 incident is nJXK1532330117 and the tracking number for the 2019 incident has not yet been assigned.

This letter provides a description of the spill assessment and remediation activities, 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 November 16, 2015, a release occurred at Devon's Arena Roja site when a sudden inrush of air from the transfer lines caused a bladder to split on the minion tanks during prefilling. This incident resulted in the release of approximately 20 barrels (bbls) of treated water onto the constructed wellpad. Upon discovery of the release, the remaining treated water in the minion tanks was transferred to frac tanks before a vacuum truck returned it to the treated water pond. Approximately 15 bbls of the released treated water was recovered from the wellpad and removed for disposal off-site. All fluids remained within the boundaries of the wellpad.

On December 24, 2019, a release occurred at Arena Roja when the site glass on a heater treater broke. This incident resulted in the release of approximately 9.69 bbls of oil onto the constructed tank battery pad. Approximately 5 bbls were recovered from the wellpad and removed for disposal off-site. No oil was released into undisturbed areas or waterways.

Site Characterization

Arena Roja is located on federally-owned land, N 32.021, W 103.364, approximately 10 miles southwest of Bennett, New Mexico. The legal description for the site is Unit A, Section 28, 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 release area on the northern and western portion of the constructed wellpad where the minion tanks and heater treater are located.

The surrounding landscape has historically been associated with sandy plains and is not prime farmland. The climate is semiarid with average annual precipitation ranging between 10 and 12 inches. The plant community is dominated by black grama, dropseed grass species and bluestems, with scattered shinnery oak and sand sage. Bare ground and litter make up a significant portion 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 Pleistecene) characterized by interlayed 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. 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 well is a New Mexico Office of the State Engineer well from 2015 located 2.41 miles east 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). The Chevron Texaco Depth to Groundwater map for Lea county confirms that depth to groundwater in the vicinity of Arena Roja is approximately 200 feet bgs (Chevron Texaco, 2005). 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 releases would be subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C

of 19.15.29.12 NMAC.

Based on data included in the closure criteria determination worksheet, the release at Arena Roja is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site is determined to be associated with the following constituent concentration limits based on depth to groundwater.

Table 1. Closure Criteria for Soils Impacted by a Release

Depth to Groundwater	Constituent	Limit
>100 feet	Chloride	20,000 mg/kg
	TPH[1] (GRO + DRO + MRO)	2,500 mg/kg
	GRO + DRO	1,000 mg/kg
	BTEX[2]	50 mg/kg
	Benzene	10 mg/kg

[1]Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
[2]Benzene, toluene, ethyl benzene and xylenes (BTEX)

Remedial Actions

An initial spill inspection, completed by Vertex on January 28, 2020, identified and mapped the boundaries of the two releases. The release area for the 2015 incident was determined to be approximately 60 feet long by 50 feet wide. The release area for the 2019 incident was determined to be approximately 25 feet long by 30 feet wide. The Daily Field Reports (DFRs) associated with the site inspection are included as Attachment 4.

On February 20, 2020, Vertex provided 48-hour notification of the confirmation sampling to NM OCD and the BLM (Attachment 5), as required by Subparagraph (a) of Paragraph (5) of Subsection A 19.15.29.11 NMAC. On February 25 and 26, 2020, Vertex was onsite to oversee remediation activities and conduct confirmatory sampling. A total of 11 five-point composite confirmatory samples were collected from the remediated areas and an adjacent portion of the wellpad that was potentially impacted by the 2015 release. The composite samples were placed into laboratory-provided containers, preserved on ice and submitted to a National Environmental Laboratory Accreditation Program approved laboratory for chemical analysis.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sampling analytical data are summarized in Attachment 6. Laboratory data reports and chain of custody forms are included in Attachment 7.

A GeoExplorer 7000 Series Trimble global positioning system (GPS) or similar was used to map the approximate center of each of the five-point composite samples. The confirmatory sampling locations for each release are presented on Figure 2 and Figure 3 (Attachment 2).

Closure Request

Vertex recommends no additional remediation to address the releases at Arena Roja. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below NM OCD Closure Criteria for areas

where depth to groundwater is greater than 100 feet bgs as presented in Table 1. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that both incidents 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 November 16, 2015, and December 24, 2019, releases 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

Attachments

Attachment 1. NM OCD C-141 Report
Attachment 2. Figures - Site Schematic and Confirmatory Sample Locations
Attachment 3. Closure Criteria for Soils Impacted by a Release Determination Documentation
Attachment 4. Daily Field Report(s) with Photographs
Attachment 5. Required 48-hr Notification of Confirmatory Sampling to Regulatory Agencies
Attachment 6. Confirmatory Sampling Laboratory Results
Attachment 7. Laboratory Data Reports/Chain of Custody Forms

References

Chevron Texaco. (2005). *Lea County Depth to Groundwater, Water Wells, Facilities*.

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). *Well Log/Meter Information Report*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/meterReport.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.

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

RECEIVED
By JKeyes at 8:25 am, Nov 19, 2015

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
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 Co LP (6137)**	Contact: **Jeff Heath, Devon Assist. Foreman**
Address: **PO Box 250 Artesia, NM 88211**	Telephone No. **575- 513-2274**
Facility Name: **Arena Roja Fed Unit 15H – 16H Well Pad**	Facility Type : **2-well pad location**

Surface Owner: Federal	Mineral Owner: Federal	API No. **30-025-42671, 42672**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	**28**	**26S**	**35E**	**184**	**North**	**200**	**East**	**Lea**

Latitude: 32.021029___ Longitude: -103.364480

NATURE OF RELEASE

Type of Release: Treated Water	Volume of Release: 20 bbls	Volume Recovered: 15 bbls
Source of Release: The bladder on the minion tanks split.	Date and Hour of Occurrence 11/16/15; 4:00 AM	Date and Hour of Discovery 11/16/15; 4:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? BLM-Jim Amos OCD-Kelly Jones	
By Whom? Jeff Heath	Date and Hour: 11/16/15; BLM-3:16 PM OCD-7:13 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*
While prefilling minion tanks, a sudden inrush of air from the transfer lines caused the bladder to split on the minion tanks causing approximately 20 barrels treated water to spill on location pad. Treated water remaining in the minion tanks was transferred to frac tanks and vacuum truck put it back into the treated water pond. The treated water line was pigged back to the treated pond as well.

Describe Area Affected and Cleanup Action Taken.*
Approximately 15 barrels of treated water was recovered by vacuum truck. Devon has contacted an environmental company to delineate and develop a work plan after completions operations are finished and moved off of location.

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: Denise Menoud

Printed Name: **Denise Menoud**

Title: **Field Admin Support**

E-mail Address: **Denise.Menoud@dvn.com**

Date: **11/18/2015** Phone: **575-746-5544**

OIL CONSERVATION DIVISION

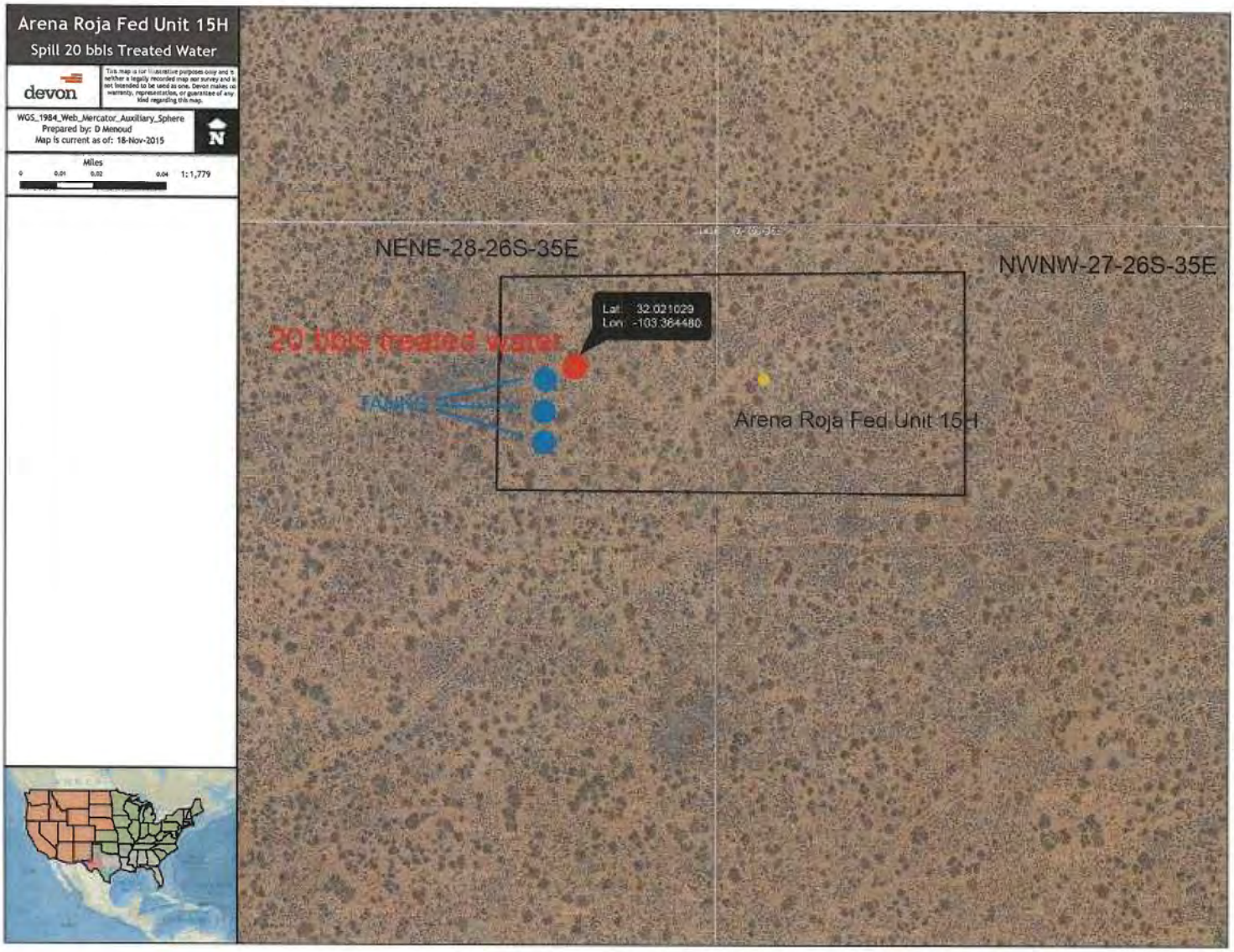
Approved by Environmental Specialist:

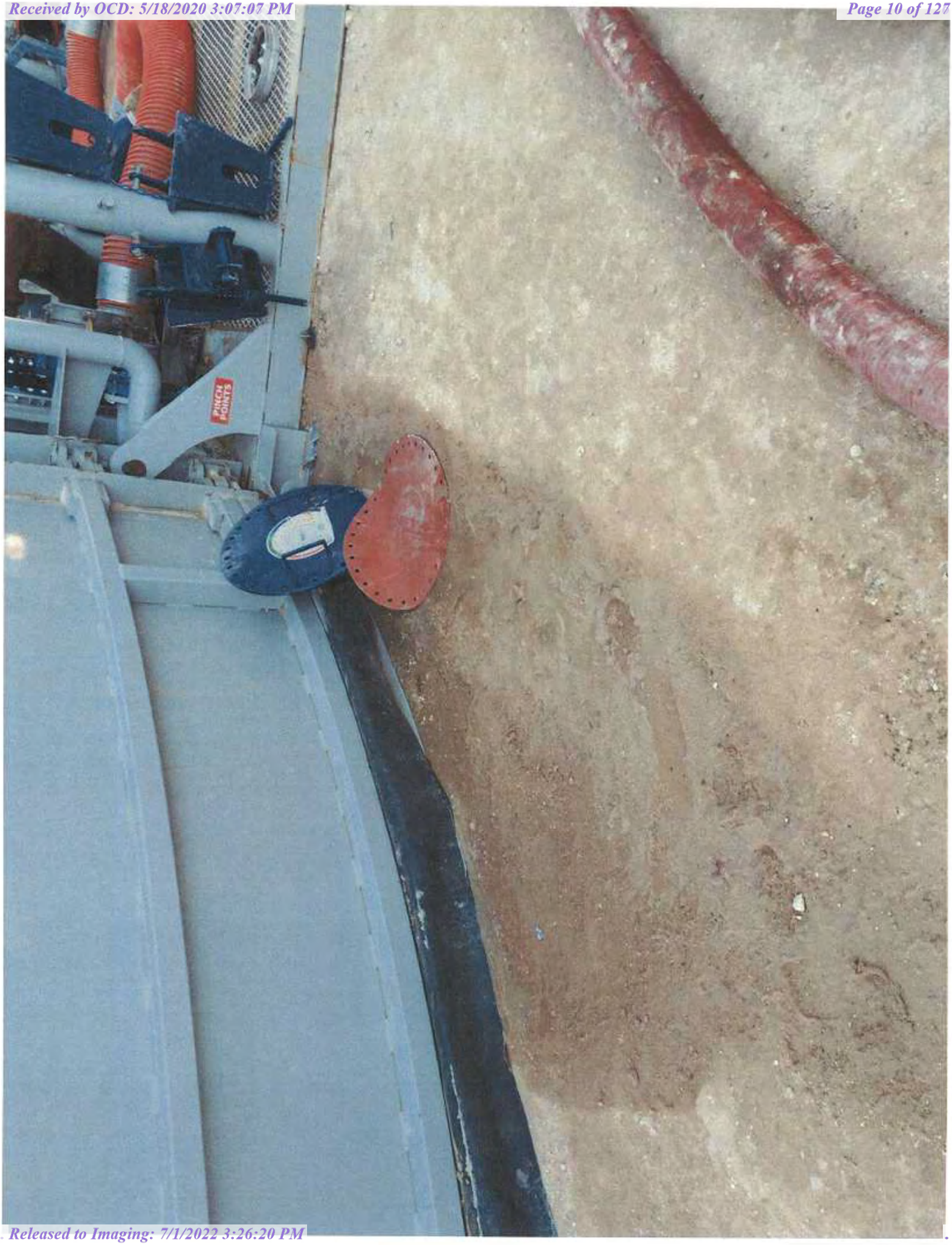
Approval Date: 11/19/2015 Expiration Date: 01/19/2016

