



September 23, 2020

Vertex Project #: 20E-00141-027

**Spill Closure Report:** Rio Blanco 4 Fed Com #003  
Unit J, Section 4, Township 23 South, Range 34 East  
County: Lea  
API: 30-025-36425  
Incident Tracking Number: NKL1626534300

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

**New Mexico Oil Conservation Division – District 1 – Hobbs**

1625 North French Drive  
Hobbs, New Mexico 88240

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation for a produced water release that occurred on September 15, 2016, at Rio Blanco 4 Fed Com #003, API 30-025-36425 (hereafter referred to as “Rio Blanco 4-3”). The release occurred on the right-of-way (ROW) adjacent to the northwest corner of the Rio Blanco 4-3 wellpad. Devon provided immediate notification of the release to New Mexico Oil Conservation Division (NM OCD) District 1 and the Bureau of Land Management (BLM), who owns the mineral rights, on September 15, 2016; the initial C-141 Release Notification was submitted on September 21, 2016 (Attachment 1). The NM OCD tracking number assigned to this incident is NKL1626534300.

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 September 15, 2016, a release occurred at Devon’s Rio Blanco 4-3 site when corrosion on the threads of a valve and nipple on the transfer line inlet allowed produced water to leak from the line. This incident resulted in the release of approximately 10 barrels (bbls) of produced water into the ROW. Upon discovery of the release, the section of pipe where the leak occurred was isolated and the transfer line inlet was repaired. A vacuum truck was dispatched to the site to recover free-standing liquids; 5 bbls of produced water were recovered from the impacted area. All fluids remained on the ROW, and no produced water was released into sensitive areas or waterways.

**Site Characterization**

The release at Rio Blanco 4-3 occurred on privately-owned land, N 32.3309593, W 103.4718094, approximately 22 miles northwest of Jal, New Mexico. The legal description for the site is Unit J, Section 4, Township 23 South, Range 34 East, Lea County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been

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

used for oil and gas exploration and production. An aerial photograph and site schematic are included in Attachment 2 (Figure 1).

Rio Blanco 4-3 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 ROW west of the wellpad.

The surrounding landscape is associated with sandy plains typical of elevations between 3,000 to 3,900 feet above sea level. The climate is semi-arid, with average annual precipitation ranging between 10 and 12 inches. Historically, the plant community has been dominated by black grama, dropseeds and bluestems, with scattered shinnery oak and sand sage. Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and, to a lesser extent, bare ground make up a significant portion of the ground cover, while grasses compose the remainder (United States Department of Agriculture, Natural Resources Conservation Service, 2020).

The *Geological Map of New Mexico* indicates the surface geology at Rio Blanco 4-3 is comprised primarily of Qep – interlaid eolian sands and piedmont-slope deposits from the Holocene to middle Pleistocene ages (New Mexico Bureau of Geology and Mineral Resources, 2020). The National Resources Conservation Service Web Soil Survey describes the soil at the site as Pyote and Maljamar fine sands, which are characterized by deep layers of fine sand and fine sandy loam. They tend to be well-drained with negligible runoff and low available moisture levels 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 Rio Blanco 4-3, although some erosional karst may be possible (United States Department of the Interior, United States Geological Survey, 2020).

There is no surface water located at Rio Blanco 4-3. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Pecos River located approximately 31 miles west of Rio Blanco 4-3 (United States Fish and Wildlife Service, 2020). An intermittent riverine is located approximately 2 miles northwest of the release site and an emergent wetland is located approximately 2.1 miles north. At Rio Blanco 4-3, there are no continuously flowing 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 active well to the release is a New Mexico Office of the State Engineer (NM OSE) well from 2019, located approximately 0.6 miles west-southwest of the site. Depth to groundwater at this well is 285 feet below ground surface (bgs; New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). Although this well is located just outside of the preferred distance of 0.5 miles from the release site, as recommended in the *Procedures for Implementation of the Spill Rule* (19.15.29 NMAC; New Mexico Energy, Minerals and Natural Resources Department, 2019), additional nearby wells to the northwest, north, northeast and southeast of Rio Blanco 4-3 support the groundwater determination. These wells include a NM OSE well located approximately 1.4 miles northwest of Rio Blanco 4-3, with a depth to groundwater of 282 feet bgs, and a NM OSE well located approximately 1.8 miles southeast of Rio Blanco 4-3, with a depth to groundwater of 300 feet bgs. Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

## Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet (Attachment 3) was completed to determine if the release was 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 Rio Blanco 4-3 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 are 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 <sup>1</sup> (GRO + DRO + MRO)	2,500 mg/kg
	GRO + DRO	1,000 mg/kg
	BTEX <sup>2</sup>	50 mg/kg
	Benzene	10 mg/kg

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

<sup>2</sup>Benzene, toluene, ethylbenzene and xylenes (BTEX)

## Remedial Actions

An initial spill inspection, completed on May 27, 2020, identified and mapped the boundaries of the release area using field screening methods, including a photoionization detector (PID) to determine the presence of volatile organics, the Petroflag system to estimate the level of hydrocarbons and an electroconductivity (EC) meter to approximate chloride levels in the soil. The release area was determined to be approximately 16 feet long and 12 feet wide; the total affected area was determined to be 148 square feet (Attachment 1 – Figure 1). Seven characterization soil samples (SS20-01 to SS20-05 and BH20-01) were submitted for laboratory analysis to verify the initial field screening results. Field screening results and associated laboratory data are summarized in Table 2 (Attachment 4) and in the Daily Field Report (DFR) associated with the initial spill inspection (Attachment 5).

On June 16, 2020, Vertex provided 48-hour notification of confirmation sampling to NM OCD and the BLM, as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC (Attachment 6). Vertex was on-site at Rio Blanco 4-3 on June 18, 2020, to guide remediation activities via excavation of contaminated soils to an average depth of 0.5 feet bgs. Following remediation activities, Vertex collected a total of three five-point composite confirmatory samples from the base and side walls of the excavation area.

Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NM OCD approval. The composite samples were placed into laboratory provided containers, preserved on ice and submitted to a National Environmental Laboratory Accreditation Program (NELAP)-approved laboratory for chemical analysis.

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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 Table 3 (Attachment 4). Laboratory data reports and chain of custody forms are included in Attachment 7.

A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit was used to map the approximate center of each of the five-point composite samples. The confirmatory sample locations are presented on Figure 2 (Attachment 2).

## Closure Request

Vertex recommends no additional remediation action to address the release at Rio Blanco 4-3. Laboratory analyses of final 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 (Table 1). There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Additionally, because the release occurred off-lease, remediation efforts included excavation of contaminated materials to levels meeting NM OCD restoration and reclamation requirements as outlined in 19.15.29.13 NMAC. The excavation was backfilled with non-waste containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent ponding of water and erosion, and aid in the establishment of vegetation.

Vertex requests that this incident (NKL1626534300) 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 September 15, 2016, release at Rio Blanco 4-3.

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
- Attachment 3. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
- Attachment 4. Characterization and Confirmatory Sampling Field Screening and Laboratory Results
- Attachment 5. Daily Field Report(s) with Photographs
- Attachment 6. Required 48-hr Notification of Confirmation Sampling to Regulatory Agencies
- Attachment 7. Laboratory Data Reports/Chain of Custody Forms

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## References

- New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map*. Retrieved from <http://geoinfo.nmt.edu>.
- New Mexico Energy, Minerals and Natural Resources Department. (2019). *Procedures for Implementation of the Spill Rule*. Santa Fe, New Mexico.
- New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2020). *Water Column/Average Depth to Water Report*. Retrieved from <http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html>
- New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.
- United States Department of Agriculture, Natural Resources Conservation Service. (2020). *Web Soil Survey*. Retrieved from <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- United States Department of the Interior, United States Geological Survey. (2020). *Caves and Karst in the U.S. National Park Service*. Retrieved from <https://www.arcgis.com/home/webmap/viewer.html?webmap=14675403c37948129acb758138f2dd1e>
- United States Fish and Wildlife Service. (2020). *National Wetlands Inventory*. Retrieved from <https://www.fws.gov/wetlands/data/Mapper.html>

**Devon Energy Production Company**  
Rio Blanco 4 Fed Com #003

**2020 Spill Assessment and Closure**  
September 2020

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## Limitations

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

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

## **ATTACHMENT 1**

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

State of New Mexico  
Energy Minerals and Natural Resources

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

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

Form C-141  
Revised August 8, 2011

## Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

<b>Name of Company</b> Devon Energy Production Company	<b>Contact</b> Randall Gladden, Production Foreman
<b>Address</b> 6488 Seven Rivers Hwy Artesia, NM 88210	<b>Telephone No.</b> 575-513-9463
<b>Facility Name</b> Rio Blanco 4 Federal Com #3	<b>Facility Type</b> Salt Water Disposal
<b>Surface Owner</b> Private	<b>Mineral Owner</b> Federal
<b>API No</b> 30-025-36425	

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	4	23S	34E	1650	South	1650	East	Lea

**Latitude:** 32.3309593 **Longitude:** -103.4718094

## NATURE OF RELEASE

<b>Type of Release</b> Produced water	<b>Volume of Release</b> 10 BBLS	<b>Volume Recovered</b> 5 BBLS
<b>Source of Release</b> Produced water transfer line inlet	<b>Date and Hour of Occurrence</b> 9/15/2016 @ 1:43pm	<b>Date and Hour of Discovery</b> 9/15/2016 @ 1:43pm
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> BLM-Shelly Tucker OCD-Jamie Keyes	
<b>By Whom?</b> Rebecca Jamison, Assistant Production Foreman	<b>Date and Hour</b> BLM - 9/15/2016 @ 3:26pm OCD - 9/15/2016 @ 3:30pm	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse</b> N/A	

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


**Describe Cause of Problem and Remedial Action Taken.\***

Due to corrosion on the threads of a valve and nipple on the transfer line inlet 10 BBLS produced water was released. The section of pipe was isolated by shutting valves to prevent further release. Repairs to the transfer line inlet are in progress.

**Describe Area Affected and Cleanup Action Taken.\***

10 BBLS of produced water was released from a hole on the threads of a valve and nipple on the transfer line inlet that sends produced water to the Rio Blanco 4 Federal Com #3. This transfer line is located approximately 75ft West of the Rio Blanco 4 Federal Com #3 location. All 10 BBLS produced water released remained on Devon Right of Way. The approximate area affected was 10ft x 10ft on the right of way. Vacuum truck recovered approximately 5 BBLS of the released produced water. Environmental agency will be contacted for remediation.

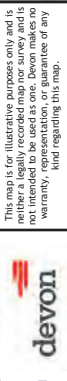
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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.

<b>Signature:</b> Sarah Gallegos-Troublefield	<b>OIL CONSERVATION DIVISION</b>	
<b>Printed Name:</b> Sarah Gallegos-Troublefield	<b>Approved by Environmental Specialist:</b> 	
<b>Title:</b> Field Admin Support	<b>Approval Date:</b> 9/21/2016	<b>Expiration Date:</b> 11/21/2016
<b>E-mail Address:</b> Sarah.Gallegos-Troublefield@dmn.com	<b>Conditions of Approval:</b> Notify prior to all sampling Remediation plan must be submitted no later than 10/21/2016	
<b>Date:</b> 9/19/2016 <b>Phone:</b> 575.748.1864	<b>Attached</b> <input type="checkbox"/> <b>IRP 4447</b>	

\* Attach Additional Sheets If Necessary

nKL1626534300  
pKL1626534694

**Rio Blanco 4 Federal Com #3**  
**10 BBLs PW - 9-15-2016**



WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
Prepared by: Sarah  
Map is current as of 9/29/2020



Agreement Type (outline)	
<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	Federal
<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	Fee
<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	State
<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	Indian

**Sec 4, T23S, R34E**

**10 BBLs PW**





Incident ID	NKL1626534300
District RP	
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?	<u>285</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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
- ☐ 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.

