State of New Mexico
Oil Conservation Division

Incident ID	NPAC0717753293
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?	< 50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0717753293
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: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 1/12/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: Jocelyn Harimon Date: 01/12/2023

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0717753293
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.***

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

[X] Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

[X] Description of remediation activities

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

Printed Name: Dale Woodall
Title: Env. Professional

Signature: Dale Woodall
Date: 1/12/2023

email: dale.woodall@dvn.com
Telephone: 575-748-1838

OCD Only

Received by: Jocelyn Harimon
Date: 01/12/2023

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: Ashley Maxwell
Date: 1/17/2023

Printed Name: Ashley Maxwell
Title: Environmental Specialist

August 6, 2020 Vertex Project #: 20E-00141-012

Spill Closure Report: Red Bull 31 State #001
Unit N, Section 31, Township 23 South, Range 35 East
County: Lea
API: 30-025-36798
Tracking Number: NPAC0717753293

Prepared For: Devon Energy Production Company
6488 Seven Rivers Hwy
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 February 23, 2007, at Red Bull 31 State #001, API 30-025-36798 (hereafter referred to as "Red Bull"). Devon provided notification of the release to New Mexico Oil Conservation Division (NM OCD) District 1 and the New Mexico State Land Office (SLO), who owns the property, on February 26, 2007. It does not appear that there is an initial C-141 Release Notification on file with the NM OCD; however incident details obtained from the NM OCD Permitting website are included as Attachment 1. The NM OCD tracking number assigned to this incident is NPAC0717753293.

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 the final report to obtain approval from NM OCD for closure of this release.

Incident Description

On February 23, 2007, a release occurred at Devon's Red Bull site due to corrosion in the fire tubing on a heater treater. This incident resulted in the release of approximately 4 barrels (bbls) of produced water into the production equipment's unlined gravel containment and onto the wellpad. Upon discovery of the release, the wellhead and heater treater were shut in and the corrosion was repaired. No produced water was recovered. No oil or produced water were released off-lease, nor into undisturbed areas or waterways.

Site Characterization

The release at Red Bull occurred on state-owned land, N 32.2574463, W 103.4067612, approximately 15 miles northwest of Jal, New Mexico. The legal description for the site is Unit N, Section 31, Township 23 South, Range 35 East, Lea County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and rangeland. An aerial photograph and site schematic are included in Attachment 2.

Red Bull is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production, and storage. The following sections specifically describe the area surrounding the constructed wellpad.

The surrounding landscape is associated with low knolls, ridges and escarpments common to the plains, and is not prime farmland. The climate is semi-arid, with average annual precipitation ranging between 10 and 12 inches. The historic plant community has had the aspect of a grassland/shrub mix, dominated by black grama and sideoats grama, but with shrubs, such as creosotebush, mesquite and catclaw mimosa, common throughout. Grass cover is fairly uniform; however, surface gravel, cobble and bare ground make up a large percent of the total ground cover (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted wellpad.

The Geological Map of New Mexico indicates the surface geology at Red Bull is comprised primarily of Qp – piedmont alluvial deposits from Holocene to lower Pleistecene (New Mexico Bureau of Geology and Mineral Resources, 2020). The National Resources Conservation Service Web Soil Survey determines the soil at the site to be Kimbrough gravelly loam, which is characterized by shallow gravelly loam and loam over cemented material. This type of soil, typically found at elevations of 2,500 to 4,800 feet above sea level, tends to be well-drained with high runoff and low available moisture in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near Red Bull, though some erosional karst is possible (United States Department of the Interior, United States Geological Survey, 2020).

There is no surface water located at Red Bull. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 0.2 miles northwest of the site (United States Fish and Wildlife Service, 2020). At Red Bull, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest recent well is a 2019 New Mexico Office of the State Engineer (NM OSE) well located 1 mile northeast of the site. Data for that well shows a depth to groundwater of 320 feet below ground surface (bgs). A second NM OSE well, located approximately 3.6 miles west of the site, shows a depth to groundwater of 475 feet bgs (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet (Attachment 3) was completed to determine if the release is 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 Red Bull is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC. As the nearest groundwater well is farther than a ½-mile from the release site, the depth to groundwater at Red Bull cannot be accurately determined and the closure criteria for the site are determined to be associated with the following constituent concentration limits.

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

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

Remedial Actions

Spill inspection, site characterization and remediation activities at Red Bull were completed by Vertex on March 16, 2020. The Daily Field Reports (DFRs) and field screening data associated with the site visits are included in Attachment 4. Using initial soil sampling laboratory data as presented in Table 2 (Attachment 5), the release was delineated as presented on Figure 1 (Attachment 2). The impacted area was determined to be approximately 153 feet long and 180 feet wide; the total affected area was determined to be 8,750 square feet.

Hand excavation of the contaminated soil from the tank battery and a surface scrape of the wellpad was conducted on March 16, 2020, with a Vertex representative on-site to conduct field screening to guide the excavation and determine the final horizontal and vertical extents of the excavation area as presented on Figure 2 (Attachment 2). On June 24, 2020, Vertex provided 48-hour notification of confirmatory sampling to NM OCD and the SLO (Attachment 6), as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC. On June 29, 2020, Vertex was on-site to conduct confirmatory sampling. A total of 43 five-point composite samples was collected 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 confirmatory samples were placed into laboratory-provided containers and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sampling analytical data are summarized in Table 3 (Attachment 5). Laboratory data reports and chain of custody forms are included in Attachment 7.

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

Closure Request

Vertex recommends no additional remediation action to address the release at Red Bull. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below NM OCD closure criteria for areas where depth to groundwater is less than 50 feet. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that this incident (NPAC0717753293) 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 February 23, 2007, release at Red Bull.

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 Incident Documentation
Attachment 2. Figures
Attachment 3. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
Attachment 4. Daily Field Report(s) with Photographs
Attachment 5. Characterization and Confirmatory Sampling Laboratory Data Tables
Attachment 6. Required 48-hr Notification of Confirmatory Sampling to Regulatory Agencies
Attachment 7. Laboratory Data Reports/Chain of Custody Forms

References

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

New Mexico Office of the State Engineer, 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

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

OCD Permitting

NPAC0717753293 2007 A SWS @ 30-025-36798

General Incident Information

Site Name:
Well: [30-025-36798] RED BULL 31 STATE #001
Facility:
Operator: [166111] DEVON ENERGY PRODUCTION CO.
Status: Closure Not Approved
Severity:
Type: Produced Water Release
Surface Owner:
District: Hobbs
County: Lea (25)

Incident Location: N-31-23S-35E 1300 FSL 2610 FWL
Lat/Long: 32.2574463,-103.4067612 NAD83
Directions:

Notes

Source of Referral: Industry Rep
Action / Escalation: Operator Handled - No Compliance Written

Resulted In Fire: ☐
Will or Has Reached Watercourse: ☐
Endangered Public Health: ☐
Property Or Environmental Damage: ☐

Contact Details

Contact Name:
Contact Title:

Event Dates

Date of Discovery: 02/23/2007
OCD Notified of Major Release: 02/26/2007
Extension Date: 11/15/2018
Cancelled Date:

Initial C-141 Received:
Characterization Report Received:
Characterization Report Approved:

Quick Links
- General Incident Information
- Materials
- Events
- Orders

Associated Images
- Incident Files (0)
- Well Files (23)

New Searches
- New Facility Search
- New Incident Search
- New Operator Search
- New Pit Search
- New Spill Search
- New Tank Search
- New Well Search

Cause	Source	Material	Volume				Units
			Unk.	Spilled	Recovered	Lost	
Corrosion	Separator	Produced Water	☐	4	0	4	BBL

Incident Events

Date	Detail
06/26/2007	corrosion in firetube on heater treater

Orders

No Orders Found

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0717753293
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?	< 50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0717753293
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: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 1/12/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0717753293
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.***

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

[X] Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

[X] Description of remediation activities

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

Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 1/12/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

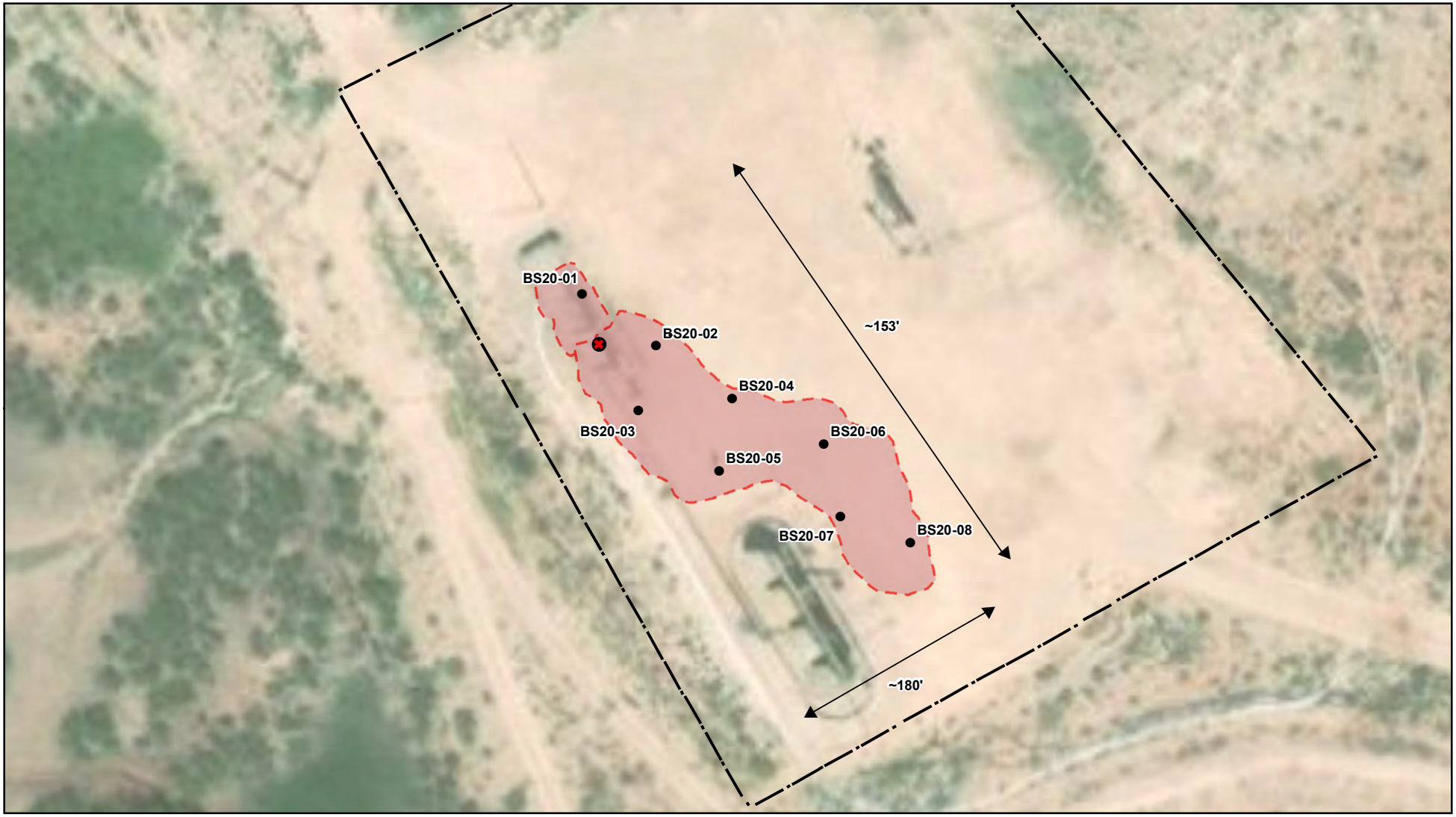
Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 2



Base Sample

Point of Release

Spill Area (~8,750 sq ft)

Approximate Lease Boundary

VERTEX

0 25 50 Feet

Map Center:
Lat/Long: 32.257205, -103.407048

NAD 1983 UTM Zone 13N
Date: Mar 23/20

N

Site Schematic and Characterization Sampling Locations
Red Bull 31 State #001

FIGURE:
1

devon

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

Note: Imagery from ESRI, 2018.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\012 - Red Bull 31 State 1\Fig 2 Red Bull 31 State 1 Confirmatory Schematic.mxd

● Base Sample (Prefixed by "BS20-")

▲ Wall Sample (Prefixed by "WS20-)

Approximate Excavation Boundary (~8,750 sq.ft.)

Approximate Lease Boundary

VERTEX

0 15 30 ft.

Map Center:
Lat/Long: 32.257177, -103.407076

NAD 1983 UTM Zone 13N
Date: Jun 30/20

N

Confirmatory Sampling Locations
Red Bull 31 State #001

FIGURE:
2

devon

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

Note: Imagery from ESRI, 2018.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\012 - Red Bull 31 State 1\Fig 2 Red Bull 31 State 1 Confirmatory Schematic 30June2020.mxd

ATTACHMENT 3

Closure Criteria Worksheet			
Site Name: Red Bull 31 State 1			
Spill Coordinates:		X: 32.2574463	Y: -103.4067612
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**329**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	175,244	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	24,763	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	19,879	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	4,612	feet
	ii) Within 1000 feet of any fresh water well or spring	4,612	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	544	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	undetermined	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>100'	<50' 51-100' >100'

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00614 POD2	CP	LE	4	3	3	29	23S	35E	651102	3571401	1667	440	320	120
CP 01099 POD2	CP	LE	1	1	1	28	23S	35E	652471	3572934	3721	750	120	630
CP 01100 POD2	CP	LE		2	1	28	23S	35E	652995	3572726	3935	750	125	625
C 02387	CUB	LE			1	11	24S	34E	646513	3567613*	4337	62	40	22
CP 00580	CP	LE	3	4	3	23	23S	34E	646524	3572948*	4561	220		
CP 00366 POD1	CP	LE	4	1	1	10	24S	35E	654447	3567834*	4916	1250		
CP 01513 POD1	CP	LE	3	3	1	10	24S	35E	654184	3567350	4935	186		

Average Depth to Water: **151 feet**

Minimum Depth: **40 feet**

Maximum Depth: **320 feet**

Record Count: 7

UTMNAD83 Radius Search (in meters):

Easting (X): 650076.31 **Northing (Y):** 3570086 **Radius:** 5000

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

Red Bull 31 State 1

6/24/2020, 4:35:55 PM

OSE District Boundary

GIS WATERS PODs

- Active
- Pending

Conveyances

- Acequia
- Acequia Tunnel
- Canal
- Channel
- Closed Drain
- Community Ditch
- Connector
- Culvert
- Ditch
- Diversion Weir
- Drain
- Feeder
- Interior Drain
- Lateral
- Pipe
- Wasteway
- Other
- Unknown

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user

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
221BF	CP 00614 POD2	4	3	3	29	23S	35E	651102	3571401

Driller License: 1706 **Driller Company:** ELITE DRILLERS CORPORATION

Driller Name: WALLACE, BRYCE J.LEE.NER

Drill Start Date:	11/20/2018	**Drill Finish Date:**	11/23/2018	**Plug Date:**	
Log File Date:	03/01/2019	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	35 GPM
Casing Size:	7.60	**Depth Well:**	440 feet	**Depth Water:**	320 feet

Water Bearing Stratifications:	Top	Bottom	Description
	250	360	Sandstone/Gravel/Conglomerate
	360	390	Sandstone/Gravel/Conglomerate
	390	420	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	300	440

Red Bull 31 State 1-0475

6/24/2020, 4:43:01 PM

1:36,112

0 0.38 0.75 1.5 mi

0 0.5 1 2 km

OSE District Boundary

GIS WATERS PODs
- Active
- Pending
- Plugged

Incomplete

Conveyances
- Acequia
- Acequia Tunnel

Canal
Channel
Closed Drain
Community Ditch

Connector
Culvert
Ditch
Diversion Weir

Drain
Feeder
Interior Drain
Lateral

Pipe
Wasteway
Other
Unknown

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user

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	Twn	Rng	X	Y
	C 02386	4	1	2	04	24S	34E	643962	3569290*

Driller License: **Driller Company:**

Driller Name: SHELL OIL

Drill Start Date:		**Drill Finish Date:**	01/31/1960	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	30 GPM
Casing Size:	5.00	**Depth Well:**	575 feet	**Depth Water:**	475 feet

Meter Number:	17869	**Meter Make:**	NEPTUNE
Meter Serial Number:	70241623	**Meter Multiplier:**	100.0000
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
12/01/2018	2018	206390	A	RPT		0	

**YTD Meter Amounts:	Year	Amount
	2018	0

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

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
221BF	CP 00614 POD2	4	3	3	29	23S	35E	651102	3571401

