



April 24, 2020

Vertex Project #: 20E-00141-004

Spill Closure Report: Todd 26 M Federal #009
Unit M, Section 26, Township 23 South, Range 31 East
County: Eddy
API: 30-015-27075
Tracking Number: NRM2014556971

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

New Mexico Oil Conservation Division – District 2 – Artesia
811 South First Street
Artesia, New Mexico 88210

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation for a produced water release that occurred at Todd 26 M Federal #009, API 30-015-27075 (hereafter referred to as “Todd 26 M”). Devon provided notification of the spill to New Mexico Oil Conservation Division (NM OCD) District 2, and the Bureau of Land Management (BLM), who owns the property, on January 8, 2020, via an initial C-141 Release Notification (Attachment 1). The NM OCD tracking number assigned to this incident is NRM2014556971.

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

Incident Description

On December 8, 2019, a release occurred at Devon’s Todd 26 M site when an electronic trigger malfunctioned on a spill pot that had filled up, causing produced water to be released from the stuffing box. This incident resulted in the release of approximately 9.538 barrels (bbls) of produced water onto the wellpad. Upon discovery of the release, the electronic trigger on the spill pot was repaired, and one barrel of free liquid was recovered from the wellpad. The release was contained onsite and no produced water was released into sensitive areas or waterways.

Site Characterization

The release at Todd 26 M occurred on federally-owned land, N 32.2699547, W 103.7539139, approximately 20 miles east of Loving, New Mexico. The legal description for the site is Unit M, Section 26, Township 23 South, Range 31 East, Eddy 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.

vertex.ca

201 S Mesa Street, Carlsbad, New Mexico 88220, USA | P 575.725.5001

Todd 26 M is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production, and storage. The following sections specifically describe the release area on the wellpad adjacent the pumpjack.

The surrounding landscape is associated with uplands, plains, fan piedmonts and dunes at elevations of 2,000 to 5,000 feet above sea level. The climate is semi-arid, with average annual precipitation ranging between 8 and 13 inches. Historically, the plant community has been predominantly black grama, dropseed and bluestem grasses, with scattered shrubs, such as shinnery oak, sand sage, mesquite and creosote brush. Litter, and, to a lesser extent, bare ground make up a significant proportion of the ground cover (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted wellpad.

The Geological Map of New Mexico indicates the surface geology at Todd 26 M is comprised primarily of Qep – interlayered eolian sands and piedmont-slope deposits from the Holocene to middle Pleistocene ages (New Mexico Bureau of Geology and Mineral Resources, 2020). The National Resource Conservation Service Web Soil Survey characterizes the soil at the site as Berino complex fine sands, characterized by deep, sandy clay loam soil. It tends to be well-drained with low runoff and moderate available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near Todd 26 M (United States Department of the Interior, Bureau of Land Management, 2020).

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 3.5 miles west-southwest of Todd 26 M (United States Fish and Wildlife Service, 2020). There are no continuously flowing watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest active well to the site is a United States Geologic Survey (USGS)-identified well from 2013, located approximately 1,094 feet to the east. Depth to groundwater at this well is 358 feet below ground surface (bgs; United States Department of the Interior, United States Geological Survey, 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 was subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Based on data included in the closure criteria determination worksheet, the release at Todd 26 M is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site are determined to be associated with the following constituent concentration limits.

Table 1. Closure Criteria for Soils Impacted by a Release		
Depth to Groundwater	Constituent	Limit
> 100 feet	Chloride	20,000 mg/kg
	TPH ¹ (GRO + DRO + MRO)	2,500 mg/kg
	GRO + DRO	1,000 mg/kg
	BTEX ²	50 mg/kg
	Benzene	10 mg/kg

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

²Benzene, toluene, ethylbenzene and xylenes (BTEX)

Remedial Actions

An initial spill inspection, completed on January 22, 2020, identified and mapped the boundaries of the release area. The release area was determined to be approximately 106 feet long and 42 feet wide; the total affected area was determined to be 2,373 square feet as shown in Figure 1 (Attachment 2). The Daily Field Report (DFR) associated with the initial spill inspection is included in Attachment 4.

On January 31, 2020, Vertex provided 48-hour notification of confirmation sampling to NM OCD and the BLM, as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC (Attachment 5). Vertex was onsite at Todd 26 M between February 6 and 10, 2020, to guide remediation activities, including excavation of contaminated soils to an average depth of 0.5 feet bgs. Vertex collected a total of twelve five-point composite confirmatory samples from the excavation area. Because the excavation was tapered from surface to the final depth of six inches bgs, there were no defined sidewalls and the composite samples were collected from edge to edge of all scraped portions of the remediated area. Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NM OCD approval. The composite samples were placed into laboratory-provided containers, preserved on ice and submitted to a National Environmental Laboratory Accreditation Program-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. Characterization sample field screen and analytical data and final confirmatory sample analytical data are summarized in Table 2 and Table 3, respectively (Attachment 6). Laboratory data reports and chain of custody forms are included in Attachment 7.

A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit, or equivalent, was used to map the approximate center of each of the five-point composite samples. The confirmatory sample locations are presented on Figure 2 (Attachment 2). Relevant equipment and prominent features/reference points at the site are mapped as well.

Closure Request

Vertex recommends no additional remediation action to address the release at Todd 26 M. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below NM OCD Closure Criteria for areas where depth to groundwater is greater than 100 feet bgs as shown in Table 1. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

vertex.ca

201 S Mesa Street, Carlsbad, New Mexico 88220, USA | P 575.725.5001

Devon Energy Production Company
Todd 26 M Federal #009

2020 Spill Assessment and Closure
April 2020

The remediated release area was backfilled as necessary and restored to its original condition as part of the compacted wellpad.

Vertex requests that this incident 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 December 8, 2019, release at Todd 26 M.

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

Sincerely,



Natalie Gordon
PROJECT MANAGER

Attachments

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

vertex.ca

201 S Mesa Street, Carlsbad, New Mexico 88220, USA | P 575.725.5001

Devon Energy Production Company
Todd 26 M Federal #009

2020 Spill Assessment and Closure
April 2020

References

- New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map*. Retrieved from <http://geoinfo.nmt.edu>
- New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.
- 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>
- United States Department of Agriculture, Natural Resources Conservation Service. (2020). *Web Soil Survey*. Retrieved from <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>
- United States Department of the Interior, Bureau of Land Management. (2020). *New Mexico Cave/Karsts*. Retrieved from <https://www.blm.gov/programs/recreation/recreation-programs/caves/new-mexico>
- United States Department of the Interior, United States Geological Survey. (2020). *Groundwater for New Mexico: Water Levels*. Retrieved from <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>
- United States Fish and Wildlife. (2020). *National Wetlands Inventory*. Retrieved from <https://www.fws.gov/wetlands/Data/Mapper.html>

Devon Energy Production Company
Todd 26 M Federal #009

2020 Spill Assessment and Closure
April 2020

Limitations

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

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

ATTACHMENT 1

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

☐ The source of the release has been stopped.	
☐ The impacted area has been secured to protect human health and the environment.	
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
☐ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: _____	Title: _____
Signature: <u>Kendra DeHoyos</u>	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: _____	Date: _____

Spill Volume(Bbbs) Calculator*Inputs in blue , Outputs in red***Contaminated Soil measurement**

Area (square feet)	Depth(inches)
<u>2115.721</u>	<u>1.810</u>
Cubic Feet of Soil Impacted	<u>319.121</u>
Barrels of Soil Impacted	<u>56.88</u>
Soil Type	Clay/Sand
Barrels of Oil Assuming 100% Saturation	<u>8.53</u>
Saturation	Fluid present with shovel/backhoe
Estimated Barrels of Oil Released	8.53

Free Standing Fluid Only

Area (square feet)	Depth(inches)
<u>2115.721</u>	<u>0.032</u>
Standing fluid	<u>1.006</u>
<u>Total fluids spilled</u>	<u>9.538</u>

Incident ID	NRM2014556971
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>358</u> (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.

Incident ID	NRM2014556971
District RP	
Facility ID	
Application ID	

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

Printed Name: Tom Bynum Title: EHS Consultant
Signature: *Tom Bynum* Date: 10/30/2020
email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: Cristina Eads Date: 11/03/2020

Incident ID	NRM2014556971
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

Printed Name: Tom Bynum Title: EHS Consultant
Signature: Tom Bynum Date: 10/30/2020
email: tom.bynum@dvn.com Telephone: 575-748-2663

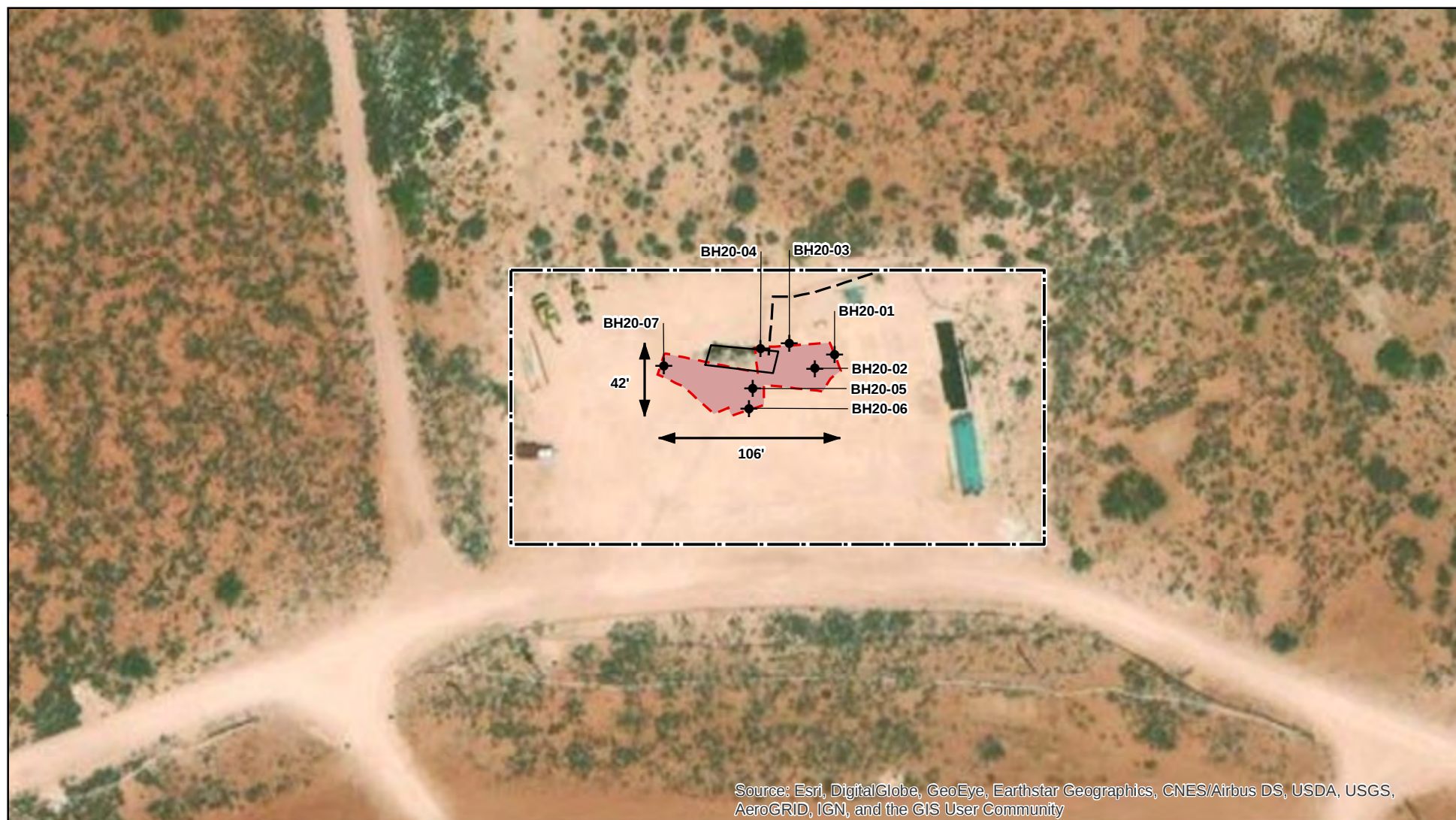
OCD Only

Received by: Cristina Eads Date: 11/03/2020

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: Cristina Eads Date: 01/22/2021
Printed Name: Cristina Eads Title: Environmental Specialist

ATTACHMENT 2



- ◆ Borehole
- Aboveground Pipeline
- Pumpjack
- Approximate Lease Boundary
- Spill - ~2373 sq.ft.



0 25 50 Feet
Map Center:
Lat/Long: 32.269924, -103.754013

NAD 1983 UTM Zone 13N
Date: Feb 05/20



Site Schematic and Initial Characterization Todd 26 M Federal #9

FIGURE:

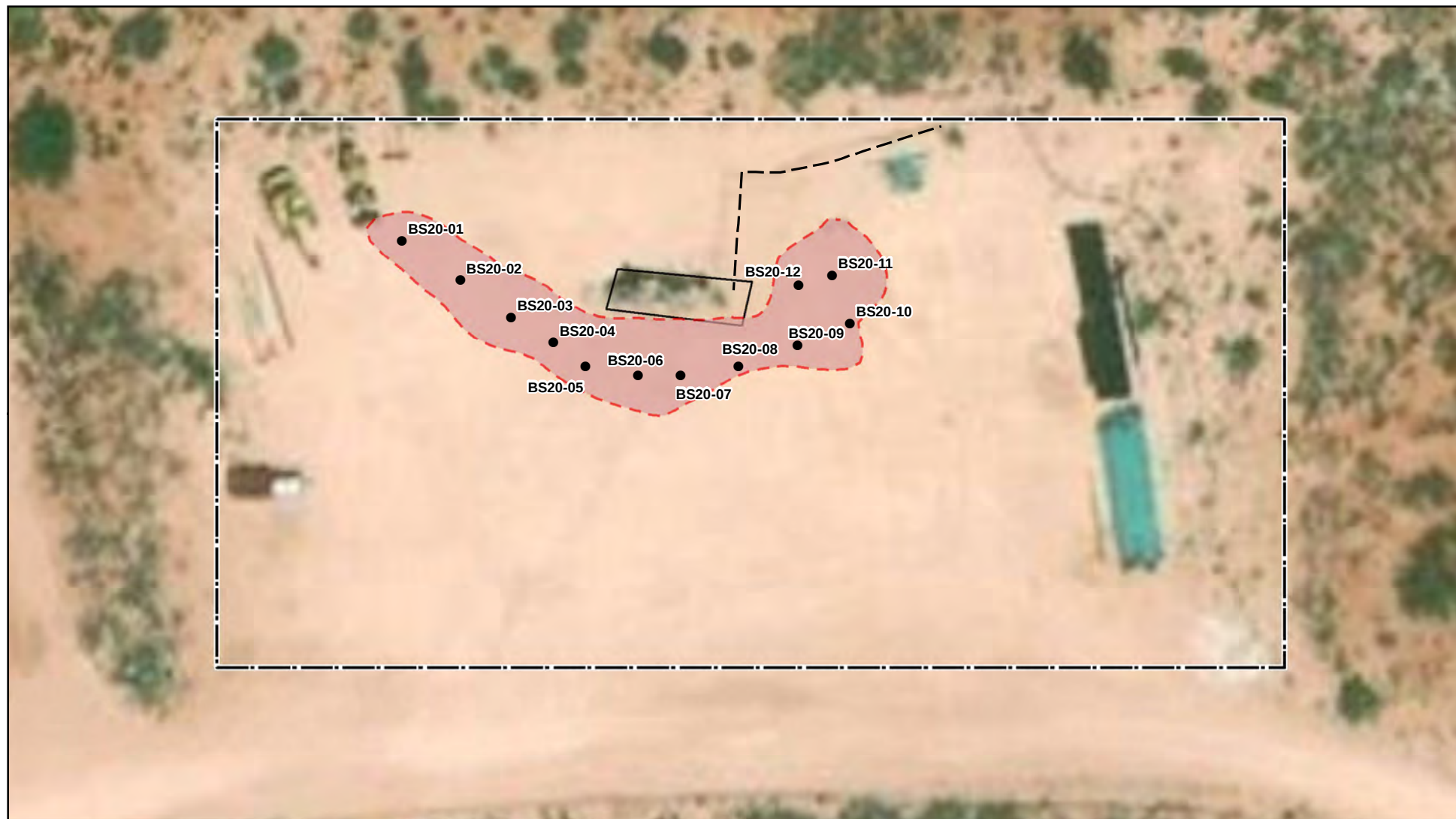
1



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

Note: Background image from ESRI 2018

VERSATILITY. EXPERTISE.