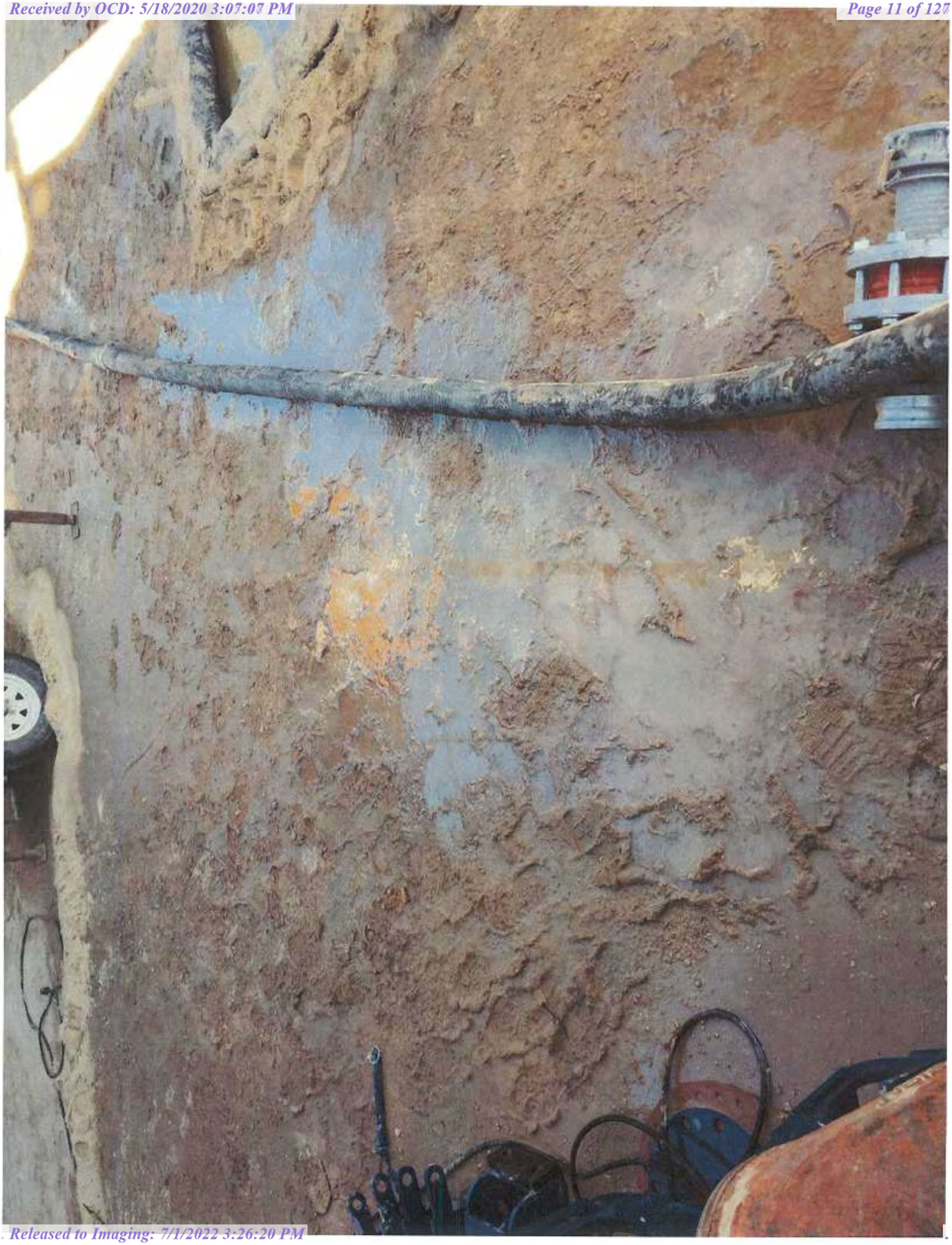
Conditions of Approval:
Discrete site samples required. Delineate and remediate per NMOCD guidelines.
Geotagged photos of remediation required.

Attached ☐
1RP 3984

* Attach Additional Sheets If Necessary


Arena Roja Fed Unit 15H
Spill 20 bbls Treated Water
devon
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: D Menoud
Map is current as of: 18-Nov-2015
N
Miles
0 0.01 0.02 0.04 1:1,779
NENE-28-26S-35E
NWNW-27-26S-35E
Lat: 32.021029
Lon: -103.364480
20 bbls treated water
TANKS
Arena Roja Fed Unit 15H


PINCH POINTS



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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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

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

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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.
- ☐ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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: _____ Title: _____

Signature: Kendra DeHoyos Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Spill Volume(Bbls) Calculator		
Inputs in blue, Outputs in red		
Contaminated Soil measurement		
Length(Ft)	Width(Ft)	Depth(Ft)
23	26.000	0.063
Cubic Feet of Soil Impacted		37.674
Barrels of Soil Impacted		6.72
Soil Type		Clay/Sand
Barrels of Oil Assuming 100% Saturation		1.01
Saturation	Fluid present with shovel/backhoe	
Estimated Barrels of Oil Released		1.01
Free Standing Fluid Only		
Length(Ft)	Width(Ft)	Depth(Ft)
23	20.000	0.063
Standing fluid		5.154
Total fluids spilled		**6.162**

Instructions
1.Input spill area measurements in feet, if less than one foot use converter below.
2. Select a soil type from the drop down menu. *3. Select a saturation level from the drop down menu.*
(For data gathering instructions see appendix tab)

Inches to Feet Converter		
	Inches	Feet
Length		0.000
Width		0.000
Height	0.75	0.063

ATTACHMENT 2

Borehole
Release Point
Surface Sample
Pipeline (Aboveground)
Infrastructure (Existing)
Approximate Lease Boundary
Stained soil
Water spill

VERTEX

0 12.5 25 50 ft

Map Center:
Lat/Long: 32.021066, -103.364188

NAD 1983 UTM Zone 13N
Date: Feb 26/20

N

Site Schematic and Initial Release Characterization
Arena Roja Fed Unit 15H-16H and Unit 2 CTB

FIGURE:
1

devon

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: Background image from ESRI, 2018

VERSATILITY. EXPERTISE.

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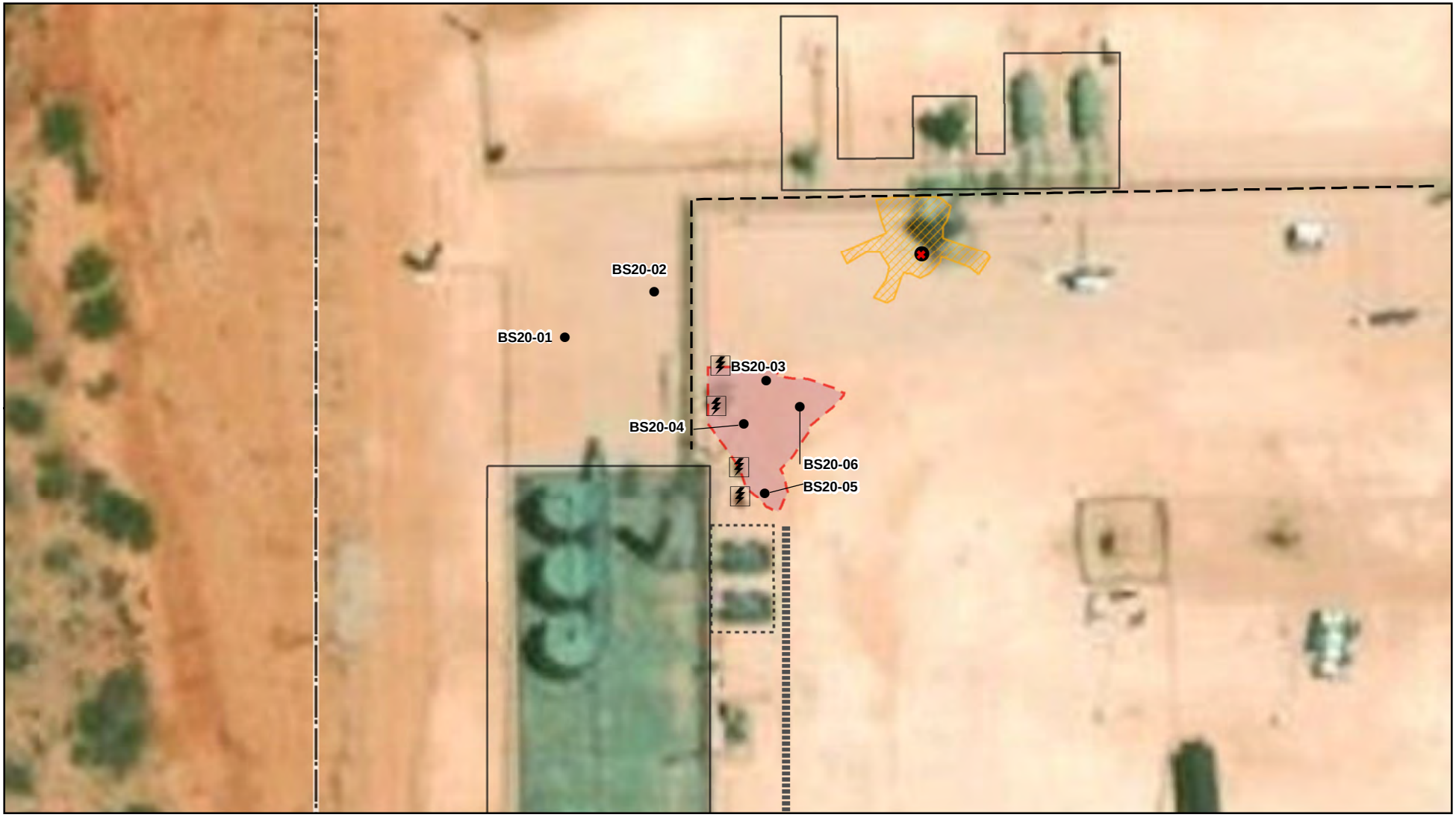

Base Sample
Release Point
Flowline and Electrical Line
Flogistix Pumps and Barriers
Stained soil
Electrical Box
Berm
Infrastructure (Existing)
Water spill
Approximate Lease Boundary

VERTEX

0 12.5 25 50 ft

Map Center:
Lat/Long: 32.021039, -103.364184

NAD 1983 UTM Zone 13N
Date: Feb 26/20

N

Confirmatory Sampling Locations - Produced Water Release
Arena Roja Fed Unit 15H-16H and Unit 2 CTB

FIGURE:
2

devon

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: Background image from ESRI, 2018

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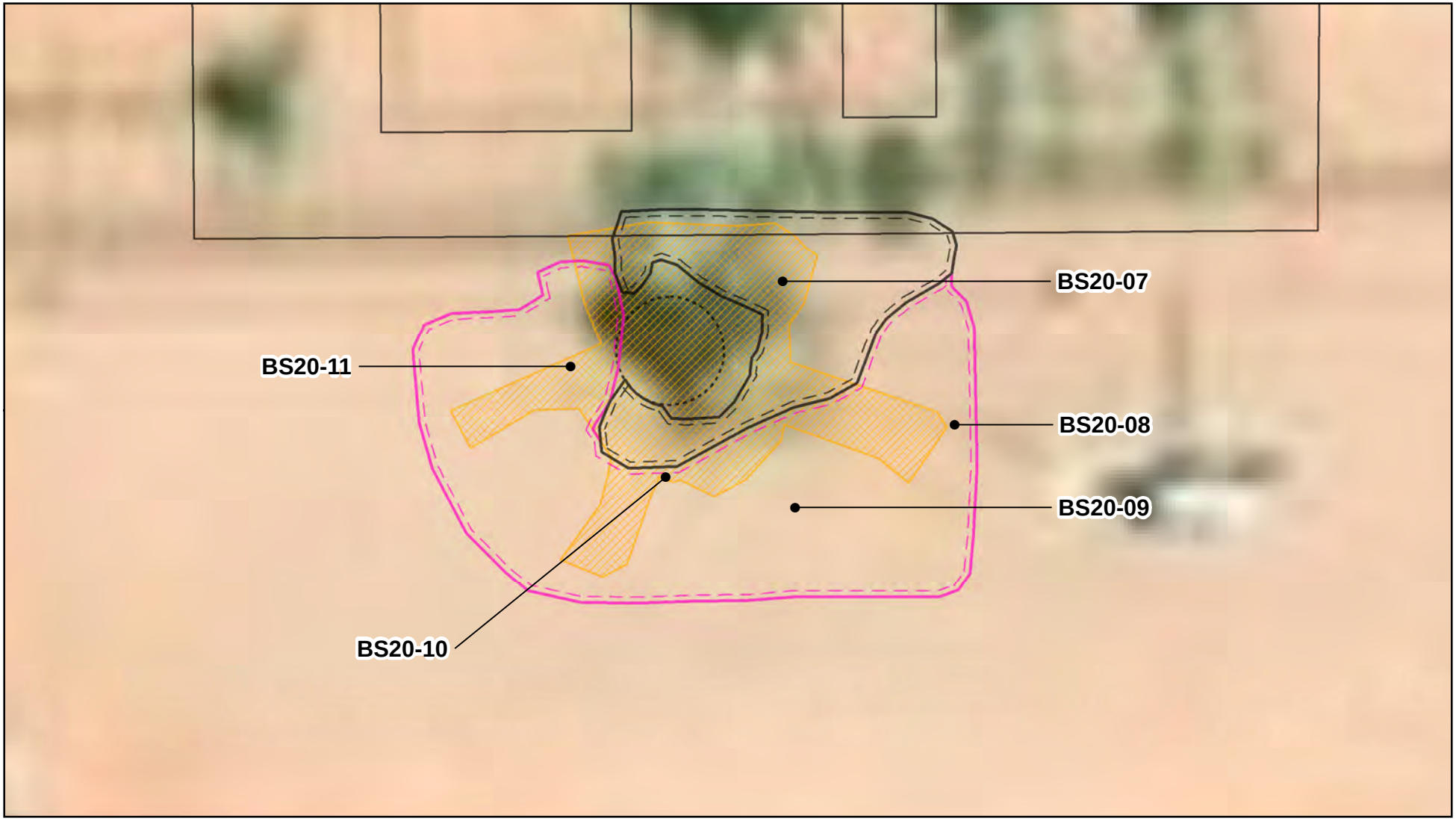

- Base Sample
- Excavation (Scraped ~ 3" to 4")
- Excvataion (Hand Dug ~ 12")
- Heater Treater
- Infrastructure (Existing)
- Stained soil

VERTEX

0 3.75 7.5 15 ft.