Incident ID	NKL1626534300
District RP	
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: Tom Bynum Title: EHS Consultant  
Signature: Tom Bynum Date: 9/23/2020  
email: tom.bynum@dvn.com Telephone: (575) 748-2663

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_



Incident ID	NKL1626534300
District RP	
Facility ID	
Application ID	

## Closure

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

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

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

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

Printed Name: Tom Bynum

Title: EHS Consultant

Signature: Tom Bynum

Date: 9/23/2020

email: tom.bynum@dyn.com

Telephone: (575) 748-2663

**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

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

Closure Approved by: Brittany Hall

Date: 11/2/2022

Printed Name: Brittany Hall

Title: Environmental Specialist



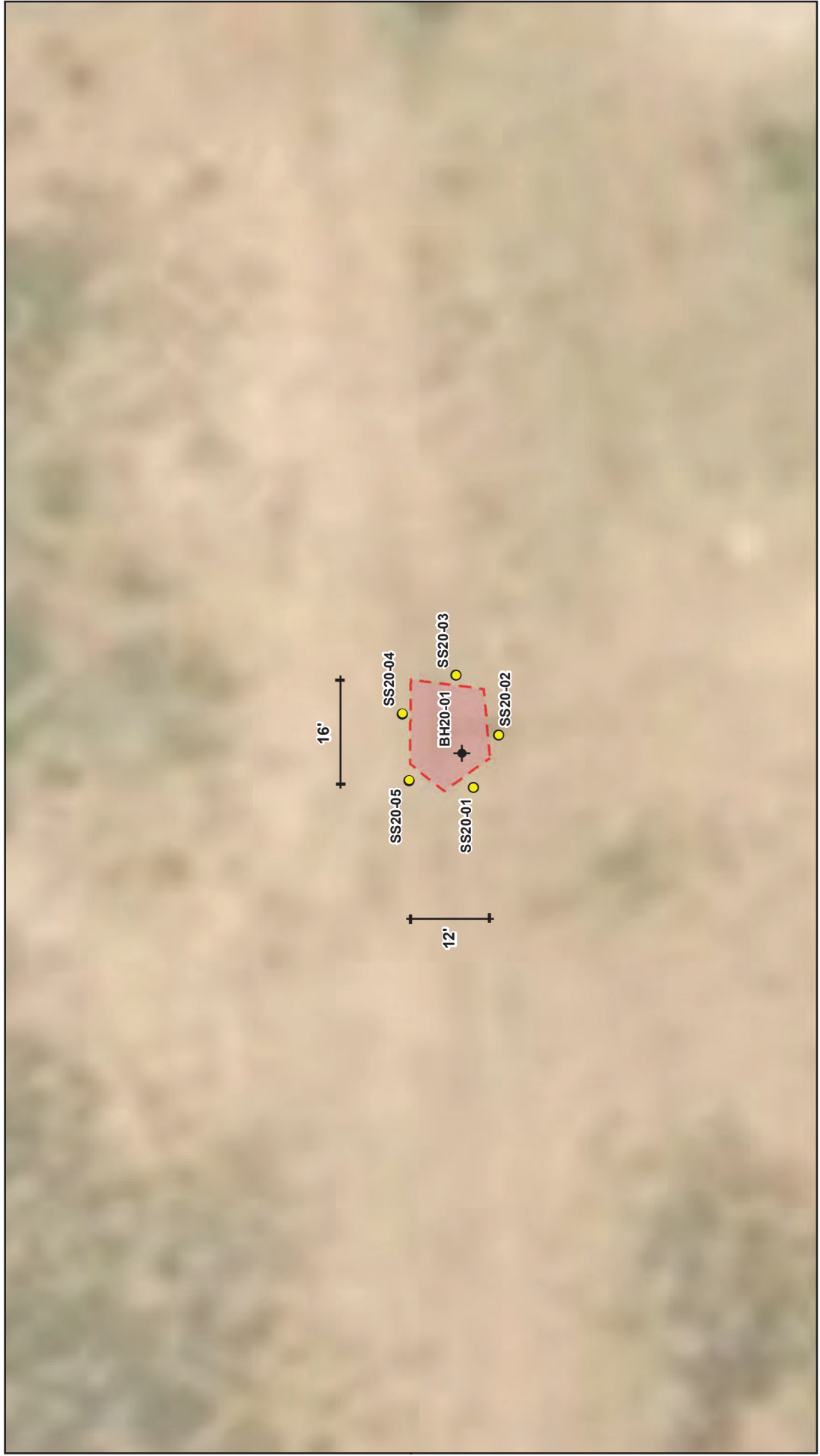
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Received by OCD: 9/29/2020 11:02:29 AM





## **ATTACHMENT 2**



- Borehole
- Surface Sample
- Approximate Spill Area (~148 sq. ft.)

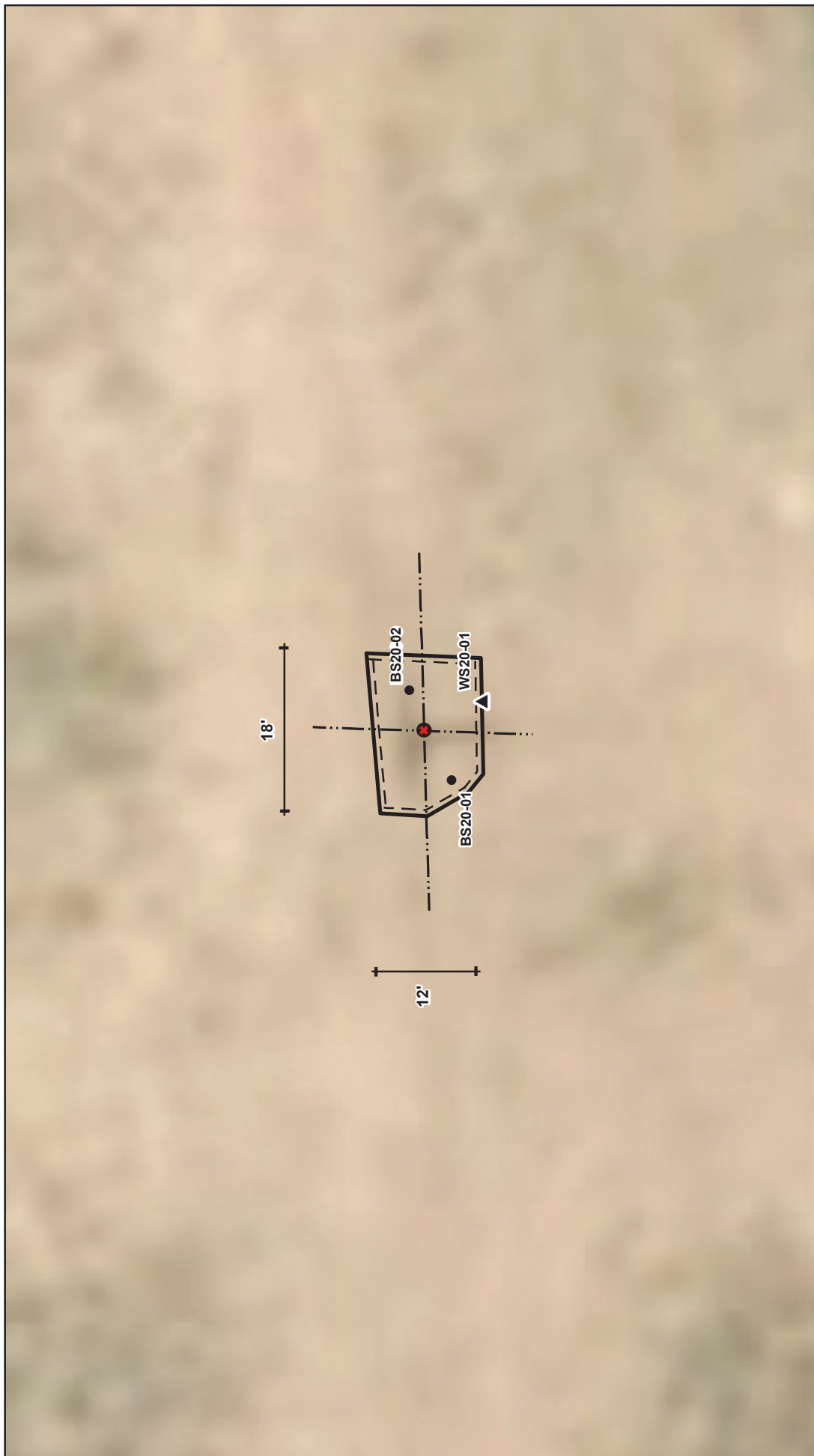


**Site Schematic and  
Characterization Sampling Locations  
Rio Blanco 4 Fed Com #003**

FIGURE: **1**

0 5 10 20 Feet  
Map Center:  
Lat/Long: 32.331441, -103.472637  
NAD 1983 UTM Zone 13N  
Date: May 28/20

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: Imagery from ESRI, 2017.



- Base Sample
- Point of Release (Pipeline Riser)
- ▲ Wall Sample
- Pipeline (Underground)
-  Excavation Area (~221 sq. ft.)



FIGURE: 2

### Confirmatory Sampling Locations Rio Blanco 4 Fed Com #003



NAD 1983 UTM Zone 13N  
Date: Jun 19/20

0 3.75 7.5 15 Feet  
Map Center:  
Lat/Long: 32.331431, -103.472637



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: Imagery from ESRI, 2017.

## **ATTACHMENT 3**





# 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
NA	CP 01502 POD1	4	3	3	05	23S	34E	641316	3577635

Driller License: 1626 Driller Company: TAYLOR, ROY ALLEN

Driller Name: TAYLOR, ROY A.

Drill Start Date:	08/10/2017	Drill Finish Date:	08/19/2017	Plug Date:	
Log File Date:	09/06/2017	PCW Rcv Date:	02/07/2019	Source:	Shallow
Pump Type:	SUBMER	Pipe Discharge Size:	3	Estimated Yield:	100 GPM
Casing Size:	10.00	Depth Well:	648 feet	Depth Water:	200 feet

## Water Bearing Stratifications:

Top	Bottom	Description
17	207	Sandstone/Gravel/Conglomerate
219	257	Sandstone/Gravel/Conglomerate
261	375	Sandstone/Gravel/Conglomerate
630	646	Sandstone/Gravel/Conglomerate

## Casing Perforations:

Top	Bottom
225	648

Meter Number:	17821	Meter Make:	TURBINES INC
Meter Serial Number:	1645755	Meter Multiplier:	1.0000
Number of Dials:	7	Meter Type:	Diversion
Unit of Measure:	Barrels 42 gal.	Return Flow Percent:	
Usage Multiplier:		Reading Frequency:	Monthly

## Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr Comment	Mtr Amount Online
11/01/2018	2018	803307	A	RPT	0
06/01/2020	2020	1767143	A	RPT	124.232

**YTD Meter Amounts:		
Year	Amount	
2018	0	
2020	124.232	

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

POINT OF DIVERSION SUMMARY

9/10/20 6:23 PM



# 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
NA	CP 01740 POD1	1	1	1	34	22S	34E	6444402	3580765

Driller License: 1706 Driller Company: ELITE DRILLERS CORPORATION

Driller Name: BRYCE WALLCE

Drill Start Date: 03/15/2019 Drill Finish Date: 09/26/2019 Plug Date:

Log File Date: 10/17/2019 PCW Rev Date: Source: Artesian

Pump Type: Pipe Discharge Size: Estimated Yield: 60 GPM

Casing Size: 7.60 Depth Well: 600 feet Depth Water: 560 feet

### Water Bearing Stratifications:

Top	Bottom	Description
520	580	Sandstone/Gravel/Conglomerate

### Casing Perforations:

Top	Bottom
300	600

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9/10/20 6:29 PM

POINT OF DIVERSION SUMMARY

Closure Criteria Determination Worksheet			
Site Name: Rio Blanco 4 Fed Com 3			
Spill Coordinates:		X: 32.3309593	-103.4718094
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	285	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	163,141	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	7,773	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	30,813	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, <b>or</b>	30,813	feet
	ii) Within 1000 feet of any fresh water well or spring	30,813	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	7,773	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		year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>100'	<50' 51-100' >100'



# 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  
E    07616 POD1

Q64 Q16 Q4    Sec    Tws    Rng

X    X    Y

646466    3576970

Driller License: 539    Driller Company: GARCIA BROTHERS DRILLING CO., LLC  
Driller Name: GARCIA, RAYMOND, JR.