- Base Sample Aboveground
- Pipeline
- Scraped area (~ 2,764 sq. ft.)
- Pumpjack
- Approximate Lease Boundary



0 12.5 25 Feet
Map Center:
Lat/Long: 32.269920, -103.753949

NAD 1983 UTM Zone 13N
Date: Feb 11/20



Excavation Schematic and Confirmatory Sample Locations Todd 26 M Federal #9

FIGURE:

2



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

Note: Background image from ESRI 2018

VERSATILITY. EXPERTISE.

ATTACHMENT 3

Table 1. Closure Criteria Determination			
Todd 26 M Fed 9			
Spill Coordinates:		X: 32.27000	Y: -103.75390
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	358	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	73794	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	6415	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	24344	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	589	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	18086	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)		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'

Column1
Critical
High
Medium
Low

Column1
Yes
No

<50'
51-100'
>100'

Todd 26 M Federal #009

Nearest Watercourse: Pecos River
Distance: 13.98 miles

Legend

 Feature 1

 Todd 26 M Fed 9

Jal Hwy
128

Google Earth

Released to Imaging: 1/22/2021 12:53:48 PM



7 mi



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

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Site Information ▼

Geographic Area:

United States ▼

GO

Click to hide News Bulletins

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

USGS 321609103445901 23S.31E.26.34411

Available data for this site

SUMMARY OF ALL AVAILABLE DATA ▼

GO

Well Site

DESCRIPTION:

Latitude 32°16'11.9", Longitude 103°45'01.2" NAD83

Eddy County, New Mexico , Hydrologic Unit 13060011

Well depth: 365 feet

Land surface altitude: 3,451.00 feet above NGVD29.

Well completed in "Dewey Lake Redbeds" (312DYLK) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-02-04	2013-02-14	5
Field/Lab water-quality samples	1972-09-20	1972-09-20	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

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

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

[Accessibility](#) [Plug-Ins](#) [FOIA](#) [Privacy](#) [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: NWIS Site Information for USA: Site Inventory

URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321609103445901



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

Page Last Modified: 2020-02-25 17:01:44 EST

0.4 0.39 caww02



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-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02348	C	ED		1	4	3	26	23S	31E	617648	3571068	289	700	430	270
C 02258	C	ED		3	2	26	23S	31E	618055	3571853*	1066	662			
C 02405	CUB	ED		4	1	02	24S	31E	617690	3568631*	2436	275	160	115	
C 02464	C	ED		3	4	1	02	24S	31E	617589	3568530*	2525	320	205	115
C 02460	C	ED		3	02	24S	31E	617496	3568022*	3026	320				
C 02460 POD2	C	ED		3	02	24S	31E	617496	3568022*	3026	320				
C 02661	CUB	ED		3	3	1	04	24S	31E	613969	3568485*	4247	708		
C 02785	CUB	ED		3	3	1	04	24S	31E	613969	3568485*	4247	692		
C 02783	CUB	ED		3	3	1	04	24S	31E	613911	3568461	4307	708		
C 02783 POD2	CUB	ED		3	3	1	04	24S	31E	613911	3568461	4307	672		
C 02784	C	ED		4	2	4	04	24S	31E	613911	3568461	4307	584		
C 02440	C	ED		2	3	10	24S	31E	616103	3566599*	4620	350			
C 02777	CUB	ED		4	4	4	10	23S	31E	616974	3575662	4632	890		
C 03749 POD1	CUB	ED		2	2	15	23S	31E	616974	3575662	4632	865	639	226	
C 02954 EXPL	CUB	ED		3	1	4	20	23S	31E	613114	3572906*	4634	905		

Average Depth to Water: **358 feet**

Minimum Depth: **160 feet**

Maximum Depth: **639 feet**

Record Count: 15

UTMNAD83 Radius Search (in meters):

Easting (X): 617358.59

Northing (Y): 3571045.23

Radius: 5000

*UTM location was derived from PLSS - see Help

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

1/18/20 3:47 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Wells with Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right 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-Code	basin	County	Source	q 64	q 16	q 4	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 02348	C	ED	Shallow		1	4	3	26	23S	31E	617648	3571068	289	10/31/2013	11/01/2013	11/07/2013	700	430	JOHN SIRMAN	1654
C 02258	C	ED			3	2	26	23S	31E		618055	3571853*	1066	09/18/1992	09/18/1992	09/25/1992	662		CORKY GLENN	421
C 02405	CUB	ED	Shallow		4	1	02	24S	31E		617690	3568631*	2436	09/29/1994	09/30/1994	12/05/1994	275	160	COLLIS, ROBERT E.	1184
C 02464	C	ED	Shallow		3	4	1	02	24S	31E	617589	3568530*	2525	08/24/1995	08/24/1995	09/07/1995	320	205	GLENN, CLARK A."CORKY" (LD)	421
C 02460	C	ED	Shallow		3	02	24S	31E			617496	3568022*	3026	08/21/1995	08/21/1995	09/07/1995	320		GLENN, CLARK A."CORKY" (LD)	421
C 02460 POD2	C	ED	Shallow		3	02	24S	31E			617496	3568022*	3026	08/25/1995	08/25/1995	09/07/1995	320		GLENN, CLARK A."CORKY" (LD)	421
C 02783	CUB	ED	Shallow		3	3	1	04	24S	31E	613911	3568461	4307		12/31/1979	10/18/2010	708		SANDIA NATIONAL LABS/USGS	
C 02783 POD2	CUB	ED	Shallow		3	3	1	04	24S	31E	613911	3568461	4307	09/09/2010	09/29/2010	10/18/2010	672		BRUNSON, WILLIAM	331
C 02784	C	ED	Shallow		4	2	4	04	24S	31E	613911	3568461	4307	10/06/2010	10/08/2010	10/18/2010	584		BRUNSON, WILLIAM	331
C 02440	C	ED			2	3	10	24S	31E		616103	3566599*	4620	03/20/1995	03/21/1995	04/25/1995	350		COLLIS, ROBERT E. (LD)	1184
C 03749 POD1	CUB	ED	Shallow		2	2	15	23S	31E		616974	3575662	4632	07/10/2014	08/06/2014	09/11/2014	865	639	RANDY STEWART	331
C 02954 EXPL	CUB	ED	Shallow		3	1	4	20	23S	31E	613114	3572906*	4634	06/25/2003	07/29/2003	08/07/2003	905		BROCKMAN, BERNARD J.	1184

Record Count: 12

UTMNAD83 Radius Search (in meters):

Easting (X): 617358.59

Northing (Y): 3571045.23

Radius: 5000

*UTM location was derived from PLSS - see Help

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

1/18/20 4:07 PM

Page 1 of 1

WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer

Wells with Well Log Information

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	Code	Subbasin	County	Source	q	q	q	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number	
C 02348	C		ED	Shallow	64	16	4	4	26	23S	31E	617648	3571068	291	10/31/2013	11/01/2013	11/07/2013	700	430	JOHN SIRMAN	1654

Record Count:

1

UTMNAD83 Radius Search (in meters):

Easting (X):

617357.1

Northing (Y):

3571039

Radius:

350

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

1/28/20 8:38 AM

WELLS WITH WELL LOG INFORMATION



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

C=the file is closed)

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub			Owner	County	POD Number	Well		Source	q q q					X	Y	Distance			
	basin	Use	Diversion				Tag	Code Grant		6416	4	Sec	Tws	Rng						
C 02348	C	STK		3 NGL WATER SOLUTIONS PERMIAN	ED	C 02348			Shallow	1	4	3	26	23S	31E	617647	3571068		289	
C 02258	C	PRO		0 DEVON ENERGY CORP.(NEVADA)	ED	C 02258					3	2	26	23S	31E	618055	3571853*		1066	
C 02602	C	SAN		0 POGO PRODUCING COMPANY	ED	C 02602					2	2	35	23S	31E	618471	3570650*		1180	
C 00225 A	CUB	IRR		8.4 GREGORY ROCKHOUSE RANCH	ED	C 02405			Shallow		4	1	02	24S	31E	617690	3568631*		2436	
C 01246 AO	CUB	IRR		47.82 CATHLEEN MC INTIRE	ED	C 02405			Shallow		4	1	02	24S	31E	617690	3568631*		2436	
C 02405	C	PRO		0 TEXACO EXPLORATION & PROD. IND	ED	C 02405			Shallow		4	1	02	24S	31E	617690	3568631*		2436	
C 02452	C	PRO		0 TEXACO EXPLORATION & PROD INC.	ED	C 02405			Shallow		4	1	02	24S	31E	617690	3568631*		2436	
					ED	C 02452					4	1	02	24S	31E	617690	3568631*		2436	
C 02576	C	PRO		0 SONAT EXPLORATION COMPANY	ED	C 02405			Shallow		4	1	02	24S	31E	617690	3568631*		2436	
C 02464	C	PRO		0 COMMISSIONER OF PUBLIC LANDS	ED	C 02464			Shallow		3	4	1	02	24S	31E	617589	3568530*		2525
C 02901	C	PUB		0 B & H MAINTENANCE & CONST.	ED	C 02901					3	4	1	02	24S	31E	617589	3568530*		2525
C 02460	C	PRO		0 SONAT EXPLORATION	ED	C 02460			Shallow			3	02	24S	31E	617496	3568022*		3026	
					ED	C 02460 POD2			Shallow			3	02	24S	31E	617496	3568022*		3026	
C 02958	C	STK		3 RICHARDSON CATTLE COMPANY	ED	C 02958					3	3	4	04	24S	31E	614781	3567690*		4231
C 02661	CUB	MON		0 SANDIA NATIONAL LABORATORIES	ED	C 02661					3	3	1	04	24S	31E	613969	3568485*		4247
C 02785	CUB	MON		0 U.S. DEPT. OF ENERGY - WIPP	ED	C 02785					3	3	1	04	24S	31E	613969	3568485*		4247
C 02783	CUB	OBS		0 U.S. DEPT. OF ENERGY - WIPP	ED	C 02783			Shallow		3	3	1	04	24S	31E	613911	3568461		4307
					ED	C 02783 POD2			Shallow		3	3	1	04	24S	31E	613911	3568461		4307

*UTM location was derived from PLSS - see Help

(acre ft per annum)										(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE) C=the file is closed) (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 6	q 4	q 4	Sec	Tws	Rng	X	Y	Distance	
C 02784	C	SAN		0 US DEPARTMENT OF ENERGY WASTE ISOLATION PILOT PLANT	ED	C 02784				Shallow	4	2	4	04	24S	31E	613911	3568461		4307
C 03470	C	PUB		0 U.S. DEPT. OF ENERGY (WIPP)	ED	C 02783 POD2				Shallow	3	3	1	04	24S	31E	613911	3568461		4307
C 02440	C	PRO		0 SONAT EXPLORATION	ED	C 02440						2	3	10	24S	31E	616103	3566599*		4620
C 02777	CUB	MON		0 US DEPT OF ENERGY WIPP	ED	C 02777					4	4	4	10	23S	31E	616973	3575662		4632
C 03749	CUB	MON		0 US DEPARTMENT OF ENERGY	ED	C 03749 POD1				Shallow		2	2	15	23S	31E	616973	3575662		4632
C 02954	CUB	EXP		0 U.S. DEPARTMENT OF ENERGY CARLSBAD FIELD OFFICE, WIPP	ED	C 02954 EXPL				Shallow	3	1	4	20	23S	31E	613114	3572906*		4634
C 04220	CUB	MON		0 CHEVRON N AMERICA EXPL & PROD	ED	C 04220 POD1	NA				2	3	3	11	24S	31E	617401	3566340		4705

Record Count: 25

UTMNAD83 Radius Search (in meters):

Easting (X): 617358.59 Northing (Y): 3571045.23 Radius: 5000

Sorted by: Distance

*UTM location was derived from PLSS - see Help

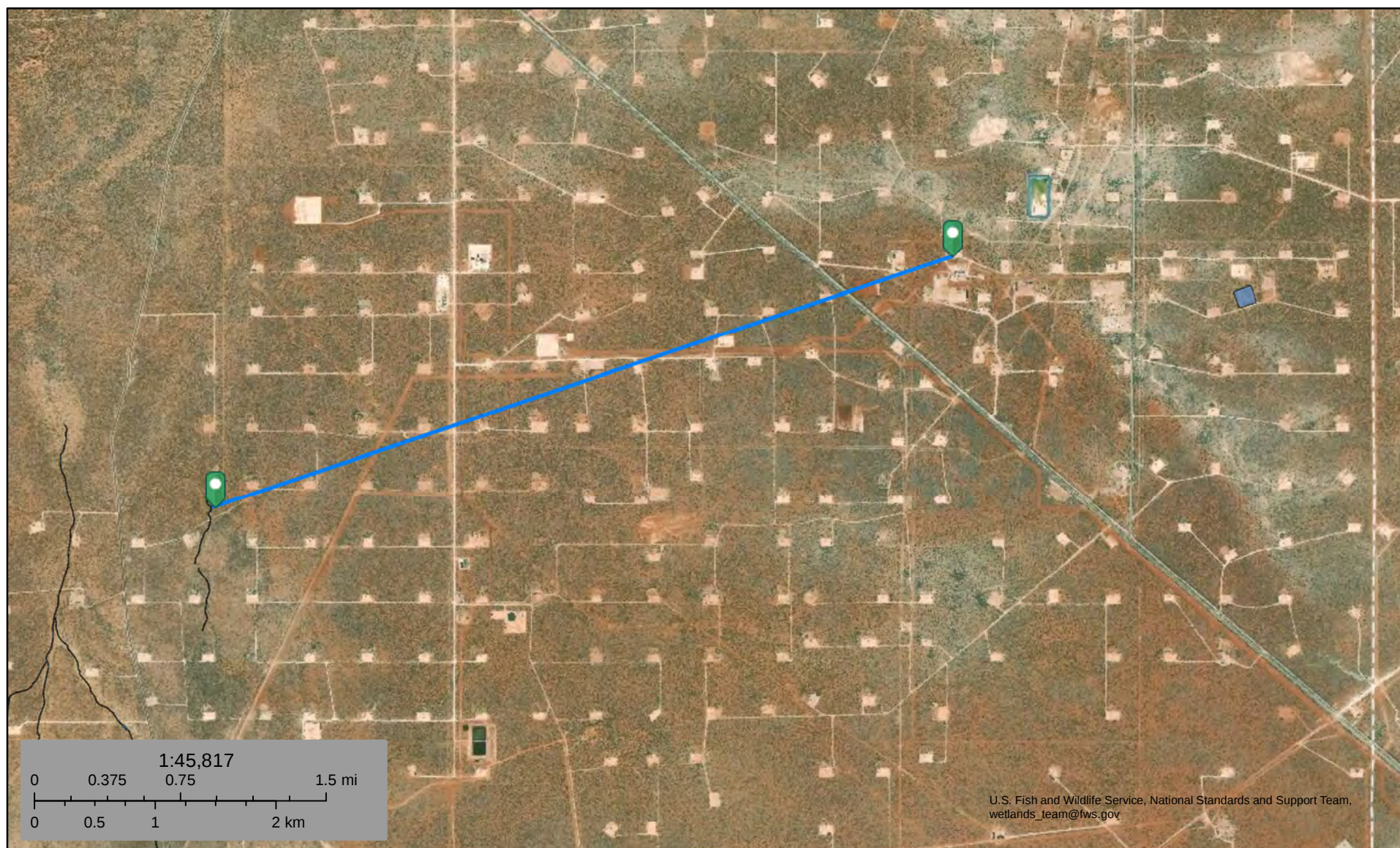
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



U.S. Fish and Wildlife Service

National Wetlands Inventory

Todd 26 M Fed 9: Flowing Water 17,905 ft



January 18, 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.