Map Center:
Lat/Long: 32.021170, -103.363981

NAD 1983 UTM Zone 13N
Date: Mar 06/20

N

Confirmatory Sampling Locations - Oil Release
Arena Roja Fed Unit 15H-16H and Unit 2 CTB

FIGURE: 3

devon

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: Background image from ESRI, 2018

VERSATILITY. EXPERTISE.

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ATTACHMENT 3

Table 1.			
Site Name: Arena Roja Federal Unit 2 CTB			
Spill Coordinates:		**X: 32.0208677**	**Y: -103.3639659**
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	190,728	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	50,793	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	33,735	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**	33,735	feet
	ii) Within 1000 feet of any fresh water well or spring	>1000	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	50,793	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	>100	year
11	Soil Type	te and maljamar fine sands	
12	Ecological Classification		
13	Geology	an and piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	<50' 51-100' >100'

Column1
Critical
High
Medium
Low

Column1
Yes
No

<50'
51-100'
>100'

Arena Roja Federal Unit 2 CTB

1/28/2020, 7:23:38 AM

1:1,128

0 0.01 0.02 0.04 mi

0 0.02 0.04 0.07 km

Wells - Large Scale

- undefined
- Miscellaneous
- CO2, Active
- CO2, Cancelled
- CO2, New
- CO2, Plugged
- CO2, Temporarily Abandoned
- Gas, Active
- Gas, Cancelled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active
- Injection, Cancelled
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned
- Oil, Active
- Oil, Cancelled
- Oil, New
- Oil, Plugged
- Oil, Temporarily Abandoned
- Salt Water Injection, Active
- Salt Water Injection, Cancelled
- Salt Water Injection, New
- Salt Water Injection, Plugged
- Salt Water Injection, Temporarily Abandoned
- Water, Active
- Water, Cancelled
- Water, New

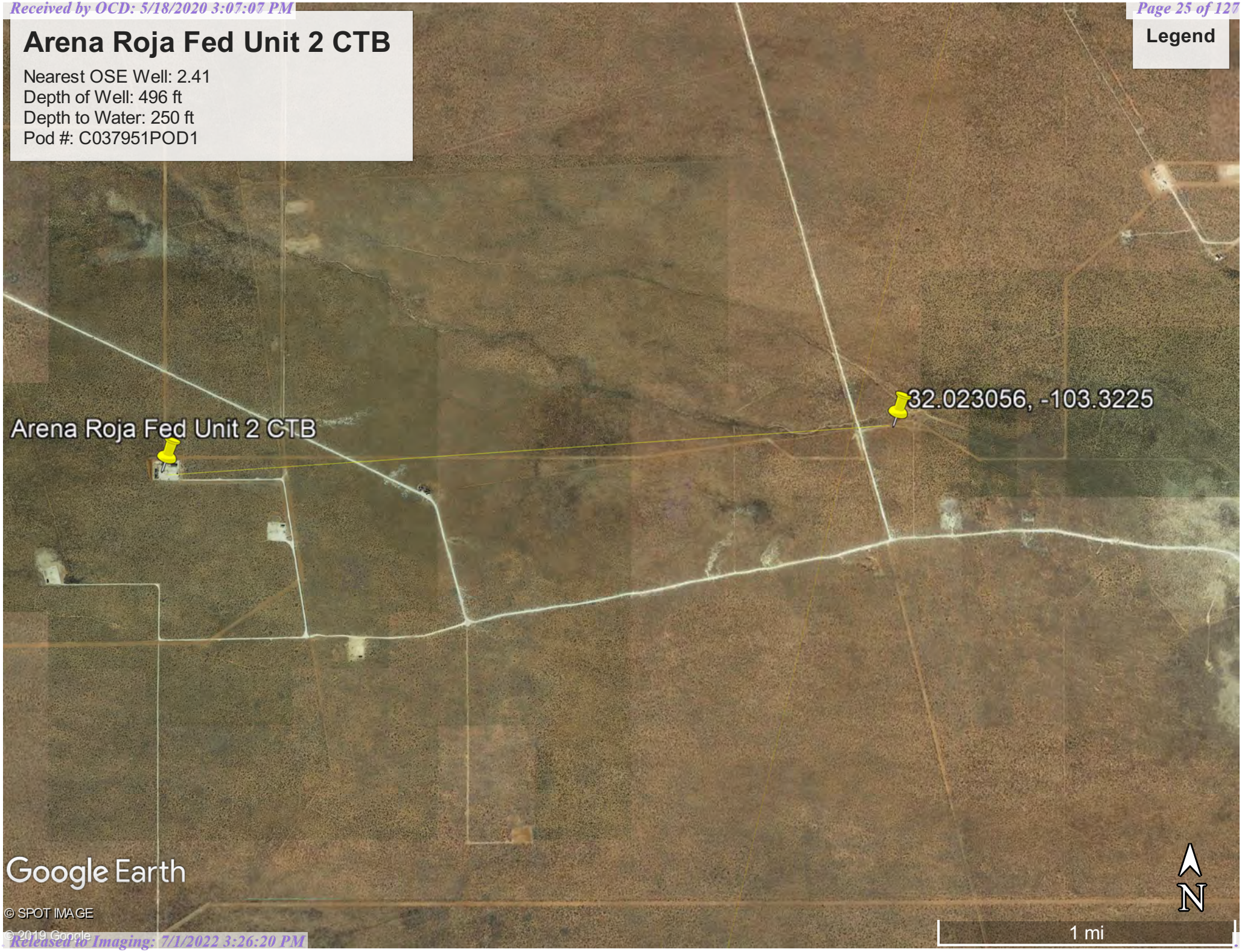
Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, OCD, BLM

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

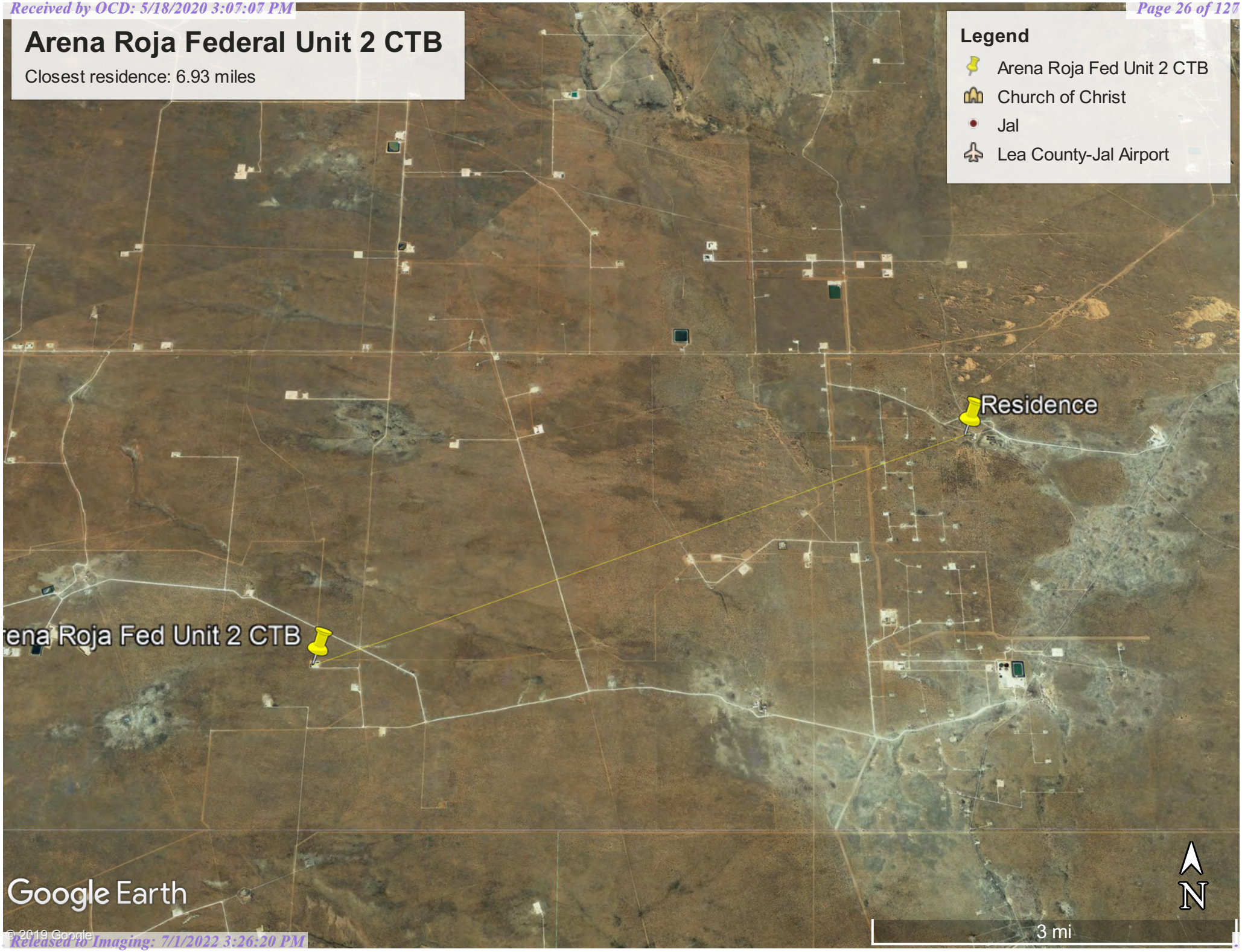
Arena Roja Fed Unit 2 CTB

Nearest OSE Well: 2.41
Depth of Well: 496 ft
Depth to Water: 250 ft
Pod #: C037951POD1