Driller License: 1706 **Driller Company:** ELITE DRILLERS CORPORATION

Driller Name: WALLACE, BRYCE J.LEE.NER

Drill Start Date: 11/20/2018 **Drill Finish Date:** 11/23/2018 **Plug Date:**

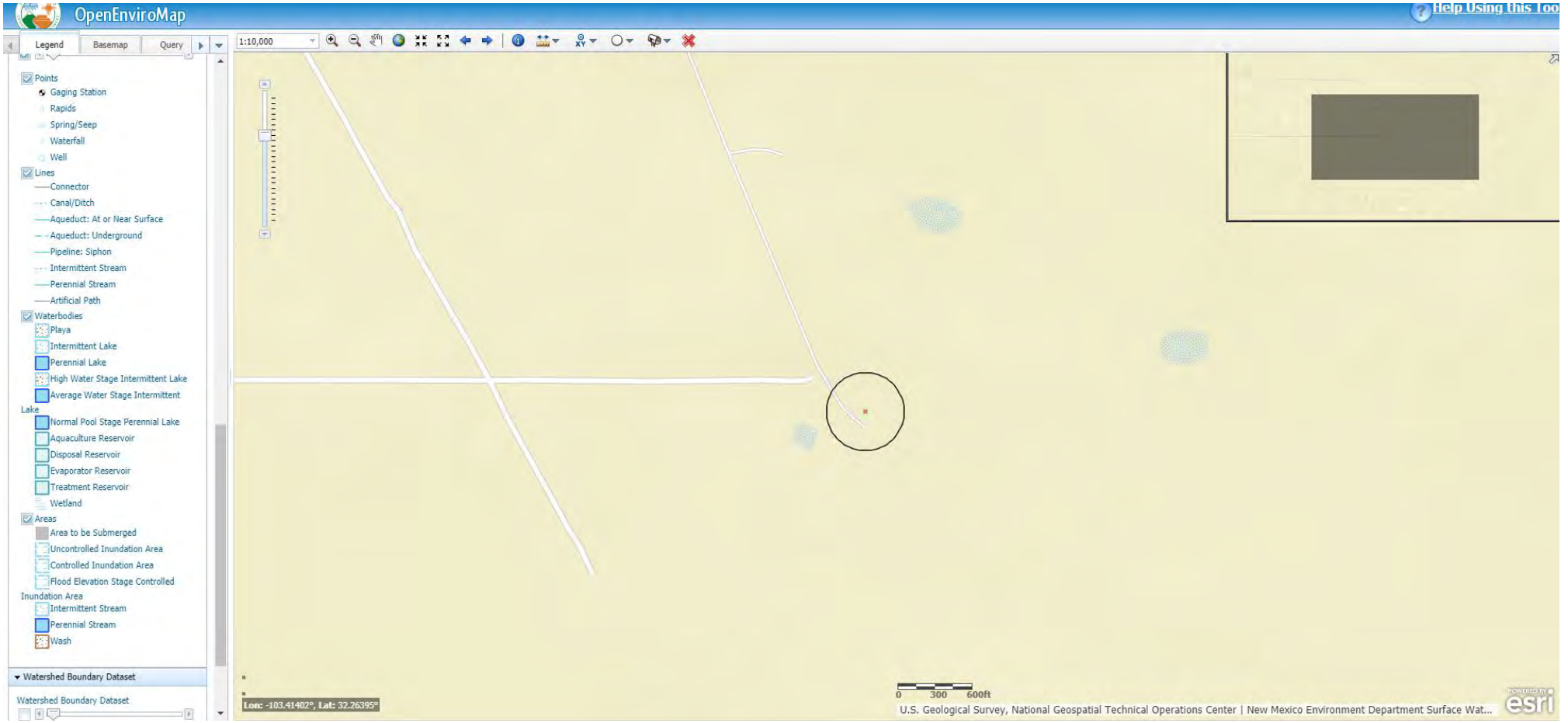
Log File Date: 03/01/2019 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 35 GPM

Casing Size: 7.60 **Depth Well:** 440 feet **Depth Water:** 320 feet

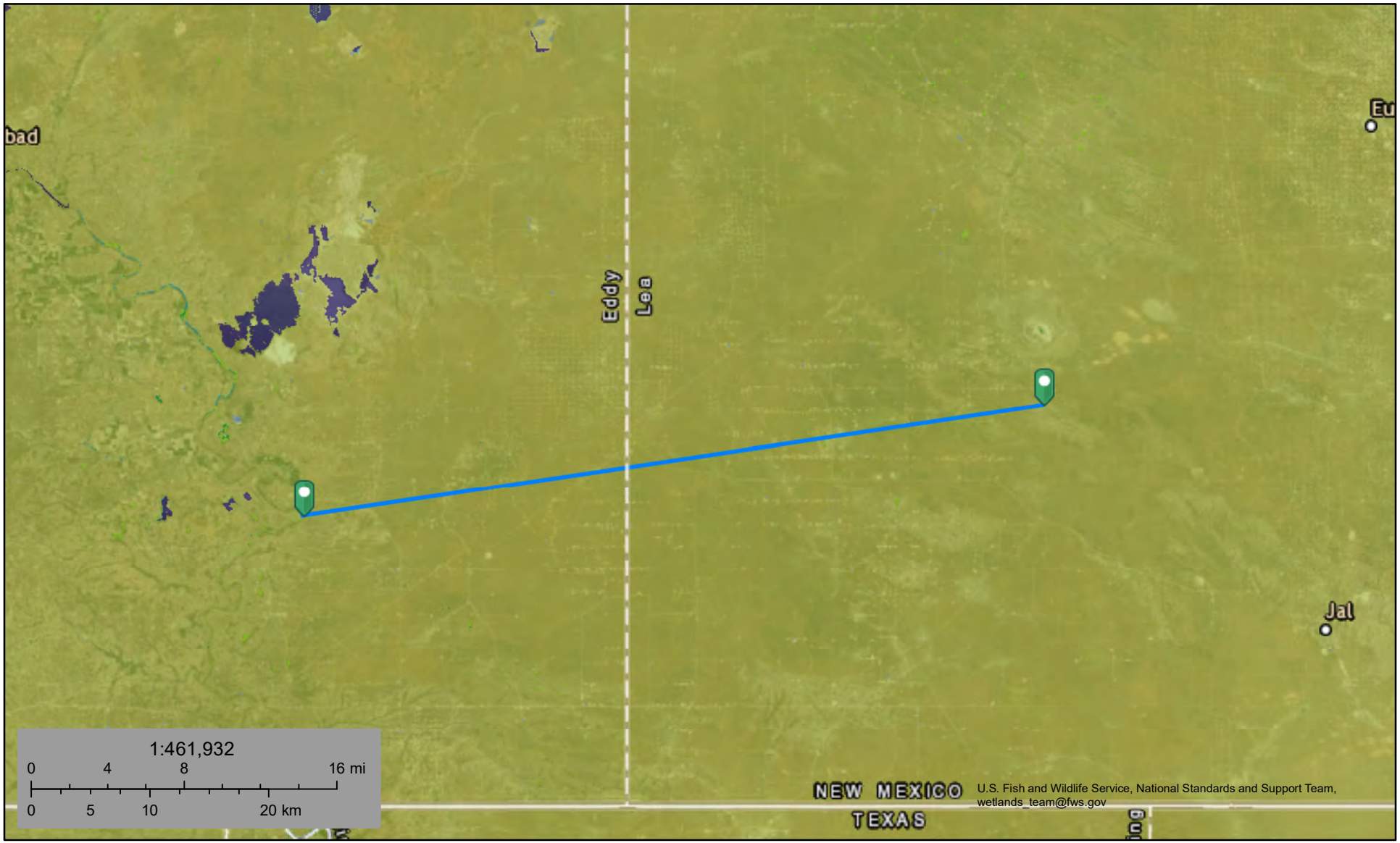
Water Bearing Stratifications:	Top	Bottom	Description
	250	360	Sandstone/Gravel/Conglomerate
	360	390	Sandstone/Gravel/Conglomerate
	390	420	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	300	440


OpenEnviroMap
Help Using this Too
Legend
Basemap
Query
1:10,000
Points
Gaging Station
Rapids
Spring/Seep
Waterfall
Well
Lines
Connector
Canal/Ditch
Aqueduct: At or Near Surface
Aqueduct: Underground
Pipeline: Siphon
Intermittent Stream
Perennial Stream
Artificial Path
Waterbodies
Playa
Intermittent Lake
Perennial Lake
High Water Stage Intermittent Lake
Average Water Stage Intermittent Lake
Normal Pool Stage Perennial Lake
Aquaculture Reservoir
Disposal Reservoir
Evaporator Reservoir
Treatment Reservoir
Wetland
Areas
Area to be Submerged
Uncontrolled Inundation Area
Controlled Inundation Area
Flood Elevation Stage Controlled Inundation Area
Intermittent Stream
Perennial Stream
Wash
Watershed Boundary Dataset
Watershed Boundary Dataset
Lon: -103.41402°, Lat: 32.26395°
0 300 600ft
U.S. Geological Survey, National Geospatial Technical Operations Center | New Mexico Environment Department Surface Wat...
esri

U.S. Fish and Wildlife Service
National Wetlands Inventory

Red Bull 31 Watercourse 175,244 ft



January 30, 2020

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

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

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Red Bull 31 Lake 24,763 ft.

January 30, 2020

Wetlands

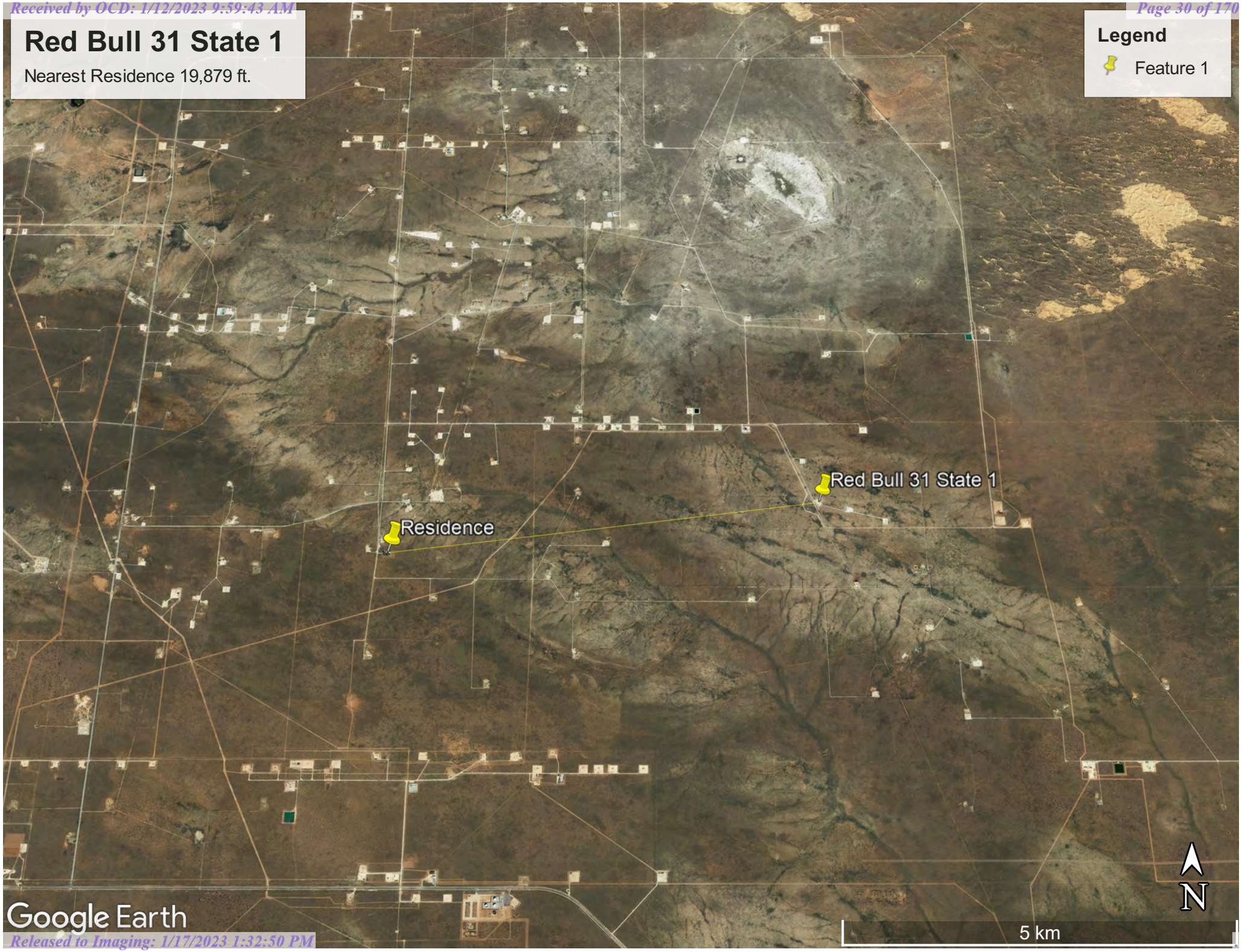
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

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

Red Bull 31 State 1

Nearest Residence 19,879 ft.



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y	Distance
CP 01197	CP	COM	150	GENERAL COUNSEL OFFICE	LE	CP 01197 POD1					1 3	06	24S	35E	649528	3568790	1406
CP 00614	CP	COM	80	LIMESTONE BASIN PROPERTIES	LE	CP 00614 POD1				Shallow	4 3 3	29	23S	35E	651091	3571382	1646
					LE	CP 00614 POD2	221BF			Shallow	4 3 3	29	23S	35E	651102	3571401	1667
CP 01708	CP	EXP	0	LIMESTONE LIVESTOCK LLC	LE	CP 01708 POD1	NA				2 1	36	23S	34E	648262	3571205	2130
CP 01709	CP	COM	200	LIMESTONE BASIN PROPERTIES	LE	CP 01708 POD1	NA				2 1	36	23S	34E	648262	3571205	2130
CP 00433	CP	AGR	0	LBM CATTLE COMPANY, INC.	LE	CP 00433 POD2					1 1	28	23S	35E	652662	3572736*	3702
CP 01099	CP	COM	80	LIMESTONE BASIN PROPERTIES	LE	CP 01099 POD1					1 1 1	28	23S	35E	652466	3572927	3713
					LE	CP 01099 POD2	221C0			Shallow	1 1 1	28	23S	35E	652471	3572934	3721
CP 01100	CP	COM	80	LIMESTONE BASIN PROPERTIES	LE	CP 01100 POD2	221C1			Artesian	2 1	28	23S	35E	652995	3572726	3935
					LE	CP 01100 POD1					2 1	28	23S	35E	653042	3572739	3979
CP 00433	CP	AGR	0	LBM CATTLE COMPANY, INC.	LE	CP 00433 POD1					2 1	28	23S	35E	653065	3572743*	3998
C 02387	CUB	STK	3	QUAIL RANCH LLC GENERAL COUNSEL OFFICE	LE	C 02387					1	11	24S	34E	646513	3567613*	4337
CP 00580	CP	PRO	0	NATOMAS NORTH AMERICA INC	LE	CP 00580				Shallow	3 4 3	23	23S	34E	646524	3572948*	4561
CP 00366	CP	COM	2.5	JOHN E. POST	LE	CP 00366 POD1					4 1 1	10	24S	35E	654447	3567834*	4916
CP 01628	CP	PLS	3.1	JOHN E. POST	LE	CP 00366 POD1					4 1 1	10	24S	35E	654447	3567834*	4916
CP 01513	CP	STK	3	JAL PUBLIC LIBRARY FUND	LE	CP 01513 POD1				Shallow	3 3 1	10	24S	35E	654184	3567350	4935
CP 00365	CP	PLS	3	JOHN E. POST	LE	CP 00365 POD1					3 3 1	10	24S	35E	654253	3567431*	4949

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

Record Count: 17

UTMNAD83 Radius Search (in meters):

Easting (X): 650076.31 **Northing (Y):** 3570086 **Radius:** 5000

Sorted by: Distance

U.S. Fish and Wildlife Service
National Wetlands Inventory

Red Bull 31 Wetland 544 ft.

January 30, 2020

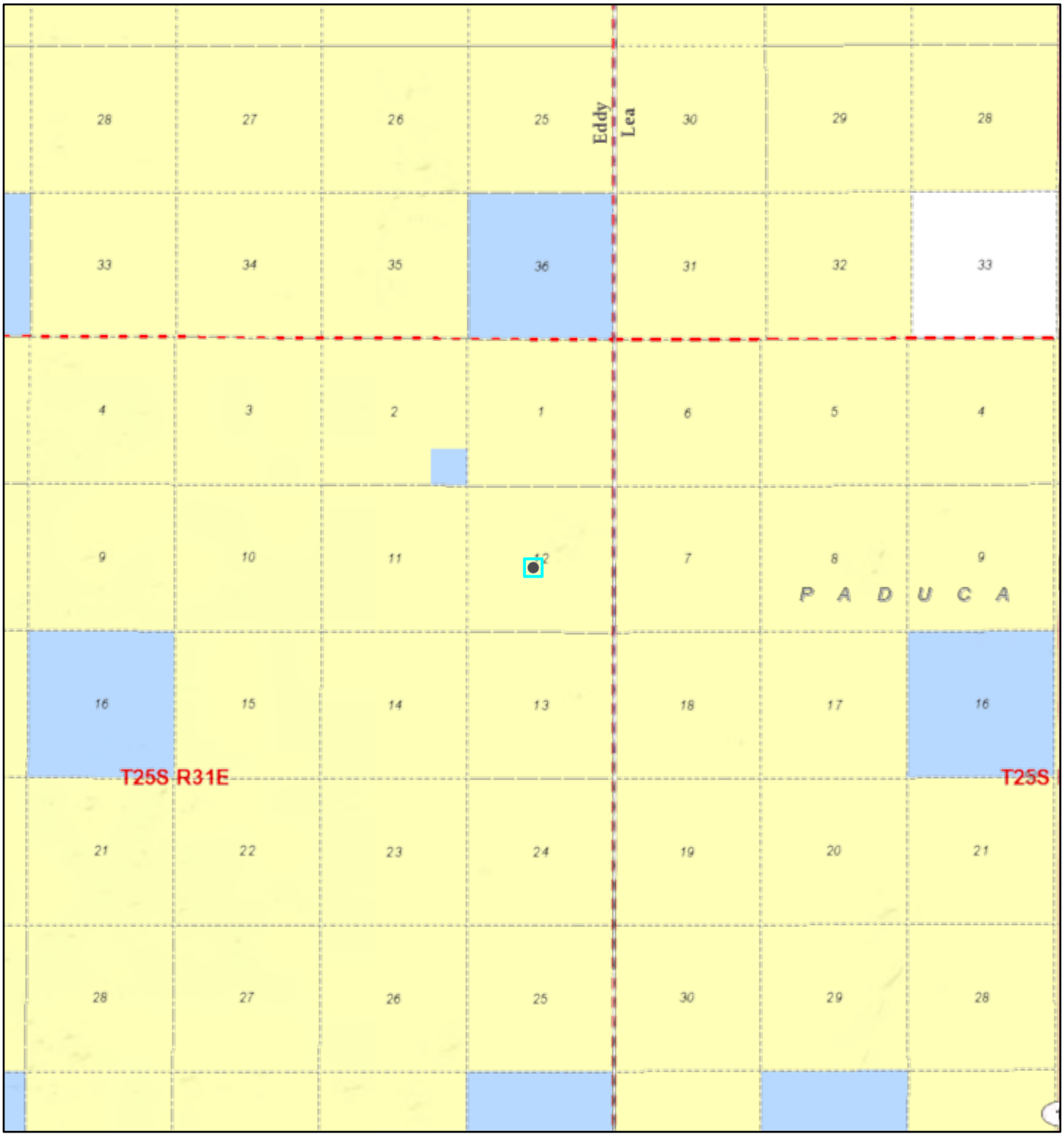
Wetlands

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

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

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

Active Mines in New Mexico



2/5/2020, 12:06:43 PM

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

Registered Mines

Aggregate, Stone etc.