U.S. Fish and Wildlife Service

National Wetlands Inventory

Todd 26 M Fed 9: Freshwater Pond 6,415 f



January 18, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

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

- Lake
- Other
- Riverine

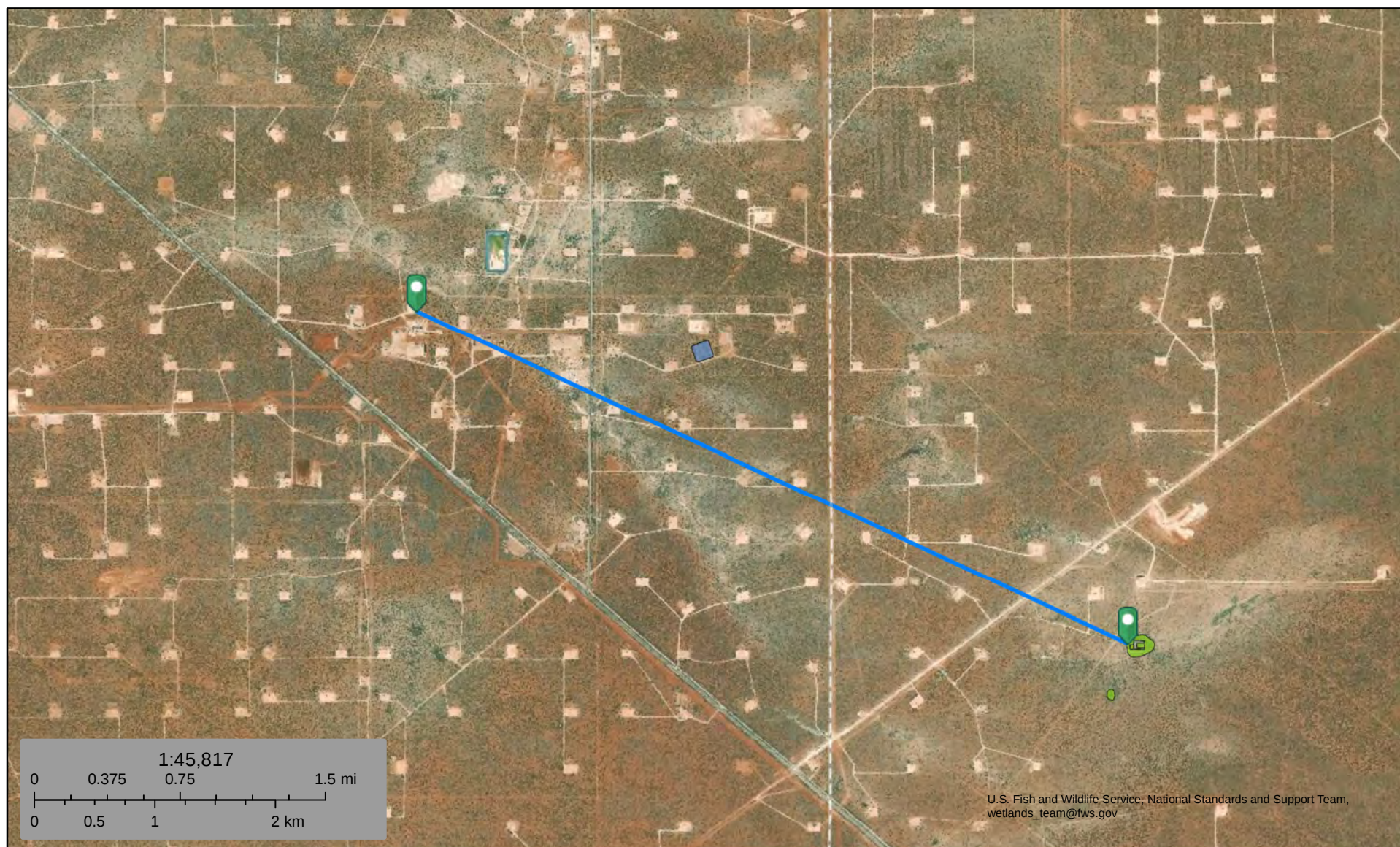
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



U.S. Fish and Wildlife Service

National Wetlands Inventory

Todd 26 M Fed 9: Wetland 18,086 ft



January 18, 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.

Todd 26 M Federal #009



2/25/2020, 2:50:01 PM

1:144,448

Faults

—

Fault, Exposed

- - -

Fault, Intermittent

.....