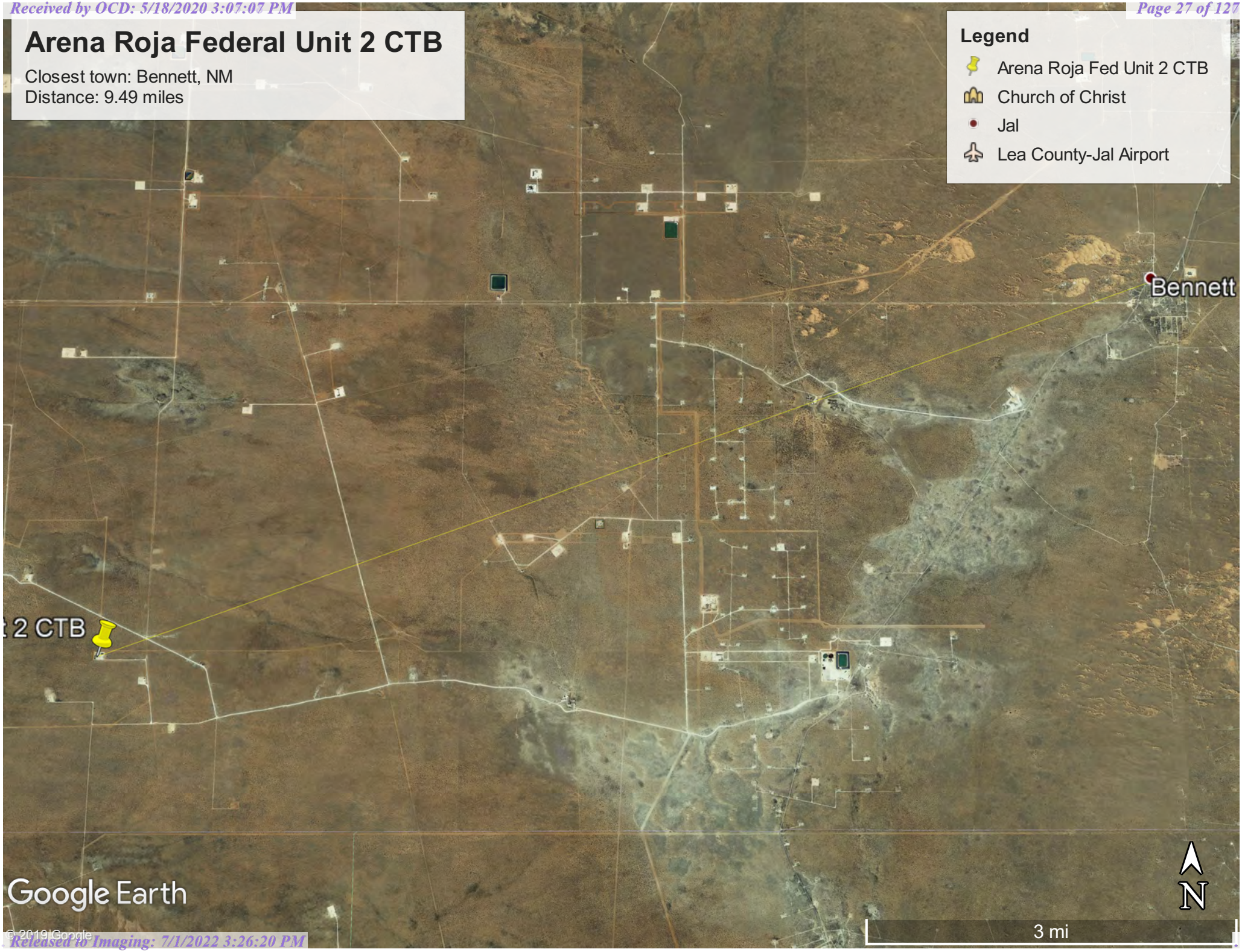
Arena Roja Federal Unit 2 CTB

Closest residence: 6.93 miles



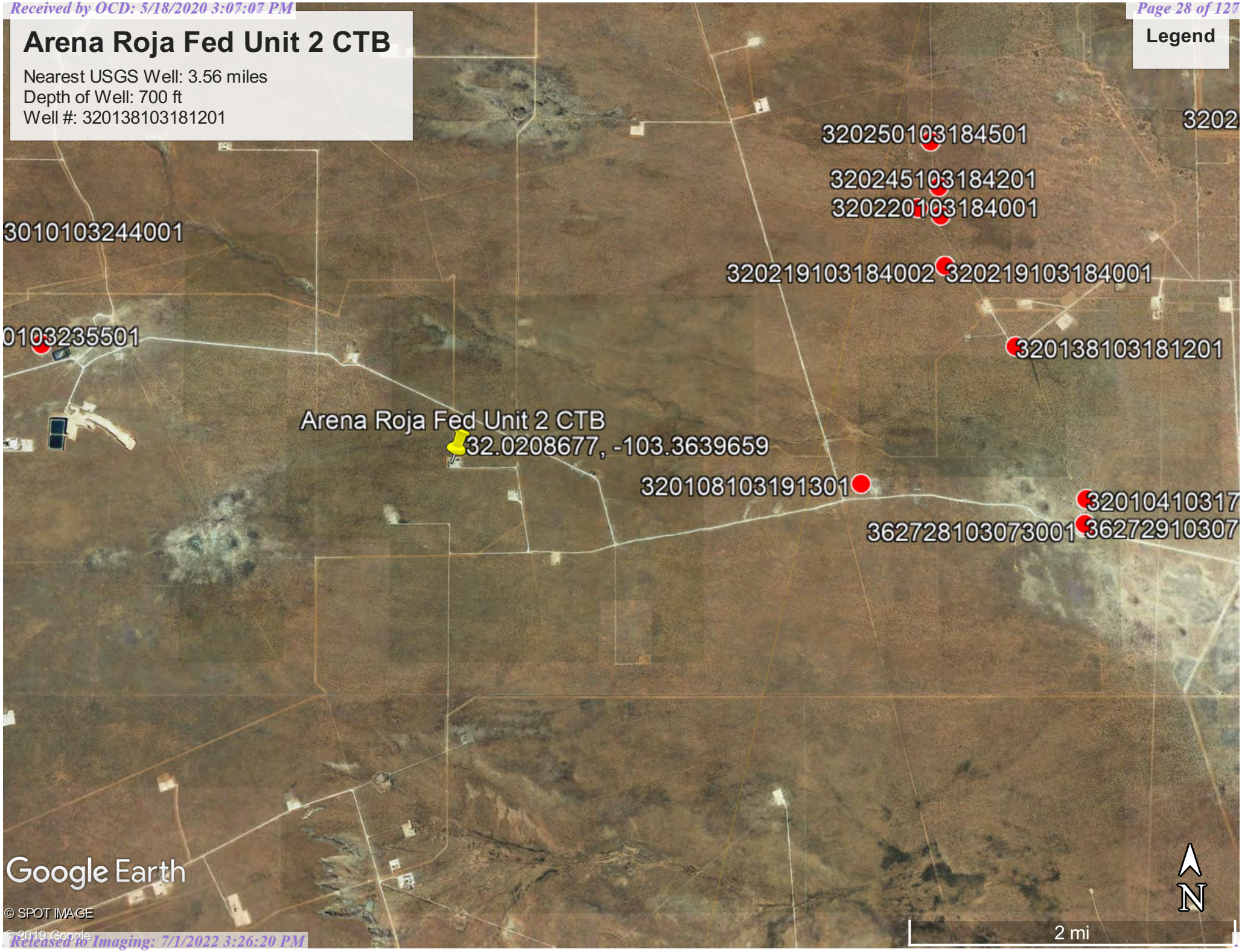
Arena Roja Federal Unit 2 CTB

Closest town: Bennett, NM
Distance: 9.49 miles



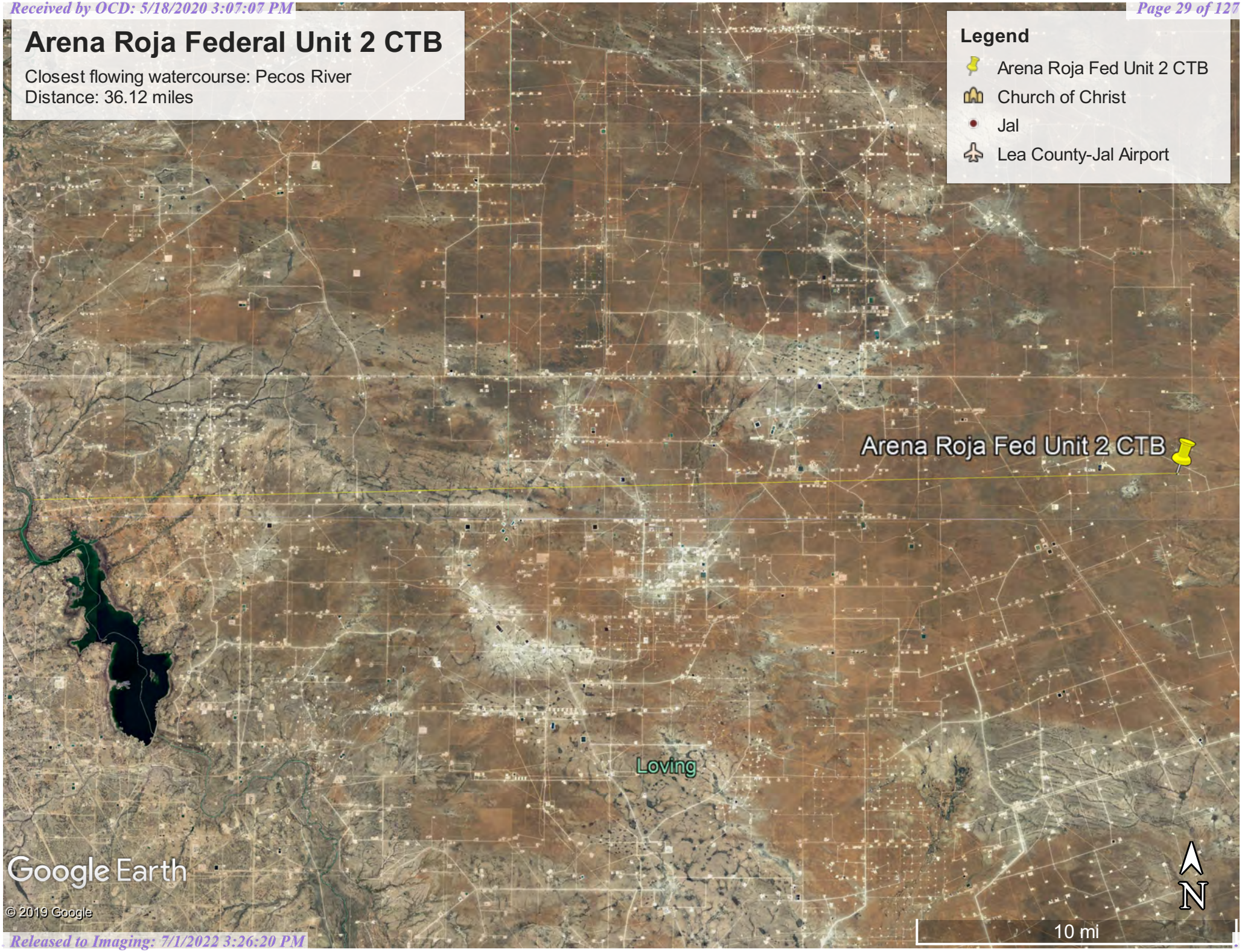
Arena Roja Fed Unit 2 CTB

Nearest USGS Well: 3.56 miles
Depth of Well: 700 ft
Well #: 320138103181201

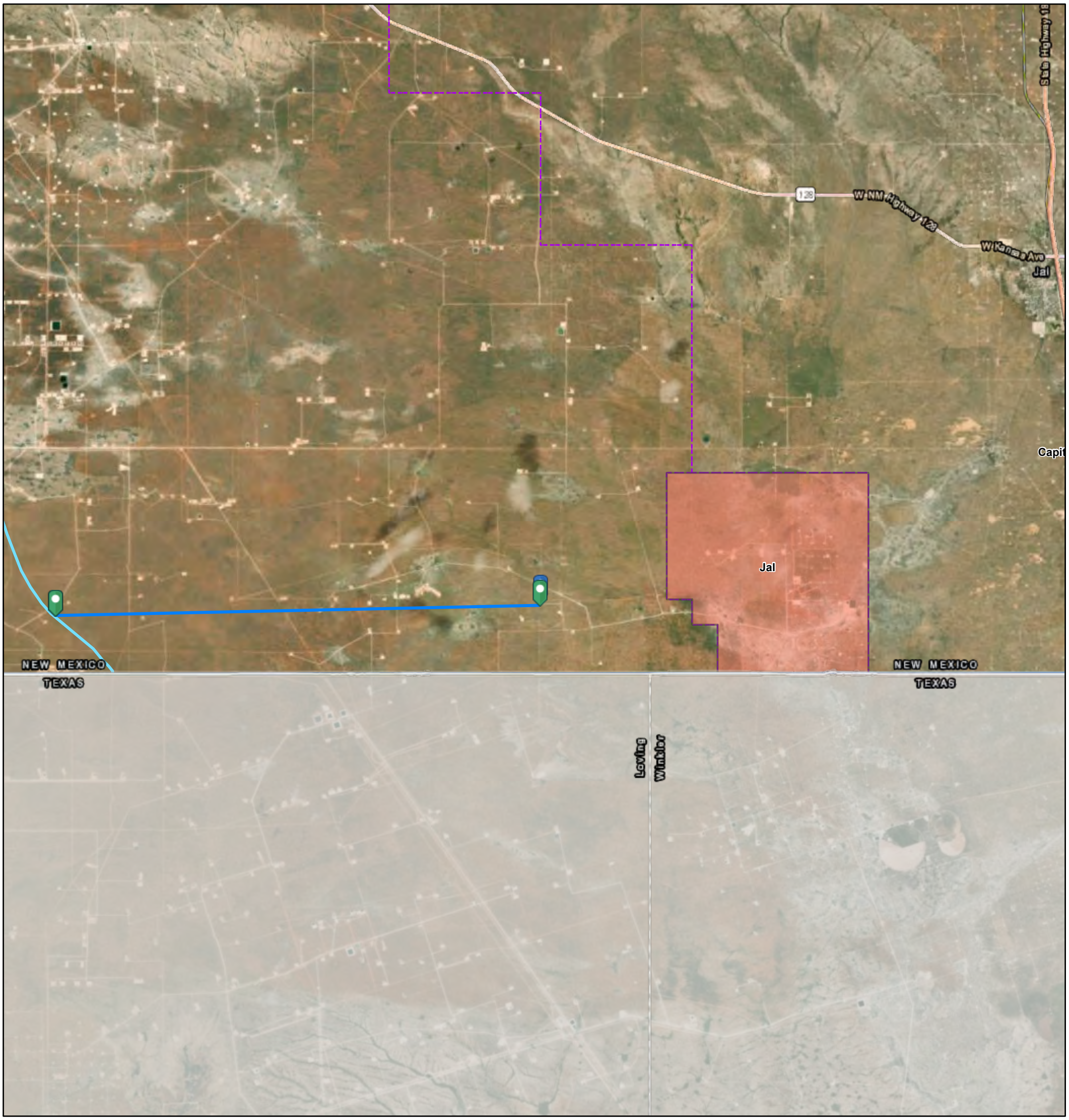


Arena Roja Federal Unit 2 CTB

Closest flowing watercourse: Pecos River
Distance: 36.12 miles



Distance to Wetland



1/29/2020, 6:51:01 AM

1:144,448

0 1.25 2.5 5 mi

0 2.25 4.5 9 km

Water Right Regulations

- Critical Management Area - Guidelines
- OSE District Boundary
- Declared Groundwater Basins
- Surface Water Sub Basins

U.S. Fish and Wildlife Service
National Wetlands Inventory

Arena Roja Fed 2 CTB Wetlands

January 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.

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

New Mexico Office of the State Engineer

Wells with Well Log Information

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

(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	POD Code	Subbasin	County	Source	q 64	q 16	q 4	Sec	Twn	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 03795 POD1		C	LE	Shallow	4	4	3	24	26S	35E	658419	3544221	3925	02/02/2015	02/06/2015	02/19/2015	496	250	DURAN, LUIS (TONY)	1607

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 654505.83 **Northing (Y):** 3543917.81 **Radius:** 5000

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information ▼ Geographic Area: United States ▼ GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

USGS 320138103181201 26S.36E.19.14224

Available data for this site SUMMARY OF ALL AVAILABLE DATA ▼ GO

Well Site

DESCRIPTION:

Latitude 32°01'53.1", Longitude 103°18'15.0" NAD83
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 700 feet
Land surface altitude: 2,952.00 feet above NGVD29.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1965-10-20	2012-08-13	6
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center

Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=320138103181201

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-01-28 09:33:53 EST
0.31 0.3 caww01

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information ▼ Geographic Area: United States ▼ GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

USGS 362728103073001 26S.36E.30.24414

Available data for this site SUMMARY OF ALL AVAILABLE DATA ▼ GO

Well Site

DESCRIPTION:

Latitude 32°00'54", Longitude 103°17'47" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: not determined.
Hole depth: 170 feet
Land surface altitude: 2,915 feet above NAVD88.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1976-01-14	2012-05-21	2
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=362728103073001

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-01-28 10:12:47 EST
0.41 0.4 caww02

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information ▼ Geographic Area: United States ▼ GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

USGS 362729103073101 26S.36E.30.244141

Available data for this site SUMMARY OF ALL AVAILABLE DATA ▼ GO

Well Site

DESCRIPTION:

Latitude 32°00'55", Longitude 103°17'48" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: not determined.
Hole depth: 180 feet
Land surface altitude: 2,915 feet above NAVD88.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1976-01-14	2012-05-21	3
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