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

EMNRD MMD GIS Coordinator
NM Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795)

National Flood Hazard Layer FIRMette

FEMA

32°15'42.02"N

103°24'43.07"W

103°24'5.61"W

32°15'11.59"N

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

1:6,000

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/30/2020 at 10:59:14 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Lea County, New Mexico

January 30, 2020

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 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
KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	4.3	100.0%
Totals for Area of Interest		**4.3**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Lea County, New Mexico

KO—Kimbrough gravelly loam, dry, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tw43
Elevation: 2,500 to 4,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Kimbrough, dry, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimbrough, Dry

Setting

Landform: Plains, playa rims
Down-slope shape: Linear, convex
Across-slope shape: Linear, concave
Parent material: Loamy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 3 inches: gravelly loam
Bw - 3 to 10 inches: loam
Bkkm1 - 10 to 16 inches: cemented material
Bkkm2 - 16 to 80 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 4 to 18 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 95 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: Very Shallow 12-17" PZ (R077DY049TX)
Hydric soil rating: No

Minor Components

Eunice

Percent of map unit: 10 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Very Shallow 12-17" PZ (R077DY049TX)
Hydric soil rating: No

Spraberry

Percent of map unit: 6 percent
Landform: Plains, playa rims
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: Very Shallow 12-17" PZ (R077DY049TX)
Hydric soil rating: No

Kenhill

Percent of map unit: 4 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Clay Loam 12-17" PZ (R077DY038TX)
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company	**Contact** Randy Gladden, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	**Telephone No.** 575.513.9463
Facility Name Red Bull 31 State 1	**Facility Type** Gas Well

Surface Owner State	**Mineral Owner** State	**API No** 30-025-36798

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	31	23S	35E	1300	FSL	2610	FWL	Lea

Latitude: 32.2574463 **Longitude:** -103.4067612

NATURE OF RELEASE

Type of Release Produced Water (PW) & Oil	**Volume of Release** 36BBLS PW, 22.7BBLS Oil	**Volume Recovered** 36BBLS. 22.7BBLS & 2.3BBLS Rainwater
Source of Release Burner gasket	**Date and Hour of Occurrence** 1/15/2017 @ 8:25AM	**Date and Hour of Discovery** 1/15/2017 @8:25AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** BLM-Shelly Tucker OCD-Olivia Yu	
By Whom? Rebecca Jamison, Assistant Foreman	**Date and Hour** BLM-1/16/2017@1048AM OCD-1/16/2017@10:39AM	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse** N/A	

RECEIVED
By Olivia Yu at 12:08 pm, Feb 07, 2017

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

Describe Cause of Problem and Remedial Action Taken.*
The gasket from the fire tubing failed causing the fluid to spill out on location. The wellhead and the heater treater were both shut in and the flowline was isolated to prevent further release. Repairs were made.

Describe Area Affected and Cleanup Action Taken.*
Approximately 36BBLS PW and 22BBLS Oil was released from the heater gasket failure. The release flowed in a southeastern direction. The size of the total affected area was approximately 50ft by 150ft. Approximately 36BBLS produced water, 22.7BBLS Oil and 2.3BBLS Rainwater were recovered. An 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.

Signature: Dana DeLaRosa	OIL CONSERVATION DIVISION
Printed Name: Dana DeLaRosa	Approved by Environmental Specialist:
Title: **Field Admin Support**	Approval Date: 2/7/2017 Expiration Date:
E-mail Address: **dana.delarosa@dvn.com**	Conditions of Approval: see attached directive Attached ☑
Date: 1/24/2017 Phone: **575.746.5594**	

* Attach Additional Sheets If Necessary

1RP-4584 nOY1703843861 pOY1703844234

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _1/24/2017_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number __1R-_4584_ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _3/7/2017_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

ATTACHMENT 4

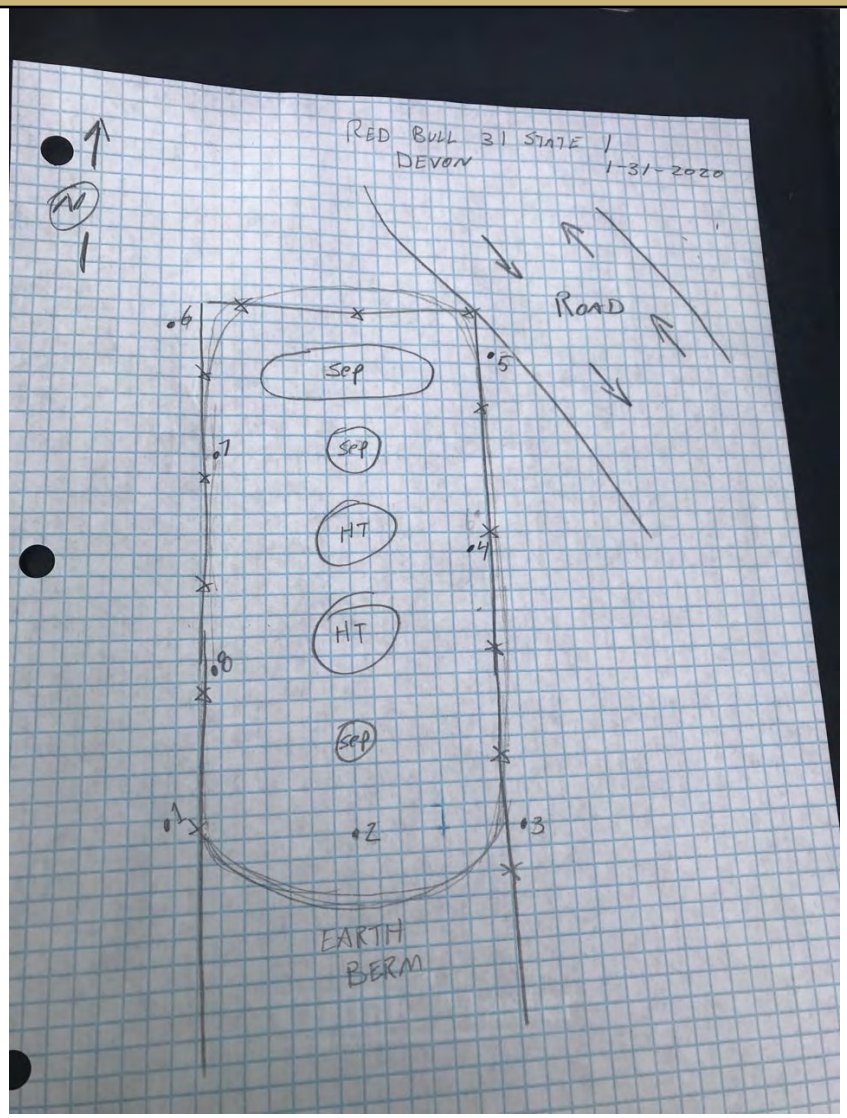
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	1/31/2020
Site Location Name:	Red Bull 31 State 1 Battery	Report Run Date:	2/1/2020 11:59 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-025-36798
Client Contact Name:	Amanda Davis	Reference	Spill 1RP-4584
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	1/31/2020 7:15 AM
Arrived at Site	1/31/2020 8:45 AM
Departed Site	1/31/2020 4:19 PM
Returned to Office	1/31/2020 5:45 PM

Daily Site Visit Report

Site Sketch



Daily Site Visit Report

Summary of Daily Operations

9:57 Arrive on site.
Complete safety paperwork.
Create characterization plan.
Field screen.
Complete DFR.
Return to office.

Next Steps & Recommendations

1 Send characterization samples for lab analysis.

2 Create remediation plan.

3 Remediate to closure criteria

Sampling

Background20-01

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.				18.23 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257914, -103.405465	Yes
1 ft.				39.88 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257914, -103.405465	Yes
2 ft.				81.73 ppm		✓	32.257914, -103.405465	Yes

Daily Site Visit Report

BH20-01

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	1014 ppm		4368.3 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257183, -103.407222	Yes
1 ft.				553.7 ppm		✓	32.257183, -103.407222	
1.5 ft.				582.5 ppm		✓	32.257183, -103.407222	

BH20-02

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.				1438.4 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257183, -103.407151	Yes
0.5 ft.				871.2 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257183, -103.407151	
1.5 ft.				810.6 ppm		✓	32.257183, -103.407151	

Daily Site Visit Report

BH20-03

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.				1092 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257213, -103.407116	Yes
0.5 ft.				464.2 ppm		✓	32.257213, -103.407116	
1 ft.				311.2 ppm		✓	32.257213, -103.407116	
1.5 ft.				308.3 ppm		✓	32.257213, -103.407116	

BH20-04

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm			6003.6 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257332, -103.407192	Yes
0.5 ft.				1552.4 ppm		✓	32.257332, -103.407192	
1 ft.				685 ppm		✓	32.257332, -103.407192	

Daily Site Visit Report

1.5 ft.				817.8 ppm		✓	32.257332, -103.407192	

BH20-05

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm			3160.3 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257467, -103.407267	Yes
0.5 ft.				1877.2 ppm		✓	32.257467, -103.407267	

BH20-06

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm			1470 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257395, -103.407418	Yes
0.5 ft.				416.6 ppm		✓	32.257395, -103.407418	
1 ft.				618.6 ppm		✓	32.257395, -103.407418	

Daily Site Visit Report

BH20-07

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	205 ppm		444 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257275, -103.407337	Yes
0.5 ft.				162.5 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257275, -103.407337	
1 ft.				334.3 ppm		✓	32.257275, -103.407337	
2 ft.				1090.6 ppm		✓	32.257275, -103.407337	

BH20-08

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	816 ppm		3444.6 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.257205, -103.407279	Yes
0.5 ft.				810.6 ppm		✓	32.257205, -103.407279	
1 ft.				754.3 ppm		✓	32.257205, -103.407279	

Daily Site Visit Report

2 ft.				804.8 ppm		✓	32.257205, -103.407279	

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: North
	
Spill area	Spill area
Viewing Direction: North	**Viewing Direction**: South
	
Spill area on east side	Spill area on east side

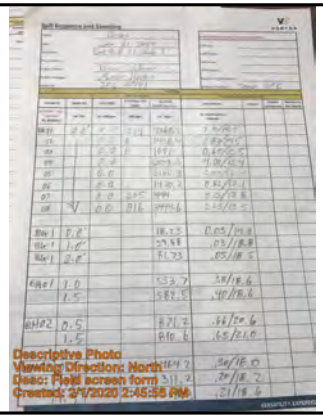
Daily Site Visit Report

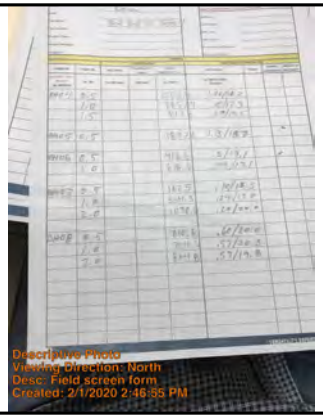
Viewing Direction: South	**Viewing Direction**: South
	
Spill area	Spill area
Viewing Direction: Southeast	**Viewing Direction**: East
	
Spill area	Production area

Daily Site Visit Report

Viewing Direction: Northeast

Production area

Viewing Direction: North

Field screen form

Viewing Direction: North

Field screen form

Daily Site Visit Report

Depth Sample Photos

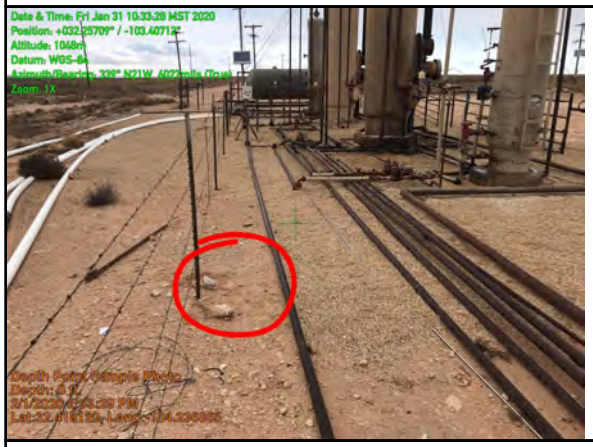
Sample Point ID: Background20-01

Depth: 0 ft.

Sample Point ID: Background20-01

Depth: 1 ft.

Sample Point ID: BH20-01



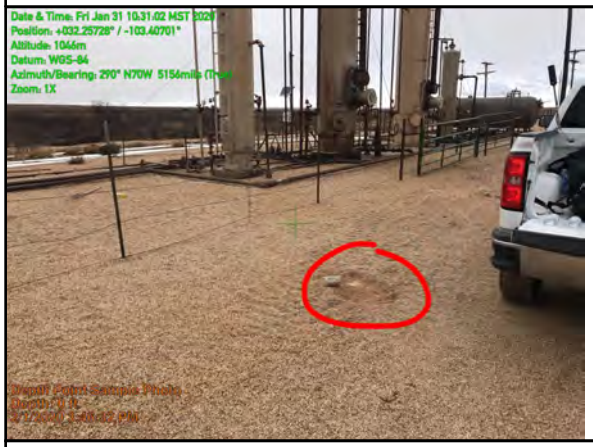
Depth: 0 ft.

Sample Point ID: BH20-02

Depth: 0 ft.

Daily Site Visit Report

Sample Point ID: BH20-03



Depth: 0 ft.

Sample Point ID: BH20-04

Depth: 0 ft.

Sample Point ID: BH20-05

Depth: 0 ft.

Sample Point ID: BH20-06

Depth: 0 ft.

Daily Site Visit Report

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

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Austin Harris

Signature: 

Signature

VERTEX

Client Name	Devon	Borehole Location		Start Date	2-15-2020	Logged by	Jason Crabtree	Northing	
Project Number	20E-00141	Borehole No.	BH20-09	End Date	2-15-2020	Checked by		Easting	
Project Name	Red Bull 31 State 1	Borehole Diameter (in)	6 in	Drilling Company	Vertex	Top of Well Elevation (m or ft)		UTM Zone	
Project Location		Total Depth (m or ft)	Surface	Drilling Method	Hand Auger	Depth to Water (m or ft)		Page of	

Top (m or ft)	Bottom (m or ft)	% Major (>50%) Fine	% Major (>50%) Coarse	% Minor (10-40%) Fine	% Minor (10-40%) Coarse	% Trace (<10%) Fine	% Trace (<10%) Coarse	Gradation (Major and Coarse only)	Grain Size Major	Grain Size Minor	Moisture	Plasticity	Color	Notes
0	0.1	Clay Silt	Sand **Gravel**	Clay Silt	**Sand** Gravel	Clay Silt	Sand Gravel	**Poorly Graded** Well Graded	Fine Medium **Coarse**	Fine **Medium** Coarse	**Dry** Damp Moist Wet Saturated	**Non Plastic** Slightly Plastic Plastic Very Plastic	light brown	
Top	Bottom	Clay Silt	Sand Gravel	Clay Silt	Sand Gravel	Clay Silt	Sand Gravel	Poorly Graded Well Graded	Fine Medium Coarse	Fine Medium Coarse	Dry Damp Moist Wet Saturated	Non Plastic Slightly Plastic Plastic Very Plastic		
Top	Bottom	Clay Silt	Sand Gravel	Clay Silt	Sand Gravel	Clay Silt	Sand Gravel	Poorly Graded Well Graded	Fine Medium Coarse	Fine Medium Coarse	Dry Damp Moist Wet Saturated	Non Plastic Slightly Plastic Plastic Very Plastic		
Top	Bottom	Clay Silt	Sand Gravel	Clay Silt	Sand Gravel	Clay Silt	Sand Gravel	Poorly Graded Well Graded	Fine Medium Coarse	Fine Medium Coarse	Dry Damp Moist Wet Saturated	Non Plastic Slightly Plastic Plastic Very Plastic		
Top	Bottom	Clay Silt	Sand Gravel	Clay Silt	Sand Gravel	Clay Silt	Sand Gravel	Poorly Graded Well Graded	Fine Medium Coarse	Fine Medium Coarse	Dry Damp Moist Wet Saturated	Non Plastic Slightly Plastic Plastic Very Plastic		

Field Screening

Depth (m or ft)																	
VC/VOC (ppm or LEL)																	
EC (µS/m or µS/cm)																	
Lab Sampling (Check Box)																	

VERTEX

Client Name: Devon	Borehole Location:	Start Date: 2-15-2020	Logged by: Jason Crabtree	Northing:
Project Number: 20E-00141	Borehole No.: RH20-10	End Date: 2-15-2020	Checked by:	Easting:
Project Name: Red Bull 31 State 1	Borehole Diameter (in): 6 in	Drilling Company: Vertex	Top of Well Elevation (m or ft):	UTM Zone:
Project Location:	Total Depth (m or ft): 0.5 ft	Drilling Method: Hand Auger	Depth to Water (m or ft):	Page of