Fault, Concealed

~~~~

Shere Zone

Dikes

—

<all other values>

—

Dike

++++

Dike intruding fault

\*

Volcanic Vents

STATEMAP (1993 to Present) [Publications]

Mapping in Complete

Mapping in Progress

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

Web AppBuilder for ArcGIS

Released to Imaging: 1/22/2021 12:53:48 PM

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

## Active Mines near Todd 26 M Feb 9



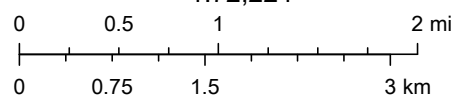
1/18/2020, 3:49:46 PM

## Registered Mines

✕ Aggregate, Stone etc.

✕ Aggregate, Stone etc.

1:72,224



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

EMNRD MMD GIS Coordinator

## Todd 26 M Fed 9

Distance to Residence: 24,344 ft

### Legend

 Feature 1

 Todd 26 M Fed 9

 Residence

 Residence

Google Earth

© 2019 Google

Released to Imaging: 1/22/2021 12:53:48 PM



6 km

Soil Map—Eddy Area, New Mexico  
(Todd 26 M Fed 9 Soil Map)



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

1/18/2020  
Page 1 of 3

Soil Map—Eddy Area, New Mexico  
(Todd 26 M Fed 9 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: Eddy Area, New Mexico

Survey Area Data: Version 15, 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 |
|-----------------------------|-----------------------------------------------|--------------|----------------|
| BB                          | Berino complex, 0 to 3 percent slopes, eroded | 1.8          | 100.0%         |
| Totals for Area of Interest |                                               | 1.8          | 100.0%         |

Todd 26 M Fed 009

0.21 miles to USGS Well  
Water Well Depth 365 ft

Legend

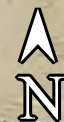
9547,-103.7539139  Todd 26 M Federal #009

321609103445901 

Google Earth

Released to Imaging: 1/22/2021 12:53:48 PM

© SPOT IMAGE



400 ft

Map Unit Description: Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded---  
Eddy Area, New Mexico, and Lea County, New Mexico

Todd 26 M Fed 9

## Eddy Area, New Mexico

### SN—Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded

#### Map Unit Setting

*National map unit symbol:* 1w5y  
*Elevation:* 3,000 to 4,200 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Mean annual air temperature:* 60 to 64 degrees F  
*Frost-free period:* 200 to 220 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Simona and similar soils:* 45 percent  
*Wink and similar soils:* 40 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Simona

##### Setting

*Landform:* Alluvial fans, plains  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear  
*Parent material:* Mixed alluvium and/or eolian sands

##### Typical profile

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

##### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* 7 to 20 inches to petrocalcic  
*Natural drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 15 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 2.5 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 4s  
*Land capability classification (nonirrigated):* 7e

Map Unit Description: Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded---  
Eddy Area, New Mexico, and Lea County, New Mexico

Todd 26 M Fed 9

*Hydrologic Soil Group:* D  
*Ecological site:* Shallow Sandy (R042XC002NM)  
*Hydric soil rating:* No

## Description of Wink

### Setting

*Landform:* Depressions, swales  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Mixed alluvium and/or eolian sands

### Typical profile

*H1 - 0 to 8 inches:* fine sandy loam  
*H2 - 8 to 38 inches:* fine sandy loam  
*H3 - 38 to 60 inches:* stratified gravelly variable

### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* High  
(2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 30 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:* Low (about 6.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* A  
*Ecological site:* Sandy (R042XC004NM)  
*Hydric soil rating:* No

## Minor Components

### Dune land

*Percent of map unit:* 15 percent

Map Unit Description: Simona and Wink fine sandy loams, 0 to 3 percent slopes, eroded---  
Eddy Area, New Mexico, and Lea County, New Mexico

Todd 26 M Fed 9

Hydric soil rating: No

## Data Source Information

Soil Survey Area: Eddy Area, New Mexico  
Survey Area Data: Version 15, Sep 15, 2019

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

Map Unit Description: Berino complex, 0 to 3 percent slopes, eroded---Eddy Area, New Mexico, and Lea County, New Mexico

Todd 26 M Fed 9

## Eddy Area, New Mexico

### BB—Berino complex, 0 to 3 percent slopes, eroded

#### Map Unit Setting

*National map unit symbol:* 1w43

*Elevation:* 2,000 to 5,700 feet

*Mean annual precipitation:* 5 to 15 inches

*Mean annual air temperature:* 57 to 70 degrees F

*Frost-free period:* 180 to 260 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Berino and similar soils:* 60 percent

*Pajarito and similar soils:* 25 percent

*Minor components:* 15 percent

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

#### Description of Berino

##### Setting

*Landform:* Fan piedmonts, plains

*Landform position (three-dimensional):* Riser

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Mixed alluvium and/or eolian sands

##### Typical profile

*H1 - 0 to 17 inches:* fine sand

*H2 - 17 to 58 inches:* sandy clay loam

*H3 - 58 to 60 inches:* loamy sand

##### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):*

Moderately high to high (0.60 to 2.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 40 percent

*Salinity, maximum in profile:* Very slightly saline to slightly saline  
(2.0 to 4.0 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 1.0

*Available water storage in profile:* Moderate (about 8.0 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

Map Unit Description: Berino complex, 0 to 3 percent slopes, eroded---Eddy Area, New Mexico, and Lea County, New Mexico

Todd 26 M Fed 9

*Hydrologic Soil Group:* B  
*Ecological site:* Loamy Sand (R042XC003NM)  
*Hydric soil rating:* No

## Description of Pajarito

### Setting

*Landform:* Interdunes, plains, dunes  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear, convex  
*Parent material:* Mixed alluvium and/or eolian sands

### Typical profile

*H1 - 0 to 9 inches:* loamy fine sand  
*H2 - 9 to 72 inches:* fine sandy loam

### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* High  
(2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 40 percent  
*Salinity, maximum in profile:* Nonsaline (0.0 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 1.0  
*Available water storage in profile:* Moderate (about 8.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* A  
*Ecological site:* Loamy Sand (R042XC003NM)  
*Hydric soil rating:* No

## Minor Components

### Cacique

*Percent of map unit:* 4 percent  
*Ecological site:* Sandy (R042XC004NM)  
*Hydric soil rating:* No

### Wink

*Percent of map unit:* 4 percent  
*Ecological site:* Loamy Sand (R042XC003NM)  
*Hydric soil rating:* No

### Pajarito

*Percent of map unit:* 4 percent  
*Ecological site:* Loamy Sand (R042XC003NM)  
*Hydric soil rating:* No

Map Unit Description: Berino complex, 0 to 3 percent slopes, eroded---Eddy Area, New Mexico, and Lea County, New Mexico

Todd 26 M Fed 9

**Kermi**

*Percent of map unit:* 3 percent

*Ecological site:* Deep Sand (R042XC005NM)

*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: Eddy Area, New Mexico

Survey Area Data: Version 15, Sep 15, 2019

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 16, Sep 15, 2019

## **ATTACHMENT 4**



## Daily Site Visit Report

|                         |                          |                   |                   |
|-------------------------|--------------------------|-------------------|-------------------|
| Client:                 | Devon Energy Corporation | Inspection Date:  | 1/22/2020         |
| Site Location Name:     | Todd 26 M Federal #9     | Report Run Date:  | 1/23/2020 1:17 AM |
| Project Owner:          |                          | File (Project) #: |                   |
| Project Manager:        |                          | API #:            |                   |
| Client Contact Name:    | Amanda Davis             | Reference         |                   |
| Client Contact Phone #: | (575) 748-0176           |                   |                   |

### Summary of Times

|                    |                   |
|--------------------|-------------------|
| Left Office        | 1/22/2020 7:00 AM |
| Arrived at Site    | 1/22/2020 9:00 AM |
| Departed Site      | 1/22/2020 1:24 PM |
| Returned to Office |                   |

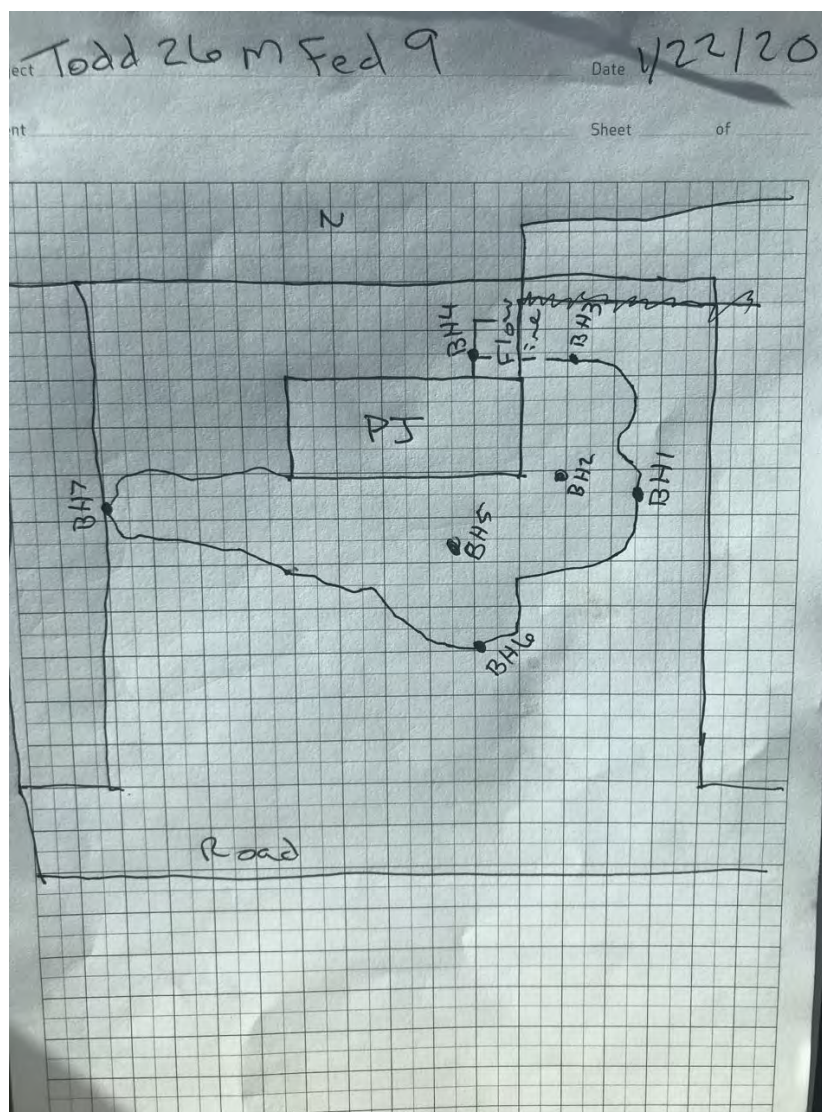
## Daily Site Visit Report



## Site Sketch

1/22  
Todd M 26 Feb 9      mileage  
32.2699547, -103.7539139      PID  
EC  
Intersection 31st 128      Trimble  
Travel 16 miles      Petro  
Turn left on dirt road  
Cross cattle guard & veer right  
0.6 miles and arrive on location  
  
Staining is still visible around PJ  
There is visible tire marks/roadway  
right next to PJ.  
Site seems to be currently shut in  
Took 5 sample points to verify  
edges of spill area  
Took two samples to delineate in  
middle of spill to define depth  
On sample spot 3 I walked in about  
5 steps to verify for clean edge.  
Sample Spot 4 I moved in twice  
to verify edge of spill. Does not  
seem to have any overspray North  
of PJ.  
Sample Spot 7 was taken at edge of west  
end of spill. Took few steps out to verify  
edge.

## Daily Site Visit Report



## Daily Site Visit Report



**Spill Response and Sampling**

Client: Duron  
 Date: 1/22/20  
 Site Name: Todd 26 M Fed 9  
 Site Location:  
 Project Owner:  
 Project Manager:  
 Project #:

| Sample ID                                 | Depth (ft) | Field Screening |                     | Quantals (High/Low) + or - | Lab Analysis             |
|-------------------------------------------|------------|-----------------|---------------------|----------------------------|--------------------------|
|                                           |            | VOC (PID)       | Petroleum TPH (ppm) |                            |                          |
| CU/TPH1 - Vapor<br>Handics<br>Ex. BH1B-01 | Ex. 2ft    | Ex. 400 ppm     | 200 ppm             | Ex. High +                 | Ex. Hydrocarbon Chloride |
| BH1                                       | 0          |                 |                     | 0.09 / 16.9                |                          |
|                                           | 0.5        |                 |                     | 0.08 / 19.3                |                          |
| BH2                                       | 0          |                 |                     | 1.25 / 18.9                |                          |
|                                           | 0.5        |                 |                     | 0.35 / 18.4                |                          |
|                                           | 1          |                 |                     | 0.13 / 18.4                |                          |
|                                           | 2          |                 |                     | 0.12 / 17.6                |                          |
| BH3                                       | 0          |                 |                     | 0.13 / 17.2                |                          |
|                                           | 0.5        |                 |                     | 0.05 / 18.7                |                          |
| BH4                                       | 0          |                 |                     | 0.10 / 18.8                |                          |
|                                           | 0.5        |                 |                     | 0.03 / 17.2                |                          |
| BH5                                       | 0          |                 |                     | 11.32 / 17.7               |                          |
|                                           | 0.5        |                 |                     | 0.22 / 18.5                |                          |
|                                           | 1          |                 |                     | 0.10 / 17.3                |                          |
|                                           | 2          |                 |                     | 0.09 / 17.3                |                          |
| BH6                                       | 0          |                 |                     | 0.14 / 16.5                |                          |
|                                           | 0.5        |                 |                     | 0.08 / 17.5                |                          |
| BH7                                       | 0          |                 |                     | 0.51 / 17.4                |                          |
|                                           | 0.5        |                 |                     | 0.04 / 16.9                |                          |
| BH4.1                                     | 0          |                 |                     | 0.18 / 17.9                |                          |
|                                           | 0.5        |                 |                     | 0.02 / 19.1                |                          |
| BH4.2                                     | 0          |                 |                     | 0.54 / 17.7                |                          |
| BH3.1                                     | 0          |                 |                     | 1.13 / 18.7                |                          |

**THINK<sup>2</sup>Master**

## Daily Site Visit Report



### Summary of Daily Operations

**9:36** Arrive on location  
Safety paperwork  
Flag sample points  
Delineate  
Field screen  
Take photos

### Next Steps & Recommendations

1

## Daily Site Visit Report



## Site Photos

Viewing Direction: North



Spill area with visible flags marking sample points

Viewing Direction: West



Spill area with flag markers for sample points

Viewing Direction: West



Where roadway is in spill area

Viewing Direction: South



Possible pooling area



## Daily Site Visit Report

**Viewing Direction: West**



Possible overspray area with marker flag for sample point

**Viewing Direction: South**



Bh20-07

**Viewing Direction: North**



Bh20-05 and bh20-06

**Viewing Direction: Northwest**



Bh20-01 bh20-02 and bh20-03



## Daily Site Visit Report

Viewing Direction: South



Description Photo  
Viewing Direction: South  
Date: Bh20-04  
Created: 1/22/2020 1:10:03 PM  
Lat: 32.720114, Long: -102.574002

Bh20-04

## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Monica Peppin

**Signature:**

1/22

Todd M 26 Feb 9

mileage

32.2699547, -103.7539139

~~PID~~

EC

Investigation  
A [ Intersation 31st 128  
Travel 16 miles  
Turn left on dirt road 1/2 mile  
Cross cattle guard & veer right  
0.6 miles and arrive on location

Trimble

~~PID~~

Staining is still visible around PJ  
There is visible tire marks/roadway  
right next to PJ.

Site seems to be currently shut in  
Took 5 sample points to verify  
edges of spill area

Took two samples to delineate in  
middle of spill to define depth

On sample spot 3 I walked in about  
5 steps to verify for clean edge.

Sample Spot 4 I moved in twice  
to verify edge of spill. Does not  
seem to have any overspray North  
of PJ.

Sample Spot 7 was taken at edge of West  
end of spill. Took few steps out to verify  
edge.



VERTEX

## Spill Response and Sampling

Client: Duron

Date: 11/22/20

Site Name: Todd 26 M Fed 9

Site Location: \_\_\_\_\_

Project Owner: \_\_\_\_\_

Project Manager: \_\_\_\_\_

Project #: \_\_\_\_\_

## Initial Spill Information - Record on First Visit

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

Spill Volume: \_\_\_\_\_

Spill Cause: \_\_\_\_\_

Spill Product: \_\_\_\_\_

Recovered Spill Volume: \_\_\_\_\_

Recovery Method: \_\_\_\_\_

## Sampling

| Sample ID                               | Depth (ft) | Field Screening |                     |                           | Data Collection (Check for Yes) |         |                     |                       |
|-----------------------------------------|------------|-----------------|---------------------|---------------------------|---------------------------------|---------|---------------------|-----------------------|
|                                         |            | VOC (PID)       | PetroFlag TPH (ppm) | Quantab (High/Low) + or - | Lab Analysis                    | Picture | Trimble Coordinates | Marked on Site Sketch |
| SS/TP/BH - Year - Number<br>Ex. BH18-01 | Ex. 2ft    | Ex. 400 ppm     | 200 ppm             | Ex. High +                | Ex. Hydrocarbon Chloride        |         |                     |                       |
| BH1                                     | 0          |                 |                     | 0.09/16.9                 | 208.7489 ppm                    |         |                     |                       |
|                                         | 0.5        |                 |                     | 0.08/19.3                 | 90.3983                         |         |                     |                       |
| BH2                                     | 0          |                 |                     | 7.22/18.9                 | 10412.8799                      |         |                     |                       |
|                                         | 0.5        |                 |                     | 0.35/18.4                 | 519.0584                        |         |                     |                       |
|                                         | 1          |                 |                     | 0.12/18.4                 | 137.0994                        |         |                     |                       |
|                                         | 2          |                 |                     | 0.12/19.6                 | 135.1406                        |         |                     |                       |
| BH3                                     | 0          |                 |                     | 0.13/17.2                 | 253.4912                        |         |                     |                       |
|                                         | 0.5        |                 |                     | 0.05/18.7                 | 73.0787                         |         |                     |                       |
| BH4                                     | 0          |                 |                     | 0.10/18.8                 | 140.9138                        |         |                     |                       |
|                                         | 0.5        |                 |                     | 0.03/17.2                 | 109.1612                        |         |                     |                       |
| BH5                                     | 0          |                 |                     | 11.32/17.7                | 16382.3687                      |         |                     |                       |
|                                         | 0.5        |                 |                     | 0.20/18.5                 | 298.2335                        |         |                     |                       |
|                                         | 1          |                 |                     | 0.10/19.3                 | 119.2643                        |         |                     |                       |
|                                         | 2          |                 |                     | 0.09/17.3                 | 104.8313                        |         |                     |                       |
| BH6                                     | 0          |                 |                     | 0.14/16.5                 | 298.2335                        |         |                     |                       |
|                                         | 0.5        |                 |                     | 0.08/17.5                 | 168.3365                        |         |                     |                       |
| BH7                                     | 0          |                 |                     | 0.51/17.4                 | 793.2854                        |         |                     |                       |