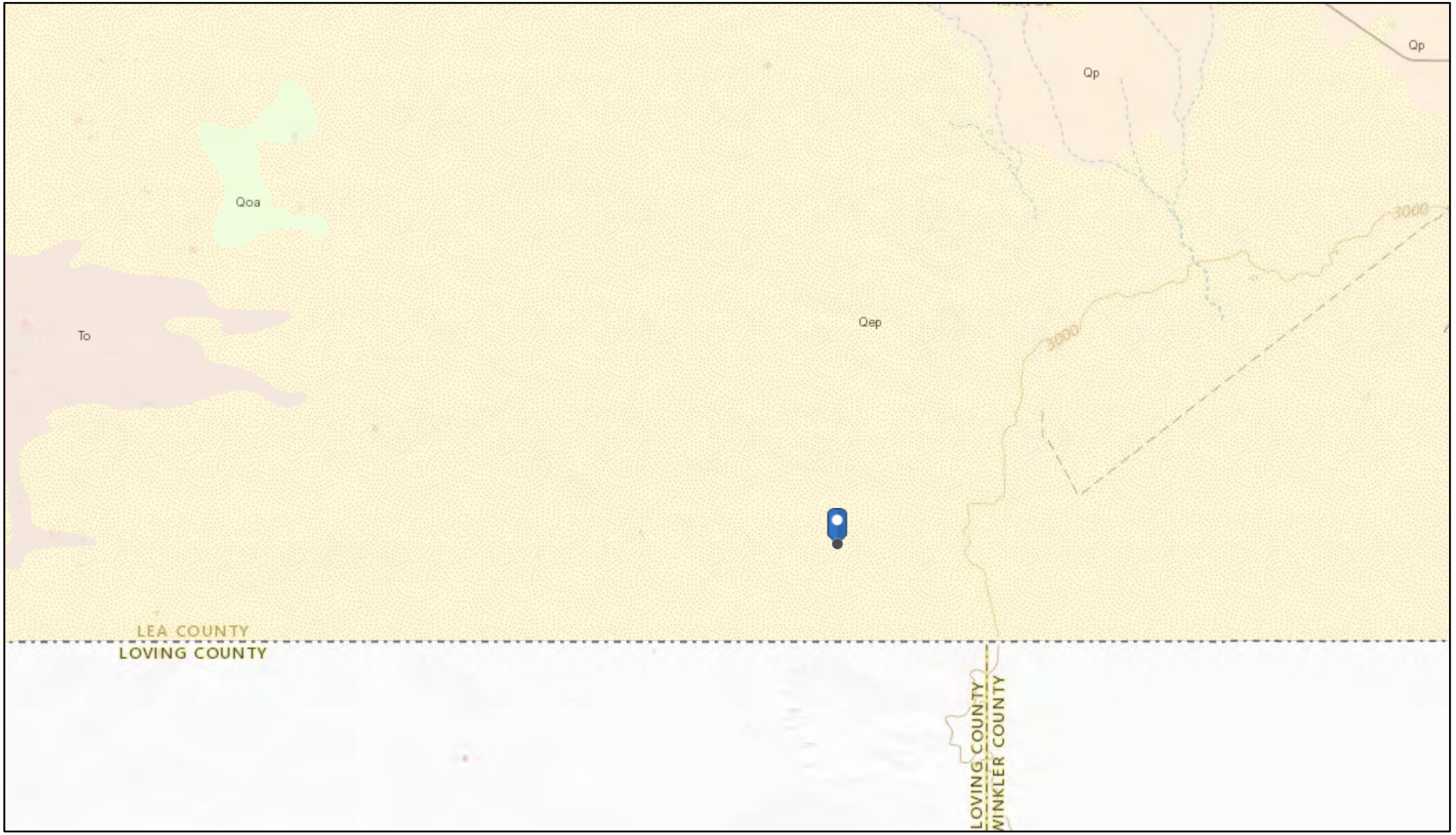
Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=362729103073101

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2020-01-28 10:14:20 EST
0.43 0.41 caww02

Geology Map



1/29/2020, 6:37:14 AM

1:144,448

0 1 2 4 mi

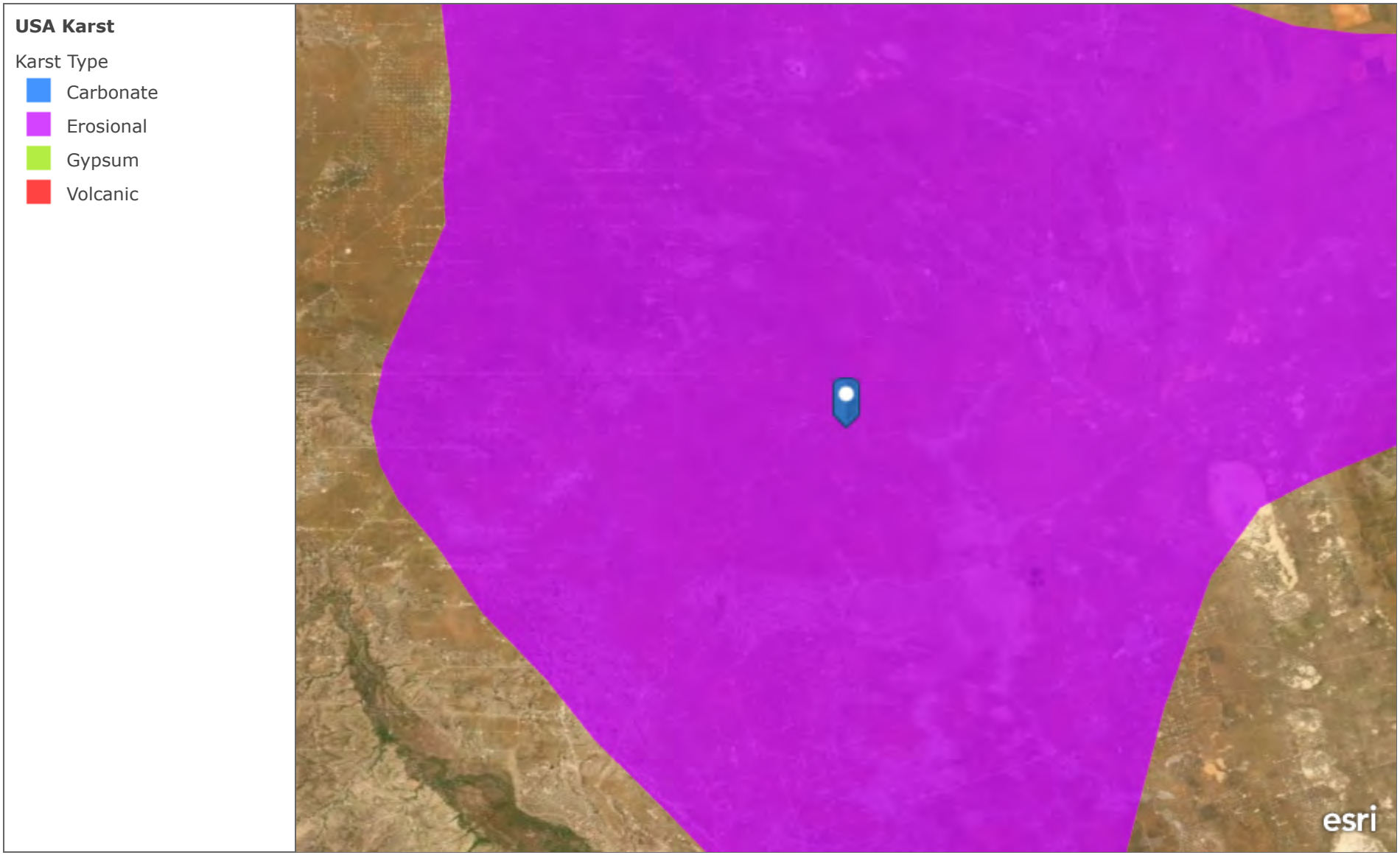
0 1.5 3 6 km

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census

Web AppBuilder for ArcGIS

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census

USA Karst



A map showing karst areas in the United States based on the U.S. Geological Survey Open-File Report 2004-1352

U.S. Geological Survey Open-File Report 2004-1352, Caves and Karst in the U.S. National Park Service, AGI Karst Map of the US. | U.S. Geological Survey Open-File Report 2004-1352 | Earthstar Geographics

Soil Map—Lea County, New Mexico

Map Scale: 1:7,680 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 100, 200, 400, 600

Feet: 0, 350, 700, 1400, 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PT	Pyote loamy fine sand	6.1	2.2%
PU	Pyote and maljamar fine sands	265.1	95.1%
PY	Pyote soils and dune land	7.5	2.7%
Totals for Area of Interest		**278.7**	**100.0%**

Lea County, New Mexico

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
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
Ecological site: Sandhills (R042XC022NM)

Hydric soil rating: No

Data Source Information

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

ATTACHMENT 4

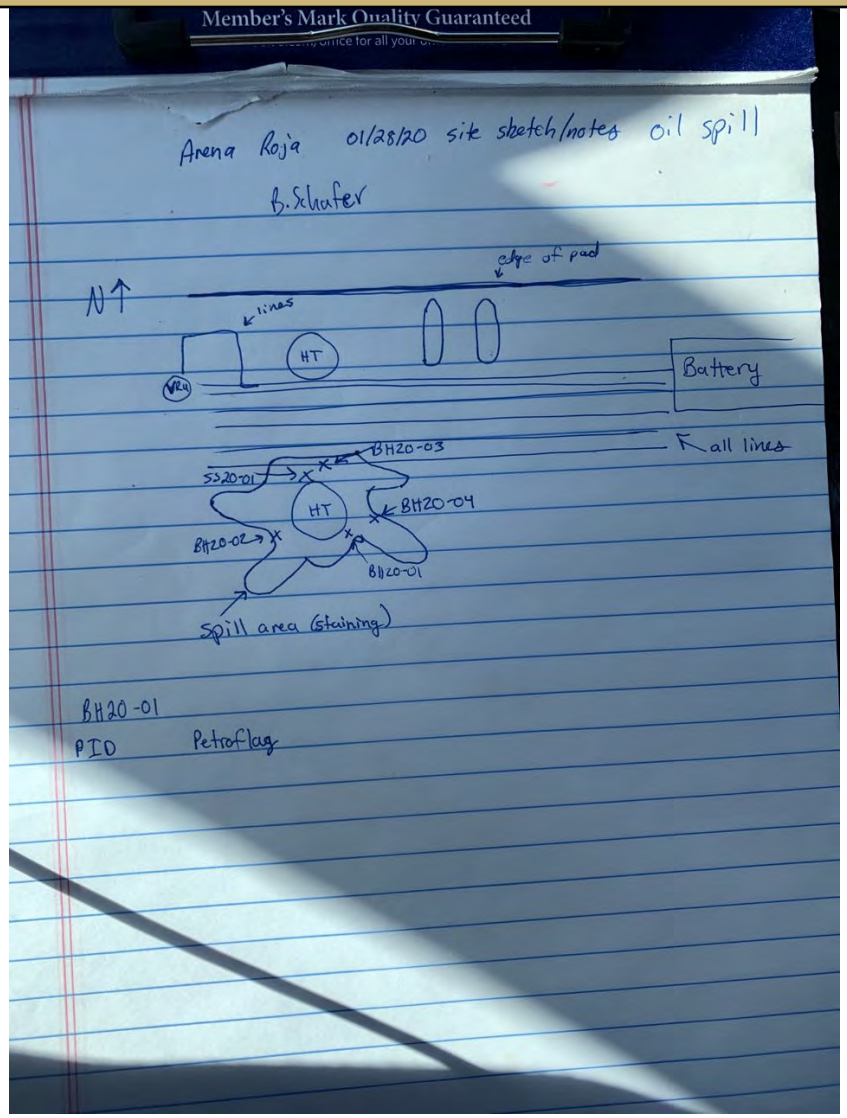
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	1/28/2020
Site Location Name:	Arena Roja Fed Unit 15H	Report Run Date:	2/1/2020 6:29 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-025-42671
Client Contact Name:	Amanda Davis	Reference	Spill 1RP-3984
Client Contact Phone #:	(575) 748-0176		

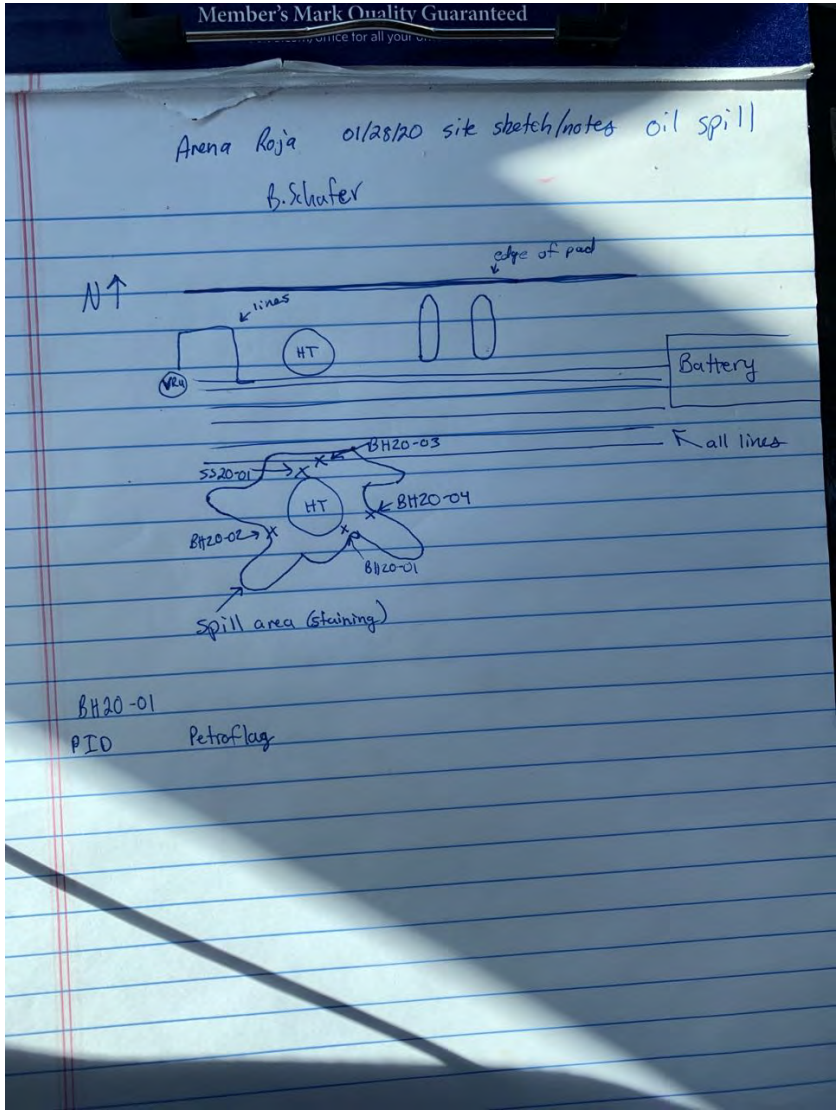
Summary of Times	
Left Office	1/28/2020 9:38 AM
Arrived at Site	1/28/2020 11:25 AM
Departed Site	1/28/2020 2:30 PM
Returned to Office	1/28/2020 6:46 PM