Top (m or ft)	Bottom (m or ft)	% Major (>50%) Fine	% Major (>50%) Coarse	% Minor (10-40%) Fine	% Minor (10-40%) Coarse	% Trace (<10%) Fine	% Trace (<10%) Coarse	Gradation (Major and Coarse only)	Grain Size Major	Grain Size Minor	Moisture	Plasticity	Color	Notes
0.	0.1	Clay / Silt	Sand / **Gravel** (circled)	Clay / Silt	**Sand** (circled) / Gravel	Clay / Silt	Sand / Gravel	**Poorly Graded** (circled) / Well Graded	Fine / **Medium** (circled) / Coarse	Fine / **Medium** (circled) / Coarse	**Dry** (circled) / Damp / Moist / Wet / Saturated	**Non Plastic** (circled) / Slightly Plastic / Plastic / Very Plastic	dark brown	
0.50	0.51	Clay / Silt	**Sand** (circled) / Gravel	**Clay** (circled) / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	**Poorly Graded** (circled) / Well Graded	Fine / **Medium** (circled) / Coarse	Fine / **Medium** (circled) / Coarse	Dry / **Damp** (circled) / Moist / Wet / Saturated	Non Plastic / **Slightly Plastic** (circled) / Plastic / Very Plastic	light brown	
		Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Poorly Graded / Well Graded	Fine / Medium / Coarse	Fine / Medium / Coarse	Dry / Damp / Moist / Wet / Saturated	Non Plastic / Slightly Plastic / Plastic / Very Plastic		
		Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Poorly Graded / Well Graded	Fine / Medium / Coarse	Fine / Medium / Coarse	Dry / Damp / Moist / Wet / Saturated	Non Plastic / Slightly Plastic / Plastic / Very Plastic		
		Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Poorly Graded / Well Graded	Fine / Medium / Coarse	Fine / Medium / Coarse	Dry / Damp / Moist / Wet / Saturated	Non Plastic / Slightly Plastic / Plastic / Very Plastic		

Field Screening

Depth (m or ft)																	
VC/VOC (ppm or LEL)																	
EC (µS/m or µS/cm)																	
Lab Sampling (Check Box)																	

VERTEX

Client Name: Devon	Borehole Location		Start Date: 2-15-2020	Logged by: Jason Crabtree	Northing
Project Number: 20E-00141	Borehole No.: RH20-11		End Date: 2-15-2020	Checked by	Easting
Project Name: Red Bull 31 State 1	Borehole Diameter (in): 6 in		Drilling Company: Vertex	Top of Well Elevation (m or ft)	UTM Zone
Project Location	Total Depth (m or ft): 1 foot		Drilling Method: Hand Auger	Depth to Water (m or ft)	Page of

Top (m or ft)	Bottom (m or ft)	% Major (>50%)		% Minor (10-40%)		% Trace (<10%)		Gradation	Grain Size		Moisture	Plasticity	Color	Notes
		Fine	Coarse	Fine	Coarse	Fine	Coarse	(Major and Coarse only)	Major	Minor				
0	0.1	Clay / Silt	**Sand** / Gravel	**Clay** / Silt	Sand / Gravel	Clay / Silt	Sand / **Gravel**	**Poorly Graded** / Well Graded	Fine / **Medium** / Coarse	Fine / **Medium** / Coarse	**Dry** / Damp / Moist / Wet / Saturated	**Non Plastic** / Slightly Plastic / Plastic / Very Plastic	brown	
Top	Bottom													
0.50	0.51	Clay / Silt	**Sand** / Gravel	**Clay** / Silt	Sand / Gravel	Clay / Silt	Sand / **Gravel**	**Poorly Graded** / Well Graded	Fine / **Medium** / Coarse	Fine / **Medium** / Coarse	Dry / **Damp** / Moist / Wet / Saturated	Non Plastic / **Slightly Plastic** / Plastic / Very Plastic	dark brown	
Top	Bottom													
1.0	1.1	Clay / Silt	**Sand** / Gravel	**Clay** / Silt	Sand / Gravel	Clay / Silt	Sand / **Gravel**	**Poorly Graded** / Well Graded	Fine / **Medium** / Coarse	Fine / **Medium** / Coarse	Dry / **Damp** / Moist / Wet / Saturated	Non Plastic / **Slightly Plastic** / Plastic / Very Plastic	dark brown	
Top	Bottom													
		Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Poorly Graded / Well Graded	Fine / Medium / Coarse	Fine / Medium / Coarse	Dry / Damp / Moist / Wet / Saturated	Non Plastic / Slightly Plastic / Plastic / Very Plastic		
Top	Bottom													
		Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Clay / Silt	Sand / Gravel	Poorly Graded / Well Graded	Fine / Medium / Coarse	Fine / Medium / Coarse	Dry / Damp / Moist / Wet / Saturated	Non Plastic / Slightly Plastic / Plastic / Very Plastic		

Field Screening																	
Depth (m or ft)																	
VC/VOC (ppm or LEL)																	
EC (µS/m or µS/cm)																	
Sampling (Check Box)																	

VERTEX

Spill Response and Sampling

Client:	Devon
Date:	2-15-2020
Site Name:	Red Bull 31 State 1
Site Location:	
Project Owner:	Jason Crabtree
Project Manager:	Natalie Gordon
Project #:	20E-00141

Initial Spill Information - Record on First Visit

Spill Date:	
Spill Volume:	
Spill Cause:	
Spill Product:	
Recovered Spill Volume:	
Recovery Method:	

Sampling

		Field Screening			Data Collection (Check for Yes)			
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	Quantab (High/Low) + or -	Lab Analysis	Picture	Trimble Coordinates	Marked on Site Sketch
SS/TP/BH - Year - Number Ex. BH18-01	Ex. 2ft	Ex. 400 ppm	200 ppm	Ex. High +	Ex. Hydrocarbon Chloride			
BH20-09	0'		435					
BH20-10	0'		EEEE					
—	6"		372					
BH20-11	0'		4380					
—	6"		2220					
—	1'		234					

Daily Site Visit Report

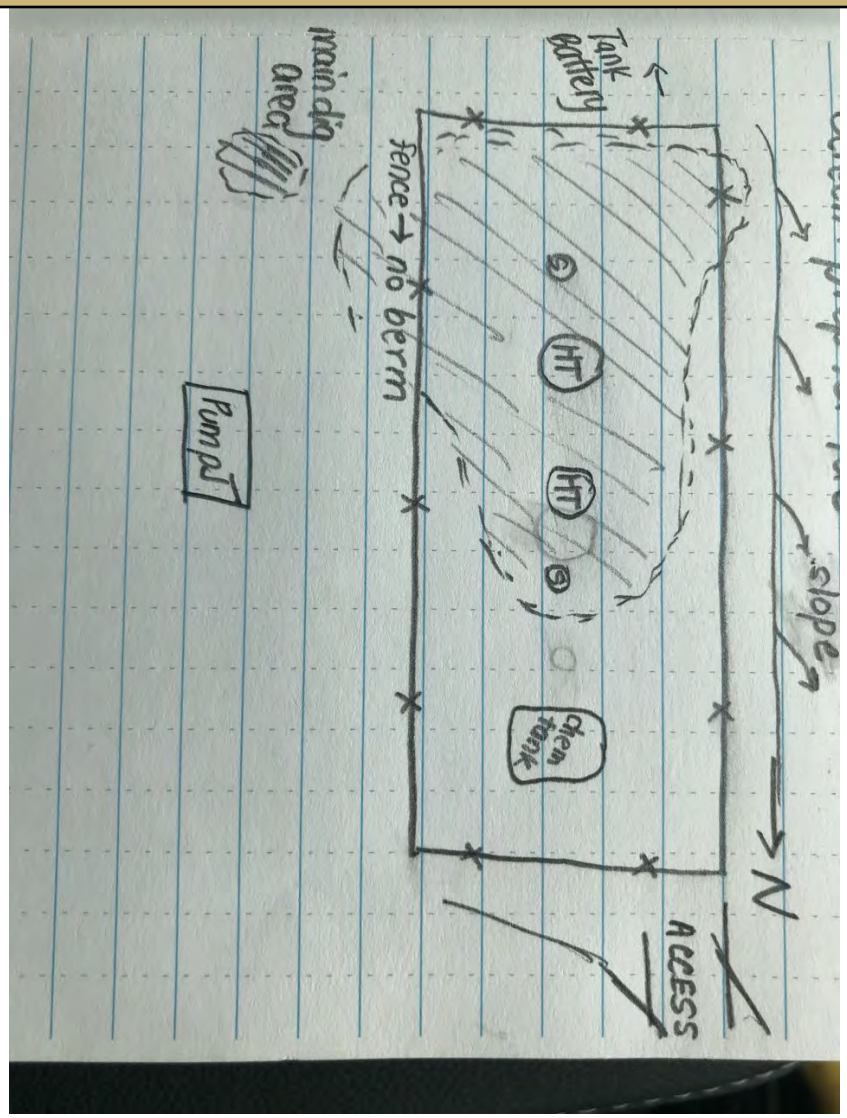
Client:	Devon Energy Corporation	Inspection Date:	3/16/2020
Site Location Name:	Red Bull 31 State 1 Battery	Report Run Date:	3/17/2020 9:04 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-025-36798
Client Contact Name:	Amanda Davis	Reference	Spill 1RP-4584
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	3/16/2020 10:00 AM
Arrived at Site	3/16/2020 11:30 AM
Departed Site	3/16/2020 4:31 PM
Returned to Office	3/16/2020 6:09 PM

Daily Site Visit Report

VERTEX

Site Sketch



Daily Site Visit Report

Summary of Daily Operations

11:43 Remediation. Hand digging around heater treater equipment with Wild West. Sampling.

Next Steps & Recommendations

1 Wait for lab results.

2 No backfill needed.

Sampling

ES-Base20-01

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
5 ft.	0.3 ppm	418 ppm			Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

ES-Base20-02

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
						✓	,	No
5 ft.	0.3 ppm	418 ppm			Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

Daily Site Visit Report

5 ft.	0.3 ppm	1128 ppm			Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

ES-Base20-03

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
25 ft.	1 ppm	1500 ppm			Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

ES-Base20-04

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
1 ft.	0 ppm	83 ppm			Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

ES-Base20-05

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
1 ft.	0.5 ppm	83 ppm			Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

Daily Site Visit Report

ES-Base20-06

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0.1 ppm	207 ppm			Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

ES-Base20-07

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0 ppm	522 ppm			Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

ES-Base20-08

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	0.7 ppm				Benzene (EPA SW-846 Method 8021B/8260B), BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	✓	,	No

Daily Site Visit Report

Site Photos

Viewing Direction: West

Excavated area within separator and heater treater containment.

Daily Site Visit Report

Depth Sample Photos

Sample Point ID: ES-Base20-02	**Sample Point ID**: ES-Base20-02
	
Depth:	**Depth:** 5 ft.
Sample Point ID: ES-Base20-02	**Sample Point ID**: ES-Base20-01
	
Depth: 5 ft.	**Depth:** 5 ft.

Daily Site Visit Report

Sample Point ID: ES-Base20-03	**Sample Point ID**: ES-Base20-06
	
Depth: 25 ft.	**Depth:** 0 ft.
Sample Point ID: ES-Base20-05	**Sample Point ID**: ES-Base20-04
	
Depth: 1 ft.	**Depth:** 1 ft.

Daily Site Visit Report

Sample Point ID: ES-Base20-07

Depth: 0 ft.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Natalie Gordon

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/29/2020
Site Location Name:	Red Bull 31 State 1 Battery	Report Run Date:	6/29/2020 8:46 PM
Client Contact Name:	Amanda Davis	API #:	30-025-36798
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Red Bull 31 State 1 Battery	Project Owner:	Wes Mathews
Project Reference #	20E-00239-012	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	6/29/2020 8:32 AM
Departed Site	6/29/2020 1:02 PM

Field Notes

12:37 No outside stains within excavation area. Soil has no odor

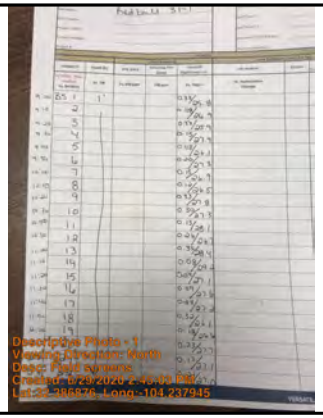
Next Steps & Recommendations

1 Send samples to lab for analysis

2 Start closure report

Daily Site Visit Report

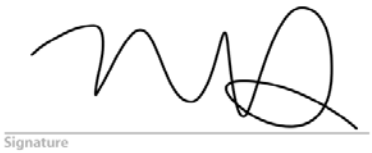
Site Photos

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

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature: 
Signature

ATTACHMENT 5

Client Name: Devon Energy Production Company
Site Name: Red Bull 31 State #001
NM OCD Incident Tracking Number: NPAC0717753293
Project #: 20E-00141-012
Lab Report: 2003807

Table 2. Characterization Sampling Laboratory Data - Depth to Groundwater < 50ft

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS 20-01	1	March 16, 2020	<0.025	<0.225	<5.0	610	420	610	**1,030**	460
BS 20-02	1	March 16, 2020	<0.024	<0.216	<4.8	220	530	220	**750**	99
BS 20-03	1	March 16, 2020	<0.025	<0.222	<4.9	<9.6	<48	<14.5	<62.5	330
BS 20-04	1	March 16, 2020	<0.023	<0.211	<4.7	<9.6	<48	<14.3	<62.3	81
BS 20-05	0.5	March 16, 2020	<0.024	<0.216	<4.8	66	63	66	**129**	460
BS 20-06	0.5	March 16, 2020	<0.023	<0.213	<4.6	<9.7	<48	<14.3	<62.3	280
BS 20-07	0.5	March 16, 2020	<0.023	<0.211	<4.7	460	1,100	460	**1,560**	140
BS 20-08	0.5	March 16, 2020	<0.024	<0.220	4.9	44	110	44	**154**	**1,800**

"-" - Not applicable/assessed

Bold and shaded indicates exceedance outside of applied action level

Client Name: Devon Energy Production Company
Site Name: Red Bull 31 State #001
NM OCD Incident Tracking Number: NPAC0717753293
Project #: 20E-00141-012
Lab Report: 2007006

Table 3. Confirmatory Sampling Laboratory Results - Depth to Groundwater < 50 ft

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS20-01	1	June 29, 2020	<0.025	<0.221	<4.9	<9.8	<49	<14.7	<63.7	330
BS20-02	1	June 29, 2020	<0.025	<0.225	<5.0	<9.5	<47	<14.5	<61.5	<60
BS20-03	1	June 29, 2020	<0.024	<0.220	<4.9	11	<48	11	11	330
BS20-04	1	June 29, 2020	<0.024	<0.220	<4.9	<9.7	<49	<14.6	<63.6	130
BS20-05	1	June 29, 2020	<0.025	<0.221	<4.9	<9.9	<49	<14.8	<63.8	<60
BS20-06	1	June 29, 2020	<0.025	<0.225	<5.0	<9.7	<48	<14.7	<62.7	130
BS20-07	1	June 29, 2020	<0.024	<0.219	<4.9	<9.4	<47	<14.3	<61.3	88
BS20-08	1	June 29, 2020	<0.025	<0.221	<4.9	<9.5	<47	<14.4	<61.4	<60
BS20-09	1	June 29, 2020	<0.024	<0.220	<4.9	16	55	16	71	180
BS20-10	1	June 29, 2020	<0.025	<0.224	<5.0	<9.2	<46	<14.2	<60.2	120
BS20-11	1	June 29, 2020	<0.025	<0.222	<4.9	<9.6	<48	<14.5	<62.5	96
BS20-12	1	June 29, 2020	<0.024	<0.219	<4.9	<10.0	<50	<14.9	<64.9	140
BS20-13	1	June 29, 2020	<0.024	<0.220	<4.9	<9.2	<46	<14.1	<60.1	250
BS20-14	1	June 29, 2020	<0.024	<0.219	<4.9	<9.8	<49	<14.7	<63.7	<60
BS20-15	1	June 29, 2020	<0.025	<0.225	<5.0	<9.6	<48	<14.6	<62.6	<60
BS20-16	1	June 29, 2020	<0.025	<0.225	<5.0	<9.5	<47	<14.5	<61.5	<60
BS20-17	1	June 29, 2020	<0.025	<0.224	<5.0	<9.1	<46	<14.1	<60.1	150
BS20-18	1	June 29, 2020	<0.025	<0.222	<4.9	<9.2	<46	<14.1	<60.1	220
BS20-19	1	June 29, 2020	<0.025	<0.225	<5.0	<9.5	<47	<14.5	<61.5	140
BS20-20	1	June 29, 2020	<0.025	<0.224	<5.0	<9.1	<46	<14.1	<60.1	170
BS20-21	1	June 29, 2020	<0.025	<0.224	<5.0	<9.0	<45	<14.0	<59.0	100
BS20-22	1	June 29, 2020	<0.024	<0.216	<4.8	<9.6	<48	<14.4	<62.4	140
WS20-01	0-1	June 29, 2020	<0.024	<0.215	<4.8	<9.9	<50	<14.7	<64.7	190
WS20-02	0-1	June 29, 2020	<0.023	<0.208	<4.6	<9.9	<49	<14.5	<63.5	160
WS20-03	0-1	June 29, 2020	<0.025	<0.221	<4.9	<9.3	<46	<14.2	<60.2	96
WS20-04	0-1	June 29, 2020	<0.024	<0.215	<4.8	<9.5	<48	<14.3	<62.3	270
WS20-05	0-1	June 29, 2020	<0.025	<0.221	<4.9	<10.0	<50	<14.9	<64.9	280
WS20-06	0-1	June 29, 2020	<0.023	<0.208	<4.6	<9.6	<48	<14.2	<62.2	150
WS20-07	0-1	June 29, 2020	<0.024	<0.212	<4.7	<9.9	<49	<14.6	<63.6	210
WS20-08	0-1	June 29, 2020	<0.023	<0.211	<4.7	<9.3	<47	<14.0	<61.0	250
WS20-09	0-1	June 29, 2020	<0.023	<0.210	<4.7	<9.6	<48	<14.3	<62.3	160
WS20-10	0-1	June 29, 2020	<0.024	<0.217	<4.8	<9.3	<47	<14.1	<61.1	270
WS20-11	0-1	June 29, 2020	<0.024	<0.216	<4.8	<9.6	<48	<14.4	<62.4	180
WS20-12	0-1	June 29, 2020	<0.025	<0.221	<4.9	<9.4	<47	<14.3	<61.3	80
WS20-13	0-1	June 29, 2020	<0.024	<0.216	<4.8	<9.2	<46	<14.0	<60.0	360
WS20-14	0-1	June 29, 2020	<0.024	<0.213	<4.7	<10.0	<50	<14.7	<64.7	190
WS20-15	0-1	June 29, 2020	<0.023	<0.208	<4.6	<9.7	<48	<14.3	<62.3	89
WS20-16	0-1	June 29, 2020	<0.024	<0.216	<4.8	<9.7	<49	<14.5	<63.5	210
WS20-17	0-1	June 29, 2020	<0.024	<0.215	<4.8	<9.4	<47	<14.2	<61.2	98
WS20-18	0-1	June 29, 2020	<0.024	<0.220	<4.9	<9.5	<47	<14.4	<61.4	230
WS20-19	0-1	June 29, 2020	<0.023	<0.211	<4.7	<9.7	<48	<14.4	<62.4	140
WS20-20	0-1	June 29, 2020	<0.024	<0.216	<4.8	<9.8	<49	<14.6	<63.6	220
WS20-21	0-1	June 29, 2020	<0.025	<0.221	<4.9	<9.3	<46	<14.2	<60.2	300

"-" - Not applicable/assessed

Bold and shaded indicates exceedance outside of applied action level

ATTACHMENT 6

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Wednesday, June 24, 2020 6:04 PM
To: Natalie Gordon
Subject: Fwd: Red Bull 31 State 1: 48-hr Notification of Confirmation Sampling (Devon Energy)

---------- Forwarded message ---------
From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Wed, Jun 24, 2020 at 6:02 PM
Subject: Red Bull 31 State 1: 48-hr Notification of Confirmation Sampling (Devon Energy)
To: Bratcher, Mike, EMNRD <Mike.Bratcher@state.nm.us>, EMNRD-OCD-District1spills <emnrd-ocd-district1spills@state.nm.us>, <ramona.marcus@state.nm.us>, <rmann@slo.state.nm.us>
Cc: <tom.bynum@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services Inc. has scheduled confirmation sampling to be conducted at Red Bull 31 State 1 for the following two incidents:

1. nOY1703843861 1RP-4584 DOR: January 15, 2017
2. DOR: 02/21/2019 --- 6 bbl release of oil and produced water into the heater treater earthen containment. No incident number known.