|                                         | 0.5        |                 |                     | 0.04/16.9                 | 136.5839                        |         |                     |                       |
| BH4.1                                   | 0          |                 |                     | 0.18/17.9                 | 295.3469                        |         |                     |                       |
|                                         | 0.5        |                 |                     | 0.02/19.1                 | 12.4601                         |         |                     |                       |
| BH4.2                                   | 0          |                 |                     | 0.54/17.7                 | 823.5947                        |         |                     |                       |
| BH3.1                                   | 0          |                 |                     | 1.13/18.7                 | 1631.8427                       |         |                     |                       |



# VERTEX

## Spill Response and Sampling

Client: Devon

Date: 1/22

Site Name: Todd

Site Location: \_\_\_\_\_

Project Owner: \_\_\_\_\_

Project Manager: \_\_\_\_\_

Project #: \_\_\_\_\_

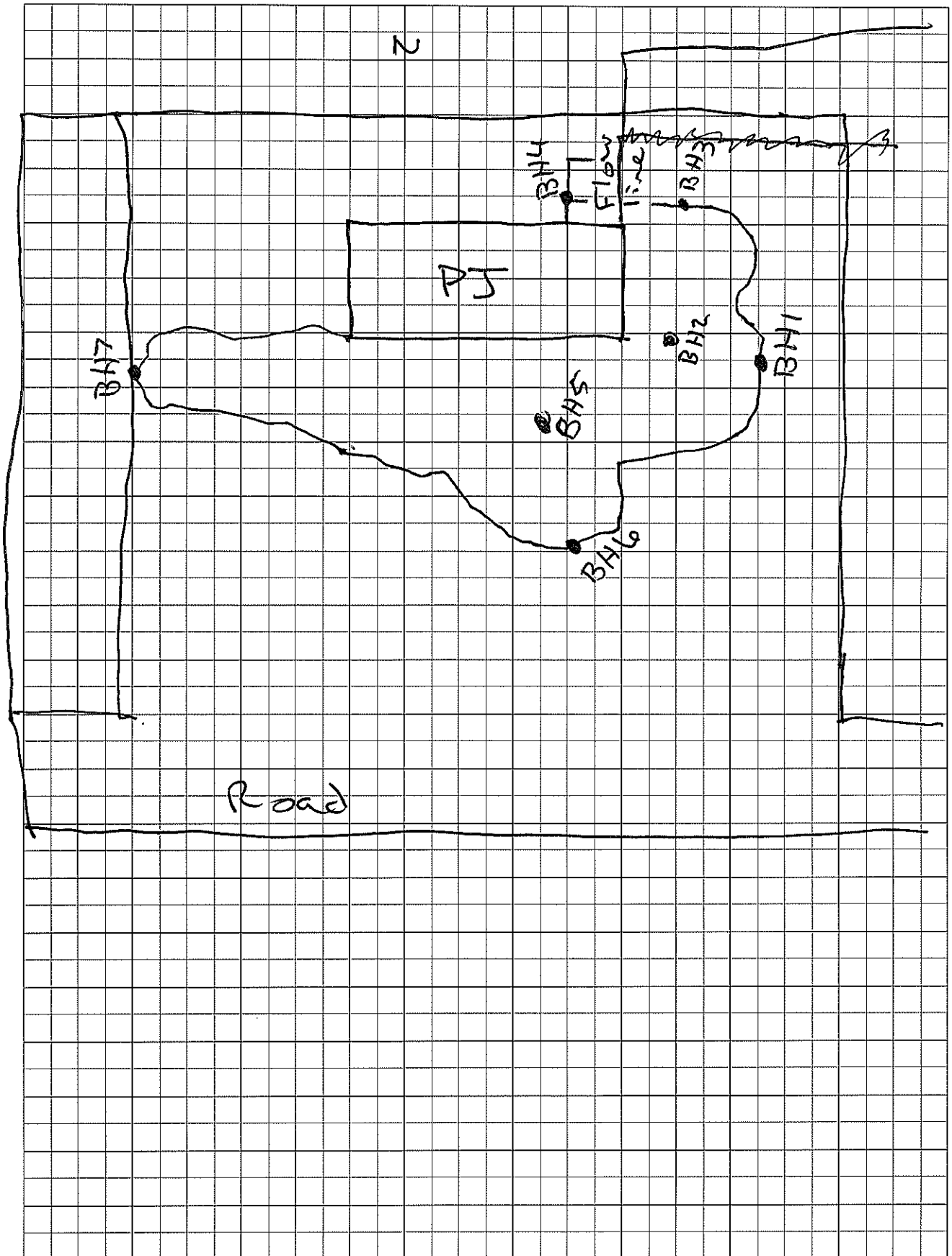
| Initial Spill Information - Record on First Visit |  |
|---------------------------------------------------|--|
| Spill Date:                                       |  |
| Spill Volume:                                     |  |
| Spill Cause:                                      |  |
| Spill Product:                                    |  |
| Recovered Spill Volume:                           |  |
| Recovery Method:                                  |  |

## Sampling

[illegible]

Project Todd 26 m Fed 9Date 1/22/20

Client \_\_\_\_\_ Sheet \_\_\_\_\_ of \_\_\_\_\_





## Daily Site Visit Report

|                         |                          |                   |                  |
|-------------------------|--------------------------|-------------------|------------------|
| Client:                 | Devon Energy Corporation | Inspection Date:  | 2/6/2020         |
| Site Location Name:     | Todd 26 M Federal #9     | Report Run Date:  | 2/7/2020 2:00 AM |
| Project Owner:          | Amanda Davis             | File (Project) #: | 20E-00141        |
| Project Manager:        | Natalie Gordon           | API #:            |                  |
| Client Contact Name:    | Amanda Davis             | Reference         | Spill 12-08-2019 |
| Client Contact Phone #: | (575) 748-0176           |                   |                  |

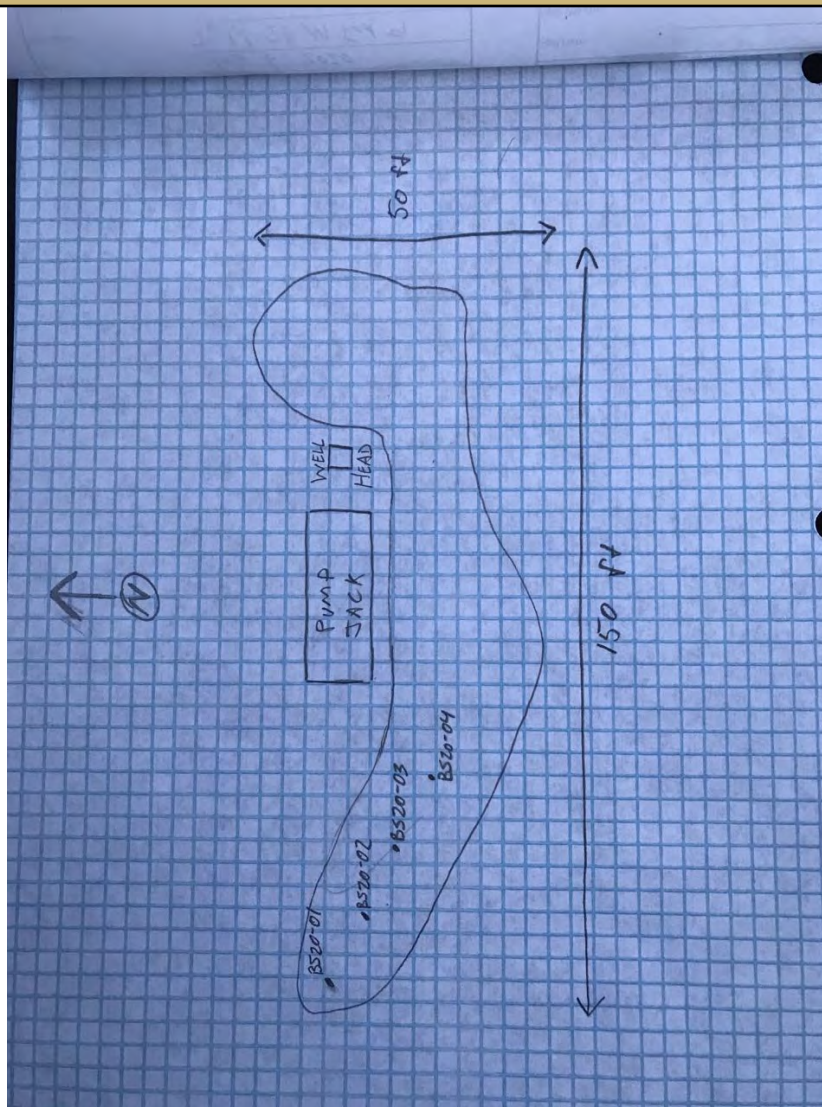
### Summary of Times

|                    |                  |
|--------------------|------------------|
| Left Office        | 2/6/2020 8:45 AM |
| Arrived at Site    | 2/6/2020 9:00 AM |
| Departed Site      | 2/6/2020 5:21 PM |
| Returned to Office | 2/6/2020 6:24 PM |

# Daily Site Visit Report



## Site Sketch





# Daily Site Visit Report

## Summary of Daily Operations

**9:38** Arrive on site.  
 Complete safety paperwork.  
 DISCOVERED NEW SPILL.  
 Contacted Tom Bynum with Devon.  
 Shit off well.  
 Documented new spill and white flagged.  
 Complete DFR.

## Next Steps & Recommendations

1 Continue excavation

## Sampling

### ES-Base20-01

| Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                               | Picture | Trimble Location       | Marked On<br>Site Sketch? |
|----------|---------|-----------------------|----------------------|------------------------|--------------------------------------------------------------------------------------------|---------|------------------------|---------------------------|
| 0.5 ft.  |         |                       |                      | 350 ppm                | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M) |         | 32.270060, -103.754259 | Yes                       |

### ES-Base20-02

| Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                               | Picture | Trimble Location       | Marked On<br>Site Sketch? |
|----------|---------|-----------------------|----------------------|------------------------|--------------------------------------------------------------------------------------------|---------|------------------------|---------------------------|
| 0.5 ft.  |         |                       |                      | 250 ppm                | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M) |         | 32.270028, -103.754205 | Yes                       |



## Daily Site Visit Report

| ES-Base20-03 |          |         |                       |                      |                        |                                                                                            |                                                                                     |                        |                           |
|--------------|----------|---------|-----------------------|----------------------|------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|---------------------------|
|              | Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                               | Picture                                                                             | Trimble Location       | Marked On<br>Site Sketch? |
|              | 0.5 ft.  |         |                       |                      | 1000 ppm               | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M) |  | 32.269998, -103.754158 | Yes                       |
| ES-Base20-04 |          |         |                       |                      |                        |                                                                                            |                                                                                     |                        |                           |
|              | Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                               | Picture                                                                             | Trimble Location       | Marked On<br>Site Sketch? |
|              | 0.5 ft.  |         |                       |                      | 150 ppm                | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M) |  | 32.269978, -103.754119 | Yes                       |

## Daily Site Visit Report



## Site Photos

## Viewing Direction: East



New spill area

## Viewing Direction: East



New spill area

## Viewing Direction: East



New spill area

## Viewing Direction: East



New spill area



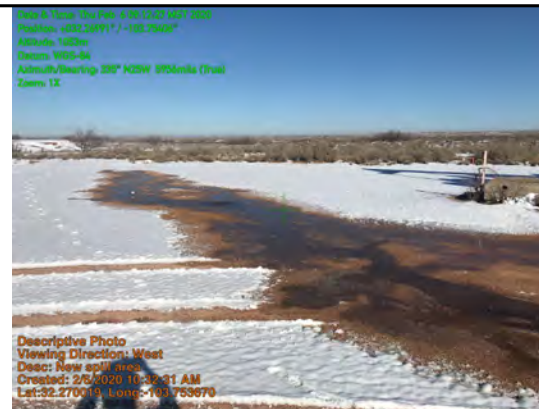
# Daily Site Visit Report

Viewing Direction: East



New spill area

Viewing Direction: West



New spill area

Viewing Direction: North



New spill area

Viewing Direction: Northeast



New spill area



## Daily Site Visit Report

### Viewing Direction: Southwest



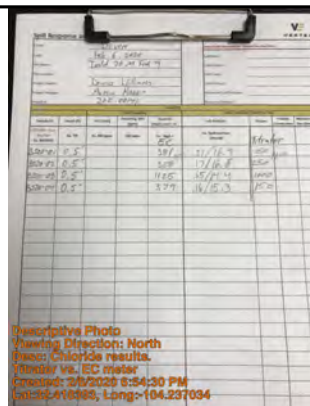
New spill area

### Viewing Direction: South



New spill area

### Viewing Direction: North



Chloride results.  
Titrator vs. EC meter

## Daily Site Visit Report



## Depth Sample Photos

Sample Point ID: ES-Base20-01



Depth: 0.5 ft.

Sample Point ID: ES-Base20-02



Depth: 0.5 ft.

Sample Point ID: ES-Base20-03



Depth: 0.5 ft.

Sample Point ID: ES-Base20-04



Depth: 0.5 ft.

## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Austin Harris

**Signature:**

A handwritten signature in black ink, appearing to be 'AH' with a long horizontal stroke extending to the right.

Signature



## Daily Site Visit Report

|                         |                          |                   |                  |
|-------------------------|--------------------------|-------------------|------------------|
| Client:                 | Devon Energy Corporation | Inspection Date:  | 2/7/2020         |
| Site Location Name:     | Todd 26 M Federal #9     | Report Run Date:  | 2/8/2020 1:14 AM |
| Project Owner:          | Amanda Davis             | File (Project) #: | 20E-00141        |
| Project Manager:        | Natalie Gordon           | API #:            |                  |
| Client Contact Name:    | Amanda Davis             | Reference         | Spill 12-08-2019 |
| Client Contact Phone #: | (575) 748-0176           |                   |                  |

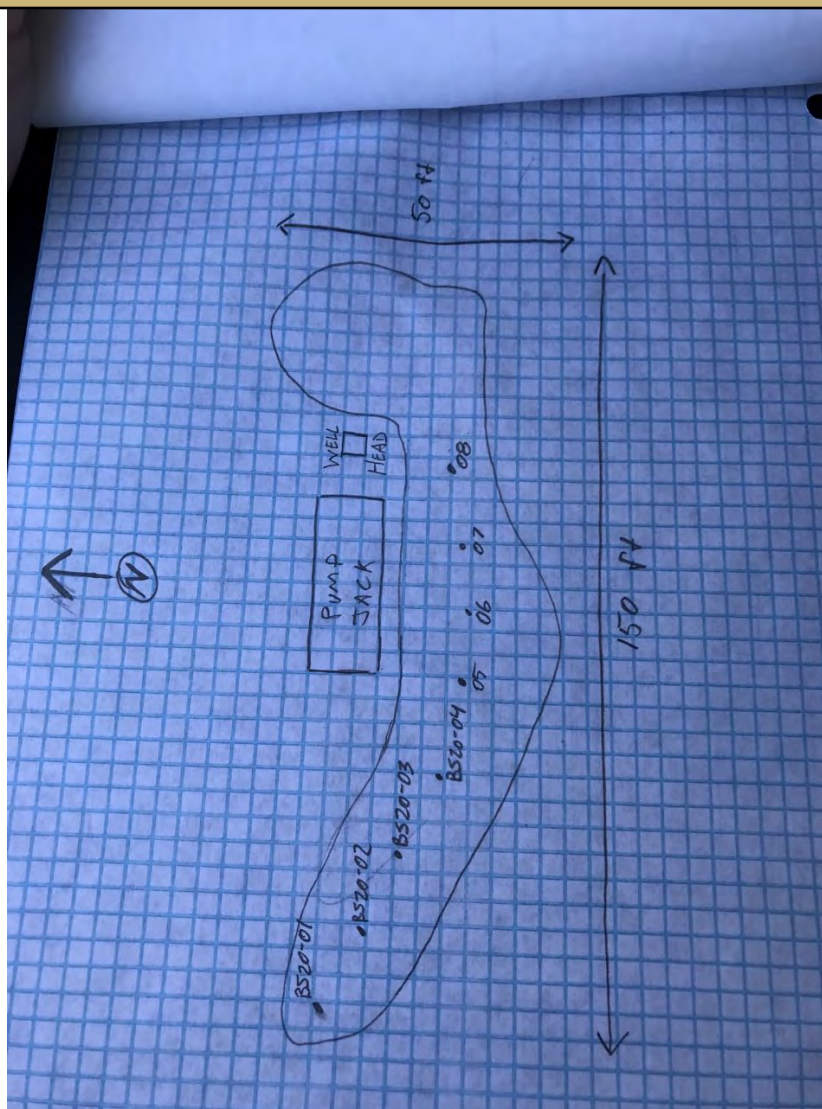
### Summary of Times

|                    |                   |
|--------------------|-------------------|
| Left Office        | 2/7/2020 10:30 AM |
| Arrived at Site    | 2/7/2020 11:30 AM |
| Departed Site      | 2/7/2020 4:43 PM  |
| Returned to Office | 2/7/2020 5:59 PM  |

# Daily Site Visit Report



## Site Sketch





# Daily Site Visit Report

## Summary of Daily Operations

**13:30** Arrive on site.  
 Complete safety paperwork and excavation permits.  
 Continue excavation.  
 Field screen and obtain confirmatory samples.  
 Complete DFR.  
 Return to office.

## Next Steps & Recommendations

1 Continue excavation

## Sampling

### ES-Base20-05

| Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                               | Picture | Trimble Location       | Marked On<br>Site Sketch? |
|----------|---------|-----------------------|----------------------|------------------------|--------------------------------------------------------------------------------------------|---------|------------------------|---------------------------|
| 0.5 ft.  |         |                       |                      | 3550 ppm               | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M) |         | 32.269959, -103.754089 | Yes                       |

### ES-Base20-06

| Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                               | Picture | Trimble Location       | Marked On<br>Site Sketch? |
|----------|---------|-----------------------|----------------------|------------------------|--------------------------------------------------------------------------------------------|---------|------------------------|---------------------------|
| 0.5 ft.  |         | 57 ppm                |                      | 3830 ppm               | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M) |         | 32.269951, -103.754041 | Yes                       |



## Daily Site Visit Report

| ES-Base20-07 |          |         |                       |                      |                        |                                                                                            |                                                                                     |                        |                           |
|--------------|----------|---------|-----------------------|----------------------|------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|---------------------------|
|              | Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                               | Picture                                                                             | Trimble Location       | Marked On<br>Site Sketch? |
|              | 1 ft.    |         | 27 ppm                |                      | 4220 ppm               | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M) |  | 32.269950, -103.754000 | Yes                       |
| ES-Base20-08 |          |         |                       |                      |                        |                                                                                            |                                                                                     |                        |                           |
|              | Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                               | Picture                                                                             | Trimble Location       | Marked On<br>Site Sketch? |
|              | 1 ft.    |         | 18 ppm                |                      | 300 ppm                | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M) |  | 32.269957, -103.753946 | Yes                       |

# Daily Site Visit Report



## Site Photos

Viewing Direction: West



Excavation to date Feb 7, 2020

Viewing Direction: East



Excavation to date Feb 7, 2020

Viewing Direction: North



Excavation to date Feb 7, 2020

## Daily Site Visit Report



## Depth Sample Photos

Sample Point ID: ES-Base20-05



Depth: 0.5 ft.

Sample Point ID: ES-Base20-06



Depth: 0.5 ft.

Sample Point ID: ES-Base20-07



Depth: 1 ft.

Sample Point ID: ES-Base20-08



Depth: 1 ft.

## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Austin Harris

**Signature:**

A handwritten signature in black ink, appearing to be 'AH' with a stylized flourish.

Signature



## Daily Site Visit Report

|                         |                          |                   |                   |
|-------------------------|--------------------------|-------------------|-------------------|
| Client:                 | Devon Energy Corporation | Inspection Date:  | 2/10/2020         |
| Site Location Name:     | Todd 26 M Federal #9     | Report Run Date:  | 2/11/2020 1:44 AM |
| Project Owner:          | Amanda Davis             | File (Project) #: | 20E-00141         |
| Project Manager:        | Natalie Gordon           | API #:            |                   |
| Client Contact Name:    | Amanda Davis             | Reference         | Spill 12-08-2019  |
| Client Contact Phone #: | (575) 748-0176           |                   |                   |

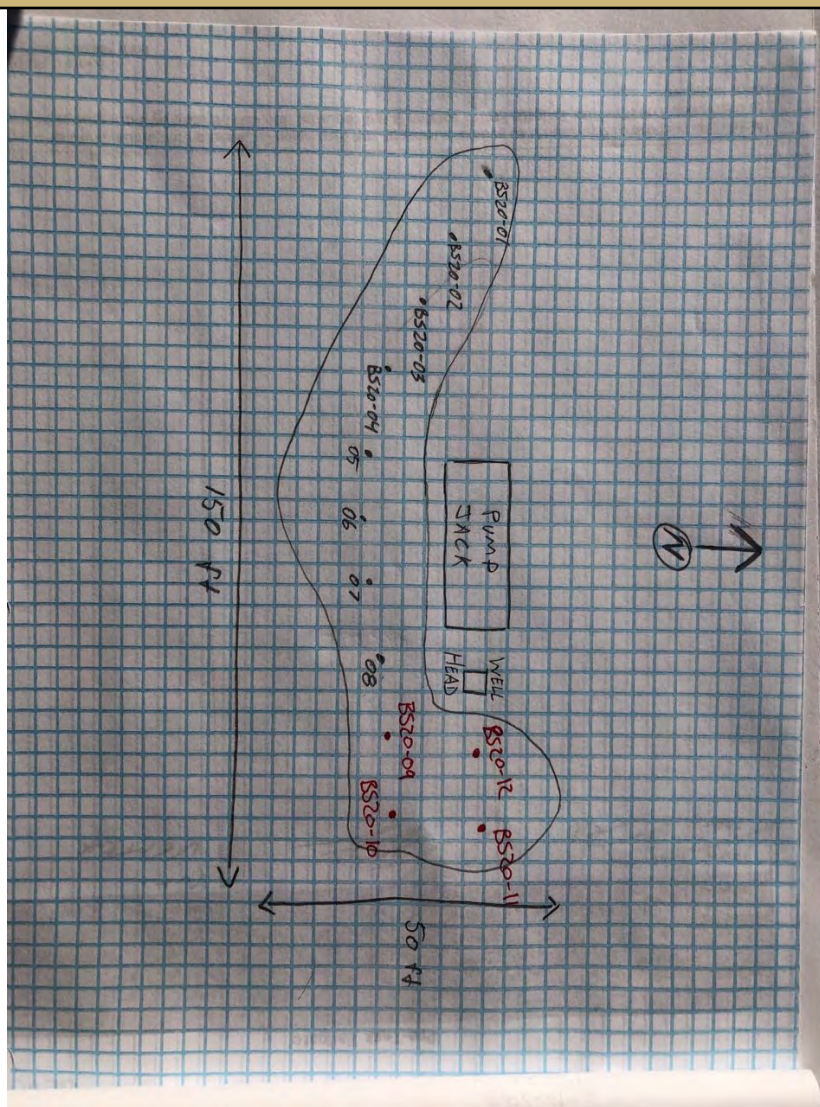
### Summary of Times

|                    |                    |
|--------------------|--------------------|
| Left Office        | 2/10/2020 9:00 AM  |
| Arrived at Site    | 2/10/2020 10:00 AM |
| Departed Site      | 2/10/2020 5:21 PM  |
| Returned to Office | 2/10/2020 6:28 PM  |

# Daily Site Visit Report



## Site Sketch





# Daily Site Visit Report

## Summary of Daily Operations

**10:47** Fill out arrival and safety forms  
 Lay out liner for spoil pile  
 Continue excavation  
 Collect confirmation samples  
 Input data into Krinkle and fill out DFR  
 Take pictures  
 Return to office

## Next Steps & Recommendations

1

## Sampling

### ES-Base20-09

| Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                              | Picture | Trimble Location           | Marked On<br>Site Sketch? |
|----------|---------|-----------------------|----------------------|------------------------|-------------------------------------------------------------------------------------------|---------|----------------------------|---------------------------|
| 1 ft.    | 1 ppm   | 436 ppm               |                      | 197 ppm                | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M) |         | 32.26997370, -103.75389116 | Yes                       |

### ES-Base20-10

| Depth ft | VOC PID | Petro Flag<br>TPH ppm | Quantab<br>Range ppm | Quantab<br>Reading ppm | Lab Analysis                                                                              | Picture | Trimble Location           | Marked On<br>Site Sketch? |
|----------|---------|-----------------------|----------------------|------------------------|-------------------------------------------------------------------------------------------|---------|----------------------------|---------------------------|
| 1 ft.    | 0 ppm   | 20 ppm                |                      | 283 ppm                | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M) |         | 32.26999071, -103.75384191 | Yes                       |



## Daily Site Visit Report

| ES-Base20-11 |          |         |                    |                   |                     |                                                                                           |                                                                                     |                            |                        |
|--------------|----------|---------|--------------------|-------------------|---------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------|------------------------|
|              | Depth ft | VOC PID | Petro Flag TPH ppm | Quantab Range ppm | Quantab Reading ppm | Lab Analysis                                                                              | Picture                                                                             | Trimble Location           | Marked On Site Sketch? |
|              | 1 ft.    | 0 ppm   | 22 ppm             |                   | 211 ppm             | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M) |  | 32.27002868, -103.75385801 | Yes                    |
| ES-Base20-12 |          |         |                    |                   |                     |                                                                                           |                                                                                     |                            |                        |
|              | 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   | 23 ppm             |                   | 143 ppm             | BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M) |  | 32.27002149, -103.75388971 | Yes                    |

## Daily Site Visit Report



## Site Photos

Viewing Direction: North



Site photo

Viewing Direction: West



Excavation area

Viewing Direction: East



Excavation area

Viewing Direction: East



Completed excavation



## Daily Site Visit Report

Viewing Direction: East



Contaminated soil pile

## Daily Site Visit Report



## Depth Sample Photos

Sample Point ID: ES-Base20-09



Depth Point Sample Photo  
Depth: 1 ft.  
2/10/2020 3:47:07 PM  
Lat:32.269870, Long:-103.753925

Depth: 1 ft.

Sample Point ID: ES-Base20-10



Depth Point Sample Photo  
Depth: 1 ft.  
2/10/2020 3:48:11 PM  
Lat:32.269870, Long:-103.753925

Depth: 1 ft.

Sample Point ID: ES-Base20-11



Depth Point Sample Photo  
Depth: 1 ft.  
2/10/2020 3:48:08 PM  
Lat:32.269870, Long:-103.753925

Depth: 1 ft.

Sample Point ID: ES-Base20-12



Depth Point Sample Photo  
Depth: 1 ft.  
2/10/2020 3:50:09 PM  
Lat:32.269870, Long:-103.753925

Depth: 1 ft.

## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Jason Crabtree

**Signature:**

  
Signature



V E R T E X

## Spill Response and Sampling

Client: Devon

Date: 2-10-2020

Site Name: Todd 26 m Feb 9

Site Location:

Project Owner: Jason Castree

Project Manager: Natalie Gordon

Project #: 20 E-00141

| Initial Spill Information - Record on First Visit |  |
|---------------------------------------------------|--|
| Spill Date:                                       |  |
| Spill Volume:                                     |  |
| Spill Cause:                                      |  |
| Spill Product:                                    |  |
| Recovered Spill Volume:                           |  |
| Recovery Method:                                  |  |

## Sampling

[illegible]



## Daily Site Visit Report

|                         |                          |                   |                   |
|-------------------------|--------------------------|-------------------|-------------------|
| Client:                 | Devon Energy Corporation | Inspection Date:  | 3/11/2020         |
| Site Location Name:     | Todd 26 M Federal #9     | Report Run Date:  | 3/12/2020 1:58 PM |
| Project Owner:          | Amanda Davis             | File (Project) #: | 20E-00141         |
| Project Manager:        | Natalie Gordon           | API #:            |                   |
| Client Contact Name:    | Amanda Davis             | Reference         | Spill 12-08-2019  |
| Client Contact Phone #: | (575) 748-0176           |                   |                   |

### Summary of Times

|                    |                   |
|--------------------|-------------------|
| Left Office        | 3/11/2020 8:00 AM |
| Arrived at Site    | 3/11/2020 9:14 AM |
| Departed Site      |                   |
| Returned to Office |                   |

### Summary of Daily Operations

**12:34** Backfill open excavation, load out spoils

### Next Steps & Recommendations

1



# Daily Site Visit Report

## Site Photos

**Viewing Direction: Northeast**



Open excavation

**Viewing Direction: North**



Excavation in relation to pump jack

**Viewing Direction: West**



Length of excavation

## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Tommy Odell

**Signature:**

## **ATTACHMENT 5**

## Natalie Gordon

---