Drill Start Date: 08/10/1999    Drill Finish Date: 08/20/2000    Plug Date:  
Log File Date: 12/07/2000    PCW Rcv Date:    Source: Shallow  
Pump Type:    Pipe Discharge Size:    Estimated Yield: 30 GPM  
Casing Size: 4.50    Depth Well: 500 feet    Depth Water: 300 feet

Water Bearing Stratifications:    Top    Bottom    Description  
300    500    Limestone/Dolomite/Chalk

Casing Perforations:    Top    Bottom  
460    500

Meter Number: 15833    Meter Make: NEPTLITP  
Meter Serial Number: E5383    Meter Multiplier: 10.0000  
Number of Dials: 6    Meter Type: Diversion  
Unit of Measure: Gallons    Return Flow Percent:  
Usage Multiplier:    Reading Frequency: Quarterly

## Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr Comment	Mtr Amount Online
06/11/2012	2012	255819	A	cp	0

\*\*YTD Meter Amounts:    Year    Amount  
2012    0

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9/10/20 6:27 PM

POINT OF DIVERSION SUMMARY



## 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
NA	CP 01622 POD1	1	3	3	04	23S	34E	642830	3577872 
Driller License:	1706	Driller Company:				ELITE DRILLERS CORPORATION			
Driller Name:	BRYCE WALLACE								
Drill Start Date:	09/20/2019	Drill Finish Date:				10/02/2019		Plug Date:	
Log File Date:	10/17/2019	PCW Rev Date:						Source:	Shallow
Pump Type:		Pipe Discharge Size:						Estimated Yield:	280 GPM
Casing Size:	9.70	Depth Well:				575 feet		Depth Water:	285 feet
Water Bearing Stratifications:					Top	Bottom	Description		
					150	470	Sandstone/Gravel/Conglomerate		
					470	575	Shale/Mudstone/Siltstone		
Casing Perforations:					Top	Bottom			
					275	575			

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

2/25/20 11:55 AM


POINT OF DIVERSION SUMMARY





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)									
Well Tag		POD Number		Q64 Q16 Q4		Sec Tws Rng		(NAD83 UTM in meters)	
NA	CP 01706 POD1	4	4	2	32	22S	34E	642603	3580185 
x									
Driller License:		1706		Driller Company:		ELITE DRILLERS CORPORATION			
Driller Name:		BRYCE WALLACE							
Drill Start Date:		01/06/2020		Drill Finish Date:		01/07/2020		Plug Date:	
Log File Date:		01/13/2020		PCW Rev Date:				Source: Shallow	
Pump Type:				Pipe Discharge Size:				Estimated Yield: 55 GPM	
Casing Size:		4.30		Depth Well:		340 feet		Depth Water: 282 feet	
x									
Water Bearing Stratifications:				Top		Bottom		Description	
				240		295		Sandstone/Gravel/Conglomerate	
				295		340		Sandstone/Gravel/Conglomerate	
x									
Casing Perforations:				Top		Bottom			
				280		340			
x									

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

9/10/20 6:28 PM

POINT OF DIVERSION SUMMARY



# 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
NA	CP 01719 POD1	4	4	3	24	22S	34E	648215	3582680

**Driller License:** 421 **Driller Company:** GLENN'S WATER WELL SERVICE

**Driller Name:** GLENN, CLARK A. "CORKY", CE

**Drill Start Date:** 05/20/2019 **Drill Finish Date:** 05/24/2019 **Plug Date:**

**Log File Date:** 06/10/2019 **PCW Rev Date:** **Source:** Artesian

**Pump Type:** **Pipe Discharge Size:** **Estimated Yield:** 100 GPM

**Casing Size:** 8.00 **Depth Well:** 1173 feet **Depth Water:** 838 feet

### Water Bearing Stratifications:

Top	Bottom	Description
826	857	Shale/Mudstone/Siltstone
857	953	Shale/Mudstone/Siltstone
953	1150	Sandstone/Gravel/Conglomerate
1150	1173	Shale/Mudstone/Siltstone

### Casing Perforations:

Top	Bottom
753	1173

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

9/10/20 6:32 PM

POINT OF DIVERSION SUMMARY



## National Water Information System: Web Interface

USGS Water Resources

USGS Home  
Contact USGS  
Search USGS

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 321734103290001 23S.34E.16.333312

Available data for this site

SUMMARY OF ALL AVAILABLE DATA

GO

## Well Site

### DESCRIPTION:

Latitude 32°17'53", Longitude 103°28'59" NAD27  
Lea County, New Mexico , Hydrologic Unit 13070007  
Well depth: 400 feet  
Land surface altitude: 3,478.00 feet above NGVD29.  
Well completed in "Chinle Formation" (231CHNL) local aquifer

### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<a href="#">Field groundwater-level measurements</a>	1971-01-13	1996-03-08	5
<a href="#">Revisions</a>	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](#)

[Questions about sites/data?](#)

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[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=321734103290001](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321734103290001)**

Page Contact Information: [New Mexico Water Data Support Team](#)

Page Last Modified: 2020-02-25 13:53:11 EST

0.4 0.39 caww02





## National Water Information System: Web Interface

USGS Water Resources

USGS Home  
Contact USGS  
Search USGS

Data Category:

Site Information

Geographic Area:

United States

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# USGS 321917103303001 23S.34E.06.43314

Available data for this site

SUMMARY OF ALL AVAILABLE DATA

GO

## Well Site

### DESCRIPTION:

Latitude 32°19'17", Longitude 103°30'30" NAD27  
Lea County, New Mexico , Hydrologic Unit 13070007  
Well depth: 640 feet  
Land surface altitude: 3,480 feet above NAVD88.  
Well completed in "Sunrise Formation" (231SNRS) local aquifer

### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<a href="#">Field groundwater-level measurements</a>	1968-06-11	1986-03-21	2
<a href="#">Revisions</a>	Unavailable (site:0) (timeseries:0)		

### OPERATION:

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

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[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=321917103303001](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321917103303001)**

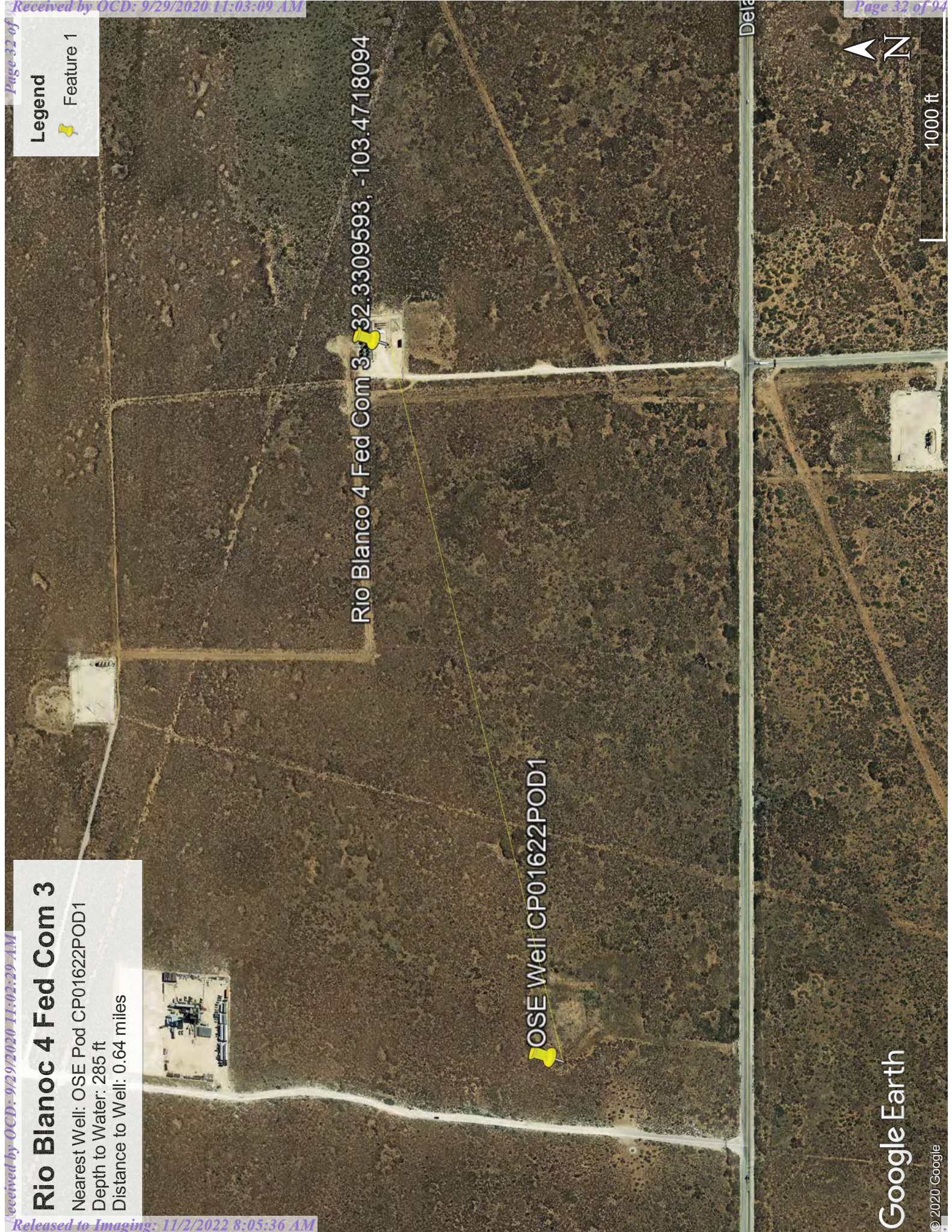
Page Contact Information: [New Mexico Water Data Support Team](#)

Page Last Modified: 2020-02-25 13:50:54 EST

0.28 0.28 caww01







# Rio Blanco 4 Fed Com 3

Nearest Well: OSE Pod CP01622POD1  
Depth to Water: 285 ft  
Distance to Well: 0.64 miles