On Monday, June 29, 2020 at approximately 7:00 a.m., Monica Peppin of Vertex will be onsite to conduct confirmatory sampling. She can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 25, 2020

Amanda Davis

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

RE: Red Bull 31 State 1 OrderNo.: 2003807

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/18/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2003807**
Date Reported: **3/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2003807-001 **Matrix:** SOIL

Client Sample ID: BS 20-01
Collection Date: 3/16/2020 12:15:00 PM
Received Date: 3/18/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	610	47		mg/Kg	5	3/23/2020 5:26:08 PM
Motor Oil Range Organics (MRO)	420	240		mg/Kg	5	3/23/2020 5:26:08 PM
Surr: DNOP	93.4	55.1-146		%Rec	5	3/23/2020 5:26:08 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	460	60		mg/Kg	20	3/24/2020 4:59:53 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	3/22/2020 8:46:42 AM
Toluene	ND	0.050		mg/Kg	1	3/22/2020 8:46:42 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/22/2020 8:46:42 AM
Xylenes, Total	ND	0.10		mg/Kg	1	3/22/2020 8:46:42 AM
Surr: 1,2-Dichloroethane-d4	78.5	70-130		%Rec	1	3/22/2020 8:46:42 AM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	3/22/2020 8:46:42 AM
Surr: Dibromofluoromethane	93.4	70-130		%Rec	1	3/22/2020 8:46:42 AM
Surr: Toluene-d8	99.7	70-130		%Rec	1	3/22/2020 8:46:42 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/22/2020 8:46:42 AM
Surr: BFB	99.7	70-130		%Rec	1	3/22/2020 8:46:42 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003807**
Date Reported: **3/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2003807-002 **Matrix:** SOIL

Client Sample ID: BS 20-02
Collection Date: 3/16/2020 4:45:00 PM
Received Date: 3/18/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	220	9.8		mg/Kg	1	3/20/2020 12:14:22 PM
Motor Oil Range Organics (MRO)	530	49		mg/Kg	1	3/20/2020 12:14:22 PM
Surr: DNOP	95.3	55.1-146		%Rec	1	3/20/2020 12:14:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	99	60		mg/Kg	20	3/24/2020 5:36:55 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	3/22/2020 10:12:14 AM
Toluene	ND	0.048		mg/Kg	1	3/22/2020 10:12:14 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/22/2020 10:12:14 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/22/2020 10:12:14 AM
Surr: 1,2-Dichloroethane-d4	77.3	70-130		%Rec	1	3/22/2020 10:12:14 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/22/2020 10:12:14 AM
Surr: Dibromofluoromethane	95.8	70-130		%Rec	1	3/22/2020 10:12:14 AM
Surr: Toluene-d8	100	70-130		%Rec	1	3/22/2020 10:12:14 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/22/2020 10:12:14 AM
Surr: BFB	102	70-130		%Rec	1	3/22/2020 10:12:14 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003807**
Date Reported: **3/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2003807-003 **Matrix:** SOIL

Client Sample ID: BS 20-03
Collection Date: 3/16/2020 4:00:00 PM
Received Date: 3/18/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/20/2020 12:38:51 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/20/2020 12:38:51 PM
Surr: DNOP	83.0	55.1-146		%Rec	1	3/20/2020 12:38:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	330	60		mg/Kg	20	3/24/2020 5:49:15 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	3/22/2020 11:37:48 AM
Toluene	ND	0.049		mg/Kg	1	3/22/2020 11:37:48 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/22/2020 11:37:48 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/22/2020 11:37:48 AM
Surr: 1,2-Dichloroethane-d4	82.7	70-130		%Rec	1	3/22/2020 11:37:48 AM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	3/22/2020 11:37:48 AM
Surr: Dibromofluoromethane	95.8	70-130		%Rec	1	3/22/2020 11:37:48 AM
Surr: Toluene-d8	99.6	70-130		%Rec	1	3/22/2020 11:37:48 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/22/2020 11:37:48 AM
Surr: BFB	99.7	70-130		%Rec	1	3/22/2020 11:37:48 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2003807**
Date Reported: **3/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2003807-004 **Matrix:** SOIL

Client Sample ID: BS 20-04
Collection Date: 3/16/2020 12:45:00 PM
Received Date: 3/18/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/20/2020 1:03:14 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/20/2020 1:03:14 PM
Surr: DNOP	91.6	55.1-146		%Rec	1	3/20/2020 1:03:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	81	60		mg/Kg	20	3/24/2020 6:01:36 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.023		mg/Kg	1	3/22/2020 12:06:22 PM
Toluene	ND	0.047		mg/Kg	1	3/22/2020 12:06:22 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/22/2020 12:06:22 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/22/2020 12:06:22 PM
Surr: 1,2-Dichloroethane-d4	87.5	70-130		%Rec	1	3/22/2020 12:06:22 PM
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	3/22/2020 12:06:22 PM
Surr: Dibromofluoromethane	95.8	70-130		%Rec	1	3/22/2020 12:06:22 PM
Surr: Toluene-d8	99.5	70-130		%Rec	1	3/22/2020 12:06:22 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/22/2020 12:06:22 PM
Surr: BFB	103	70-130		%Rec	1	3/22/2020 12:06:22 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003807**
Date Reported: **3/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2003807-005 **Matrix:** SOIL

Client Sample ID: BS 20-05
Collection Date: 3/16/2020 2:00:00 PM
Received Date: 3/18/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	66	9.1		mg/Kg	1	3/23/2020 5:48:22 PM
Motor Oil Range Organics (MRO)	63	45		mg/Kg	1	3/23/2020 5:48:22 PM
Surr: DNOP	88.8	55.1-146		%Rec	1	3/23/2020 5:48:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	460	60		mg/Kg	20	3/24/2020 6:13:56 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	3/22/2020 12:34:56 PM
Toluene	ND	0.048		mg/Kg	1	3/22/2020 12:34:56 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/22/2020 12:34:56 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/22/2020 12:34:56 PM
Surr: 1,2-Dichloroethane-d4	82.4	70-130		%Rec	1	3/22/2020 12:34:56 PM
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	3/22/2020 12:34:56 PM
Surr: Dibromofluoromethane	95.4	70-130		%Rec	1	3/22/2020 12:34:56 PM
Surr: Toluene-d8	101	70-130		%Rec	1	3/22/2020 12:34:56 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/22/2020 12:34:56 PM
Surr: BFB	102	70-130		%Rec	1	3/22/2020 12:34:56 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003807**
Date Reported: **3/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2003807-006 **Matrix:** SOIL

Client Sample ID: BS 20-06
Collection Date: 3/16/2020 1:45:00 PM
Received Date: 3/18/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/20/2020 1:51:54 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/20/2020 1:51:54 PM
Surr: DNOP	88.4	55.1-146		%Rec	1	3/20/2020 1:51:54 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	280	60		mg/Kg	20	3/24/2020 6:26:17 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.023		mg/Kg	1	3/22/2020 1:03:34 PM
Toluene	ND	0.046		mg/Kg	1	3/22/2020 1:03:34 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/22/2020 1:03:34 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/22/2020 1:03:34 PM
Surr: 1,2-Dichloroethane-d4	89.8	70-130		%Rec	1	3/22/2020 1:03:34 PM
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	3/22/2020 1:03:34 PM
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	3/22/2020 1:03:34 PM
Surr: Toluene-d8	97.3	70-130		%Rec	1	3/22/2020 1:03:34 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/22/2020 1:03:34 PM
Surr: BFB	97.0	70-130		%Rec	1	3/22/2020 1:03:34 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003807**
Date Reported: **3/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS 20-07
Project: Red Bull 31 State 1
Collection Date: 3/16/2020 1:30:00 PM
Lab ID: 2003807-007 **Matrix:** SOIL **Received Date:** 3/18/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	460	92		mg/Kg	10	3/23/2020 6:10:38 PM
Motor Oil Range Organics (MRO)	1100	460		mg/Kg	10	3/23/2020 6:10:38 PM
Surr: DNOP	0	55.1-146	S	%Rec	10	3/23/2020 6:10:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	140	61		mg/Kg	20	3/24/2020 7:28:00 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.023		mg/Kg	1	3/22/2020 1:32:01 PM
Toluene	ND	0.047		mg/Kg	1	3/22/2020 1:32:01 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/22/2020 1:32:01 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/22/2020 1:32:01 PM
Surr: 1,2-Dichloroethane-d4	86.3	70-130		%Rec	1	3/22/2020 1:32:01 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	3/22/2020 1:32:01 PM
Surr: Dibromofluoromethane	97.3	70-130		%Rec	1	3/22/2020 1:32:01 PM
Surr: Toluene-d8	98.8	70-130		%Rec	1	3/22/2020 1:32:01 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/22/2020 1:32:01 PM
Surr: BFB	102	70-130		%Rec	1	3/22/2020 1:32:01 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003807**
Date Reported: **3/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2003807-008 **Matrix:** SOIL

Client Sample ID: BS 20-08
Collection Date: 3/16/2020 1:15:00 PM
Received Date: 3/18/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	44	9.4		mg/Kg	1	3/20/2020 2:40:17 PM
Motor Oil Range Organics (MRO)	110	47		mg/Kg	1	3/20/2020 2:40:17 PM
Surr: DNOP	98.3	55.1-146		%Rec	1	3/20/2020 2:40:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1800	60		mg/Kg	20	3/24/2020 7:40:22 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	3/22/2020 2:00:29 PM
Toluene	ND	0.049		mg/Kg	1	3/22/2020 2:00:29 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/22/2020 2:00:29 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/22/2020 2:00:29 PM
Surr: 1,2-Dichloroethane-d4	83.4	70-130		%Rec	1	3/22/2020 2:00:29 PM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	3/22/2020 2:00:29 PM
Surr: Dibromofluoromethane	97.1	70-130		%Rec	1	3/22/2020 2:00:29 PM
Surr: Toluene-d8	97.1	70-130		%Rec	1	3/22/2020 2:00:29 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/22/2020 2:00:29 PM
Surr: BFB	97.7	70-130		%Rec	1	3/22/2020 2:00:29 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003807**

25-Mar-20

Client: Devon Energy

Project: Red Bull 31 State 1

Sample ID: **MB-51292**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51292**	RunNo: **67533**							
Prep Date: **3/24/2020**	Analysis Date: **3/24/2020**	SeqNo: **2331598**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51292**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51292**	RunNo: **67533**							
Prep Date: **3/24/2020**	Analysis Date: **3/24/2020**	SeqNo: **2331599**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	90	110			

Sample ID: **MB-51305**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51305**	RunNo: **67533**							
Prep Date: **3/24/2020**	Analysis Date: **3/24/2020**	SeqNo: **2331634**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51305**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51305**	RunNo: **67533**							
Prep Date: **3/24/2020**	Analysis Date: **3/24/2020**	SeqNo: **2331635**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.9	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003807**

25-Mar-20

Client: Devon Energy

Project: Red Bull 31 State 1

Sample ID: **LCS-51100**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51100**	RunNo: **67313**							
Prep Date: **3/13/2020**	Analysis Date: **3/17/2020**	SeqNo: **2321410**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.7	55.1	146			

Sample ID: **MB-51100**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51100**	RunNo: **67313**							
Prep Date: **3/13/2020**	Analysis Date: **3/17/2020**	SeqNo: **2321412**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.0		10.00		90.4	55.1	146			

Sample ID: **LCS-51201**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51201**	RunNo: **67313**							
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2326279**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.3	70	130			
Surr: DNOP	3.9		5.000		77.7	55.1	146			

Sample ID: **MB-51201**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51201**	RunNo: **67313**							
Prep Date: **3/18/2020**	Analysis Date: **3/20/2020**	SeqNo: **2326281**	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	8.6		10.00		86.0	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003807**

25-Mar-20

Client: Devon Energy

Project: Red Bull 31 State 1

Sample ID: **2003807-001AMS** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BS 20-01** Batch ID: **51198** RunNo: **67474**

Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328441** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	0.9930	0	83.7	80	120			
Toluene	0.98	0.050	0.9930	0	98.3	80	120			
Ethylbenzene	1.0	0.050	0.9930	0	101	80	120			
Xylenes, Total	3.1	0.099	2.979	0	104	80	120			
Surr: 4-Bromofluorobenzene	0.45		0.4965		90.7	70	130			
Surr: Toluene-d8	0.51		0.4965		103	70	130			

Sample ID: **2003807-001AMSD** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BS 20-01** Batch ID: **51198** RunNo: **67474**

Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328442** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.025	0.9814	0	81.0	80	120	4.47	20	
Toluene	0.95	0.049	0.9814	0	96.8	80	120	2.72	20	
Ethylbenzene	0.98	0.049	0.9814	0	99.4	80	120	2.86	20	
Xylenes, Total	2.9	0.098	2.944	0	97.8	80	120	7.11	20	
Surr: 4-Bromofluorobenzene	0.41		0.4907		84.4	70	130	0	0	
Surr: Toluene-d8	0.49		0.4907		98.9	70	130	0	0	

Sample ID: **lcs-51198** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BatchQC** Batch ID: **51198** RunNo: **67474**

Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328460** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.0	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.2	0.10	3.000	0	108	80	120			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.0	70	130			
Surr: Toluene-d8	0.50		0.5000		99.1	70	130			

Sample ID: **mb-51198** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **PBS** Batch ID: **51198** RunNo: **67474**

Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328462** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003807**
25-Mar-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **mb-51198** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **51198** RunNo: **67474**
Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328462** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.2	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.5	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.7	70	130			
Surr: Toluene-d8	0.50		0.5000		99.1	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003807**

25-Mar-20

Client: Devon Energy

Project: Red Bull 31 State 1

Sample ID: **2003807-002AMSD** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **BS 20-02** Batch ID: **51198** RunNo: **67474**

Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328593** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	4.9	24.32	0	75.2	70	130			
Surr: BFB	490		486.4		99.8	70	130			

Sample ID: **2003807-002AMSD** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **BS 20-02** Batch ID: **51198** RunNo: **67474**

Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328594** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.9	24.32	0	76.4	70	130	1.64	20	
Surr: BFB	480		486.4		97.8	70	130	0	0	

Sample ID: **lcs-51198** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **LCSS** Batch ID: **51198** RunNo: **67474**

Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328611** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.9	70	130			
Surr: BFB	510		500.0		101	70	130			

Sample ID: **mb-51198** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **51198** RunNo: **67474**

Prep Date: **3/18/2020** Analysis Date: **3/22/2020** SeqNo: **2328613** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		98.4	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: DEVON ENERGY Work Order Number: 2003807 RcptNo: 1

Received By: Yazmine Garduno 3/18/2020 8:25:00 AM

Completed By: Isaiah Ortiz 3/18/2020 10:03:30 AM

Reviewed By: JR 3/18/20

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: DAD 3/18/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Not Present			
2	38	Good	Not Present			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: DEVON ENERGY

Mailing Address: ON FILE

Phone #:

email or Fax#: Amanda Davis

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-day

☑ Standard ☐ Rush

Project Name: RedBull 31 State 1

Project #: 20E-00141-012 WO# 20829672

Project Manager: Natalie Gordon

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 1.3+0.4=1.7 (°C) 3.4+0.4=3.8

HEAL No. 2003807

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl), F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/16/20	1215	soil	BS 20-01	1 jar	ice	-001	X	X					X			
	1645		BS 20-02			-002										
	1600		BS 20-03			-003										
	1245		BS 20-04			-004										
	1400		BS 20-05			-005										
	1345		BS 20-06			-006										
	1330		BS 20-07			-007										
↓	1315	↓	BS 20-08	↓	↓	-008	↓	↓					↓			

Date	Time	Relinquished by	Received by	Via	Date	Time
3/17/20	1430				3/17/20	1430
3/17/20	1900			courier	3/18/20	0825

Remarks: Bill to Devon [WO# 20829672]

CC: results to natalie [ngordon@vertex.