**From:** Natalie Gordon  
**Sent:** Friday, January 31, 2020 5:34 PM  
**To:** Mike Bratcher (mike.bratcher@state.nm.us); Victoria Venegas (Victoria.Venegas@state.nm.us); Robert Hamlet (Robert.Hamlet@state.nm.us); blm\_nm\_cfo\_spill@blm.gov; Wade , Kelsey; jamos@blm.gov  
**Cc:** Bynum, Tom (Contract); Wesley. Mathews@dvn. com (Wesley.Mathews@dvn.com)  
**Subject:** Todd 26 M Federal #9: 48-hr Confirmation Sampling Notification - Devon Energy

All:

Please accept this email as 48-hr notification that Vertex Resource Services, Inc. has scheduled final remediation activities and confirmation sampling to be conducted at Todd 26 M Federal #9 for the release that occurred on December 8, 2019; incident # TBD.

On Wednesday, February 5, 2020 and Thursday, February 6, 2020, Vertex will commence remediation at Todd 26 M Federal #9. Following the completion of planned excavation activities in the afternoon of February 6, 2020, Monica Peppin of Vertex will be onsite to perform confirmation 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 questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,  
Natalie

## **ATTACHMENT 6**

Client Name: Devon Energy Production Company  
 Site Name: Todd 26 M Fed 9  
 NM OCD Incident Tracking Numbers: TBD  
 Project #: 20E-00141-004  
 Lab Report: 2001970

| Table 2. Characterization Field Screen and Laboratory Results - Depth to Groundwater >100 ft |            |                  |                                  |                                            |                                 |                        |              |                               |                             |                                |             |                                    |           |
|----------------------------------------------------------------------------------------------|------------|------------------|----------------------------------|--------------------------------------------|---------------------------------|------------------------|--------------|-------------------------------|-----------------------------|--------------------------------|-------------|------------------------------------|-----------|
| Sample Description                                                                           |            |                  | Field Screening                  |                                            |                                 | Petroleum Hydrocarbons |              |                               |                             |                                |             |                                    | Inorganic |
| Sample ID                                                                                    | Depth (ft) | Sample Date      | Volatile Organic Compounds (PID) | Extractable Organic Compounds (Petro Flag) | Inorganics (Quantab - High/Low) | Volatile               |              | Extractable                   |                             |                                |             |                                    | Chloride  |
|                                                                                              |            |                  |                                  |                                            |                                 | Benzene                | BTEX (Total) | Gasoline Range Organics (GRO) | Diesel Range Organics (DRO) | Motor Oil Range Organics (MRO) | (GRO + DRO) | Total Petroleum Hydrocarbons (TPH) |           |
|                                                                                              |            |                  | (ppm)                            | (ppm)                                      | (+/-)                           | (mg/kg)                | (mg/kg)      | (mg/kg)                       | (mg/kg)                     | (mg/kg)                        | (mg/kg)     | (mg/kg)                            | (mg/kg)   |
| BH 20-01                                                                                     | 0          | January 22, 2020 | -                                | -                                          | 209                             | <0.024                 | <0.215       | <4.8                          | 33                          | 63                             | 33          | 96                                 | <60       |
| BH 20-01                                                                                     | 0.5        | January 22, 2020 | -                                | -                                          | 90                              | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-02                                                                                     | 0          | January 22, 2020 | -                                | -                                          | 10,412                          | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-02                                                                                     | 0.5        | January 22, 2020 | -                                | -                                          | 519                             | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-02                                                                                     | 1          | January 22, 2020 | -                                | -                                          | 187                             | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-02                                                                                     | 2          | January 22, 2020 | -                                | -                                          | 135                             | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-03                                                                                     | 0          | January 22, 2020 | -                                | -                                          | 1,632                           | <0.023                 | <0.211       | <4.7                          | 430                         | 880                            | 430         | 1,310                              | 89        |
| BH 20-03                                                                                     | 0.5        | January 22, 2020 | -                                | -                                          | 73                              | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-04                                                                                     | 0          | January 22, 2020 | -                                | -                                          | 295                             | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-04                                                                                     | 0.5        | January 22, 2020 | -                                | -                                          | 12                              | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-05                                                                                     | 0          | January 22, 2020 | -                                | -                                          | 16,382                          | <0.023                 | <0.210       | <4.7                          | 24                          | <49                            | 24          | 24                                 | 14,000    |
| BH 20-05                                                                                     | 0.5        | January 22, 2020 | -                                | -                                          | 298                             | <0.024                 | <0.212       | <4.7                          | 350                         | 670                            | 350         | 1,020                              | 170       |
| BH 20-05                                                                                     | 1          | January 22, 2020 | -                                | -                                          | 119                             | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-05                                                                                     | 2          | January 22, 2020 | -                                | -                                          | 104                             | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-06                                                                                     | 0          | January 22, 2020 | -                                | -                                          | 298                             | <0.024                 | <0.215       | <4.8                          | <9.3                        | <46                            | <14.1       | <60.1                              | 68        |
| BH 20-06                                                                                     | 0.5        | January 22, 2020 | -                                | -                                          | 168                             | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |
| BH 20-07                                                                                     | 0          | January 22, 2020 | -                                | -                                          | 147                             | <0.025                 | <0.222       | <4.9                          | <9.2                        | <46                            | <14.1       | <60.1                              | 110       |
| BH 20-07                                                                                     | 0.5        | January 22, 2020 | -                                | -                                          | <0                              | -                      | -            | -                             | -                           | -                              | -           | -                                  | -         |

"-" - Not applicable/assessed

**Bold and shaded indicates exceedance outside of applied action level**

Client Name: Devon Energy Production Company  
 Site Name: Todd 26 M Fed 9  
 NM OCD Incident Tracking Numbers: TBD  
 Project #: 20E-00141-004  
 Lab Report: 2002519

| Table 3. Confirmatory Sampling Laboratory Results - Depth to Groundwater >100 ft |            |                   |                                  |                                            |                                 |                        |              |                               |                             |                                |             |                                    |                    |
|----------------------------------------------------------------------------------|------------|-------------------|----------------------------------|--------------------------------------------|---------------------------------|------------------------|--------------|-------------------------------|-----------------------------|--------------------------------|-------------|------------------------------------|--------------------|
| Sample Description                                                               |            |                   | Field Screening                  |                                            |                                 | Petroleum Hydrocarbons |              |                               |                             |                                |             |                                    | Inorganic Chloride |
| Sample ID                                                                        | Depth (ft) | Sample Date       | Volatile Organic Compounds (PID) | Extractable Organic Compounds (Petro Flag) | Inorganics (Quantab - High/Low) | Volatile               |              | Extractable                   |                             |                                |             |                                    |                    |
|                                                                                  |            |                   |                                  |                                            |                                 | Benzene                | BTEX (Total) | Gasoline Range Organics (GRO) | Diesel Range Organics (DRO) | Motor Oil Range Organics (MRO) | (GRO + DRO) | Total Petroleum Hydrocarbons (TPH) |                    |
|                                                                                  |            |                   | (ppm)                            | (ppm)                                      | (+/-)                           | (mg/kg)                | (mg/kg)      | (mg/kg)                       | (mg/kg)                     | (mg/kg)                        | (mg/kg)     | (mg/kg)                            | (mg/kg)            |
| BS 20-01                                                                         | 0.5        | February 6, 2020  | -                                | -                                          | 350                             | <0.025                 | <0.224       | <5.0                          | <9.8                        | <49                            | <14.8       | <63.8                              | 200                |
| BS 20-02                                                                         | 0.5        | February 6, 2020  | -                                | -                                          | 250                             | <0.025                 | <0.221       | <4.9                          | <9.6                        | <48                            | <14.5       | <62.5                              | 180                |
| BS 20-03                                                                         | 0.5        | February 6, 2020  | -                                | -                                          | 1,000                           | <0.025                 | <0.225       | <5.0                          | <9.3                        | <46                            | <14.3       | <60.3                              | 1,200              |
| BS 20-04                                                                         | 0.5        | February 6, 2020  | -                                | -                                          | 150                             | <0.025                 | <0.222       | <4.9                          | <9.6                        | <48                            | <14.5       | <62.5                              | 110                |
| BS 20-05                                                                         | 0.5        | February 6, 2020  | -                                | -                                          | 3,550                           | <0.025                 | <0.224       | <5.0                          | <9.0                        | <45                            | <14.0       | <59.0                              | 1,100              |
| BS 20-06                                                                         | 0.5        | February 6, 2020  | -                                | 57                                         | 3,830                           | <0.025                 | <0.224       | <5.0                          | <9.3                        | <47                            | <14.3       | <61.3                              | 4,000              |
| BS 20-07                                                                         | 1          | February 6, 2020  | -                                | 27                                         | 4,220                           | <0.023                 | <0.221       | <4.9                          | <9.3                        | <47                            | <14.2       | <61.2                              | 5,300              |
| BS 20-08                                                                         | 1          | February 6, 2020  | -                                | 18                                         | 300                             | <0.025                 | <0.225       | <5.0                          | <9.1                        | <45                            | <14.1       | <59.1                              | 110                |
| BS 20-09                                                                         | 1          | February 10, 2020 | 1.0                              | 436                                        | 197                             | <0.025                 | <0.222       | <4.9                          | 40                          | 96                             | 40          | 136                                | 91                 |
| BS 20-10                                                                         | 1          | February 10, 2020 | 0.0                              | 20                                         | 283                             | <0.025                 | <0.222       | <4.9                          | <9.5                        | <47                            | <14.4       | <61.4                              | 240                |
| BS 20-11                                                                         | 1          | February 10, 2020 | 0.0                              | 22                                         | 211                             | <0.025                 | <0.222       | <4.9                          | 24                          | <40                            | 24          | 24                                 | 96                 |
| BS 20-12                                                                         | 1          | February 10, 2020 | 0.0                              | 23                                         | 143                             | <0.025                 | <0.225       | <5.0                          | <9.5                        | <48                            | <14.5       | <62.5                              | <60                |

"-" - Not applicable/assessed

**Bold and shaded indicates exceedance outside of applied action level**

## **ATTACHMENT 7**



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

January 31, 2020

Natalie Gordon

Vertex Resource Group Ltd.

213 S. Mesa St

Carlsbad, NM 88220

TEL:

FAX

RE: Todd 26 M Federal 9

OrderNo.: 2001970

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 6 sample(s) on 1/24/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2001970

Date Reported: 1/31/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BH20-01 0'

Project: Todd 26 M Federal 9

Collection Date: 1/22/2020 10:00:00 AM

Lab ID: 2001970-001

Matrix: SOIL

Received Date: 1/24/2020 9:15:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: <b>BRM</b>   |
| Diesel Range Organics (DRO)                      | 33     | 9.8      |      | mg/Kg | 1  | 1/29/2020 12:17:52 PM |
| Motor Oil Range Organics (MRO)                   | 63     | 49       |      | mg/Kg | 1  | 1/29/2020 12:17:52 PM |
| Surr: DNOP                                       | 80.4   | 55.1-146 |      | %Rec  | 1  | 1/29/2020 12:17:52 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: <b>NSB</b>   |
| Gasoline Range Organics (GRO)                    | ND     | 4.8      |      | mg/Kg | 1  | 1/28/2020 10:53:03 PM |
| Surr: BFB                                        | 85.9   | 66.6-105 |      | %Rec  | 1  | 1/28/2020 10:53:03 PM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: <b>NSB</b>   |
| Benzene                                          | ND     | 0.024    |      | mg/Kg | 1  | 1/28/2020 10:53:03 PM |
| Toluene                                          | ND     | 0.048    |      | mg/Kg | 1  | 1/28/2020 10:53:03 PM |
| Ethylbenzene                                     | ND     | 0.048    |      | mg/Kg | 1  | 1/28/2020 10:53:03 PM |
| Xylenes, Total                                   | ND     | 0.095    |      | mg/Kg | 1  | 1/28/2020 10:53:03 PM |
| Surr: 4-Bromofluorobenzene                       | 97.0   | 80-120   |      | %Rec  | 1  | 1/28/2020 10:53:03 PM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: <b>CAS</b>   |
| Chloride                                         | ND     | 60       |      | mg/Kg | 20 | 1/29/2020 11:55:40 AM |

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

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

Page 1 of 11