Rio Blanco 4 Fed Com 3 32.3309593, -103.4718094

OSE Well CP01622POD1

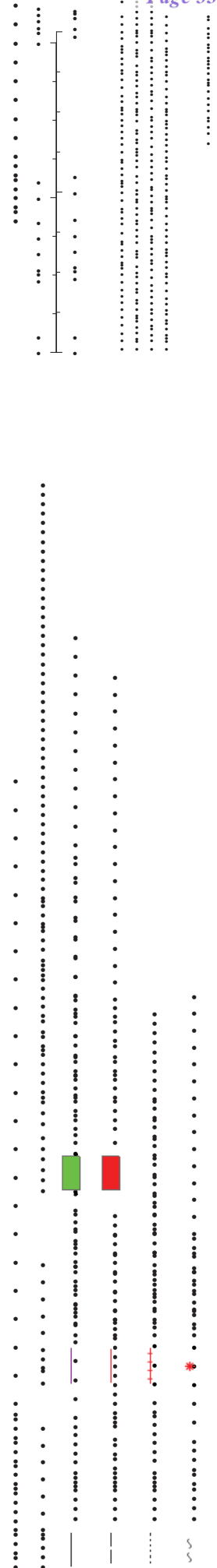
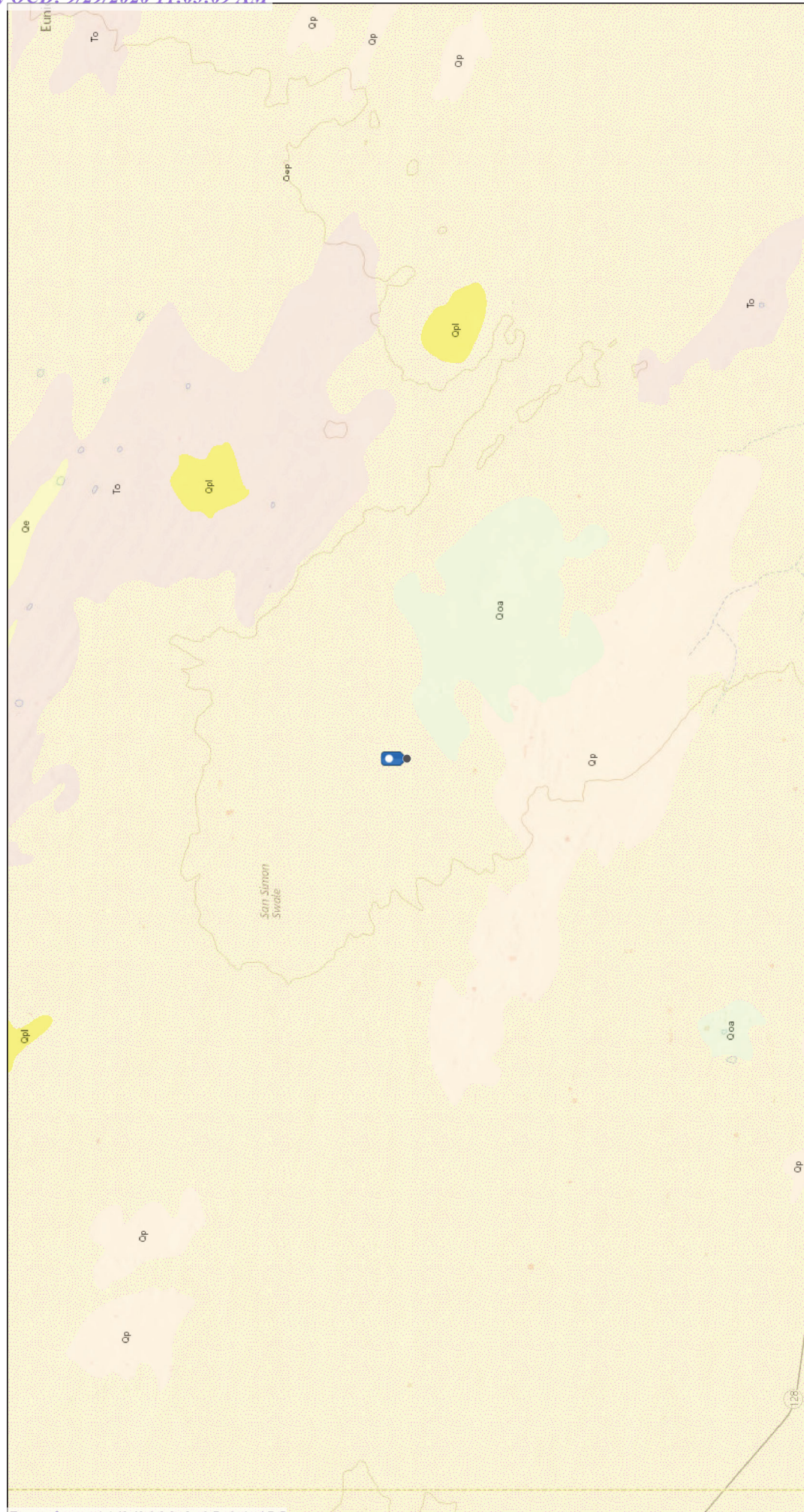
Legend

Feature 1

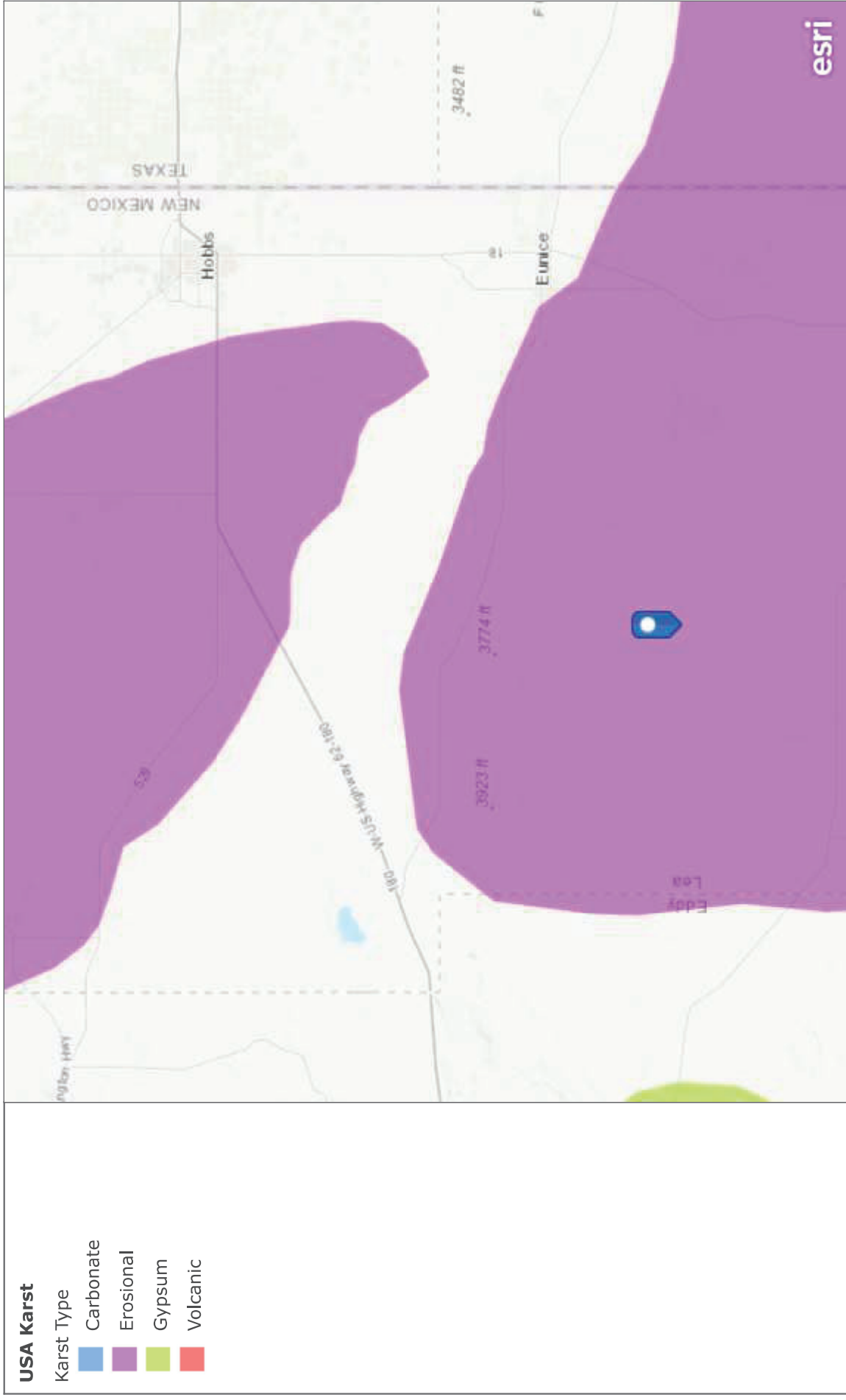


1000 ft





## USA Karst



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

Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS | 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.



# Rio Blanco 4 Fed Com 3

Nearest Residence: 30,813 ft (5.84 miles)

Resident

Legend

Feature 1

Rio Blanco 4 Fed Com 3 32.3309593, -103.4718094

Google Earth

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3 mi



# Rio Blanco 4 Fed Com 3

Nearest Town: Eunice, NM  
Distance: 103,463 ft (19.60 miles)

## Legend

Feature 1



Rio Blanco 4 Fed Com 3  32.3309593, -103.4718094

Ave O  
Eunice  
207

8

18



9 mi

Google Earth

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# Rio Blanco 4 Fed Com 3

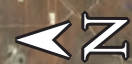
Nearest Watercourse: Pecos River  
Distance: 163,141 ft (30.90 miles)

## Legend

Feature 1

Rio Blanco 4 Fed Com 3

128



10 mi

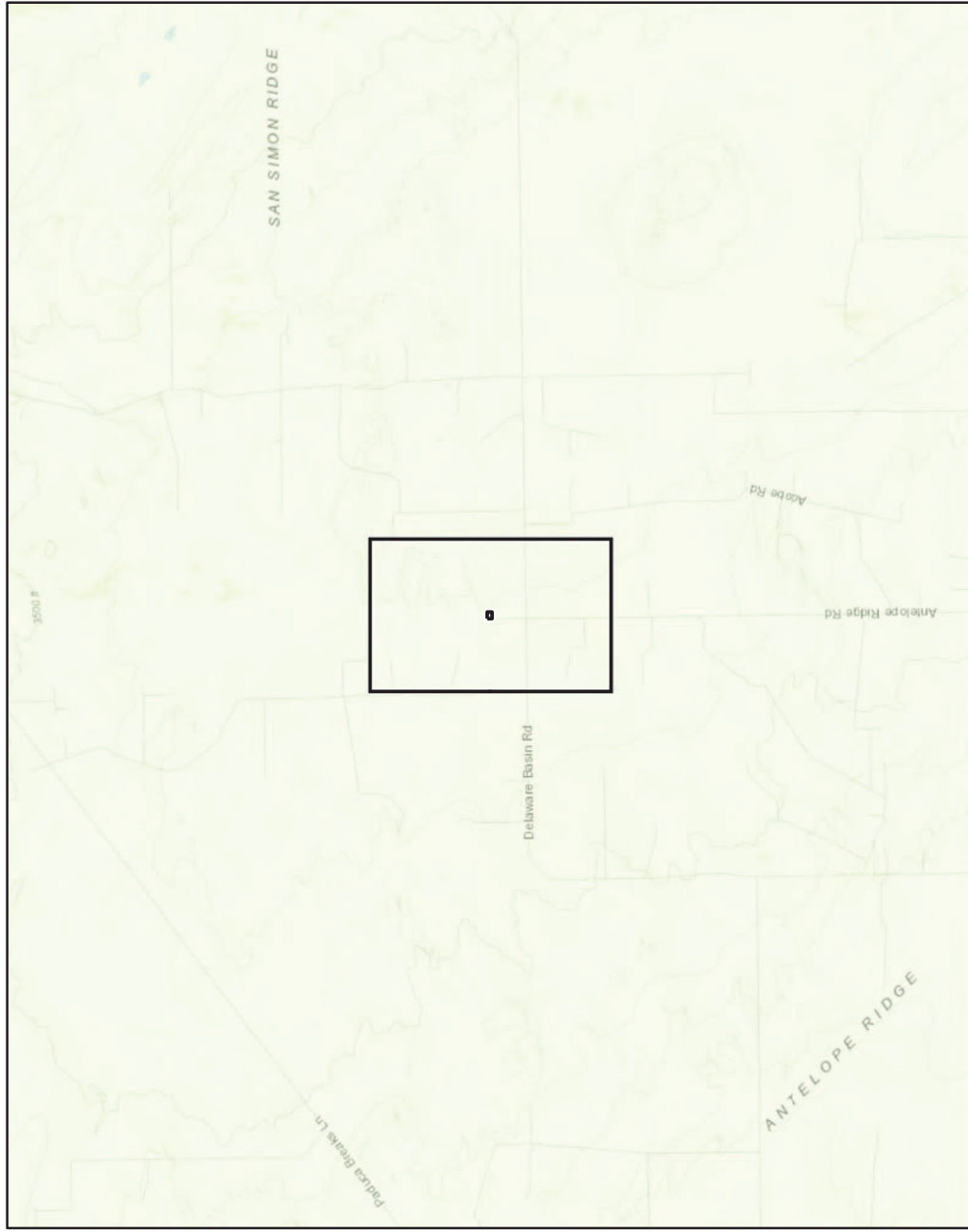
Google Earth

© 2020 Google





**Detail Map**  
0 750 1,500 ft



**Overview Map**  
0 0.25 0.5 1 1.5 mi

**Karst Potential**

- Critical
- High
- Medium
- Low

Approximate Lease Boundary



Map Center:  
Lat/Long: 32.331065, -103.471821

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

**Karst Potential**  
**Rio Blanco 4 Fed Com #003**

FIGURE: **X**

**Logo Goes Here**

Note: Inset Map, ESRI 20XX; Overview Map: ESRI World Topographic

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.