Daily Site Visit Report

Site Sketch



Daily Site Visit Report



Daily Site Visit Report

Summary of Daily Operations

11:30 Initial site characterization and sampling

Next Steps & Recommendations

1 Field screen and send to lab

2 Await lab results

Sampling

BH20-01

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.021171, -103.363994	Yes
1 ft.						✓	32.021171, -103.363994	Yes
2 ft.						✓	32.021171, -103.363994	Yes
3 ft.						✓	32.021171, -103.363994	Yes
4 ft.						✓	32.021171, -103.363994	Yes

Daily Site Visit Report

BH20-02

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.021198, -103.364043	Yes
1 ft.						✓	32.021198, -103.364043	Yes

BH20-03

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.021251, -103.363990	Yes

BH20-04

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.021150, -103.363911	Yes
1 ft.						✓	32.021150, -103.363911	Yes
2 ft.						✓	32.021150, -103.363911	Yes

Daily Site Visit Report

SS20-01

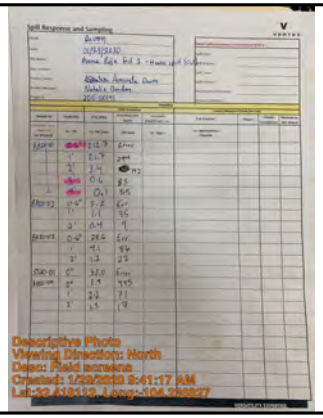
Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.021243, -103.364015	Yes

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast	**Viewing Direction**: South
	
Overview of crude spill area	Overview of spill area
Viewing Direction: Southeast	**Viewing Direction**: East
	
Overview of spill are	Spill area

Daily Site Visit Report

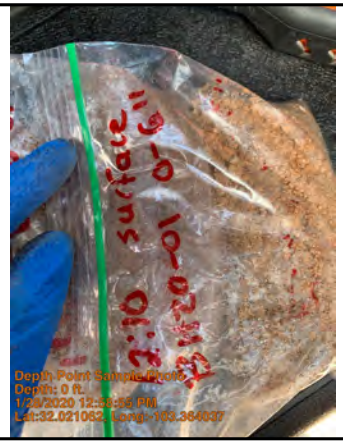
Viewing Direction: North

Field screens

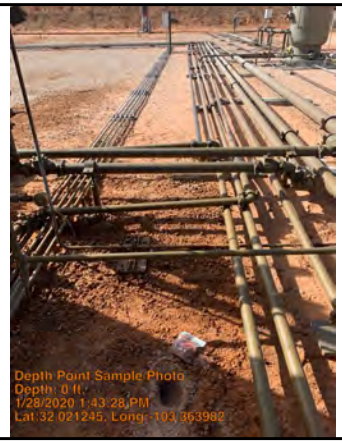
Daily Site Visit Report

Depth Sample Photos

Sample Point ID: BH20-01	Sample Point ID: BH20-01
	
Depth: 4 ft.	**Depth:** 3 ft.
Sample Point ID: BH20-01	**Sample Point ID: BH20-01**
	
Depth: 2 ft.	**Depth:** 1 ft.

Daily Site Visit Report

Sample Point ID: BH20-01	Sample Point ID: BH20-02
	
Depth: 0 ft.	**Depth:** 0 ft.

Sample Point ID: BH20-02	Sample Point ID: BH20-03
	
Depth: 1 ft.	**Depth:** 0 ft.

Daily Site Visit Report

Sample Point ID: SS20-01	Sample Point ID: BH20-04
	
Depth: 0 ft.	**Depth:** 2 ft.
Sample Point ID: BH20-04	**Sample Point ID**: BH20-04
	
Depth: 1 ft.	**Depth:** 0 ft.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Brandon Schafer

Signature: 

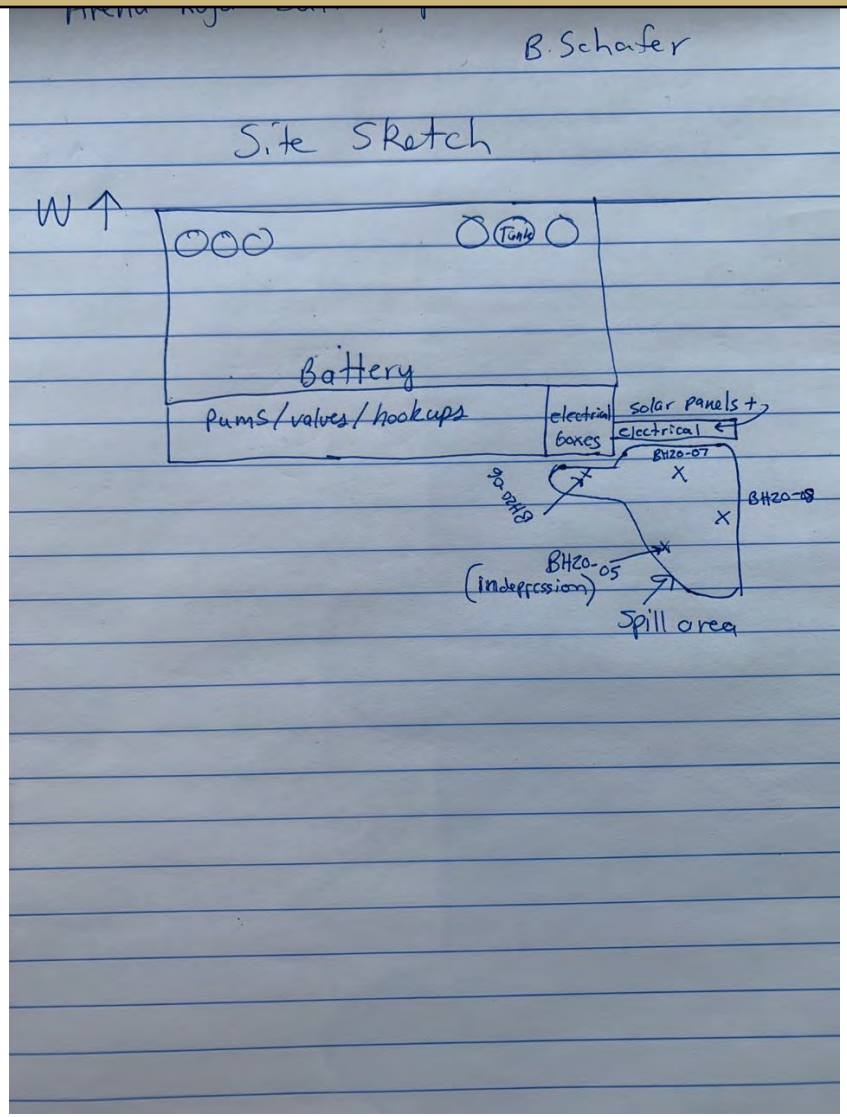
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	1/28/2020
Site Location Name:	Arena Roja Fed Unit 15H	Report Run Date:	2/1/2020 6:28 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-025-42671
Client Contact Name:	Amanda Davis	Reference	Spill 1RP-3984
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	1/28/2020 2:30 PM
Arrived at Site	1/28/2020 2:35 PM
Departed Site	1/28/2020 4:55 PM
Returned to Office	1/28/2020 6:45 PM

Daily Site Visit Report

Site Sketch



Daily Site Visit Report

Summary of Daily Operations

14:35 Initial sampling and site characterization

Next Steps & Recommendations

1

Sampling

BH20-05

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.020979, -103.364140	Yes
1 ft.						✓	32.020979, -103.364140	Yes
2 ft.						✓	32.020979, -103.364140	Yes
3 ft.						✓	32.020979, -103.364140	Yes
4 ft.						✓	32.020979, -103.364140	Yes

Daily Site Visit Report

BH20-06

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.021003, -103.364184	Yes
1 ft.						✓	32.021003, -103.364184	Yes

BH20-07

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.021057, -103.364199	Yes
1 ft.						✓	32.021057, -103.364199	Yes
2 ft.						✓	32.021057, -103.364199	Yes
3 ft.						✓	32.021057, -103.364199	Yes

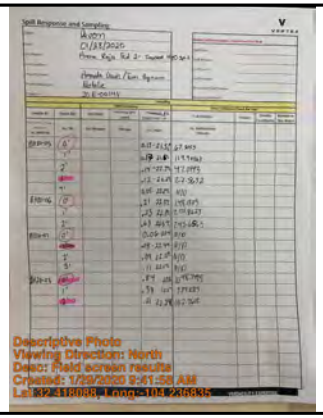
Daily Site Visit Report

BH20-08

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.						✓	32.021073, -103.364106	Yes
1 ft.						✓	32.021073, -103.364106	Yes
2 ft.						✓	32.021073, -103.364106	Yes

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: South
	
Overview of spill area, cooler is in middle	View of water spill area
Viewing Direction: North	**Viewing Direction**: North
	
View of water spill area	Field screen results

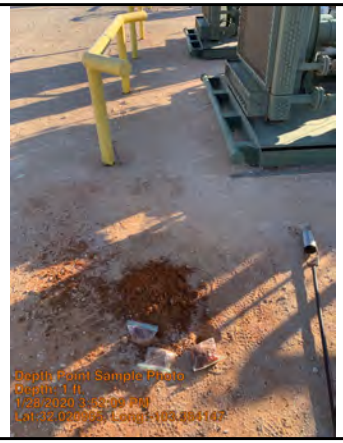
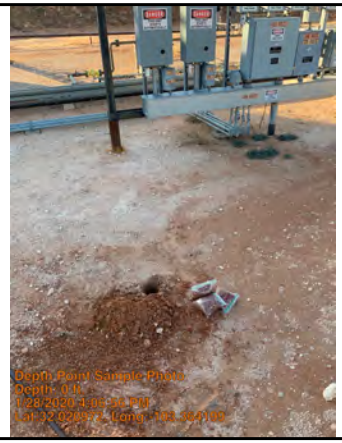
Daily Site Visit Report

Depth Sample Photos

Sample Point ID: BH20-05	**Sample Point ID**: BH20-05
	
Depth: 0 ft.	**Depth:** 1 ft.
Sample Point ID: BH20-05	**Sample Point ID**: BH20-05
	
Depth: 2 ft.	**Depth:** 3 ft.

Daily Site Visit Report

Sample Point ID: BH20-05	**Sample Point ID**: BH20-06
	
Depth: 4 ft.	**Depth:** 0 ft.

Sample Point ID: BH20-06	**Sample Point ID**: BH20-07
	
Depth: 1 ft.	**Depth:** 0 ft.

Daily Site Visit Report

Sample Point ID: BH20-07	Sample Point ID: BH20-07
	
Depth: 1 ft.	**Depth:** 2 ft.
Sample Point ID: BH20-07	**Sample Point ID: BH20-08**
	
Depth: 3 ft.	**Depth:** 0 ft.

Daily Site Visit Report

Sample Point ID: BH20-08

Depth: 1 ft.

Sample Point ID: BH20-08

Depth: 2 ft.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Brandon Schafer

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	2/25/2020
Site Location Name:	Arena Roja Fed Unit 15H	Report Run Date:	2/26/2020 12:58 AM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-025-42671
Client Contact Name:	Amanda Davis	Reference	Spill 1RP-3984
Client Contact Phone #:	(575) 748-0176		

Summary of Times

Left Office	2/25/2020 6:45 AM
Arrived at Site	2/25/2020 8:56 AM
Departed Site	
Returned to Office	

Summary of Daily Operations

8:58 Hand excavation and confirmatory sampling

Next Steps & Recommendations

1

Sampling

ES-Base20-01

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02110017, -103.36434859	Yes

Daily Site Visit Report

ES-Base20-02

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02093650, -103.36445056	Yes

ES-Base20-03

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02074673, -103.36445555	Yes

ES-Base20-04

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02109807, -103.36445010	Yes

ES-Base20-05

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02121480, -103.36432017	Yes

Daily Site Visit Report

ES-Base20-06

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02103891, -103.36413032	Yes

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: North
	
Spill area	Spill area
Viewing Direction: East	**Viewing Direction**: Southwest
	
Spill area	Spill area

Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Southeast
	
Spill area	Water spill area
Viewing Direction: Northwest	**Viewing Direction**: Northeast
	
Water spill area	Water spill area

Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Southeast
	
Water spill area	Day 1 excavation
Viewing Direction: Southeast	**Viewing Direction**: West
	
Day 1 excavation	Day 1 excavation

Daily Site Visit Report

Viewing Direction: Northwest

Day 1 excavation

Daily Site Visit Report

Depth Sample Photos

Sample Point ID: ES-Base20-01	**Sample Point ID**: ES-Base20-02
	
Depth: 0 ft.	**Depth:** 0 ft.
Sample Point ID: ES-Base20-03	**Sample Point ID**: ES-Base20-04
	
Depth: 0 ft.	**Depth:** 0 ft.