## Analytical Report

Lab Order 2001970

Date Reported: 1/31/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BH20-03 0'

Project: Todd 26 M Federal 9

Collection Date: 1/22/2020 10:30:00 AM

Lab ID: 2001970-002

Matrix: SOIL

Received Date: 1/24/2020 9:15:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP          |
| Diesel Range Organics (DRO)                      | 430    | 99       |      | mg/Kg | 10 | 1/29/2020 2:25:09 PM  |
| Motor Oil Range Organics (MRO)                   | 880    | 500      |      | mg/Kg | 10 | 1/29/2020 2:25:09 PM  |
| Surr: DNOP                                       | 0      | 55.1-146 | S    | %Rec  | 10 | 1/29/2020 2:25:09 PM  |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB          |
| Gasoline Range Organics (GRO)                    | ND     | 4.7      |      | mg/Kg | 1  | 1/29/2020 12:02:52 AM |
| Surr: BFB                                        | 79.9   | 66.6-105 |      | %Rec  | 1  | 1/29/2020 12:02:52 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB          |
| Benzene                                          | ND     | 0.023    |      | mg/Kg | 1  | 1/29/2020 12:02:52 AM |
| Toluene                                          | ND     | 0.047    |      | mg/Kg | 1  | 1/29/2020 12:02:52 AM |
| Ethylbenzene                                     | ND     | 0.047    |      | mg/Kg | 1  | 1/29/2020 12:02:52 AM |
| Xylenes, Total                                   | ND     | 0.094    |      | mg/Kg | 1  | 1/29/2020 12:02:52 AM |
| Surr: 4-Bromofluorobenzene                       | 91.0   | 80-120   |      | %Rec  | 1  | 1/29/2020 12:02:52 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: CAS          |
| Chloride                                         | 89     | 60       |      | mg/Kg | 20 | 1/29/2020 12:32:42 PM |

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

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

Page 2 of 11

## Analytical Report

Lab Order 2001970

Date Reported: 1/31/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BH20-05 0'

Project: Todd 26 M Federal 9

Collection Date: 1/22/2020 11:00:00 AM

Lab ID: 2001970-003

Matrix: SOIL

Received Date: 1/24/2020 9:15:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|--------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: <b>BRM</b>   |
| Diesel Range Organics (DRO)                      | 24     | 9.8      |      | mg/Kg | 1   | 1/29/2020 12:54:01 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 49       |      | mg/Kg | 1   | 1/29/2020 12:54:01 PM |
| Surr: DNOP                                       | 90.3   | 55.1-146 |      | %Rec  | 1   | 1/29/2020 12:54:01 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |     | Analyst: <b>NSB</b>   |
| Gasoline Range Organics (GRO)                    | ND     | 4.7      |      | mg/Kg | 1   | 1/29/2020 4:59:48 PM  |
| Surr: BFB                                        | 73.3   | 66.6-105 |      | %Rec  | 1   | 1/29/2020 4:59:48 PM  |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |     | Analyst: <b>NSB</b>   |
| Benzene                                          | ND     | 0.023    |      | mg/Kg | 1   | 1/29/2020 4:59:48 PM  |
| Toluene                                          | ND     | 0.047    |      | mg/Kg | 1   | 1/29/2020 4:59:48 PM  |
| Ethylbenzene                                     | ND     | 0.047    |      | mg/Kg | 1   | 1/29/2020 4:59:48 PM  |
| Xylenes, Total                                   | ND     | 0.093    |      | mg/Kg | 1   | 1/29/2020 4:59:48 PM  |
| Surr: 4-Bromofluorobenzene                       | 82.1   | 80-120   |      | %Rec  | 1   | 1/29/2020 4:59:48 PM  |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |     | Analyst: <b>CAS</b>   |
| Chloride                                         | 14000  | 600      |      | mg/Kg | 200 | 1/30/2020 5:53:25 PM  |

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

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

Page 3 of 11

## Analytical Report

Lab Order 2001970

Date Reported: 1/31/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BH20-05 0.5'

Project: Todd 26 M Federal 9

Collection Date: 1/22/2020 11:05:00 AM

Lab ID: 2001970-004

Matrix: SOIL

Received Date: 1/24/2020 9:15:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | 350    | 92       |      | mg/Kg | 10 | 1/29/2020 2:55:36 PM |
| Motor Oil Range Organics (MRO)                   | 670    | 460      |      | mg/Kg | 10 | 1/29/2020 2:55:36 PM |
| Surr: DNOP                                       | 0      | 55.1-146 | S    | %Rec  | 10 | 1/29/2020 2:55:36 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 4.7      |      | mg/Kg | 1  | 1/29/2020 5:23:24 PM |
| Surr: BFB                                        | 71.4   | 66.6-105 |      | %Rec  | 1  | 1/29/2020 5:23:24 PM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB         |
| Benzene                                          | ND     | 0.024    |      | mg/Kg | 1  | 1/30/2020 5:02:07 PM |
| Toluene                                          | ND     | 0.047    |      | mg/Kg | 1  | 1/30/2020 5:02:07 PM |
| Ethylbenzene                                     | ND     | 0.047    |      | mg/Kg | 1  | 1/30/2020 5:02:07 PM |
| Xylenes, Total                                   | ND     | 0.094    |      | mg/Kg | 1  | 1/30/2020 5:02:07 PM |
| Surr: 4-Bromofluorobenzene                       | 85.3   | 80-120   |      | %Rec  | 1  | 1/30/2020 5:02:07 PM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: CAS         |
| Chloride                                         | 170    | 60       |      | mg/Kg | 20 | 1/29/2020 1:46:50 PM |

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

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

Page 4 of 11

## Analytical Report

Lab Order 2001970

Date Reported: 1/31/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BH20-06 0'

Project: Todd 26 M Federal 9

Collection Date: 1/22/2020 11:15:00 AM

Lab ID: 2001970-005

Matrix: SOIL

Received Date: 1/24/2020 9:15:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: <b>BRM</b>  |
| Diesel Range Organics (DRO)                      | ND     | 9.3      |      | mg/Kg | 1  | 1/29/2020 1:12:16 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 46       |      | mg/Kg | 1  | 1/29/2020 1:12:16 PM |
| Surr: DNOP                                       | 67.5   | 55.1-146 |      | %Rec  | 1  | 1/29/2020 1:12:16 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: <b>NSB</b>  |
| Gasoline Range Organics (GRO)                    | ND     | 4.8      |      | mg/Kg | 1  | 1/29/2020 5:46:53 PM |
| Surr: BFB                                        | 73.6   | 66.6-105 |      | %Rec  | 1  | 1/29/2020 5:46:53 PM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: <b>NSB</b>  |
| Benzene                                          | ND     | 0.024    |      | mg/Kg | 1  | 1/29/2020 5:46:53 PM |
| Toluene                                          | ND     | 0.048    |      | mg/Kg | 1  | 1/29/2020 5:46:53 PM |
| Ethylbenzene                                     | ND     | 0.048    |      | mg/Kg | 1  | 1/29/2020 5:46:53 PM |
| Xylenes, Total                                   | ND     | 0.095    |      | mg/Kg | 1  | 1/29/2020 5:46:53 PM |
| Surr: 4-Bromofluorobenzene                       | 83.0   | 80-120   |      | %Rec  | 1  | 1/29/2020 5:46:53 PM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: <b>CAS</b>  |
| Chloride                                         | 68     | 60       |      | mg/Kg | 20 | 1/29/2020 1:59:10 PM |

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

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

Page 5 of 11

## Analytical Report

Lab Order 2001970

Date Reported: 1/31/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BH20-07 0'

Project: Todd 26 M Federal 9

Collection Date: 1/22/2020 11:25:00 AM

Lab ID: 2001970-006

Matrix: SOIL

Received Date: 1/24/2020 9:15:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: <b>BRM</b>  |
| Diesel Range Organics (DRO)                      | ND     | 9.2      |      | mg/Kg | 1  | 1/29/2020 1:21:24 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 46       |      | mg/Kg | 1  | 1/29/2020 1:21:24 PM |
| Surr: DNOP                                       | 61.7   | 55.1-146 |      | %Rec  | 1  | 1/29/2020 1:21:24 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: <b>NSB</b>  |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1  | 1/29/2020 6:10:10 PM |
| Surr: BFB                                        | 74.8   | 66.6-105 |      | %Rec  | 1  | 1/29/2020 6:10:10 PM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: <b>NSB</b>  |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 1/29/2020 6:10:10 PM |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1  | 1/29/2020 6:10:10 PM |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1  | 1/29/2020 6:10:10 PM |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 1/29/2020 6:10:10 PM |
| Surr: 4-Bromofluorobenzene                       | 85.2   | 80-120   |      | %Rec  | 1  | 1/29/2020 6:10:10 PM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: <b>CAS</b>  |
| Chloride                                         | 110    | 60       |      | mg/Kg | 20 | 1/29/2020 2:11:32 PM |

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

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

Page 6 of 11

QC SUMMARY REPORT  
Hall Environmental Analysis Laboratory, Inc.

WO#: 2001970  
31-Jan-20

Client: Vertex Resource Group Ltd.  
Project: Todd 26 M Federal 9

|                      |                          |                                                                      |
|----------------------|--------------------------|----------------------------------------------------------------------|
| Sample ID: MB-50130  | SampType: mblk           | TestCode: EPA Method 300.0: Anions                                   |
| Client ID: PBS       | Batch ID: 50130          | RunNo: 66151                                                         |
| Prep Date: 1/29/2020 | Analysis Date: 1/29/2020 | SeqNo: 2273387 Units: mg/Kg                                          |
| Analyte              | Result                   | PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual |
| Chloride             | ND                       | 1.5                                                                  |

|                      |                          |                                                                      |
|----------------------|--------------------------|----------------------------------------------------------------------|
| Sample ID: LCS-50130 | SampType: lcs            | TestCode: EPA Method 300.0: Anions                                   |
| Client ID: LCSS      | Batch ID: 50130          | RunNo: 66151                                                         |
| Prep Date: 1/29/2020 | Analysis Date: 1/29/2020 | SeqNo: 2273388 Units: mg/Kg                                          |
| Analyte              | Result                   | PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual |
| Chloride             | 14                       | 1.5 15.00 0 91.1 90 110                                              |

Qualifiers:

- \*

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

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

WO#: 2001970

31-Jan-20

**Client:** Vertex Resource Group Ltd.**Project:** Todd 26 M Federal 9

| Sample ID: <b>LCS-50086</b> | SampType: <b>LCS</b>            |     |           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |      |                     |           |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50086</b>          |     |           | RunNo: <b>66140</b>                                        |      |                     |           |      |          |      |
| Prep Date: <b>1/28/2020</b> | Analysis Date: <b>1/29/2020</b> |     |           | SeqNo: <b>2271929</b>                                      |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                                | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 50                              | 10  | 50.00     | 0                                                          | 101  | 63.9                | 124       |      |          |      |
| Surr: DNOP                  | 4.6                             |     | 5.000     |                                                            | 92.4 | 55.1                | 146       |      |          |      |

| Sample ID: <b>MB-50086</b>     | SampType: <b>MBLK</b>           |     |           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |      |                     |           |      |          |      |
|--------------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>50086</b>          |     |           | RunNo: <b>66140</b>                                        |      |                     |           |      |          |      |
| Prep Date: <b>1/28/2020</b>    | Analysis Date: <b>1/29/2020</b> |     |           | SeqNo: <b>2271930</b>                                      |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                        | Result                          | PQL | SPK value | SPK Ref Val                                                | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND                              | 10  |           |                                                            |      |                     |           |      |          |      |
| Motor Oil Range Organics (MRO) | ND                              | 50  |           |                                                            |      |                     |           |      |          |      |
| Surr: DNOP                     | 12                              |     | 10.00     |                                                            | 116  | 55.1                | 146       |      |          |      |

| Sample ID: <b>2001970-001AMS</b> | SampType: <b>MS</b>             |     |           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |      |                     |           |      |          |      |
|----------------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>BH20-01 0'</b>     | Batch ID: <b>50086</b>          |     |           | RunNo: <b>66140</b>                                        |      |                     |           |      |          |      |
| Prep Date: <b>1/28/2020</b>      | Analysis Date: <b>1/29/2020</b> |     |           | SeqNo: <b>2272660</b>                                      |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                          | Result                          | PQL | SPK value | SPK Ref Val                                                | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)      | 58                              | 9.4 | 46.95     | 33.11                                                      | 52.6 | 47.4                | 136       |      |          |      |
| Surr: DNOP                       | 3.9                             |     | 4.695     |                                                            | 82.2 | 55.1                | 146       |      |          |      |

| Sample ID: <b>2001970-001AMSD</b> | SampType: <b>MSD</b>            |     |           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |      |                     |           |      |          |      |
|-----------------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>BH20-01 0'</b>      | Batch ID: <b>50086</b>          |     |           | RunNo: <b>66140</b>                                        |      |                     |           |      |          |      |
| Prep Date: <b>1/28/2020</b>       | Analysis Date: <b>1/29/2020</b> |     |           | SeqNo: <b>2272661</b>                                      |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                           | Result                          | PQL | SPK value | SPK Ref Val                                                | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)       | 53                              | 9.3 | 46.43     | 33.11                                                      | 41.9 | 47.4                | 136       | 9.46 | 43.4     | S    |
| Surr: DNOP                        | 3.3                             |     | 4.643     |                                                            | 72.1 | 55.1                | 146       | 0    | 0        |      |

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2001970

31-Jan-20

Client: Vertex Resource Group Ltd.

Project: Todd 26 M Federal 9

| Sample ID: <b>mb-50070</b>    | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |                     |          |           |      |          |      |
|-------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>         | Batch ID: <b>50070</b>          | RunNo: <b>66126</b>                               |           |             |                     |          |           |      |          |      |
| Prep Date: <b>1/27/2020</b>   | Analysis Date: <b>1/28/2020</b> | SeqNo: <b>2271722</b>                             |           |             | Units: <b>mg/Kg</b> |          |           |      |          |      |
| Analyte                       | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC                | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                              | 5.0                                               |           |             |                     |          |           |      |          |      |
| Surr: BFB                     | 860                             |                                                   | 1000      |             | 85.8                | 66.6     | 105       |      |          |      |

| Sample ID: <b>lcs-50070</b>   | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |                     |          |           |      |          |      |
|-------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>        | Batch ID: <b>50070</b>          | RunNo: <b>66126</b>                               |           |             |                     |          |           |      |          |      |
| Prep Date: <b>1/27/2020</b>   | Analysis Date: <b>1/28/2020</b> | SeqNo: <b>2271723</b>                             |           |             | Units: <b>mg/Kg</b> |          |           |      |          |      |
| Analyte                       | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC                | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 23                              | 5.0                                               | 25.00     | 0           | 93.0                | 80       | 120       |      |          |      |
| Surr: BFB                     | 950                             |                                                   | 1000      |             | 95.4                | 66.6     | 105       |      |          |      |

| Sample ID: <b>2001970-001ams</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |                     |          |           |      |          |      |
|----------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: <b>BH20-01 0'</b>     | Batch ID: <b>50070</b>          | RunNo: <b>66126</b>                               |           |             |                     |          |           |      |          |      |
| Prep Date: <b>1/27/2020</b>      | Analysis Date: <b>1/28/2020</b> | SeqNo: <b>2271725</b>                             |           |             | Units: <b>mg/Kg</b> |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC                | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)    | 22                              | 5.0                                               | 24.95     | 0           | 88.4                | 69.1     | 142       |      |          |      |
| Surr: BFB                        | 910                             |                                                   | 998.0     |             | 91.2                | 66.6     | 105       |      |          |      |

| Sample ID: <b>2001970-001amsd</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |                     |          |           |      |          |      |
|-----------------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: <b>BH20-01 0'</b>      | Batch ID: <b>50070</b>          | RunNo: <b>66126</b>                               |           |             |                     |          |           |      |          |      |