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Soil Map—Lea County, New Mexico

Soil Map may not be valid at this scale.

Map Scale: 1:2,380 if printed on A landscape (11" x 8.5") sheet.

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



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

## MAP LEGEND



## 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 17, 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
PU	Pyote and maljamar fine sands	28.8	100.0%
Totals for Area of Interest		28.8	100.0%

Map Unit Description: Pyote and maljamar fine sands---Lea County, New Mexico

---

## 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)

Map Unit Description: Pyote and maljamar fine sands---Lea County, New Mexico

---

**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)

Map Unit Description: Pyote and maljamar fine sands---Lea County, New Mexico

---

*Hydric soil rating:* No

## Data Source Information

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

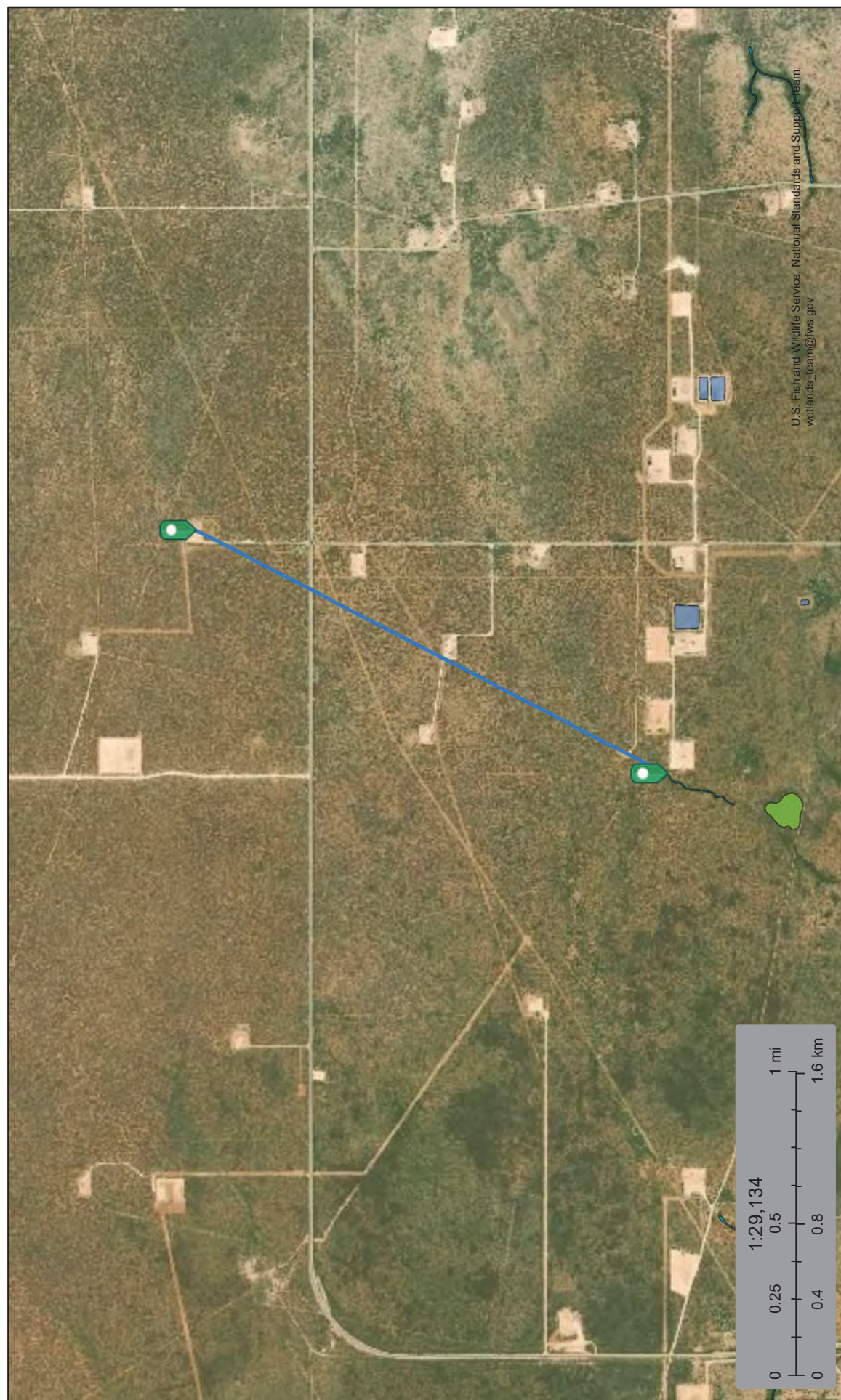


# Rio Blanco 4 Fed Com 3



**U.S. Fish and Wildlife Service**

## National Wetlands Inventory



February 25, 2020

## Wetlands

- | Wetland Type                   | Wetland Type                   | Wetland Type                      | Wetland Type |
|--------------------------------|--------------------------------|-----------------------------------|--------------|
| Estuarine and Marine Deepwater | Estuarine and Marine Deepwater | Freshwater Forested/Shrub Wetland | Other        |
| Estuarine and Marine Wetland   | Estuarine and Marine Wetland   | Freshwater Pond                   | Riverine     |

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

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

## **ATTACHMENT 4**



Client Name: Devon Energy Production Company  
 Site Name: Rio Blanco 4 Fed Com #003  
 NM OCD Incident Tracking Number: NKL1626534300  
 Project #: 20E-00141-027  
 Lab Report: 2005C38

Table 2. Characterization Sampling Field Screening and Laboratory Results - Depth to Groundwater >100 ft													
Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Electroconductivity)	Volatile		Extractable					Chloride
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SS20-01	0	May 27, 2020	0	28	60	<0.024	<0.22	<4.9	<10	<50	<14.9	<64.9	<61
SS20-02	0	May 27, 2020	0	24	40	<0.025	<0.225	<5.0	<9.6	<48	<14.6	<62.6	<61
SS20-03	0	May 27, 2020	0	-	60	<0.024	<0.22	<4.9	<9.9	<49	<14.8	<63.8	<60
SS20-04	0	May 27, 2020	0	50	50	<0.024	<0.217	<4.8	<9.7	<48	<14.5	<62.5	<60
SS20-05	0	May 27, 2020	0	30	40	<0.025	<0.225	<5.0	<9.7	<48	<14.7	<62.7	<60
BH20-01	0 - 0.5	May 27, 2020	0	-	2,200	<0.025	<0.224	<5.0	<9.9	<49	<14.9	<63.9	<b>2,600</b>
BH20-01	2	May 27, 2020	0	-	70	<0.025	<0.224	<5.0	<9.5	<48	<14.5	<62.5	<60

"-" Not applicable/assessed

**Bold and shaded indicates exceedance outside of NM OCD closure criteria**

Client Name: Devon Energy Production Company  
 Site Name: Rio Blanco 4 Fed Com #003  
 NM OCD Incident Tracking Numbers: NKL1626534300  
 Project #: 20E-00141-027  
 Lab Report: 2006A86

Table 3. Confirmatory Sampling Laboratory Results - Depth to Groundwater >100 ft										
Sample Description			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					Chloride
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BS20-01	0.5	June 18, 2020	<0.025	<0.224	<5.0	<10	<50	<15.0	<65.0	<60
BS20-02	0.5	June 18, 2020	<0.025	<0.224	<5.0	<9.8	<49	<14.8	<63.8	240
WS20-01	-	June 18, 2020	<0.025	<0.224	<5.0	<9.7	<48	<14.7	<62.7	230

"-" - Not applicable/assessed

**Bold and shaded indicates exceedance outside of NM OCD closure criteria**

## **ATTACHMENT 5**



## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	5/28/2020
Site Location Name:	Rio Blanco 4 Fed Com #003	Report Run Date:	6/11/2020 4:11 PM
Project Owner:		File (Project) #:	
Project Manager:		API #:	30-025-36425
Client Contact Name:	Amanda Davis	Reference	
Client Contact Phone #:	(575) 748-0176		

### Summary of Times

Left Office	5/27/2020 1:04 PM
Arrived at Site	5/27/2020 1:04 PM
Departed Site	5/27/2020 3:32 PM
Returned to Office	5/27/2020 4:43 PM

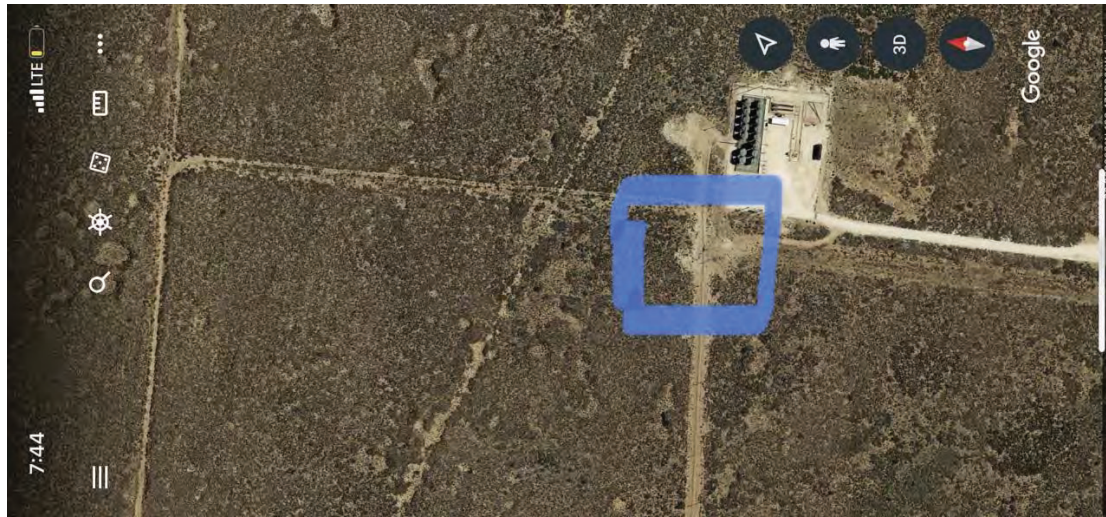
# Daily Site Visit Report



Site Sketch



## Daily Site Visit Report





# Daily Site Visit Report



## Summary of Daily Operations

**7:17** Delineate the historical release (pipeline riser) vertically and horizontally per NM OCD standards - 600 ppm chloride, 100 ppm TPH.