Daily Site Visit Report

Sample Point ID: ES-Base20-05	Sample Point ID: ES-Base20-06
	
Depth: 0 ft.	**Depth:** 0 ft.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Brandon Schafer

Signature:

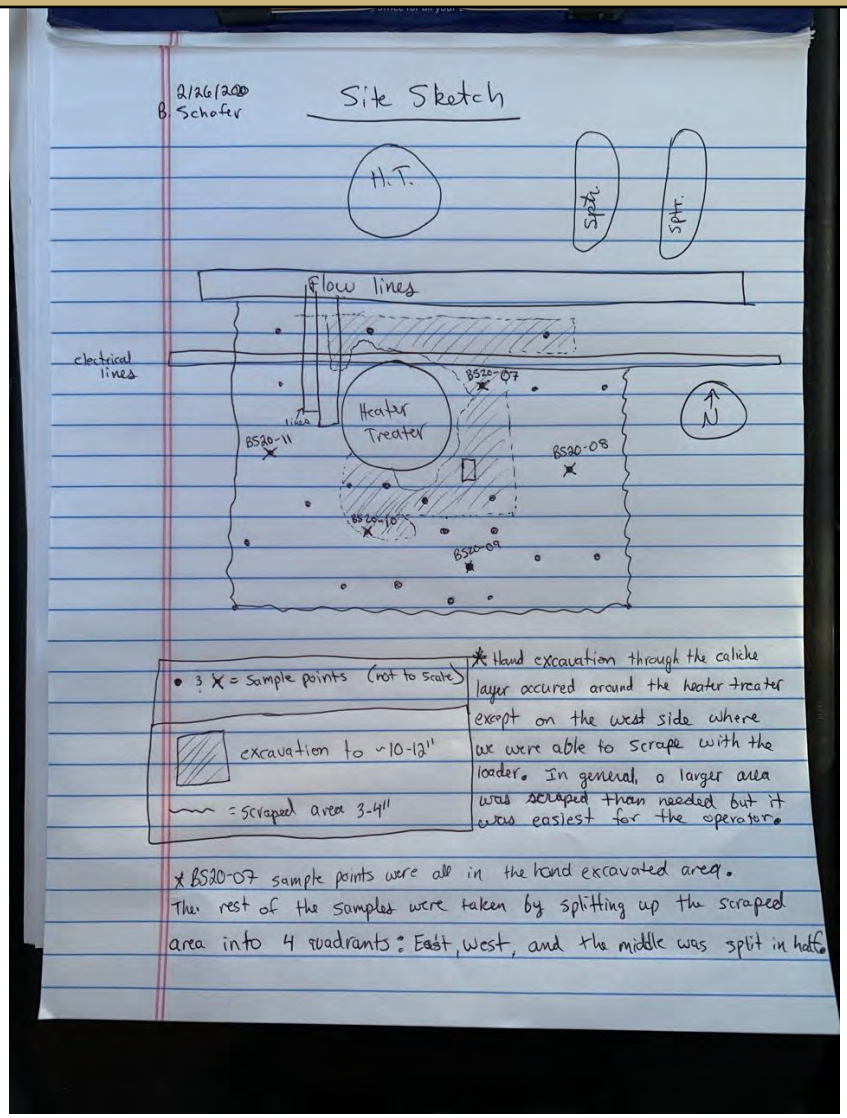
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	2/26/2020
Site Location Name:	Arena Roja Fed Unit 15H	Report Run Date:	2/27/2020 11:58 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-025-42671
Client Contact Name:	Amanda Davis	Reference	Spill 1RP-3984
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	2/26/2020 5:00 AM
Arrived at Site	2/26/2020 7:52 AM
Departed Site	2/26/2020 5:49 PM
Returned to Office	2/26/2020 8:00 PM

Daily Site Visit Report

Site Sketch



Daily Site Visit Report

Summary of Daily Operations

8:44 Continue excavation and obtain confirmatory samples

Next Steps & Recommendations

1 Send in base samples and await results

Sampling

ES-Base20-07

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.		34 ppm			BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02121335, -103.36397788	Yes

ES-Base20-08

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02116717, -103.36392946	Yes

ES-Base20-09

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02115290, -103.36398062	Yes

Daily Site Visit Report

ES-Base20-10

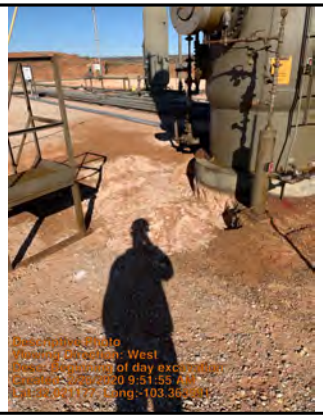
Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02115992, -103.36401463	Yes

ES-Base20-11

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.					BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	32.02118615, -103.36404483	Yes

Daily Site Visit Report

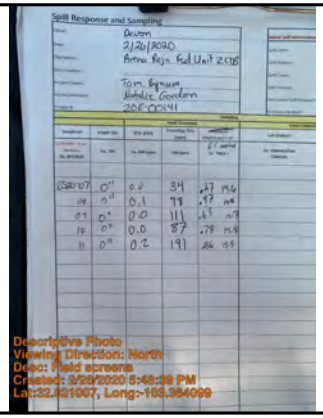
Site Photos

Viewing Direction: West	**Viewing Direction**: West
	
Beginning of day excavation	Beginning of day excavation
Viewing Direction: Northwest	**Viewing Direction**: Southwest
	
Excavation	Excavation

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: Southeast
	
Excavation	Excavation
Viewing Direction: East	**Viewing Direction**: South
	
Hand dug excavation behind treater	Hand dig excavation behind treater

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: North
	
Excavation	Field screens

Daily Site Visit Report

Depth Sample Photos

Sample Point ID: ES-Base20-07	**Sample Point ID**: ES-Base20-11
	
Depth: 0 ft.	**Depth:** 0 ft.
Sample Point ID: ES-Base20-10	**Sample Point ID**: ES-Base20-09
	
Depth: 0 ft.	**Depth:** 0 ft.

Daily Site Visit Report

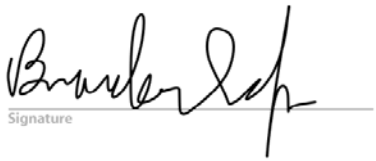
Sample Point ID: ES-Base20-08

Depth: 0 ft.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Brandon Schafer

Signature: 

ATTACHMENT 5

Natalie Gordon

From: Natalie Gordon
Sent: Thursday, February 20, 2020 8:29 AM
To: 'emnrd-ocd-district1spills@state.nm.us'; 'blm_nm_cfo_spill@blm.gov'; jamos@blm.gov; Mike Bratcher (mike.bratcher@state.nm.us); 'ramona.marcus@state.nm.us'
Cc: 'Bynum, Tom (Contract)'; Wesley. Mathews@dvn. com (Wesley.Mathews@dvn.com)
Subject: Arena Roja Fed Unit 15H/16H and Unit 2 CTB (Devon): 48-hr Notification of confirmation sampling

All:

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled final remediation activities and confirmation sampling to be conducted at Arena Roja Fed Unit 15H/16H and Arena Roja Fed Unit 2 CTB for the following two releases:

DOR: 11/16/2015; 1RP-3984
DOR: 12/24/2019; Tracking # TBD

On Monday, February 24 and Tuesday, February 25, 2020, Vertex will commence remediation activities at Arena Roja Federal Unit 15H/16H and Arena Roja Federal Unit 2 CTB. Following completion of planned excavation, on the afternoon of February 25, 2020, Brandon Schafer of Vertex will be onsite to perform confirmation sampling. He can be reached at (701)301-1564. If you need directions to the site, please do not hesitate to contact him.

If you have questions or concerns regarding this notification, please give me a call at (505)506-0040.

Thank you,
Natalie

ATTACHMENT 6

Client Name: Devon Energy Production Company
Site Name: Arena Roja Fed Unit 15H-16H and Unit 2 CTB
NM OCD Tracking Numbers: nJXK1532330117; TBD
Project #: 20E-00141-010
Lab Reports: 2002C59 and 2002C66

Table 2. Confirmatory Sampling Laboratory Analysis - Depth to Groundwater > 100 feet

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS 20-01	0.5	February 25, 2020	<0.025	<0.225	<5.0	<9.6	<48	<14.6	<62.6	<59
BS 20-02	0.5	February 25, 2020	<0.024	<0.216	<4.8	<10.0	<50	<14.8	<64.8	<60
BS 20-03	0.5	February 25, 2020	<0.024	<0.219	<4.9	<9.7	<48	<14.6	<62.6	790
BS 20-04	0.5	February 25, 2020	<0.024	<0.213	<4.7	<9.8	<49	<14.5	<63.5	<60
BS 20-05	0.5	February 25, 2020	<0.025	<0.222	<4.9	<9.7	<48	<14.6	<62.6	<60
BS 20-06	0.5	February 25, 2020	<0.024	<0.220	<4.9	<9.6	<48	<14.5	<62.5	740
BS 20-07	0.5	February 26, 2020	<0.024	<0.220	<4.9	<9.7	<49	<14.6	<63.6	230
BS 20-08	0.5	February 26, 2020	<0.024	<0.219	<4.9	22	<48	22	22	680
BS 20-09	0.5	February 26, 2020	<0.025	<0.222	<4.9	20	<48	20	20	520
BS 20-10	0.5	February 26, 2020	<0.025	<0.225	<5.0	15	<49	15	15	590
BS 20-11	0.5	February 26, 2020	<0.025	<0.221	<4.9	69	<47	69	69	750

"-" - Not applicable/assessed
Bold and shaded indicates exceedance outside of applied action level

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 05, 2020

Natalie Gordon

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (575) 748-0176
FAX

RE: Arena Roja Fed Unit 1 CTB OrderNo.: 2002C59

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 6 sample(s) on 2/28/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2002C59**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-01
Project: Arena Roja Fed Unit 1 CTB
Collection Date: 2/25/2020 9:55:00 AM
Lab ID: 2002C59-001 **Matrix:** SOIL **Received Date:** 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/3/2020 8:14:28 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2020 8:14:28 PM
Surr: DNOP	130	55.1-146		%Rec	1	3/3/2020 8:14:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/1/2020 3:57:54 PM
Surr: BFB	83.0	66.6-105		%Rec	1	3/1/2020 3:57:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/1/2020 3:57:54 PM
Toluene	ND	0.050		mg/Kg	1	3/1/2020 3:57:54 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/1/2020 3:57:54 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/1/2020 3:57:54 PM
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	3/1/2020 3:57:54 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	59		mg/Kg	20	3/3/2020 4:19:12 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2002C59**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Arena Roja Fed Unit 1 CTB
Lab ID: 2002C59-002 **Matrix:** SOIL

Client Sample ID: BS20-02
Collection Date: 2/25/2020 10:50:00 AM
Received Date: 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/3/2020 8:41:55 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/3/2020 8:41:55 PM
Surr: DNOP	126	55.1-146		%Rec	1	3/3/2020 8:41:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/1/2020 4:21:22 PM
Surr: BFB	79.2	66.6-105		%Rec	1	3/1/2020 4:21:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2020 4:21:22 PM
Toluene	ND	0.048		mg/Kg	1	3/1/2020 4:21:22 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2020 4:21:22 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/1/2020 4:21:22 PM
Surr: 4-Bromofluorobenzene	84.9	80-120		%Rec	1	3/1/2020 4:21:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/3/2020 4:31:33 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2002C59**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Arena Roja Fed Unit 1 CTB
Lab ID: 2002C59-003 **Matrix:** SOIL

Client Sample ID: BS20-03
Collection Date: 2/25/2020 11:00:00 AM
Received Date: 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/3/2020 8:51:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2020 8:51:03 PM
Surr: DNOP	119	55.1-146		%Rec	1	3/3/2020 8:51:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2020 6:41:37 PM
Surr: BFB	82.6	66.6-105		%Rec	1	3/1/2020 6:41:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2020 6:41:37 PM
Toluene	ND	0.049		mg/Kg	1	3/1/2020 6:41:37 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2020 6:41:37 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/1/2020 6:41:37 PM
Surr: 4-Bromofluorobenzene	89.5	80-120		%Rec	1	3/1/2020 6:41:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	790	60		mg/Kg	20	3/3/2020 4:43:55 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2002C59**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Arena Roja Fed Unit 1 CTB
Lab ID: 2002C59-004 **Matrix:** SOIL

Client Sample ID: BS20-04
Collection Date: 2/25/2020 11:06:00 AM
Received Date: 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/3/2020 9:00:11 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/3/2020 9:00:11 PM
Surr: DNOP	112	55.1-146		%Rec	1	3/3/2020 9:00:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/1/2020 7:52:05 PM
Surr: BFB	80.5	66.6-105		%Rec	1	3/1/2020 7:52:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2020 7:52:05 PM
Toluene	ND	0.047		mg/Kg	1	3/1/2020 7:52:05 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2020 7:52:05 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/1/2020 7:52:05 PM
Surr: 4-Bromofluorobenzene	86.3	80-120		%Rec	1	3/1/2020 7:52:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/3/2020 4:56:15 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2002C59**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Arena Roja Fed Unit 1 CTB
Lab ID: 2002C59-005 **Matrix:** SOIL

Client Sample ID: BS20-05
Collection Date: 2/25/2020 11:15:00 AM
Received Date: 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/3/2020 9:09:19 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2020 9:09:19 PM
Surr: DNOP	131	55.1-146		%Rec	1	3/3/2020 9:09:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2020 8:15:34 PM
Surr: BFB	80.7	66.6-105		%Rec	1	3/1/2020 8:15:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/1/2020 8:15:34 PM
Toluene	ND	0.049		mg/Kg	1	3/1/2020 8:15:34 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2020 8:15:34 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/1/2020 8:15:34 PM
Surr: 4-Bromofluorobenzene	86.1	80-120		%Rec	1	3/1/2020 8:15:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/3/2020 5:08:36 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2002C59**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Arena Roja Fed Unit 1 CTB
Lab ID: 2002C59-006 **Matrix:** SOIL

Client Sample ID: BS20-06
Collection Date: 2/25/2020 11:20:00 AM
Received Date: 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/3/2020 9:18:25 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2020 9:18:25 PM
Surr: DNOP	127	55.1-146		%Rec	1	3/3/2020 9:18:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2020 8:39:00 PM
Surr: BFB	79.9	66.6-105		%Rec	1	3/1/2020 8:39:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2020 8:39:00 PM
Toluene	ND	0.049		mg/Kg	1	3/1/2020 8:39:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2020 8:39:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/1/2020 8:39:00 PM
Surr: 4-Bromofluorobenzene	86.3	80-120		%Rec	1	3/1/2020 8:39:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	740	61		mg/Kg	20	3/3/2020 2:18:35 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C59**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 1 CTB

Sample ID: **MB-50837** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **50837** RunNo: **66982**
Prep Date: **3/3/2020** Analysis Date: **3/3/2020** SeqNo: **2305550** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-50837** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **50837** RunNo: **66982**
Prep Date: **3/3/2020** Analysis Date: **3/3/2020** SeqNo: **2305551** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.2	90	110			

Sample ID: **MB-50836** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **50836** RunNo: **66981**
Prep Date: **3/3/2020** Analysis Date: **3/3/2020** SeqNo: **2305691** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-50836** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **50836** RunNo: **66981**
Prep Date: **3/3/2020** Analysis Date: **3/3/2020** SeqNo: **2305692** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C59**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 1 CTB

Sample ID: **2002C59-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-01** Batch ID: **50786** RunNo: **66969**
Prep Date: **3/2/2020** Analysis Date: **3/3/2020** SeqNo: **2305218** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	9.8	48.78	5.852	97.2	47.4	136			
Surr: DNOP	6.2		4.878		128	55.1	146			

Sample ID: **2002C59-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-01** Batch ID: **50786** RunNo: **66969**
Prep Date: **3/2/2020** Analysis Date: **3/3/2020** SeqNo: **2305219** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.9	49.46	5.852	78.9	47.4	136	17.1	43.4	
Surr: DNOP	7.0		4.946		142	55.1	146	0	0	