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 09, 2020

Natalie Gordon

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

RE: Red Bull 31 State 1 OrderNo.: 2007006

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 43 sample(s) on 7/1/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-001 **Matrix:** SOIL

Client Sample ID: BS20-01 1'
Collection Date: 6/29/2020 9:00:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	330	60		mg/Kg	20	7/7/2020 3:57:19 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/4/2020 8:33:30 PM	53455
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/4/2020 8:33:30 PM	53455
Surr: DNOP	65.7	55.1-146		%Rec	1	7/4/2020 8:33:30 PM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2020 9:52:11 PM	53450
Surr: BFB	98.0	66.6-105		%Rec	1	7/3/2020 9:52:11 PM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/3/2020 9:52:11 PM	53450
Toluene	ND	0.049		mg/Kg	1	7/3/2020 9:52:11 PM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2020 9:52:11 PM	53450
Xylenes, Total	ND	0.098		mg/Kg	1	7/3/2020 9:52:11 PM	53450
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	7/3/2020 9:52:11 PM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-002 **Matrix:** SOIL

Client Sample ID: BS20-02 1'
Collection Date: 6/29/2020 9:10:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	7/7/2020 4:09:44 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/4/2020 9:46:30 PM	53455
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/4/2020 9:46:30 PM	53455
Surr: DNOP	68.1	55.1-146		%Rec	1	7/4/2020 9:46:30 PM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/3/2020 11:03:16 PM	53450
Surr: BFB	98.0	66.6-105		%Rec	1	7/3/2020 11:03:16 PM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/3/2020 11:03:16 PM	53450
Toluene	ND	0.050		mg/Kg	1	7/3/2020 11:03:16 PM	53450
Ethylbenzene	ND	0.050		mg/Kg	1	7/3/2020 11:03:16 PM	53450
Xylenes, Total	ND	0.10		mg/Kg	1	7/3/2020 11:03:16 PM	53450
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/3/2020 11:03:16 PM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-003 **Matrix:** SOIL

Client Sample ID: BS20-03 1'
Collection Date: 6/29/2020 9:20:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	330	60		mg/Kg	20	7/7/2020 4:22:08 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	11	9.6		mg/Kg	1	7/4/2020 10:10:42 PM	53455
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2020 10:10:42 PM	53455
Surr: DNOP	79.4	55.1-146		%Rec	1	7/4/2020 10:10:42 PM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 12:14:00 AM	53450
Surr: BFB	94.2	66.6-105		%Rec	1	7/4/2020 12:14:00 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 12:14:00 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 12:14:00 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 12:14:00 AM	53450
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 12:14:00 AM	53450
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 12:14:00 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-004 **Matrix:** SOIL

Client Sample ID: BS20-04 1'
Collection Date: 6/29/2020 9:30:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	130	60		mg/Kg	20	7/7/2020 4:34:33 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/4/2020 10:34:53 PM	53455
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/4/2020 10:34:53 PM	53455
Surr: DNOP	70.0	55.1-146		%Rec	1	7/4/2020 10:34:53 PM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 12:37:34 AM	53450
Surr: BFB	94.7	66.6-105		%Rec	1	7/4/2020 12:37:34 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 12:37:34 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 12:37:34 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 12:37:34 AM	53450
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 12:37:34 AM	53450
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 12:37:34 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-005 **Matrix:** SOIL

Client Sample ID: BS20-05 1'
Collection Date: 6/29/2020 9:40:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	7/7/2020 4:46:57 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/4/2020 10:59:04 PM	53455
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/4/2020 10:59:04 PM	53455
Surr: DNOP	82.9	55.1-146		%Rec	1	7/4/2020 10:59:04 PM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 1:01:11 AM	53450
Surr: BFB	96.0	66.6-105		%Rec	1	7/4/2020 1:01:11 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 1:01:11 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 1:01:11 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 1:01:11 AM	53450
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 1:01:11 AM	53450
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 1:01:11 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-006 **Matrix:** SOIL

Client Sample ID: BS20-06 1'
Collection Date: 6/29/2020 9:50:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	130	60		mg/Kg	20	7/7/2020 4:59:22 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/4/2020 11:23:14 PM	53455
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2020 11:23:14 PM	53455
Surr: DNOP	83.4	55.1-146		%Rec	1	7/4/2020 11:23:14 PM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/4/2020 2:11:45 AM	53450
Surr: BFB	96.0	66.6-105		%Rec	1	7/4/2020 2:11:45 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 2:11:45 AM	53450
Toluene	ND	0.050		mg/Kg	1	7/4/2020 2:11:45 AM	53450
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2020 2:11:45 AM	53450
Xylenes, Total	ND	0.10		mg/Kg	1	7/4/2020 2:11:45 AM	53450
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 2:11:45 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-007 **Matrix:** SOIL

Client Sample ID: BS20-07 1'
Collection Date: 6/29/2020 10:00:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	88	59		mg/Kg	20	7/7/2020 5:11:47 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/4/2020 11:47:26 PM	53455
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/4/2020 11:47:26 PM	53455
Surr: DNOP	88.8	55.1-146		%Rec	1	7/4/2020 11:47:26 PM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 2:35:14 AM	53450
Surr: BFB	97.0	66.6-105		%Rec	1	7/4/2020 2:35:14 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 2:35:14 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 2:35:14 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 2:35:14 AM	53450
Xylenes, Total	ND	0.097		mg/Kg	1	7/4/2020 2:35:14 AM	53450
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	7/4/2020 2:35:14 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-008 **Matrix:** SOIL

Client Sample ID: BS20-08 1'
Collection Date: 6/29/2020 10:10:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	7/7/2020 5:49:01 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/5/2020 12:11:42 AM	53455
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/5/2020 12:11:42 AM	53455
Surr: DNOP	80.7	55.1-146		%Rec	1	7/5/2020 12:11:42 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 2:58:43 AM	53450
Surr: BFB	97.0	66.6-105		%Rec	1	7/4/2020 2:58:43 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 2:58:43 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 2:58:43 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 2:58:43 AM	53450
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 2:58:43 AM	53450
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 2:58:43 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-009 **Matrix:** SOIL

Client Sample ID: BS20-09 1'
Collection Date: 6/29/2020 10:20:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	180	60		mg/Kg	20	7/7/2020 6:01:25 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	16	9.8		mg/Kg	1	7/5/2020 12:35:58 AM	53455
Motor Oil Range Organics (MRO)	55	49		mg/Kg	1	7/5/2020 12:35:58 AM	53455
Surr: DNOP	79.5	55.1-146		%Rec	1	7/5/2020 12:35:58 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 3:22:14 AM	53450
Surr: BFB	94.2	66.6-105		%Rec	1	7/4/2020 3:22:14 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 3:22:14 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 3:22:14 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 3:22:14 AM	53450
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 3:22:14 AM	53450
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/4/2020 3:22:14 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-010 **Matrix:** SOIL

Client Sample ID: BS20-10 1'
Collection Date: 6/29/2020 10:30:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	120	60		mg/Kg	20	7/7/2020 6:13:49 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/7/2020 2:53:39 AM	53455
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/7/2020 2:53:39 AM	53455
Surr: DNOP	79.9	55.1-146		%Rec	1	7/7/2020 2:53:39 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/4/2020 3:45:38 AM	53450
Surr: BFB	93.8	66.6-105		%Rec	1	7/4/2020 3:45:38 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 3:45:38 AM	53450
Toluene	ND	0.050		mg/Kg	1	7/4/2020 3:45:38 AM	53450
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2020 3:45:38 AM	53450
Xylenes, Total	ND	0.099		mg/Kg	1	7/4/2020 3:45:38 AM	53450
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 3:45:38 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-011 **Matrix:** SOIL

Client Sample ID: BS20-11 1'
Collection Date: 6/29/2020 10:40:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	96	60		mg/Kg	20	7/7/2020 6:26:14 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/5/2020 1:24:35 AM	53455
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/5/2020 1:24:35 AM	53455
Surr: DNOP	91.9	55.1-146		%Rec	1	7/5/2020 1:24:35 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 4:09:07 AM	53450
Surr: BFB	93.3	66.6-105		%Rec	1	7/4/2020 4:09:07 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 4:09:07 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 4:09:07 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 4:09:07 AM	53450
Xylenes, Total	ND	0.099		mg/Kg	1	7/4/2020 4:09:07 AM	53450
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/4/2020 4:09:07 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-012 **Matrix:** SOIL

Client Sample ID: BS20-12 1'
Collection Date: 6/29/2020 10:50:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	140	60		mg/Kg	20	7/7/2020 6:38:39 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/5/2020 1:48:49 AM	53455
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/5/2020 1:48:49 AM	53455
Surr: DNOP	93.2	55.1-146		%Rec	1	7/5/2020 1:48:49 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 4:32:33 AM	53450
Surr: BFB	95.5	66.6-105		%Rec	1	7/4/2020 4:32:33 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 4:32:33 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 4:32:33 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 4:32:33 AM	53450
Xylenes, Total	ND	0.097		mg/Kg	1	7/4/2020 4:32:33 AM	53450
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 4:32:33 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-013 **Matrix:** SOIL

Client Sample ID: BS20-13 1'
Collection Date: 6/29/2020 11:00:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	250	60		mg/Kg	20	7/7/2020 6:51:03 PM	53538
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/5/2020 2:12:59 AM	53455
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/5/2020 2:12:59 AM	53455
Surr: DNOP	81.7	55.1-146		%Rec	1	7/5/2020 2:12:59 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 4:56:00 AM	53450
Surr: BFB	96.0	66.6-105		%Rec	1	7/4/2020 4:56:00 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 4:56:00 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 4:56:00 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 4:56:00 AM	53450
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 4:56:00 AM	53450
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 4:56:00 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-014 **Matrix:** SOIL

Client Sample ID: BS20-14 1'
Collection Date: 6/29/2020 11:10:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	7/7/2020 5:53:44 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/5/2020 2:37:14 AM	53455
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/5/2020 2:37:14 AM	53455
Surr: DNOP	82.1	55.1-146		%Rec	1	7/5/2020 2:37:14 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 5:19:32 AM	53450
Surr: BFB	94.5	66.6-105		%Rec	1	7/4/2020 5:19:32 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	7/4/2020 5:19:32 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 5:19:32 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 5:19:32 AM	53450
Xylenes, Total	ND	0.097		mg/Kg	1	7/4/2020 5:19:32 AM	53450
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 5:19:32 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-015 **Matrix:** SOIL

Client Sample ID: BS20-15 1'
Collection Date: 6/29/2020 11:20:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	7/7/2020 6:30:48 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/5/2020 3:25:38 AM	53455
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/5/2020 3:25:38 AM	53455
Surr: DNOP	96.7	55.1-146		%Rec	1	7/5/2020 3:25:38 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/4/2020 5:43:09 AM	53450
Surr: BFB	96.6	66.6-105		%Rec	1	7/4/2020 5:43:09 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	7/4/2020 5:43:09 AM	53450
Toluene	ND	0.050		mg/Kg	1	7/4/2020 5:43:09 AM	53450
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2020 5:43:09 AM	53450
Xylenes, Total	ND	0.10		mg/Kg	1	7/4/2020 5:43:09 AM	53450
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	7/4/2020 5:43:09 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-016 **Matrix:** SOIL

Client Sample ID: BS20-16 1'
Collection Date: 6/29/2020 11:30:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	7/7/2020 7:07:51 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/5/2020 3:49:43 AM	53455
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/5/2020 3:49:43 AM	53455
Surr: DNOP	100	55.1-146		%Rec	1	7/5/2020 3:49:43 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/4/2020 8:03:54 AM	53450
Surr: BFB	92.2	66.6-105		%Rec	1	7/4/2020 8:03:54 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	7/4/2020 8:03:54 AM	53450
Toluene	ND	0.050		mg/Kg	1	7/4/2020 8:03:54 AM	53450
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2020 8:03:54 AM	53450
Xylenes, Total	ND	0.10		mg/Kg	1	7/4/2020 8:03:54 AM	53450
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/4/2020 8:03:54 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-017 **Matrix:** SOIL

Client Sample ID: BS20-17 1'
Collection Date: 6/29/2020 11:40:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	150	60		mg/Kg	20	7/7/2020 7:20:12 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	7/5/2020 4:13:48 AM	53455
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/5/2020 4:13:48 AM	53455
Surr: DNOP	88.3	55.1-146		%Rec	1	7/5/2020 4:13:48 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/4/2020 8:27:22 AM	53450
Surr: BFB	96.9	66.6-105		%Rec	1	7/4/2020 8:27:22 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	7/4/2020 8:27:22 AM	53450
Toluene	ND	0.050		mg/Kg	1	7/4/2020 8:27:22 AM	53450
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2020 8:27:22 AM	53450
Xylenes, Total	ND	0.099		mg/Kg	1	7/4/2020 8:27:22 AM	53450
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	7/4/2020 8:27:22 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-018 **Matrix:** SOIL

Client Sample ID: BS20-18 1'
Collection Date: 6/29/2020 11:50:00 AM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	220	61		mg/Kg	20	7/7/2020 7:57:17 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/5/2020 4:37:50 AM	53455
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/5/2020 4:37:50 AM	53455
Surr: DNOP	86.9	55.1-146		%Rec	1	7/5/2020 4:37:50 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 8:50:53 AM	53450
Surr: BFB	92.3	66.6-105		%Rec	1	7/4/2020 8:50:53 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 8:50:53 AM	53450
Toluene	ND	0.049		mg/Kg	1	7/4/2020 8:50:53 AM	53450
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 8:50:53 AM	53450
Xylenes, Total	ND	0.099		mg/Kg	1	7/4/2020 8:50:53 AM	53450
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/4/2020 8:50:53 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-019 **Matrix:** SOIL

Client Sample ID: BS20-19 1'
Collection Date: 6/29/2020 12:00:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	140	60		mg/Kg	20	7/7/2020 8:09:38 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/5/2020 5:01:57 AM	53455
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/5/2020 5:01:57 AM	53455
Surr: DNOP	92.0	55.1-146		%Rec	1	7/5/2020 5:01:57 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/4/2020 9:14:22 AM	53450
Surr: BFB	95.3	66.6-105		%Rec	1	7/4/2020 9:14:22 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 9:14:22 AM	53450
Toluene	ND	0.050		mg/Kg	1	7/4/2020 9:14:22 AM	53450
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2020 9:14:22 AM	53450
Xylenes, Total	ND	0.10		mg/Kg	1	7/4/2020 9:14:22 AM	53450
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/4/2020 9:14:22 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-020 **Matrix:** SOIL

Client Sample ID: BS20-20 1'
Collection Date: 6/29/2020 12:10:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	170	60		mg/Kg	20	7/7/2020 8:22:00 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	7/5/2020 5:26:01 AM	53455
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/5/2020 5:26:01 AM	53455
Surr: DNOP	89.5	55.1-146		%Rec	1	7/5/2020 5:26:01 AM	53455
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/4/2020 9:37:47 AM	53450
Surr: BFB	95.4	66.6-105		%Rec	1	7/4/2020 9:37:47 AM	53450
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	7/4/2020 9:37:47 AM	53450
Toluene	ND	0.050		mg/Kg	1	7/4/2020 9:37:47 AM	53450
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2020 9:37:47 AM	53450
Xylenes, Total	ND	0.099		mg/Kg	1	7/4/2020 9:37:47 AM	53450
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 9:37:47 AM	53450

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-021 **Matrix:** SOIL

Client Sample ID: BS20-21 1'
Collection Date: 6/29/2020 12:20:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	100	60		mg/Kg	20	7/7/2020 8:34:21 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	7/5/2020 7:58:53 AM	53480
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	7/5/2020 7:58:53 AM	53480
Surr: DNOP	68.8	55.1-146		%Rec	1	7/5/2020 7:58:53 AM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/4/2020 10:01:15 AM	53454
Surr: BFB	96.8	66.6-105		%Rec	1	7/4/2020 10:01:15 AM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 10:01:15 AM	53454
Toluene	ND	0.050		mg/Kg	1	7/4/2020 10:01:15 AM	53454
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2020 10:01:15 AM	53454
Xylenes, Total	ND	0.099		mg/Kg	1	7/4/2020 10:01:15 AM	53454
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	7/4/2020 10:01:15 AM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-022 **Matrix:** SOIL

Client Sample ID: BS20-22 1'
Collection Date: 6/29/2020 12:30:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	140	60		mg/Kg	20	7/7/2020 8:46:42 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/5/2020 9:12:01 AM	53480
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/5/2020 9:12:01 AM	53480
Surr: DNOP	65.4	55.1-146		%Rec	1	7/5/2020 9:12:01 AM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 11:11:46 AM	53454
Surr: BFB	93.7	66.6-105		%Rec	1	7/4/2020 11:11:46 AM	53454
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	7/4/2020 11:11:46 AM	53454
Toluene	ND	0.048		mg/Kg	1	7/4/2020 11:11:46 AM	53454
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 11:11:46 AM	53454
Xylenes, Total	ND	0.096		mg/Kg	1	7/4/2020 11:11:46 AM	53454
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/4/2020 11:11:46 AM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-023 **Matrix:** SOIL

Client Sample ID: WS20-01 0-1'
Collection Date: 6/29/2020 12:40:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	190	60		mg/Kg	20	7/7/2020 8:59:04 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/5/2020 9:36:14 AM	53480
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/5/2020 9:36:14 AM	53480
Surr: DNOP	72.7	55.1-146		%Rec	1	7/5/2020 9:36:14 AM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 12:22:19 PM	53454
Surr: BFB	93.1	66.6-105		%Rec	1	7/4/2020 12:22:19 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 12:22:19 PM	53454
Toluene	ND	0.048		mg/Kg	1	7/4/2020 12:22:19 PM	53454
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 12:22:19 PM	53454
Xylenes, Total	ND	0.095		mg/Kg	1	7/4/2020 12:22:19 PM	53454
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/4/2020 12:22:19 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-024 **Matrix:** SOIL