The other releases on well pad could not be delineated at the time due to drill rig being present on pad at time of site visit.

## Next Steps & Recommendations

- 1** Submit characterization samples for lab.
- 2** Develop sample location map.
- 3** Remediate release as necessary per NM OCD requirements.

## 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?
2 ft.	0 ppm		Low (30-600 ppm)	70 ppm			,	Yes

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?
0.5 ft.	0 ppm		High (300- 6000ppm)	2200 ppm			,	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.	0 ppm	28 ppm	Low (30-600 ppm)	60 ppm			,	Yes
SS20-02								
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.	0 ppm	21 ppm	Low (30-600 ppm)	40 ppm			,	Yes
SS20-03								
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.	0 ppm		Low (30-600 ppm)	60 ppm			,	Yes
SS20-04								
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.	0 ppm	50 ppm	Low (30-600 ppm)	50 ppm			,	Yes







## Daily Site Visit Report

SS20-05								
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.	0 ppm	30 ppm	Low (30-600 ppm)	40 ppm			,	Yes

# Daily Site Visit Report







## Site Photos

<b>Viewing Direction: North</b>  <p>Descriptive Photo Viewing Direction: North Desc: Drill rig present on well pad at time of site visit Created: 9/29/2020 7:19:40 AM Lat:32.386707, Long:-104.237927</p>	<b>Viewing Direction: North</b>  <p>Descriptive Photo Viewing Direction: North Desc: Drill rig present on well pad at time of site visit Created: 9/29/2020 7:19:40 AM Lat:32.386707, Long:-104.237927</p>
Drill rig present on well pad at time of site visit.	Release area
<b>Viewing Direction: West</b>  <p>Descriptive Photo Viewing Direction: West Desc: Drill rig present on well pad at time of site visit Created: 9/29/2020 7:22:14 AM Lat:32.386707, Long:-104.237927</p>	<b>Viewing Direction: Southwest</b>  <p>Descriptive Photo Viewing Direction: Southwest Desc: Drill rig present on well pad at time of site visit Created: 9/29/2020 7:22:14 AM Lat:32.386707, Long:-104.237927</p>
Area of release	Delineation area



# Daily Site Visit Report

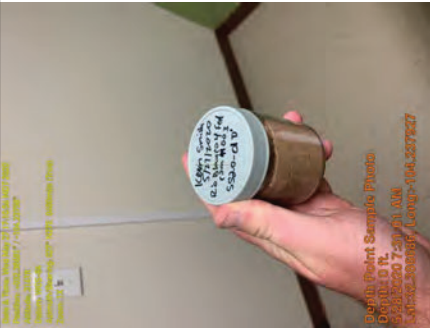


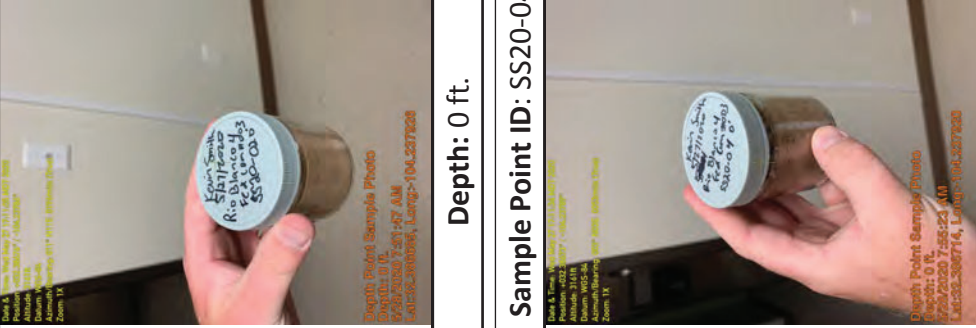
Viewing Direction: South	
 <p>Area 4 Photo, Area 4, 9/29/2020 11:02:29 AM Viewing Direction: South Camera: 1080p, 30 FPS GPS: 33.4411, -111.9111 Description: Photo of wellhead in Area 4, viewed from the south. The wellhead is a large metal structure with pipes. The background shows dry vegetation and a clear sky. Metadata text is overlaid on the bottom right of the image.</p>	
Delineation area	
Viewing Direction: Southeast	
 <p>Area 4 Photo, Area 4, 9/29/2020 11:03:09 AM Viewing Direction: Southeast Camera: 1080p, 30 FPS GPS: 33.4411, -111.9111 Description: Photo of wellhead in Area 4, viewed from the southeast. The wellhead is a large metal structure with pipes. The background shows dry vegetation and a clear sky. Metadata text is overlaid on the bottom right of the image.</p>	
Delineation area	
Viewing Direction: Southwest	
 <p>Area 4 Photo, Area 4, 9/29/2020 11:02:29 AM Viewing Direction: Southwest Camera: 1080p, 30 FPS GPS: 33.4411, -111.9111 Description: Photo of wellhead in Area 4, viewed from the southwest. The wellhead is a large metal structure with pipes. The background shows dry vegetation and a clear sky. Metadata text is overlaid on the bottom right of the image.</p>	
Delineation area	
Viewing Direction: Southeast	
 <p>Area 4 Photo, Area 4, 9/29/2020 11:03:09 AM Viewing Direction: Southeast Camera: 1080p, 30 FPS GPS: 33.4411, -111.9111 Description: Photo of wellhead in Area 4, viewed from the southeast. The wellhead is a large metal structure with pipes. The background shows dry vegetation and a clear sky. Metadata text is overlaid on the bottom right of the image.</p>	
Delineation area	



# Daily Site Visit Report



## Depth Sample Photos

<p><b>Sample Point ID: SS20-01</b></p>  <p>Depth: 0 ft.</p>	<p><b>Sample Point ID: SS20-02</b></p>  <p>Depth: 0 ft.</p>
<p><b>Sample Point ID: SS20-03</b></p>  <p>Depth: 0 ft.</p>	<p><b>Sample Point ID: SS20-04</b></p>  <p>Depth: 0 ft.</p>

# Daily Site Visit Report



Sample Point ID: SS20-05	
 <p>Depth Photo Sample Photo Depth: 0 ft. Latitude: 33.857711, Longitude: -104.237712</p>	 <p>Depth Photo Sample Photo Depth: 0 ft. Latitude: 33.857711, Longitude: -104.237712</p>
Depth: 0 ft.	

Sample Point ID: BH20-01	
 <p>Depth Photo Sample Photo Depth: 2 ft. Latitude: 33.857711, Longitude: -104.237712</p>	 <p>Depth Photo Sample Photo Depth: 2 ft. Latitude: 33.857711, Longitude: -104.237712</p>
Depth: 2 ft.	

Sample Point ID: BH20-01	
 <p>Depth Photo Sample Photo Depth: 0.5 ft. Latitude: 33.857711, Longitude: -104.237712</p>	 <p>Depth Photo Sample Photo Depth: 0.5 ft. Latitude: 33.857711, Longitude: -104.237712</p>
Depth: 0.5 ft.	

## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Kevin Smith

**Signature:**

A handwritten signature in black ink, appearing to read 'Kevin Smith', written over a horizontal line.

Signature



## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/18/2020
Site Location Name:	Rio Blanco 4 Fed Com #003	Report Run Date:	6/19/2020 5:08 PM
Client Contact Name:	Amanda Davis	API #:	30-025-36425
Client Contact Phone #:	(575) 748-0176	Project Owner:	Amanda Davis
Unique Project ID	-Rio Blanco 4 Fed Com #003	Project Manager:	Natalie Gordon
Project Reference #	4 Releases from 2006-2019		

### Summary of Times

Arrived at Site	6/18/2020 11:07 AM
Departed Site	6/18/2020 4:22 PM

### Field Notes

**13:49** Discuss remediation depth and area with Tommy. Mostly hand digging because in vicinity of produced water pipeline. Excavation depth approximately 6".





### Next Steps & Recommendations

- 1** Submit confirmation samples for lab analysis and await results.
- 2** Begin drafting closure report.

# Daily Site Visit Report







## Site Photos

<div>Viewing Direction: West</div> <div><div>Sample Photo 13 Viewing Direction: West Date: 9/29/2020 12:46:25 PM Created: 9/29/2020 12:46:25 PM Lat: 33.371455, Long: -103.472891</div></div> <div>Remediation in progress</div>	<div>Viewing Direction: South</div> <div><div>Sample Photo 4 Viewing Direction: South Date: 9/29/2020 12:46:25 PM Created: 9/29/2020 12:46:25 PM Lat: 33.371455, Long: -103.472891</div></div> <div>Remediation in progress</div>
<div>Viewing Direction: East</div> <div><div>Sample Photo 13 Viewing Direction: East Date: 9/29/2020 12:46:25 PM Created: 9/29/2020 12:46:25 PM Lat: 33.371455, Long: -103.472891</div></div> <div>Remediation in progress</div>	<div>Viewing Direction: East</div> <div><div>Sample Photo 4 Viewing Direction: East Date: 9/29/2020 12:46:25 PM Created: 9/29/2020 12:46:25 PM Lat: 33.371455, Long: -103.472891</div></div> <div>Final Excavation</div>





# Daily Site Visit Report

Viewing Direction: North	Viewing Direction: West
	
Final Excavation	Final Excavation
Viewing Direction: Southwest	Viewing Direction: South
	
Final excavation	Final excavation

## Daily Site Visit Report



Daily Site Visit Signature

Inspector: Kevin Smith

Signature:

A handwritten signature in black ink, appearing to read 'Kevin Smith', written over a horizontal line.

Signature

## **ATTACHMENT 6**

## Natalie Gordon

---

**From:** Dhugal Hanton <vertexresourcegroupusa@gmail.com>  
**Sent:** Tuesday, June 16, 2020 12:12 PM  
**To:** Natalie Gordon  
**Subject:** Fwd: Incident # NKL1626534300: Rio Blanco 4 Fed Com 3 - 48-hr Notification of Confirmatory Sampling

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

From: **Dhugal Hanton** <[vertexresourcegroupusa@gmail.com](mailto:vertexresourcegroupusa@gmail.com)>  
Date: Tue, Jun 16, 2020 at 12:10 PM  
Subject: Incident # NKL1626534300: Rio Blanco 4 Fed Com 3 - 48-hr Notification of Confirmatory Sampling  
To: Bratcher, Mike, EMNRD <[Mike.Bratcher@state.nm.us](mailto:Mike.Bratcher@state.nm.us)>, EMNRD-OCD-District1spills <[emnrd-ocd-district1spills@state.nm.us](mailto:emnrd-ocd-district1spills@state.nm.us)>, Hamlet, Robert, EMNRD <[Robert.Hamlet@state.nm.us](mailto:Robert.Hamlet@state.nm.us)>, Venegas, Victoria, EMNRD <[Victoria.Venegas@state.nm.us](mailto:Victoria.Venegas@state.nm.us)>, <[ramona.marcus@state.nm.us](mailto:ramona.marcus@state.nm.us)>, CFO\_Spill, BLM\_NM <[blm\\_nm\\_cfo\\_spill@blm.gov](mailto:blm_nm_cfo_spill@blm.gov)>, Amos, James A <[Jamos@blm.gov](mailto:Jamos@blm.gov)>, Kelsey <[KWade@blm.gov](mailto:KWade@blm.gov)>  
Cc: <[Lupe.Carrasco@dvn.com](mailto:Lupe.Carrasco@dvn.com)>, <[amanda.davis@dvn.com](mailto:amanda.davis@dvn.com)>, <[tom.bynum@dvn.com](mailto:tom.bynum@dvn.com)>, <[wesley.mathews@dvn.com](mailto:wesley.mathews@dvn.com)>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled remediation field activities and confirmatory sampling to be conducted at Rio Blanco 4 Federal Com #3 for the release that occurred on September 15, 2016 incident tracking # NKL1626534300, RP# 1RP-4447.