Sample ID: **LCS-50786** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **50786** RunNo: **66969**
Prep Date: **3/2/2020** Analysis Date: **3/3/2020** SeqNo: **2305260** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.1	70	130			
Surr: DNOP	5.1		5.000		101	55.1	146			

Sample ID: **MB-50786** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **50786** RunNo: **66969**
Prep Date: **3/2/2020** Analysis Date: **3/3/2020** SeqNo: **2305262** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		101	55.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C59**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 1 CTB

Sample ID: **mb-50757**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **50757**	RunNo: **66919**							
Prep Date: **2/28/2020**	Analysis Date: **3/1/2020**	SeqNo: **2301551**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	800		1000		80.5	66.6	105			

Sample ID: **lcs-50757**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **50757**	RunNo: **66919**							
Prep Date: **2/28/2020**	Analysis Date: **3/1/2020**	SeqNo: **2301552**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.1	80	120			
Surr: BFB	870		1000		87.5	66.6	105			

Sample ID: **mb-50772**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **50772**	RunNo: **66920**							
Prep Date: **2/28/2020**	Analysis Date: **3/1/2020**	SeqNo: **2301630**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	830		1000		83.4	66.6	105			

Sample ID: **lcs-50772**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **50772**	RunNo: **66920**							
Prep Date: **2/28/2020**	Analysis Date: **3/1/2020**	SeqNo: **2301631**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.2	80	120			
Surr: BFB	890		1000		88.6	66.6	105			

Sample ID: **2002c59-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BS20-02**	Batch ID: **50772**	RunNo: **66920**							
Prep Date: **2/28/2020**	Analysis Date: **3/1/2020**	SeqNo: **2301633**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.7	23.34	0	95.4	69.1	142			
Surr: BFB	850		933.7		90.8	66.6	105			

Sample ID: **2002c59-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BS20-02**	Batch ID: **50772**	RunNo: **66920**							
Prep Date: **2/28/2020**	Analysis Date: **3/1/2020**	SeqNo: **2301634**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C59**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 1 CTB

Sample ID: **2002c59-002amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BS20-02** Batch ID: **50772** RunNo: **66920**
Prep Date: **2/28/2020** Analysis Date: **3/1/2020** SeqNo: **2301634** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.85	0	89.4	69.1	142	0.190	20	
Surr: BFB	910		994.0		91.2	66.6	105	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C59**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 1 CTB

Sample ID: **mb-50757** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **50757** RunNo: **66919**
Prep Date: **2/28/2020** Analysis Date: **3/1/2020** SeqNo: **2301596** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.87		1.000		86.7	80	120			

Sample ID: **LCS-50757** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **50757** RunNo: **66919**
Prep Date: **2/28/2020** Analysis Date: **3/1/2020** SeqNo: **2301597** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.8	80	120			
Toluene	0.98	0.050	1.000	0	98.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.3	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.2	80	120			

Sample ID: **mb-50772** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **50772** RunNo: **66920**
Prep Date: **2/28/2020** Analysis Date: **3/1/2020** SeqNo: **2301667** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	80	120			

Sample ID: **LCS-50772** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **50772** RunNo: **66920**
Prep Date: **2/28/2020** Analysis Date: **3/1/2020** SeqNo: **2301668** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.0	80	120			
Toluene	0.89	0.050	1.000	0	88.7	80	120			
Ethylbenzene	0.90	0.050	1.000	0	90.2	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.3	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		89.9	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C59**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 1 CTB

Sample ID: **2002c59-003ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS20-03** Batch ID: **50772** RunNo: **66920**
Prep Date: **2/28/2020** Analysis Date: **3/1/2020** SeqNo: **2301671** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9718	0.01535	84.0	78.5	119			
Toluene	0.87	0.049	0.9718	0.01429	88.0	75.7	123			
Ethylbenzene	0.89	0.049	0.9718	0	91.9	74.3	126			
Xylenes, Total	2.7	0.097	2.915	0.03664	92.3	72.9	130			
Surr: 4-Bromofluorobenzene	0.91		0.9718		93.1	80	120			

Sample ID: **2002c59-003amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS20-03** Batch ID: **50772** RunNo: **66920**
Prep Date: **2/28/2020** Analysis Date: **3/1/2020** SeqNo: **2301672** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	0.9930	0.01535	87.6	78.5	119	6.34	20	
Toluene	0.92	0.050	0.9930	0.01429	91.6	75.7	123	6.12	20	
Ethylbenzene	0.95	0.050	0.9930	0	95.7	74.3	126	6.25	20	
Xylenes, Total	2.9	0.099	2.979	0.03664	95.6	72.9	130	5.61	20	
Surr: 4-Bromofluorobenzene	0.91		0.9930		91.9	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **DEVON ENERGY** Work Order Number: **2002C59** RcptNo: **1**

Received By: **Yazmine Garduno** **2/28/2020 10:57:00 AM**

Completed By: **Yazmine Garduno** **2/28/2020 12:08:59 PM**

Reviewed By: ENM 2/28/20

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: YG 2/28/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.2	Good				

Chain-of-Custody Record

Client: Devon

Amanda Davis & Wes Mathews

Mailing Address: on file

Phone #: on file

email or Fax#: on file

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-day

☒ Standard ☐ Rush

Project Name: Arena Roja Fed Unit 1 CTB

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: Brandon Schafer

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.5-0.2=3.2 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2002059	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
2/25/20	9:55	soil	BS20-01	4oz jar	ice	-001	X	X					X			
2/25/20	10:50		BS20-02			-002										
	11:00		BS20-03			-003										
	11:06		BS20-04			-004										
	11:15		BS20-05			-005										
	11:20		BS20-06			-006										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2/26/20	1400	Brandon Schafer			2/26/20	1400
2/26/20	1900			Courier	2/28/20	1057

Remarks: Bill Devon - W.O.# - 2082962

cc: Natalie Gordon

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 05, 2020

Natalie Gordon

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (575) 748-0176
FAX

RE: Arena Roja Fed Unit 2 CTB OrderNo.: 2002C66

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/28/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2002C66**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Arena Roja Fed Unit 2 CTB
Lab ID: 2002C66-001 **Matrix:** SOIL

Client Sample ID: BS20-07
Collection Date: 2/26/2020 1:50:00 PM
Received Date: 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2020 1:22:23 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2020 1:22:23 AM
Surr: DNOP	142	55.1-146		%Rec	1	3/4/2020 1:22:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2020 5:14:01 PM
Surr: BFB	82.2	66.6-105		%Rec	1	3/3/2020 5:14:01 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2020 5:14:01 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2020 5:14:01 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2020 5:14:01 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2020 5:14:01 PM
Surr: 4-Bromofluorobenzene	88.3	80-120		%Rec	1	3/3/2020 5:14:01 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	230	59		mg/Kg	20	3/3/2020 9:15:36 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2002C66**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-08
Project: Arena Roja Fed Unit 2 CTB
Collection Date: 2/26/2020 3:05:00 PM
Lab ID: 2002C66-002 **Matrix:** SOIL **Received Date:** 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	22	9.5		mg/Kg	1	3/4/2020 1:31:19 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2020 1:31:19 AM
Surr: DNOP	124	55.1-146		%Rec	1	3/4/2020 1:31:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2020 5:37:26 PM
Surr: BFB	83.2	66.6-105		%Rec	1	3/3/2020 5:37:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2020 5:37:26 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2020 5:37:26 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2020 5:37:26 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2020 5:37:26 PM
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	3/3/2020 5:37:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	680	60		mg/Kg	20	3/3/2020 9:52:39 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2002C66**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-09
Project: Arena Roja Fed Unit 2 CTB
Collection Date: 2/26/2020 3:10:00 PM
Lab ID: 2002C66-003 **Matrix:** SOIL **Received Date:** 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	20	9.5		mg/Kg	1	3/4/2020 1:40:12 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2020 1:40:12 AM
Surr: DNOP	117	55.1-146		%Rec	1	3/4/2020 1:40:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2020 6:00:52 PM
Surr: BFB	82.0	66.6-105		%Rec	1	3/3/2020 6:00:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2020 6:00:52 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2020 6:00:52 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2020 6:00:52 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2020 6:00:52 PM
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	3/3/2020 6:00:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	520	60		mg/Kg	20	3/3/2020 10:05:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2002C66**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Arena Roja Fed Unit 2 CTB
Lab ID: 2002C66-004 **Matrix:** SOIL

Client Sample ID: BS20-10
Collection Date: 2/26/2020 3:15:00 PM
Received Date: 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	15	9.7		mg/Kg	1	3/4/2020 1:49:06 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2020 1:49:06 AM
Surr: DNOP	117	55.1-146		%Rec	1	3/4/2020 1:49:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2020 9:08:58 PM
Surr: BFB	82.8	66.6-105		%Rec	1	3/3/2020 9:08:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2020 9:08:58 PM
Toluene	ND	0.050		mg/Kg	1	3/3/2020 9:08:58 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2020 9:08:58 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/3/2020 9:08:58 PM
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	3/3/2020 9:08:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	590	60		mg/Kg	20	3/3/2020 10:42:03 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2002C66**
Date Reported: **3/5/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-11
Project: Arena Roja Fed Unit 2 CTB
Collection Date: 2/26/2020 3:20:00 PM
Lab ID: 2002C66-005 **Matrix:** SOIL **Received Date:** 2/28/2020 10:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	69	9.4		mg/Kg	1	3/4/2020 1:58:00 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2020 1:58:00 AM
Surr: DNOP	129	55.1-146		%Rec	1	3/4/2020 1:58:00 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2020 9:32:26 PM
Surr: BFB	80.8	66.6-105		%Rec	1	3/3/2020 9:32:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2020 9:32:26 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2020 9:32:26 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2020 9:32:26 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2020 9:32:26 PM
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	3/3/2020 9:32:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	750	60		mg/Kg	20	3/3/2020 10:54:24 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C66**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 2 CTB

Sample ID: **MB-50858**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **50858**	RunNo: **66981**							
Prep Date: **3/3/2020**	Analysis Date: **3/3/2020**	SeqNo: **2305724**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-50858**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **50858**	RunNo: **66981**							
Prep Date: **3/3/2020**	Analysis Date: **3/3/2020**	SeqNo: **2305725**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C66**

05-Mar-20

Client: Devon Energy

Project: Arena Roja Fed Unit 2 CTB

Sample ID: **LCS-50805** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **50805** RunNo: **66969**

Prep Date: **3/2/2020** Analysis Date: **3/3/2020** SeqNo: **2305261** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	70	130			
Surr: DNOP	5.3		5.000		106	55.1	146			

Sample ID: **MB-50805** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **50805** RunNo: **66969**

Prep Date: **3/2/2020** Analysis Date: **3/3/2020** SeqNo: **2305263** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	55.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C66**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 2 CTB

Sample ID: **mb-50800**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **50800**	RunNo: **66977**
Prep Date: **3/2/2020**	Analysis Date: **3/3/2020**	SeqNo: **2304995** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	810		1000		81.5	66.6	105			

Sample ID: **lcs-50800**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **50800**	RunNo: **66977**
Prep Date: **3/2/2020**	Analysis Date: **3/3/2020**	SeqNo: **2304996** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.6	80	120			
Surr: BFB	940		1000		94.2	66.6	105			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002C66**
05-Mar-20

Client: Devon Energy
Project: Arena Roja Fed Unit 2 CTB

Sample ID: **mb-50800** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **50800** RunNo: **66977**
Prep Date: **3/2/2020** Analysis Date: **3/3/2020** SeqNo: **2305032** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.88		1.000		88.1	80	120			

Sample ID: **LCS-50800** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **50800** RunNo: **66977**
Prep Date: **3/2/2020** Analysis Date: **3/3/2020** SeqNo: **2305033** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	86.7	80	120			
Toluene	0.92	0.050	1.000	0	92.3	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.7	80	120			
Surr: 4-Bromofluorobenzene	0.89		1.000		88.7	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **DEVON ENERGY** Work Order Number: **2002C66** RcptNo: **1**

Received By: **Yazmine Garduno** **2/28/2020 10:57:00 AM** Yazmine Garduno

Completed By: **Yazmine Garduno** **2/28/2020 1:02:01 PM** Yazmine Garduno

Reviewed By: ENM 2/28/20

Chain of Custody

1. Is Chain of Custody sufficiently complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: YG 2/28/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.4	Good				
2	5.5	Good				

Chain-of-Custody Record

Client: Devon

Amanda Davis ? Wes Mathews

Mailing Address: on file

Phone #: on file

email or Fax#: on file

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-day

☒ Standard ☐ Rush

Project Name: Arena Roja Fed Unit 2 CTB

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: Brandon Schafer

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 4.6-0.2=4.4 (°C) 5.7-0.2=5.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2002660	BTEX / MTBE / TMB's (8021)	TPH: 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
2/26/20	13:50	soil	BS20-07	4oz. jar	ice	-001	X	X					X			
	15:05		BS20-08			-002										
	15:10		BS20-09			-003										
	15:15		BS20-10			-004										
	15:20		BS20-11			-005										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
2/26/20	0800	Brandon Schafer			2/27/20	0800
2/27/20	1900		Courier		2/28/20	1057

Remarks: Bill Devon- W.O.# 20829672

cc: Natalie Gordon

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

State of New Mexico
Oil Conservation Division

Incident ID	nJXK1532330117
District RP	1RP-3984
Facility ID	
Application ID	

Site Assessment/Characterization

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?	250 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- NA Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

Incident ID	nJXK1532330117
District RP	1RP-3984
Facility ID	
Application ID	

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: Amanda Davis Title: Environmental Representative

Signature: Amanda Davis Date:

email: amanda.davis@dvn.com Telephone: 575-748-0176

OCD Only

Received by: Jocelyn Harimon Date: 07/01/2022

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State of New Mexico
Oil Conservation Division

Incident ID	nJXK1532330117
District RP	1RP-3984
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.***

[X] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[X] 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)

[X] Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

[X] 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: Amanda Davis Title: Environmental Representive

Signature: Amanda Davis Date: _____

email: amanda.davis@dvn.com Telephone: 575-748-0176

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: Jocelyn Harimon Date: 07/01/2022

Printed Name: Jocelyn Harimon Title: Environmental Specialist

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 8338

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 8338
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	Depth to Ground Water was not adequately justified however the data does not prevent the OCD from granting closure to this incident. Please note that, when the well or facility is plugged or abandoned, the final remediation and reclamation shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations.	7/1/2022