Client Sample ID: WS20-02 0-1'
Collection Date: 6/29/2020 12:50:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	160	61		mg/Kg	20	7/7/2020 9:11:24 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/5/2020 10:00:36 AM	53480
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/5/2020 10:00:36 AM	53480
Surr: DNOP	83.6	55.1-146		%Rec	1	7/5/2020 10:00:36 AM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/4/2020 12:45:54 PM	53454
Surr: BFB	94.4	66.6-105		%Rec	1	7/4/2020 12:45:54 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.023		mg/Kg	1	7/4/2020 12:45:54 PM	53454
Toluene	ND	0.046		mg/Kg	1	7/4/2020 12:45:54 PM	53454
Ethylbenzene	ND	0.046		mg/Kg	1	7/4/2020 12:45:54 PM	53454
Xylenes, Total	ND	0.093		mg/Kg	1	7/4/2020 12:45:54 PM	53454
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/4/2020 12:45:54 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-025 **Matrix:** SOIL

Client Sample ID: WS20-03 0-1
Collection Date: 6/29/2020 1:00:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	96	60		mg/Kg	20	7/7/2020 9:23:44 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/5/2020 10:24:51 AM	53480
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/5/2020 10:24:51 AM	53480
Surr: DNOP	67.0	55.1-146		%Rec	1	7/5/2020 10:24:51 AM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 1:09:30 PM	53454
Surr: BFB	95.5	66.6-105		%Rec	1	7/4/2020 1:09:30 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	7/4/2020 1:09:30 PM	53454
Toluene	ND	0.049		mg/Kg	1	7/4/2020 1:09:30 PM	53454
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 1:09:30 PM	53454
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 1:09:30 PM	53454
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/4/2020 1:09:30 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-026 **Matrix:** SOIL

Client Sample ID: WS20-04 0-1
Collection Date: 6/29/2020 1:10:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	270	61		mg/Kg	20	7/7/2020 9:36:04 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/5/2020 10:49:18 AM	53480
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/5/2020 10:49:18 AM	53480
Surr: DNOP	76.8	55.1-146		%Rec	1	7/5/2020 10:49:18 AM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 2:20:24 PM	53454
Surr: BFB	96.8	66.6-105		%Rec	1	7/4/2020 2:20:24 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	7/4/2020 2:20:24 PM	53454
Toluene	ND	0.048		mg/Kg	1	7/4/2020 2:20:24 PM	53454
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 2:20:24 PM	53454
Xylenes, Total	ND	0.095		mg/Kg	1	7/4/2020 2:20:24 PM	53454
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 2:20:24 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-027 **Matrix:** SOIL

Client Sample ID: WS20-05 0-1
Collection Date: 6/29/2020 1:20:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	280	60		mg/Kg	20	7/7/2020 9:48:25 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/5/2020 11:13:34 AM	53480
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/5/2020 11:13:34 AM	53480
Surr: DNOP	73.8	55.1-146		%Rec	1	7/5/2020 11:13:34 AM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 2:44:05 PM	53454
Surr: BFB	96.1	66.6-105		%Rec	1	7/4/2020 2:44:05 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	7/4/2020 2:44:05 PM	53454
Toluene	ND	0.049		mg/Kg	1	7/4/2020 2:44:05 PM	53454
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 2:44:05 PM	53454
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 2:44:05 PM	53454
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/4/2020 2:44:05 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-028 **Matrix:** SOIL

Client Sample ID: WS20-06 0-1
Collection Date: 6/29/2020 1:30:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	150	60		mg/Kg	20	7/7/2020 10:25:26 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/5/2020 11:37:59 AM	53480
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/5/2020 11:37:59 AM	53480
Surr: DNOP	75.6	55.1-146		%Rec	1	7/5/2020 11:37:59 AM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/4/2020 3:07:47 PM	53454
Surr: BFB	94.5	66.6-105		%Rec	1	7/4/2020 3:07:47 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	7/4/2020 3:07:47 PM	53454
Toluene	ND	0.046		mg/Kg	1	7/4/2020 3:07:47 PM	53454
Ethylbenzene	ND	0.046		mg/Kg	1	7/4/2020 3:07:47 PM	53454
Xylenes, Total	ND	0.093		mg/Kg	1	7/4/2020 3:07:47 PM	53454
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/4/2020 3:07:47 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-029 **Matrix:** SOIL

Client Sample ID: WS20-07 0-1
Collection Date: 6/29/2020 1:40:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	210	60		mg/Kg	20	7/7/2020 10:37:47 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/5/2020 12:02:20 PM	53480
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/5/2020 12:02:20 PM	53480
Surr: DNOP	59.9	55.1-146		%Rec	1	7/5/2020 12:02:20 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/4/2020 3:31:29 PM	53454
Surr: BFB	97.8	66.6-105		%Rec	1	7/4/2020 3:31:29 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 3:31:29 PM	53454
Toluene	ND	0.047		mg/Kg	1	7/4/2020 3:31:29 PM	53454
Ethylbenzene	ND	0.047		mg/Kg	1	7/4/2020 3:31:29 PM	53454
Xylenes, Total	ND	0.094		mg/Kg	1	7/4/2020 3:31:29 PM	53454
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 3:31:29 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-030 **Matrix:** SOIL

Client Sample ID: WS20-08 0-1
Collection Date: 6/29/2020 1:50:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	250	60		mg/Kg	20	7/7/2020 10:50:08 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/5/2020 12:51:03 PM	53480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/5/2020 12:51:03 PM	53480
Surr: DNOP	79.1	55.1-146		%Rec	1	7/5/2020 12:51:03 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/4/2020 3:55:15 PM	53454
Surr: BFB	95.5	66.6-105		%Rec	1	7/4/2020 3:55:15 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.023		mg/Kg	1	7/4/2020 3:55:15 PM	53454
Toluene	ND	0.047		mg/Kg	1	7/4/2020 3:55:15 PM	53454
Ethylbenzene	ND	0.047		mg/Kg	1	7/4/2020 3:55:15 PM	53454
Xylenes, Total	ND	0.094		mg/Kg	1	7/4/2020 3:55:15 PM	53454
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/4/2020 3:55:15 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-031 **Matrix:** SOIL

Client Sample ID: WS20-09 0-1
Collection Date: 6/29/2020 2:00:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	160	60		mg/Kg	20	7/7/2020 11:02:28 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/5/2020 1:15:26 PM	53480
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/5/2020 1:15:26 PM	53480
Surr: DNOP	73.0	55.1-146		%Rec	1	7/5/2020 1:15:26 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/4/2020 4:18:55 PM	53454
Surr: BFB	97.4	66.6-105		%Rec	1	7/4/2020 4:18:55 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	7/4/2020 4:18:55 PM	53454
Toluene	ND	0.047		mg/Kg	1	7/4/2020 4:18:55 PM	53454
Ethylbenzene	ND	0.047		mg/Kg	1	7/4/2020 4:18:55 PM	53454
Xylenes, Total	ND	0.093		mg/Kg	1	7/4/2020 4:18:55 PM	53454
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 4:18:55 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-032 **Matrix:** SOIL

Client Sample ID: WS20-10 0-1
Collection Date: 6/29/2020 2:10:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	270	60		mg/Kg	20	7/7/2020 11:14:47 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/5/2020 1:39:51 PM	53480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/5/2020 1:39:51 PM	53480
Surr: DNOP	79.9	55.1-146		%Rec	1	7/5/2020 1:39:51 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 4:42:37 PM	53454
Surr: BFB	97.8	66.6-105		%Rec	1	7/4/2020 4:42:37 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 4:42:37 PM	53454
Toluene	ND	0.048		mg/Kg	1	7/4/2020 4:42:37 PM	53454
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 4:42:37 PM	53454
Xylenes, Total	ND	0.097		mg/Kg	1	7/4/2020 4:42:37 PM	53454
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 4:42:37 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-033 **Matrix:** SOIL

Client Sample ID: WS20-11 0-1
Collection Date: 6/29/2020 2:20:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	180	60		mg/Kg	20	7/7/2020 11:27:08 PM	53548
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/5/2020 2:04:17 PM	53480
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/5/2020 2:04:17 PM	53480
Surr: DNOP	76.2	55.1-146		%Rec	1	7/5/2020 2:04:17 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 5:30:03 PM	53454
Surr: BFB	97.9	66.6-105		%Rec	1	7/4/2020 5:30:03 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 5:30:03 PM	53454
Toluene	ND	0.048		mg/Kg	1	7/4/2020 5:30:03 PM	53454
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 5:30:03 PM	53454
Xylenes, Total	ND	0.096		mg/Kg	1	7/4/2020 5:30:03 PM	53454
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 5:30:03 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-034 **Matrix:** SOIL

Client Sample ID: WS20-12 0-1
Collection Date: 6/29/2020 2:30:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	80	60		mg/Kg	20	7/8/2020 12:55:19 PM	53568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/5/2020 2:28:29 PM	53480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/5/2020 2:28:29 PM	53480
Surr: DNOP	68.4	55.1-146		%Rec	1	7/5/2020 2:28:29 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 5:53:46 PM	53454
Surr: BFB	98.1	66.6-105		%Rec	1	7/4/2020 5:53:46 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	7/4/2020 5:53:46 PM	53454
Toluene	ND	0.049		mg/Kg	1	7/4/2020 5:53:46 PM	53454
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 5:53:46 PM	53454
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 5:53:46 PM	53454
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 5:53:46 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-035 **Matrix:** SOIL

Client Sample ID: WS20-13 0-1
Collection Date: 6/29/2020 2:40:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	360	61		mg/Kg	20	7/8/2020 1:32:21 PM	53568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/5/2020 2:52:59 PM	53480
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/5/2020 2:52:59 PM	53480
Surr: DNOP	72.4	55.1-146		%Rec	1	7/5/2020 2:52:59 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 6:17:26 PM	53454
Surr: BFB	97.7	66.6-105		%Rec	1	7/4/2020 6:17:26 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 6:17:26 PM	53454
Toluene	ND	0.048		mg/Kg	1	7/4/2020 6:17:26 PM	53454
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 6:17:26 PM	53454
Xylenes, Total	ND	0.096		mg/Kg	1	7/4/2020 6:17:26 PM	53454
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 6:17:26 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-036 **Matrix:** SOIL

Client Sample ID: WS20-14 0-1
Collection Date: 6/29/2020 2:50:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	7/8/2020 1:44:42 PM	53568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/5/2020 3:17:28 PM	53480
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/5/2020 3:17:28 PM	53480
Surr: DNOP	60.1	55.1-146		%Rec	1	7/5/2020 3:17:28 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/4/2020 6:41:09 PM	53454
Surr: BFB	97.7	66.6-105		%Rec	1	7/4/2020 6:41:09 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	7/4/2020 6:41:09 PM	53454
Toluene	ND	0.047		mg/Kg	1	7/4/2020 6:41:09 PM	53454
Ethylbenzene	ND	0.047		mg/Kg	1	7/4/2020 6:41:09 PM	53454
Xylenes, Total	ND	0.095		mg/Kg	1	7/4/2020 6:41:09 PM	53454
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 6:41:09 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-037 **Matrix:** SOIL

Client Sample ID: WS20-15 0-1
Collection Date: 6/29/2020 3:00:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	89	60		mg/Kg	20	7/8/2020 1:57:02 PM	53568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/5/2020 3:41:52 PM	53480
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/5/2020 3:41:52 PM	53480
Surr: DNOP	56.2	55.1-146		%Rec	1	7/5/2020 3:41:52 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/4/2020 7:04:47 PM	53454
Surr: BFB	99.8	66.6-105		%Rec	1	7/4/2020 7:04:47 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.023		mg/Kg	1	7/4/2020 7:04:47 PM	53454
Toluene	ND	0.046		mg/Kg	1	7/4/2020 7:04:47 PM	53454
Ethylbenzene	ND	0.046		mg/Kg	1	7/4/2020 7:04:47 PM	53454
Xylenes, Total	ND	0.093		mg/Kg	1	7/4/2020 7:04:47 PM	53454
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	7/4/2020 7:04:47 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-038 **Matrix:** SOIL

Client Sample ID: WS20-16 0-1
Collection Date: 6/29/2020 3:10:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	210	60		mg/Kg	20	7/8/2020 2:09:23 PM	53568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/5/2020 4:06:11 PM	53480
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/5/2020 4:06:11 PM	53480
Surr: DNOP	58.8	55.1-146		%Rec	1	7/5/2020 4:06:11 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 7:28:28 PM	53454
Surr: BFB	98.7	66.6-105		%Rec	1	7/4/2020 7:28:28 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 7:28:28 PM	53454
Toluene	ND	0.048		mg/Kg	1	7/4/2020 7:28:28 PM	53454
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 7:28:28 PM	53454
Xylenes, Total	ND	0.096		mg/Kg	1	7/4/2020 7:28:28 PM	53454
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/4/2020 7:28:28 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-039 **Matrix:** SOIL

Client Sample ID: WS20-17 0-1
Collection Date: 6/29/2020 3:20:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	98	60		mg/Kg	20	7/8/2020 2:21:45 PM	53568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/5/2020 4:30:45 PM	53480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/5/2020 4:30:45 PM	53480
Surr: DNOP	50.5	55.1-146	S	%Rec	1	7/5/2020 4:30:45 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 7:52:08 PM	53454
Surr: BFB	97.9	66.6-105		%Rec	1	7/4/2020 7:52:08 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 7:52:08 PM	53454
Toluene	ND	0.048		mg/Kg	1	7/4/2020 7:52:08 PM	53454
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 7:52:08 PM	53454
Xylenes, Total	ND	0.095		mg/Kg	1	7/4/2020 7:52:08 PM	53454
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/4/2020 7:52:08 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-040 **Matrix:** SOIL

Client Sample ID: WS20-18 0-1
Collection Date: 6/29/2020 3:30:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	230	60		mg/Kg	20	7/8/2020 2:58:48 PM	53568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/5/2020 4:55:07 PM	53480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/5/2020 4:55:07 PM	53480
Surr: DNOP	56.6	55.1-146		%Rec	1	7/5/2020 4:55:07 PM	53480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 8:15:40 PM	53454
Surr: BFB	95.8	66.6-105		%Rec	1	7/4/2020 8:15:40 PM	53454
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 8:15:40 PM	53454
Toluene	ND	0.049		mg/Kg	1	7/4/2020 8:15:40 PM	53454
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 8:15:40 PM	53454
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 8:15:40 PM	53454
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/4/2020 8:15:40 PM	53454

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-041 **Matrix:** SOIL

Client Sample ID: WS20-19 0-1
Collection Date: 6/29/2020 3:40:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	140	59		mg/Kg	20	7/8/2020 3:11:09 PM	53568
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/4/2020 12:17:43 PM	53481
Surr: BFB	96.8	70-130		%Rec	1	7/4/2020 12:17:43 PM	53481
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/4/2020 5:20:16 PM	53484
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2020 5:20:16 PM	53484
Surr: DNOP	85.2	55.1-146		%Rec	1	7/4/2020 5:20:16 PM	53484
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.023		mg/Kg	1	7/4/2020 12:17:43 PM	53481
Toluene	ND	0.047		mg/Kg	1	7/4/2020 12:17:43 PM	53481
Ethylbenzene	ND	0.047		mg/Kg	1	7/4/2020 12:17:43 PM	53481
Xylenes, Total	ND	0.094		mg/Kg	1	7/4/2020 12:17:43 PM	53481
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	7/4/2020 12:17:43 PM	53481
Surr: 4-Bromofluorobenzene	87.1	70-130		%Rec	1	7/4/2020 12:17:43 PM	53481
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	7/4/2020 12:17:43 PM	53481
Surr: Toluene-d8	98.0	70-130		%Rec	1	7/4/2020 12:17:43 PM	53481

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-042 **Matrix:** SOIL

Client Sample ID: WS20-20 0-1
Collection Date: 6/29/2020 3:50:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	220	60		mg/Kg	20	7/8/2020 3:23:29 PM	53568
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/4/2020 1:47:14 PM	53481
Surr: BFB	100	70-130		%Rec	1	7/4/2020 1:47:14 PM	53481
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/4/2020 5:44:42 PM	53484
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/4/2020 5:44:42 PM	53484
Surr: DNOP	59.8	55.1-146		%Rec	1	7/4/2020 5:44:42 PM	53484
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	7/4/2020 1:47:14 PM	53481
Toluene	ND	0.048		mg/Kg	1	7/4/2020 1:47:14 PM	53481
Ethylbenzene	ND	0.048		mg/Kg	1	7/4/2020 1:47:14 PM	53481
Xylenes, Total	ND	0.096		mg/Kg	1	7/4/2020 1:47:14 PM	53481
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%Rec	1	7/4/2020 1:47:14 PM	53481
Surr: 4-Bromofluorobenzene	91.2	70-130		%Rec	1	7/4/2020 1:47:14 PM	53481
Surr: Dibromofluoromethane	98.2	70-130		%Rec	1	7/4/2020 1:47:14 PM	53481
Surr: Toluene-d8	100	70-130		%Rec	1	7/4/2020 1:47:14 PM	53481

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

Qualifiers:

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

Analytical Report
Lab Order **2007006**
Date Reported: **7/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Red Bull 31 State 1
Lab ID: 2007006-043 **Matrix:** SOIL