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

On Thursday, June 18, 2020 at approximately 9:00 a.m., Kevin Smith of Vertex will be onsite to guide remediation activities. He will collect confirmatory sampling as the remediation activities finish up, beginning around 1:00 p.m. Kevin can be reached at 575-988-0871. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,  
Natalie

**Natalie Gordon**  
Project Manager

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

**P 575.725.5001 ext 709**  
**C 505.506.0040**  
**F**

[www.vertex.ca](http://www.vertex.ca)

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## **ATTACHMENT 7**



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

June 08, 2020

Natalie Gordon

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (505) 350-1336

FAX:

RE: Rio Blanco 4 Fed Com 003

OrderNo.: 2005C38

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 7 sample(s) on 5/29/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2005C38

Date Reported: 6/8/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-01 0'

Project: Rio Blanco 4 Fed Com 003

Collection Date: 5/27/2020 2:12:00 PM

Lab ID: 2005C38-001

Matrix: SOIL

Received Date: 5/29/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/30/2020 4:06:29 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/30/2020 4:06:29 PM
Surr: DNOP	82.5	55.1-146		%Rec	1	5/30/2020 4:06:29 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	61		mg/Kg	20	6/3/2020 1:22:51 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	5/30/2020 12:37:18 PM
Toluene	ND	0.049		mg/Kg	1	5/30/2020 12:37:18 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/30/2020 12:37:18 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/30/2020 12:37:18 PM
Surr: 1,2-Dichloroethane-d4	97.2	70-130		%Rec	1	5/30/2020 12:37:18 PM
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	5/30/2020 12:37:18 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	5/30/2020 12:37:18 PM
Surr: Toluene-d8	101	70-130		%Rec	1	5/30/2020 12:37:18 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/30/2020 12:37:18 PM
Surr: BFB	102	70-130		%Rec	1	5/30/2020 12:37:18 PM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 1 of 12

## Analytical Report

Lab Order 2005C38

Date Reported: 6/8/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-02 0'

Project: Rio Blanco 4 Fed Com 003

Collection Date: 5/27/2020 2:18:00 PM

Lab ID: 2005C38-002

Matrix: SOIL

Received Date: 5/29/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/30/2020 5:36:44 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/30/2020 5:36:44 PM
Surr: DNOP	76.5	55.1-146		%Rec	1	5/30/2020 5:36:44 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	61		mg/Kg	20	6/3/2020 1:35:15 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	5/30/2020 2:02:41 PM
Toluene	ND	0.050		mg/Kg	1	5/30/2020 2:02:41 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/30/2020 2:02:41 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/30/2020 2:02:41 PM
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	5/30/2020 2:02:41 PM
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	5/30/2020 2:02:41 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	5/30/2020 2:02:41 PM
Surr: Toluene-d8	97.1	70-130		%Rec	1	5/30/2020 2:02:41 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/30/2020 2:02:41 PM
Surr: BFB	97.0	70-130		%Rec	1	5/30/2020 2:02:41 PM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 2 of 12

## Analytical Report

Lab Order 2005C38

Date Reported: 6/8/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-03 0'

Project: Rio Blanco 4 Fed Com 003

Collection Date: 5/27/2020 2:29:00 PM

Lab ID: 2005C38-003

Matrix: SOIL

Received Date: 5/29/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/30/2020 6:01:37 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/30/2020 6:01:37 PM
Surr: DNOP	65.6	55.1-146		%Rec	1	5/30/2020 6:01:37 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	6/3/2020 1:47:40 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	5/30/2020 3:28:09 PM
Toluene	ND	0.049		mg/Kg	1	5/30/2020 3:28:09 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/30/2020 3:28:09 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/30/2020 3:28:09 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	5/30/2020 3:28:09 PM
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	5/30/2020 3:28:09 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	5/30/2020 3:28:09 PM
Surr: Toluene-d8	96.6	70-130		%Rec	1	5/30/2020 3:28:09 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/30/2020 3:28:09 PM
Surr: BFB	96.3	70-130		%Rec	1	5/30/2020 3:28:09 PM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



## Analytical Report

Lab Order 2005C38

Date Reported: 6/8/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-04 0'

Project: Rio Blanco 4 Fed Com 003

Collection Date: 5/27/2020 2:40:00 PM

Lab ID: 2005C38-004

Matrix: SOIL

Received Date: 5/29/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/30/2020 6:26:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/30/2020 6:26:13 PM
Surr: DNOP	72.4	55.1-146		%Rec	1	5/30/2020 6:26:13 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	6/3/2020 2:00:04 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	5/30/2020 3:56:40 PM
Toluene	ND	0.048		mg/Kg	1	5/30/2020 3:56:40 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/30/2020 3:56:40 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/30/2020 3:56:40 PM
Surr: 1,2-Dichloroethane-d4	98.8	70-130		%Rec	1	5/30/2020 3:56:40 PM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	5/30/2020 3:56:40 PM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	5/30/2020 3:56:40 PM
Surr: Toluene-d8	104	70-130		%Rec	1	5/30/2020 3:56:40 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/30/2020 3:56:40 PM
Surr: BFB	101	70-130		%Rec	1	5/30/2020 3:56:40 PM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005C38

Date Reported: 6/8/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-05 0'

Project: Rio Blanco 4 Fed Com 003

Collection Date: 5/27/2020 2:50:00 PM

Lab ID: 2005C38-005

Matrix: SOIL

Received Date: 5/29/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/30/2020 6:50:53 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/30/2020 6:50:53 PM
Surr: DNOP	75.5	55.1-146		%Rec	1	5/30/2020 6:50:53 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	6/3/2020 2:12:29 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	5/30/2020 4:25:11 PM
Toluene	ND	0.050		mg/Kg	1	5/30/2020 4:25:11 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/30/2020 4:25:11 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/30/2020 4:25:11 PM
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	5/30/2020 4:25:11 PM
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	5/30/2020 4:25:11 PM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	5/30/2020 4:25:11 PM
Surr: Toluene-d8	99.0	70-130		%Rec	1	5/30/2020 4:25:11 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/30/2020 4:25:11 PM
Surr: BFB	102	70-130		%Rec	1	5/30/2020 4:25:11 PM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005C38

Date Reported: 6/8/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH20-01 0-6"

Project: Rio Blanco 4 Fed Com 003

Collection Date: 5/27/2020 2:56:00 PM

Lab ID: 2005C38-006

Matrix: SOIL

Received Date: 5/29/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/30/2020 7:15:19 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/30/2020 7:15:19 PM
Surr: DNOP	76.6	55.1-146		%Rec	1	5/30/2020 7:15:19 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	2600	150		mg/Kg	50	6/4/2020 6:11:38 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	5/30/2020 4:53:43 PM
Toluene	ND	0.050		mg/Kg	1	5/30/2020 4:53:43 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/30/2020 4:53:43 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/30/2020 4:53:43 PM
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	5/30/2020 4:53:43 PM
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	5/30/2020 4:53:43 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	5/30/2020 4:53:43 PM
Surr: Toluene-d8	96.6	70-130		%Rec	1	5/30/2020 4:53:43 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/30/2020 4:53:43 PM
Surr: BFB	97.6	70-130		%Rec	1	5/30/2020 4:53:43 PM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 6 of 12

## Analytical Report

Lab Order 2005C38

Date Reported: 6/8/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH20-01 2'

Project: Rio Blanco 4 Fed Com 003

Collection Date: 5/27/2020 3:12:00 PM

Lab ID: 2005C38-007

Matrix: SOIL

Received Date: 5/29/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/30/2020 7:39:53 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/30/2020 7:39:53 PM
Surr: DNOP	76.7	55.1-146		%Rec	1	5/30/2020 7:39:53 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	6/3/2020 2:37:18 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	5/30/2020 5:22:14 PM
Toluene	ND	0.050		mg/Kg	1	5/30/2020 5:22:14 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/30/2020 5:22:14 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/30/2020 5:22:14 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	5/30/2020 5:22:14 PM
Surr: 4-Bromofluorobenzene	91.8	70-130		%Rec	1	5/30/2020 5:22:14 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	5/30/2020 5:22:14 PM
Surr: Toluene-d8	103	70-130		%Rec	1	5/30/2020 5:22:14 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/30/2020 5:22:14 PM
Surr: BFB	97.2	70-130		%Rec	1	5/30/2020 5:22:14 PM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 7 of 12

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2005C3808-Jun-20

Client: Devon Energy

Project: Rio Blanco 4 Fed Com 003

Sample ID: MB-52850	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 52850	RunNo: 69377
Prep Date: 6/3/2020	Analysis Date: 6/3/2020	SeqNo: 2405931Units: mg/Kg
Analyte	Result	PQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQual
Chloride	ND	1.5

Sample ID: LCS-52850	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 52850	RunNo: 69377
Prep Date: 6/3/2020	Analysis Date: 6/3/2020	SeqNo: 2405932Units: mg/Kg
Analyte	Result	PQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQual
Chloride	14	1.515.00093.790110

Qualifiers:

- \*Value exceeds Maximum Contaminant Level.

DSample Diluted Due to Matrix

HHolding times for preparation or analysis exceeded

NDNot Detected at the Reporting Limit

PQLPractical Quantitative Limit

S% Recovery outside of range due to dilution or matrix
- BAnalyte detected in the associated Method Blank

EValue above quantitation range

JAnalyte detected below quantitation limits

PSample pH Not In Range

RLReporting Limit



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2005C38

08-Jun-20

**Client:** Devon Energy  
**Project:** Rio Blanco 4 Fed Com 003

Sample ID: <b>2005C38-001AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>SS20-01 0'</b>	Batch ID: <b>52778</b>		RunNo: <b>69268</b>							
Prep Date: <b>5/30/2020</b>	Analysis Date: <b>5/30/2020</b>		SeqNo: <b>2400925</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	88	9.5	47.35	0	187	47.4	136			S
Surr: DNOP	7.0		4.735		147	55.1	146			S

Sample ID: <b>2005C38-001AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>SS20-01 0'</b>	Batch ID: <b>52778</b>		RunNo: <b>69268</b>							
Prep Date: <b>5/30/2020</b>	Analysis Date: <b>5/30/2020</b>		SeqNo: <b>2400926</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.6	48.08	0	103	47.4	136	56.1	43.4	R
Surr: DNOP	3.4		4.808		70.8	55.1	146	0	0	

Sample ID: <b>LCS-52778</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>52778</b>		RunNo: <b>69268</b>							
Prep Date: <b>5/30/2020</b>	Analysis Date: <b>5/30/2020</b>		SeqNo: <b>2400951</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.2	70	130			
Surr: DNOP	4.5		5.000		89.8	55.1	146			

Sample ID: <b>MB-52778</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>52778</b>		RunNo: <b>69268</b>							
Prep Date: <b>5/30/2020</b>	Analysis Date: <b>5/30/2020</b>		SeqNo: <b>2400952</b>		Units: <b>mg/Kg</b>					
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	9.8		10.00		98.5	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 Quantitative 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#: 2005C38

08-Jun-20

Client: Devon Energy

Project: Rio Blanco 4 Fed Com 003

Sample ID: <b>mb-52774</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>52774</b>	RunNo: <b>69278</b>								
Prep Date: <b>5/29/2020</b>	Analysis Date: <b>5/30/2020</b>	SeqNo: <b>2401164</b>			Units: <b>mg/Kg</b>					
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: 1,2-Dichloroethane-d4	0.47		0.5000		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.7	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		99.0	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			

Sample ID: <b>lcs-52774</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>52774</b>	RunNo: <b>69278</b>								
Prep Date: <b>5/29/2020</b>	Analysis Date: <b>5/30/2020</b>	SeqNo: <b>2401165</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	96.9	80	120			
Toluene	0.98	0.050	1.000	0	98.2	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.4	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.1	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.4	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.48		0.5000		96.8	70	130			

Sample ID: <b>2005c38-001ams</b>	SampType: <b>MS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>SS20-01 0'</b>	Batch ID: <b>52774</b>	RunNo: <b>69278</b>								
Prep Date: <b>5/29/2020</b>	Analysis Date: <b>5/30/2020</b>	SeqNo: <b>2401167</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	0.9891	0	93.0	71.1	115			
Toluene	0.93	0.049	0.9891	0	93.6	79.6	132			
Ethylbenzene	0.97	0.049	0.9891	0	98.5	83.8	134			
Xylenes, Total	2.8	0.099	2.967	0	95.5	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.47		0.4946		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.4946		101	70	130			
Surr: Dibromofluoromethane	0.51		0.4946		103	70	130			
Surr: Toluene-d8	0.49		0.4946		98.6	70	130			

## 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 Quantitative 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#: 2005C38

08-Jun-20

Client: Devon Energy

Project: Rio Blanco 4 Fed Com 003

Sample ID: <b>2005c38-001amsd</b>		SampType: <b>MSD4</b>			TestCode: <b>EPA Method 8260B: Volatiles Short List</b>					
Client ID: <b>SS20-01 0'</b>	Batch ID: <b>52774</b>			RunNo: <b>69278</b>						
Prep Date: <b>5/29/2020</b>	Analysis Date: <b>5/30/2020</b>			SeqNo: <b>2401168</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9747	0	104	71.1	115	9.27	20	
Toluene	1.0	0.049	0.9747	0	107	79.6	132	11.6	20	
Ethylbenzene	1.1	0.049	0.9747	0	112	83.8	134	11.1	20	
Xylenes, Total	3.2	0.097	2.924	0	110	82.4	132	12.6	20	
Surr: 1,2-Dichloroethane-d4	0.46		0.4873		95.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.46		0.4873		94.6	70	130	0	0	
Surr: Dibromofluoromethane	0.49		0.4873		100	70	130	0	0	
Surr: Toluene-d8	0.47		0.4873		96.5	70	130	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 Quantitative 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#: 2005C38

08-Jun-20

**Client:** Devon Energy  
**Project:** Rio Blanco 4 Fed Com 003

Sample ID: <b>mb-52774</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>52774</b>			RunNo: <b>69278</b>						
Prep Date: <b>5/29/2020</b>	Analysis Date: <b>5/30/2020</b>			SeqNo: <b>2401207</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	480		500.0		96.5	70	130			

Sample ID: <b>lcs-52774</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>52774</b>			RunNo: <b>69278</b>						
Prep Date: <b>5/29/2020</b>	Analysis Date: <b>5/30/2020</b>			SeqNo: <b>2401208</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.4	70	130			
Surr: BFB	510		500.0		102	70	130			

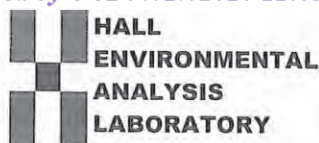
Sample ID: <b>2005c38-002ams</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>SS20-02 0'</b>	Batch ID: <b>52774</b>			RunNo: <b>69278</b>						
Prep Date: <b>5/29/2020</b>	Analysis Date: <b>5/30/2020</b>			SeqNo: <b>2401211</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	24.98	0	75.1	70	130			
Surr: BFB	470		499.5		94.6	70	130			

Sample ID: <b>2005c38-002amsd</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>SS20-02 0'</b>	Batch ID: <b>52774</b>			RunNo: <b>69278</b>						
Prep Date: <b>5/29/2020</b>	Analysis Date: <b>5/30/2020</b>			SeqNo: <b>2401212</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	5.0	24.95	0	65.0	70	130	14.4	20	S
Surr: BFB	480		499.0		96.6	70	130	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 Quantitative 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  
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: 2005C38

RcptNo: 1

Received By: Scott Anderson 5/29/2020 11:05:00 AM

Completed By: Desiree Dominguez 5/29/2020 8:35:58 AM

Reviewed By: *[Signature]* 5/29/2020*[Signature]*Chain of Custody

1. Is Chain of Custody 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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:

(&lt;2 or &gt;12 unless noted)

Adjusted?                     Checked by: Em 5/29/20Special 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 PersonRegarding:                                     Client Instructions:                                     

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good	Not Present			
2	3.4	Good	Not Present			



Page 1 of 1

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

☒ Standard ☐ Rush

Project Name:

Rio Blanco 4 Fed com #003

Project #:

20836617

Project Manager:

Natalie Gordon

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers:

Cooler Temp (including CF):  $4.8 - 0 = 4.8$  (°C)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Container	Preservative	HEAL No.
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Type and #	Type
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200-

[illegible]

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100-

	-005
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003			
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1-000

End		
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[illegible]


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Received by: \_\_\_\_\_ Via: \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

5/28/20 1105

Received by:	Via:	Date	Time
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1

SP4 Courier 5.29.26 11:05

contracted to other accredited laboratories. This serves as notice of this

Released to Imaging: 11/2/2022 8:05:36 AM

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  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: clients.hallenvironmental.com

June 29, 2020

Amanda Davis

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (575) 748-0176

FAX:

RE: Rio Blanco 4 Fed 3 (2016 Spill)

OrderNo.: 2006A86

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/20/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2006A86

Date Reported: 6/29/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-01 6"

Project: Rio Blanco 4 Fed 3 (2016 Spill)

Collection Date: 6/18/2020 3:15:00 PM

Lab ID: 2006A86-001

Matrix: SOIL

Received Date: 6/20/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/22/2020 9:24:43 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/22/2020 9:24:43 AM
Surr: DNOP	104	55.1-146		%Rec	1	6/22/2020 9:24:43 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/23/2020 11:42:28 PM
Surr: BFB	99.7	66.6-105		%Rec	1	6/23/2020 11:42:28 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	6/23/2020 11:42:28 PM
Toluene	ND	0.050		mg/Kg	1	6/23/2020 11:42:28 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/23/2020 11:42:28 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/23/2020 11:42:28 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/23/2020 11:42:28 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	6/26/2020 12:22:11 AM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 1 of 7

## Analytical Report

Lab Order 2006A86

Date Reported: 6/29/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-02 6"

Project: Rio Blanco 4 Fed 3 (2016 Spill)

Collection Date: 6/18/2020 3:18:00 PM

Lab ID: 2006A86-002

Matrix: SOIL

Received Date: 6/20/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/22/2020 9:34:36 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/22/2020 9:34:36 AM
Surr: DNOP	119	55.1-146		%Rec	1	6/22/2020 9:34:36 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/24/2020 12:05:53 AM
Surr: BFB	99.9	66.6-105		%Rec	1	6/24/2020 12:05:53 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	6/24/2020 12:05:53 AM
Toluene	ND	0.050		mg/Kg	1	6/24/2020 12:05:53 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/24/2020 12:05:53 AM
Xylenes, Total	ND	0.099		mg/Kg	1	6/24/2020 12:05:53 AM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	6/24/2020 12:05:53 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	240	60		mg/Kg	20	6/26/2020 1:24:13 AM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 2 of 7



## Analytical Report

Lab Order 2006A86

Date Reported: 6/29/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-01

Project: Rio Blanco 4 Fed 3 (2016 Spill)

Collection Date: 6/18/2020 3:30:00 PM

Lab ID: 2006A86-003

Matrix: SOIL

Received Date: 6/20/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/22/2020 9:44:27 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/22/2020 9:44:27 AM
Surr: DNOP	112	55.1-146		%Rec	1	6/22/2020 9:44:27 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/24/2020 12:29:25 AM
Surr: BFB	100	66.6-105		%Rec	1	6/24/2020 12:29:25 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	6/24/2020 12:29:25 AM
Toluene	ND	0.050		mg/Kg	1	6/24/2020 12:29:25 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/24/2020 12:29:25 AM
Xylenes, Total	ND	0.099		mg/Kg	1	6/24/2020 12:29:25 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/24/2020 12:29:25 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	230	60		mg/Kg	20	6/26/2020 1:36:39 AM

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2006A86  
29-Jun-20

Client: Devon Energy  
Project: Rio Blanco 4 Fed 3 (2016 Spill)

Sample ID: MB-53319		SampType: mblk		TestCode: EPA Method 300.0: Anions						
Client ID: PBS		Batch ID: 53319		RunNo: 69924						
Prep Date: 6/25/2020		Analysis Date: 6/25/2020		SeqNo: 2428644			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-53319		SampType: lcs		TestCode: EPA Method 300.0: Anions						
Client ID: LCSS		Batch ID: 53319		RunNo: 69924						
Prep Date: 6/25/2020		Analysis Date: 6/25/2020		SeqNo: 2428645			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	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 Quantitative 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#: 2006A86  
29-Jun-20

Client: Devon Energy  
Project: Rio Blanco 4 Fed 3 (2016 Spill)

Sample ID: LCS-53207	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 53207	RunNo: 69799								
Prep Date: 6/21/2020	Analysis Date: 6/22/2020	SeqNo: 2423722	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	67	10	50.00	0	134	70	130			S
Surr: DNOP	7.5		5.000		150	55.1	146			S

Sample ID: MB-53207	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 53207	RunNo: 69799								
Prep Date: 6/21/2020	Analysis Date: 6/22/2020	SeqNo: 2423723	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	17		10.00		166	55.1	146			S

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 Quantitative 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#: 2006A86

29-Jun-20

**Client:** Devon Energy  
**Project:** Rio Blanco 4 Fed 3 (2016 Spill)

Sample ID: <b>mb-53202</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>53202</b>	RunNo: <b>69845</b>								
Prep Date: <b>6/20/2020</b>	Analysis Date: <b>6/23/2020</b>	SeqNo: <b>2425878</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	66.6	105			

Sample ID: <b>lcs-53202</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>53202</b>	RunNo: <b>69845</b>								
Prep Date: <b>6/20/2020</b>	Analysis Date: <b>6/23/2020</b>	SeqNo: <b>2425880</b>	Units: <b>mg/Kg</b>							
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	1100		1000		111	66.6	105			S

**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 Quantitative 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

Page 6 of 7



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2006A86

29-Jun-20

**Client:** Devon Energy**Project:** Rio Blanco 4 Fed 3 (2016 Spill)

Sample ID: <b>mb-53202</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>53202</b>	RunNo: <b>69845</b>								
Prep Date: <b>6/20/2020</b>	Analysis Date: <b>6/23/2020</b>	SeqNo: <b>2425272</b> Units: <b>mg/Kg</b>								
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	1.0		1.000		102	80	120			

Sample ID: <b>LCS-53202</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>53202</b>	RunNo: <b>69845</b>								
Prep Date: <b>6/20/2020</b>	Analysis Date: <b>6/23/2020</b>	SeqNo: <b>2425273</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.4	80	120			
Toluene	0.95	0.050	1.000	0	95.4	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.1	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	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 Quantitative 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

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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: 2006A86

RcptNo: 1

Received By: Juan Rojas

6/20/2020 7:40:00 AM

*Juan Rojas*

Completed By: Juan Rojas

6/20/2020 8:20:26 AM

*Juan Rojas*

Reviewed By:

*SR 6/20/20*

### Chain of Custody

1. Is Chain of Custody 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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: *SR 6/20/20*

### 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good				





**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 10414

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 10414
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	11/2/2022