Client Sample ID: WS20-21 0-1
Collection Date: 6/29/2020 4:00:00 PM
Received Date: 7/1/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	300	60		mg/Kg	20	7/8/2020 3:35:49 PM	53568
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/4/2020 3:17:08 PM	53481
Surr: BFB	99.0	70-130		%Rec	1	7/4/2020 3:17:08 PM	53481
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/4/2020 6:09:03 PM	53484
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/4/2020 6:09:03 PM	53484
Surr: DNOP	70.6	55.1-146		%Rec	1	7/4/2020 6:09:03 PM	53484
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.025		mg/Kg	1	7/4/2020 3:17:08 PM	53481
Toluene	ND	0.049		mg/Kg	1	7/4/2020 3:17:08 PM	53481
Ethylbenzene	ND	0.049		mg/Kg	1	7/4/2020 3:17:08 PM	53481
Xylenes, Total	ND	0.098		mg/Kg	1	7/4/2020 3:17:08 PM	53481
Surr: 1,2-Dichloroethane-d4	99.8	70-130		%Rec	1	7/4/2020 3:17:08 PM	53481
Surr: 4-Bromofluorobenzene	86.9	70-130		%Rec	1	7/4/2020 3:17:08 PM	53481
Surr: Dibromofluoromethane	98.1	70-130		%Rec	1	7/4/2020 3:17:08 PM	53481
Surr: Toluene-d8	101	70-130		%Rec	1	7/4/2020 3:17:08 PM	53481

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**

09-Jul-20

Client: Devon Energy

Project: Red Bull 31 State 1

Sample ID: **MB-53538** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **53538** RunNo: **70170**
Prep Date: **7/7/2020** Analysis Date: **7/7/2020** SeqNo: **2438355** Units: **mg/Kg**

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

Sample ID: **LCS-53538** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **53538** RunNo: **70170**
Prep Date: **7/7/2020** Analysis Date: **7/7/2020** SeqNo: **2438356** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Sample ID: **MB-53548** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **53548** RunNo: **70175**
Prep Date: **7/7/2020** Analysis Date: **7/7/2020** SeqNo: **2438415** Units: **mg/Kg**

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

Sample ID: **LCS-53548** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **53548** RunNo: **70175**
Prep Date: **7/7/2020** Analysis Date: **7/7/2020** SeqNo: **2438416** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.5	90	110			

Sample ID: **MB-53568** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **53568** RunNo: **70202**
Prep Date: **7/8/2020** Analysis Date: **7/8/2020** SeqNo: **2439470** Units: **mg/Kg**

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

Sample ID: **LCS-53568** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **53568** RunNo: **70202**
Prep Date: **7/8/2020** Analysis Date: **7/8/2020** SeqNo: **2439471** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**
09-Jul-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **MB-53455**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **53455**	RunNo: **70071**
Prep Date: **7/1/2020**	Analysis Date: **7/2/2020**	SeqNo: **2434216** 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	9.8		10.00		98.0	55.1	146			

Sample ID: **LCS-53455**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **53455**	RunNo: **70071**
Prep Date: **7/1/2020**	Analysis Date: **7/2/2020**	SeqNo: **2434220** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	103	70	130			
Surr: DNOP	4.6		5.000		92.7	55.1	146			

Sample ID: **2007006-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-01 1'**	Batch ID: **53455**	RunNo: **70101**
Prep Date: **7/1/2020**	Analysis Date: **7/4/2020**	SeqNo: **2435819** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	9.3	46.69	8.325	68.1	47.4	136			
Surr: DNOP	3.9		4.669		83.8	55.1	146			

Sample ID: **2007006-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-01 1'**	Batch ID: **53455**	RunNo: **70101**
Prep Date: **7/1/2020**	Analysis Date: **7/4/2020**	SeqNo: **2435820** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	9.8	48.92	8.325	67.8	47.4	136	3.38	43.4	
Surr: DNOP	4.1		4.892		83.7	55.1	146	0	0	

Sample ID: **2007006-021AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-21 1'**	Batch ID: **53480**	RunNo: **70104**
Prep Date: **7/2/2020**	Analysis Date: **7/5/2020**	SeqNo: **2436145** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.6	47.94	4.069	91.6	47.4	136			
Surr: DNOP	3.8		4.794		79.1	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**
09-Jul-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **2007006-021AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-21 1'** Batch ID: **53480** RunNo: **70104**
Prep Date: **7/2/2020** Analysis Date: **7/5/2020** SeqNo: **2436146** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.9	49.60	4.069	96.7	47.4	136	8.03	43.4	
Surr: DNOP	2.6		4.960		53.2	55.1	146	0	0	S

Sample ID: **LCS-53484** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **53484** RunNo: **70104**
Prep Date: **7/2/2020** Analysis Date: **7/4/2020** SeqNo: **2436177** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	70	130			
Surr: DNOP	5.1		5.000		103	55.1	146			

Sample ID: **MB-53480** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **53480** RunNo: **70104**
Prep Date: **7/2/2020** Analysis Date: **7/5/2020** SeqNo: **2436179** 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	8.3		10.00		83.1	55.1	146			

Sample ID: **MB-53484** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **53484** RunNo: **70104**
Prep Date: **7/2/2020** Analysis Date: **7/4/2020** SeqNo: **2436180** 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	9.8		10.00		97.6	55.1	146			

Sample ID: **LCS-53480** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **53480** RunNo: **70104**
Prep Date: **7/2/2020** Analysis Date: **7/5/2020** SeqNo: **2436187** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	70	130			
Surr: DNOP	3.8		5.000		76.0	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**
09-Jul-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **MB-53520**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **53520**	RunNo: **70110**
Prep Date: **7/6/2020**	Analysis Date: **7/7/2020**	SeqNo: **2437862** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		119	55.1	146			

Sample ID: **LCS-53520**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **53520**	RunNo: **70110**
Prep Date: **7/6/2020**	Analysis Date: **7/7/2020**	SeqNo: **2437863** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		119	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**
09-Jul-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **2007006-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BS20-02 1'**	Batch ID: **53450**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/3/2020**	SeqNo: **2436007**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.83	0	85.3	80	120			
Surr: BFB	1100		993.0		106	66.6	105			S

Sample ID: **2007006-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BS20-02 1'**	Batch ID: **53450**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/3/2020**	SeqNo: **2436008**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.88	0	84.8	80	120	0.365	20	
Surr: BFB	1100		995.0		107	66.6	105	0	0	S

Sample ID: **2007006-022ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BS20-22 1'**	Batch ID: **53454**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/4/2020**	SeqNo: **2436029**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.8	23.95	0	84.9	80	120			
Surr: BFB	980		957.9		103	66.6	105			

Sample ID: **2007006-022amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BS20-22 1'**	Batch ID: **53454**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/4/2020**	SeqNo: **2436030**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.7	23.74	0	80.4	80	120	6.23	20	
Surr: BFB	980		949.7		104	66.6	105	0	0	

Sample ID: **lcs-53450**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **53450**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/3/2020**	SeqNo: **2436049**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.8	80	120			
Surr: BFB	1100		1000		110	66.6	105			S

Sample ID: **lcs-53454**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **53454**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/4/2020**	SeqNo: **2436050**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**

09-Jul-20

Client: Devon Energy

Project: Red Bull 31 State 1

Sample ID: **lcs-53454**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **53454**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/4/2020**	SeqNo: **2436050**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.6	80	120			
Surr: BFB	1000		1000		105	66.6	105			

Sample ID: **mb-53450**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **53450**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/3/2020**	SeqNo: **2436051**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		98.4	66.6	105			

Sample ID: **mb-53454**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **53454**	RunNo: **70103**							
Prep Date: **7/1/2020**	Analysis Date: **7/4/2020**	SeqNo: **2436052**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.6	66.6	105			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**
09-Jul-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **2007006-001ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS20-01 1'** Batch ID: **53450** RunNo: **70103**
Prep Date: **7/1/2020** Analysis Date: **7/3/2020** SeqNo: **2436076** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9980	0	96.8	78.5	119			
Toluene	1.0	0.050	0.9980	0.01102	98.7	75.7	123			
Ethylbenzene	1.0	0.050	0.9980	0	102	74.3	126			
Xylenes, Total	3.1	0.10	2.994	0	104	72.9	130			
Surr: 4-Bromofluorobenzene	1.1		0.9980		110	80	120			

Sample ID: **2007006-001amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS20-01 1'** Batch ID: **53450** RunNo: **70103**
Prep Date: **7/1/2020** Analysis Date: **7/3/2020** SeqNo: **2436077** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9911	0	97.4	78.5	119	0.0785	20	
Toluene	0.99	0.050	0.9911	0.01102	99.1	75.7	123	0.356	20	
Ethylbenzene	1.0	0.050	0.9911	0	102	74.3	126	0.549	20	
Xylenes, Total	3.1	0.099	2.973	0	103	72.9	130	1.18	20	
Surr: 4-Bromofluorobenzene	1.1		0.9911		110	80	120	0	0	

Sample ID: **2007006-021ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS20-21 1'** Batch ID: **53454** RunNo: **70103**
Prep Date: **7/1/2020** Analysis Date: **7/4/2020** SeqNo: **2436098** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9588	0	93.4	78.5	119			
Toluene	0.93	0.048	0.9588	0.01188	95.4	75.7	123			
Ethylbenzene	0.94	0.048	0.9588	0	98.3	74.3	126			
Xylenes, Total	2.9	0.096	2.876	0	99.1	72.9	130			
Surr: 4-Bromofluorobenzene	1.0		0.9588		108	80	120			

Sample ID: **2007006-021amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BS20-21 1'** Batch ID: **53454** RunNo: **70103**
Prep Date: **7/1/2020** Analysis Date: **7/4/2020** SeqNo: **2436099** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9785	0	93.5	78.5	119	2.14	20	
Toluene	0.95	0.049	0.9785	0.01188	95.7	75.7	123	2.40	20	
Ethylbenzene	0.96	0.049	0.9785	0	98.5	74.3	126	2.15	20	
Xylenes, Total	2.9	0.098	2.935	0	98.5	72.9	130	1.37	20	
Surr: 4-Bromofluorobenzene	1.0		0.9785		105	80	120	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**
09-Jul-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **LCS-53450** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **53450** RunNo: **70103**
Prep Date: **7/1/2020** Analysis Date: **7/3/2020** SeqNo: **2436121** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.5	80	120			
Toluene	0.98	0.050	1.000	0	98.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.4	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID: **LCS-53454** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **53454** RunNo: **70103**
Prep Date: **7/1/2020** Analysis Date: **7/4/2020** SeqNo: **2436122** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	99.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.9	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: **mb-53450** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **53450** RunNo: **70103**
Prep Date: **7/1/2020** Analysis Date: **7/3/2020** SeqNo: **2436123** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: **mb-53454** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **53454** RunNo: **70103**
Prep Date: **7/1/2020** Analysis Date: **7/4/2020** SeqNo: **2436124** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**
09-Jul-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **MB-53481** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **53481** RunNo: **70102**
Prep Date: **7/2/2020** Analysis Date: **7/3/2020** SeqNo: **2435895** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		86.3	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID: **LCS-53481** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **53481** RunNo: **70102**
Prep Date: **7/2/2020** Analysis Date: **7/3/2020** SeqNo: **2435896** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	105	80	120			
Toluene	1.1	0.050	1.000	0	107	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.3	0.10	3.000	0	108	80	120			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		98.4	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		86.7	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.8	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			

Sample ID: **2007006-041ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **WS20-19 0-1** Batch ID: **53481** RunNo: **70102**
Prep Date: **7/2/2020** Analysis Date: **7/4/2020** SeqNo: **2435898** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9434	0	117	71.1	115			S
Toluene	1.1	0.047	0.9434	0	115	79.6	132			
Ethylbenzene	1.1	0.047	0.9434	0	114	83.8	134			
Xylenes, Total	3.2	0.094	2.830	0	115	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.47		0.4717		100	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.4717		90.4	70	130			
Surr: Dibromofluoromethane	0.47		0.4717		100	70	130			
Surr: Toluene-d8	0.48		0.4717		102	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**
09-Jul-20

Client: Devon Energy
Project: Red Bull 31 State 1

Sample ID: **2007006-041amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **WS20-19 0-1** Batch ID: **53481** RunNo: **70102**
Prep Date: **7/2/2020** Analysis Date: **7/4/2020** SeqNo: **2435899** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9434	0	111	71.1	115	4.66	20	
Toluene	1.1	0.047	0.9434	0	113	79.6	132	2.23	20	
Ethylbenzene	1.1	0.047	0.9434	0	113	83.8	134	0.676	20	
Xylenes, Total	3.1	0.094	2.830	0	111	82.4	132	3.42	20	
Surr: 1,2-Dichloroethane-d4	0.46		0.4717		97.9	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.41		0.4717		87.8	70	130	0	0	
Surr: Dibromofluoromethane	0.47		0.4717		100	70	130	0	0	
Surr: Toluene-d8	0.49		0.4717		103	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2007006**

09-Jul-20

Client: Devon Energy

Project: Red Bull 31 State 1

Sample ID: **MB-53481** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **53481** RunNo: **70102**

Prep Date: **7/2/2020** Analysis Date: **7/3/2020** SeqNo: **2435961** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		97.5	70	130			

Sample ID: **LCS-53481** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **LCSS** Batch ID: **53481** RunNo: **70102**

Prep Date: **7/2/2020** Analysis Date: **7/3/2020** SeqNo: **2435962** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.9	70	130			
Surr: BFB	490		500.0		98.7	70	130			

Sample ID: **2007006-042ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **WS20-20 0-1** Batch ID: **53481** RunNo: **70102**

Prep Date: **7/2/2020** Analysis Date: **7/4/2020** SeqNo: **2435965** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.8	23.99	0	84.6	70	130			
Surr: BFB	470		479.8		98.6	70	130			

Sample ID: **2007006-042amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **WS20-20 0-1** Batch ID: **53481** RunNo: **70102**

Prep Date: **7/2/2020** Analysis Date: **7/4/2020** SeqNo: **2435966** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.88	0	89.4	70	130	9.08	20	
Surr: BFB	490		497.5		98.3	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy Work Order Number: 2007006 RcptNo: 1

Received By: Juan Rojas 7/1/2020 9:20:00 AM

Completed By: Juan Rojas 7/1/2020 10:34:26 AM

Reviewed By: 7/1/20

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: SPA 7.1.20

Special Handling (if applicable)

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

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.7	Good				

Chain-of-Custody Record

Client: Devon Energy
A. Davis
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 Day
☑ Standard ☐ Rush
Project Name: Red Bull 31 State 1
Project #: 20E-00141
Project Manager: Natalie Gordon
Sampler: MJP
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 0.8-0.1=0.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2007006	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/29	9:00	Soil	BS20-01 1'	4oz	Ice	-001	✓	✓					✓			
	9:10		BS20-02 1'			-002										
	9:20		BS20-03 1'			-003										
	9:30		BS20-04 1'			-004										
	9:40		BS20-05 1'			-005										
	9:50		BS20-06 1'			-006										
	10:00		BS20-07 1'			-007										
	10:10		BS20-08 1'			-008										
	10:20		BS20-09 1'			-009										
	10:30		BS20-10 1'			-010										
	10:40		BS20-11 1'			-011										
	10:50		BS20-12 1'			-012										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/30/20	1200		GCummings		6/30/20	1200
6/30/20	1900			courier	7/1/20	9:20 ~~9:00~~

Remarks: CC: Natalie Gordon
Direct Bill
Devon
w/o #: 20829672

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.

JR 7/1/20

Chain-of-Custody Record

Client: Devon Energy
A. Davis
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 Day
☑ Standard ☐ Rush
Project Name: Red Bull 31 State 1
Project #: 20E-00141
Project Manager: Natalie Gordon
Sampler: MJP
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 0.8-0.2=0.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2007006	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl, F, Br, NO_3, NO_2, PO_4, SO_4)	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/29	11:00	Soil	BS20-13 1'	4oz	ice	-013	✓	✓					✓			
	11:10		BS20-14 1'			-014										
	11:20		BS20-15 1'			-015										
	11:30		BS20-16 1'			-016										
	11:40		BS20-17 1'			-017										
	11:50		BS20-18 1'			-018										
	12:00		BS20-19 1'			-019										
	12:10		BS20-20 1'			-020										
	12:20		BS20-21 1'			-021										
	12:30		BS20-22 1'			-022										
	12:40		WS20-01 0-1'			-023										
	12:50		WS20-02 0-1'			-024										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/30/20	1200		ACummings		6/30/20	1200
6/30/20	1911			courier	7/1/20	9:20

Remarks: CC: Natalie Gordon
Direct bill
Devon

W/O# 20829672

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.

Chain-of-Custody Record

Client: Dvon Energy

A. Davis

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day

☑ Standard ☐ Rush

Project Name: Red Bull 31 State 1

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.6-0.1=0.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2007006	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/29	1:00	Soil	WS20-03 0-1	4oz	ice	-025	✓	✓					✓			
	1:10		WS20-04 0-1			-026										
	1:20		WS20-05 0-1			-027										
	1:30		WS20-06 0-1			-028										
	1:40		WS20-07 0-1			-029										
	1:50		WS20-08 0-1			-030										
	2:00		WS20-09 0-1			-031										
	2:10		WS20-10 0-1			-032										
	2:20		WS20-11 0-1			-033										
	2:30		WS20-12 0-1			-034										
	2:40		WS20-13 0-1			-035										
	2:50		WS20-14 0-1			-036										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/30/20	1200		Cummings		6/30/20	1200
6/30/20	1911			courier	7/1/20	9:20

Remarks: CC: Natalie Gordon

Direct Bill Dvon

w/o # 20829672

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.

Chain-of-Custody Record

Client: Devon Energy
A. Davis
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 Day
☑ Standard ☐ Rush
Project Name: Red Bull 31 State 1
Project #: 20E-00141
Project Manager: Natalie Gordon
Sampler: MJP
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 0.8-0.1=0.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2007006	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/29	3:00	Soil	WS20-15 0-1	402	Ice	-037	✓	✓					✓			
	3:10		WS20-16 0-1			-038										
	3:20		WS20-17 0-1			-039										
	3:30		WS20-18 0-1			-040										
	3:40		WS20-19 0-1			-041										
	3:50		WS20-20 0-1			-042										
	4:00		WS20-21 0-1			-043										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/30/20	1200		Cummings		6/30/20	1200
6/30/20	1900			courier	7/1/20	9:20

Remarks: CC: Natalie Gordon
Direct Bill Devon
WO # 20829672

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.

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 175443

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 175443
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	1/17/2023