| Prep Date: <b>1/27/2020</b>       | Analysis Date: <b>1/28/2020</b> | SeqNo: <b>2271726</b>                             |           |             | Units: <b>mg/Kg</b> |          |           |      |          |      |
| Analyte                           | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC                | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)     | 20                              | 4.7                                               | 23.45     | 0           | 86.7                | 69.1     | 142       | 8.15 | 20       |      |
| Surr: BFB                         | 850                             |                                                   | 938.1     |             | 90.1                | 66.6     | 105       | 0    | 0        |      |

| Sample ID: <b>mb-50144</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |                    |          |           |      |          |      |
|-----------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|--------------------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50144</b>          | RunNo: <b>66183</b>                               |           |             |                    |          |           |      |          |      |
| Prep Date: <b>1/29/2020</b> | Analysis Date: <b>1/31/2020</b> | SeqNo: <b>2274193</b>                             |           |             | Units: <b>%Rec</b> |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB                   | 760                             |                                                   | 1000      |             | 76.0               | 66.6     | 105       |      |          |      |

| Sample ID: <b>lcs-50144</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |           |             |                    |          |           |      |          |      |
|-----------------------------|---------------------------------|---------------------------------------------------|-----------|-------------|--------------------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50144</b>          | RunNo: <b>66183</b>                               |           |             |                    |          |           |      |          |      |
| Prep Date: <b>1/29/2020</b> | Analysis Date: <b>1/31/2020</b> | SeqNo: <b>2274194</b>                             |           |             | Units: <b>%Rec</b> |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                               | SPK value | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB                   | 850                             |                                                   | 1000      |             | 85.3               | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2001970

31-Jan-20

Client: Vertex Resource Group Ltd.

Project: Todd 26 M Federal 9

| Sample ID: <b>mb-50070</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8021B: Volatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50070</b>          | RunNo: <b>66126</b>                          |           |             |      |          |           |      |          |      |
| Prep Date: <b>1/27/2020</b> | Analysis Date: <b>1/28/2020</b> | SeqNo: <b>2271744</b> Units: <b>mg/Kg</b>    |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | ND                              | 0.025                                        |           |             |      |          |           |      |          |      |
| Toluene                     | ND                              | 0.050                                        |           |             |      |          |           |      |          |      |
| Ethylbenzene                | ND                              | 0.050                                        |           |             |      |          |           |      |          |      |
| Xylenes, Total              | ND                              | 0.10                                         |           |             |      |          |           |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.97                            |                                              | 1.000     |             | 97.4 | 80       | 120       |      |          |      |

| Sample ID: <b>LCS-50070</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8021B: Volatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50070</b>          | RunNo: <b>66126</b>                          |           |             |      |          |           |      |          |      |
| Prep Date: <b>1/27/2020</b> | Analysis Date: <b>1/28/2020</b> | SeqNo: <b>2271745</b> Units: <b>mg/Kg</b>    |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 0.95                            | 0.025                                        | 1.000     | 0           | 94.6 | 80       | 120       |      |          |      |
| Toluene                     | 0.95                            | 0.050                                        | 1.000     | 0           | 94.8 | 80       | 120       |      |          |      |
| Ethylbenzene                | 0.94                            | 0.050                                        | 1.000     | 0           | 94.1 | 80       | 120       |      |          |      |
| Xylenes, Total              | 2.8                             | 0.10                                         | 3.000     | 0           | 94.9 | 80       | 120       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.95                            |                                              | 1.000     |             | 95.1 | 80       | 120       |      |          |      |

| Sample ID: <b>2001970-002ams</b> | SampType: <b>MS</b>             | TestCode: <b>EPA Method 8021B: Volatiles</b> |           |             |      |          |           |      |          |      |
|----------------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>BH20-03 0'</b>     | Batch ID: <b>50070</b>          | RunNo: <b>66126</b>                          |           |             |      |          |           |      |          |      |
| Prep Date: <b>1/27/2020</b>      | Analysis Date: <b>1/29/2020</b> | SeqNo: <b>2271748</b> Units: <b>mg/Kg</b>    |           |             |      |          |           |      |          |      |
| Analyte                          | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                          | 0.90                            | 0.024                                        | 0.9653    | 0           | 93.4 | 78.5     | 119       |      |          |      |
| Toluene                          | 0.91                            | 0.048                                        | 0.9653    | 0.01022     | 93.2 | 75.7     | 123       |      |          |      |
| Ethylbenzene                     | 0.90                            | 0.048                                        | 0.9653    | 0           | 93.6 | 74.3     | 126       |      |          |      |
| Xylenes, Total                   | 2.7                             | 0.097                                        | 2.896     | 0.01678     | 93.9 | 72.9     | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene       | 0.90                            |                                              | 0.9653    |             | 93.6 | 80       | 120       |      |          |      |

| Sample ID: <b>2001970-002amsd</b> | SampType: <b>MSD</b>            | TestCode: <b>EPA Method 8021B: Volatiles</b> |           |             |      |          |           |      |          |      |
|-----------------------------------|---------------------------------|----------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>BH20-03 0'</b>      | Batch ID: <b>50070</b>          | RunNo: <b>66126</b>                          |           |             |      |          |           |      |          |      |
| Prep Date: <b>1/27/2020</b>       | Analysis Date: <b>1/29/2020</b> | SeqNo: <b>2271749</b> Units: <b>mg/Kg</b>    |           |             |      |          |           |      |          |      |
| Analyte                           | Result                          | PQL                                          | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                           | 0.92                            | 0.025                                        | 0.9930    | 0           | 92.5 | 78.5     | 119       | 1.78 | 20       |      |
| Toluene                           | 0.94                            | 0.050                                        | 0.9930    | 0.01022     | 93.2 | 75.7     | 123       | 2.75 | 20       |      |
| Ethylbenzene                      | 0.93                            | 0.050                                        | 0.9930    | 0           | 93.9 | 74.3     | 126       | 3.11 | 20       |      |
| Xylenes, Total                    | 2.8                             | 0.099                                        | 2.979     | 0.01678     | 92.9 | 72.9     | 130       | 1.76 | 20       |      |
| Surr: 4-Bromofluorobenzene        | 0.90                            |                                              | 0.9930    |             | 90.7 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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

WO#: 2001970

31-Jan-20

**Client:** Vertex Resource Group Ltd.**Project:** Todd 26 M Federal 9

| Sample ID: <b>mb-50144</b>  | SampType: <b>MBLK</b>           |     |           |             | TestCode: <b>EPA Method 8021B: Volatiles</b> |                    |           |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|-------------|----------------------------------------------|--------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50144</b>          |     |           |             | RunNo: <b>66183</b>                          |                    |           |      |          |      |
| Prep Date: <b>1/29/2020</b> | Analysis Date: <b>1/31/2020</b> |     |           |             | SeqNo: <b>2274238</b>                        | Units: <b>%Rec</b> |           |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val | %REC                                         | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene  | 0.88                            |     | 1.000     |             | 88.4                                         | 80                 | 120       |      |          |      |

| Sample ID: <b>LCS-50144</b> | SampType: <b>LCS</b>            |     |           |             | TestCode: <b>EPA Method 8021B: Volatiles</b> |                    |           |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|-------------|----------------------------------------------|--------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50144</b>          |     |           |             | RunNo: <b>66183</b>                          |                    |           |      |          |      |
| Prep Date: <b>1/29/2020</b> | Analysis Date: <b>1/31/2020</b> |     |           |             | SeqNo: <b>2274239</b>                        | Units: <b>%Rec</b> |           |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val | %REC                                         | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene  | 0.90                            |     | 1.000     |             | 90.2                                         | 80                 | 120       |      |          |      |

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



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: VERTEX CARLSBAD

Work Order Number: 2001970

RcptNo: 1

Received By: Desiree Dominguez 1/24/2020 9:15:00 AM

Completed By: Isaiah Ortiz 1/24/2020 10:00:35 AM

Reviewed By: DAD 1/24/20

ID  
IOX

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

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted?

Checked by:

YG 1/24/20

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

| Cooler No | Temp $^{\circ}\text{C}$ | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|-------------------------|-----------|-------------|---------|-----------|-----------|
| 1         | 4.3                     | Good      | Not Present |         |           |           |

## Chain-of-Custody Record

Client: VertexMailing Address: on filePhone #: on fileemail or Fax#: Natalie Gordon

QA/QC Package:

☐ Standard☐ Level 4 (Full Validation)Accreditation: ☐ AZ Compliance☐ NELAC ☐ Other☐ EDD (Type)Turn-Around Time: 5 Day☒ Standard ☐ Rush

Project Name:

Todd 26m Federal 9

Project #:

20E-00141

Project Manager:

Natalie GordonSampler: MJDOn Ice: ☒ Yes ☐ No# of Coolers: 1Cooler Temp (including CF): 4.3-0.0-4.3 (°C)

Container Type and #

Preservative Type

HEAL No.

2001970-001-002-003-004-005-006

Date

Time

Matrix

Sample Name

1/22/201000soilBH20-010'1/23/201030↓BH20-030'1/23/201100↓BH20-050'1/23/201105↓BH20-050.5'1/23/201115↓BH20-060'1/23/201125↓BH20-070'

Date:

Time:

Relinquished by:

Relinquished by:

Date:

Time:

Received by:

Date:

Via:

Time:

Remarks:

CC Natalie Gordon

Devon

HALL ENVIRONMENTAL  
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

TPH:8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

Cl<sup>-</sup>, F<sup>-</sup>, Br<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, NO<sub>2</sub><sup>-</sup>, PO<sub>4</sub><sup>3-</sup>, SO<sub>4</sub><sup>2-</sup>

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)



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

February 20, 2020

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

RE: Todd 26 M Fed 9

OrderNo.: 2002519

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 12 sample(s) on 2/13/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-09 1'

Project: Todd 26 M Fed 9

Collection Date: 2/10/2020 2:00:00 PM

Lab ID: 2002519-001

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP          |
| Diesel Range Organics (DRO)                      | 40     | 9.3      |      | mg/Kg | 1  | 2/18/2020 10:19:30 AM |
| Motor Oil Range Organics (MRO)                   | 96     | 47       |      | mg/Kg | 1  | 2/18/2020 10:19:30 AM |
| Surr: DNOP                                       | 79.4   | 55.1-146 |      | %Rec  | 1  | 2/18/2020 10:19:30 AM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB          |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1  | 2/14/2020 11:40:17 PM |
| Surr: BFB                                        | 80.0   | 66.6-105 |      | %Rec  | 1  | 2/14/2020 11:40:17 PM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB          |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/14/2020 11:40:17 PM |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1  | 2/14/2020 11:40:17 PM |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1  | 2/14/2020 11:40:17 PM |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 2/14/2020 11:40:17 PM |
| Surr: 4-Bromofluorobenzene                       | 88.0   | 80-120   |      | %Rec  | 1  | 2/14/2020 11:40:17 PM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: JMT          |
| Chloride                                         | 91     | 60       |      | mg/Kg | 20 | 2/14/2020 2:23:34 PM  |

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

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

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-10 1'

Project: Todd 26 M Fed 9

Collection Date: 2/10/2020 2:30:00 PM

Lab ID: 2002519-002

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP          |
| Diesel Range Organics (DRO)                      | ND     | 9.5      |      | mg/Kg | 1  | 2/14/2020 6:20:09 PM  |
| Motor Oil Range Organics (MRO)                   | ND     | 47       |      | mg/Kg | 1  | 2/14/2020 6:20:09 PM  |
| Surr: DNOP                                       | 108    | 55.1-146 |      | %Rec  | 1  | 2/14/2020 6:20:09 PM  |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB          |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1  | 2/15/2020 12:03:35 AM |
| Surr: BFB                                        | 83.5   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 12:03:35 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB          |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 12:03:35 AM |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1  | 2/15/2020 12:03:35 AM |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1  | 2/15/2020 12:03:35 AM |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 2/15/2020 12:03:35 AM |
| Surr: 4-Bromofluorobenzene                       | 93.1   | 80-120   |      | %Rec  | 1  | 2/15/2020 12:03:35 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: JMT          |
| Chloride                                         | 240    | 60       |      | mg/Kg | 20 | 2/14/2020 3:00:39 PM  |

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

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

Page 2 of 18

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-11 1'

Project: Todd 26 M Fed 9

Collection Date: 2/10/2020 3:00:00 PM

Lab ID: 2002519-003

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: <b>CLP</b>   |
| Diesel Range Organics (DRO)                      | 24     | 7.9      |      | mg/Kg | 1  | 2/18/2020 10:37:46 AM |
| Motor Oil Range Organics (MRO)                   | ND     | 40       |      | mg/Kg | 1  | 2/18/2020 10:37:46 AM |
| Surr: DNOP                                       | 92.5   | 55.1-146 |      | %Rec  | 1  | 2/18/2020 10:37:46 AM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: <b>NSB</b>   |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1  | 2/15/2020 2:00:03 AM  |
| Surr: BFB                                        | 80.0   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 2:00:03 AM  |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: <b>NSB</b>   |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 2:00:03 AM  |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1  | 2/15/2020 2:00:03 AM  |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1  | 2/15/2020 2:00:03 AM  |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 2/15/2020 2:00:03 AM  |
| Surr: 4-Bromofluorobenzene                       | 88.9   | 80-120   |      | %Rec  | 1  | 2/15/2020 2:00:03 AM  |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: <b>JMT</b>   |
| Chloride                                         | 96     | 60       |      | mg/Kg | 20 | 2/14/2020 3:12:58 PM  |

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

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

Page 3 of 18

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-12 1'

Project: Todd 26 M Fed 9

Collection Date: 2/10/2020 3:30:00 PM

Lab ID: 2002519-004

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | ND     | 9.5      |      | mg/Kg | 1  | 2/14/2020 6:38:17 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 48       |      | mg/Kg | 1  | 2/14/2020 6:38:17 PM |
| Surr: DNOP                                       | 113    | 55.1-146 |      | %Rec  | 1  | 2/14/2020 6:38:17 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 5.0      |      | mg/Kg | 1  | 2/15/2020 2:23:17 AM |
| Surr: BFB                                        | 81.0   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 2:23:17 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB         |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 2:23:17 AM |
| Toluene                                          | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 2:23:17 AM |
| Ethylbenzene                                     | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 2:23:17 AM |
| Xylenes, Total                                   | ND     | 0.10     |      | mg/Kg | 1  | 2/15/2020 2:23:17 AM |
| Surr: 4-Bromofluorobenzene                       | 89.1   | 80-120   |      | %Rec  | 1  | 2/15/2020 2:23:17 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: JMT         |
| Chloride                                         | ND     | 60       |      | mg/Kg | 20 | 2/14/2020 3:25:19 PM |

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

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

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-01 6"

Project: Todd 26 M Fed 9

Collection Date: 2/6/2020 2:00:00 PM

Lab ID: 2002519-005

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | ND     | 9.8      |      | mg/Kg | 1  | 2/14/2020 6:47:20 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 49       |      | mg/Kg | 1  | 2/14/2020 6:47:20 PM |
| Surr: DNOP                                       | 100    | 55.1-146 |      | %Rec  | 1  | 2/14/2020 6:47:20 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 5.0      |      | mg/Kg | 1  | 2/15/2020 2:46:33 AM |
| Surr: BFB                                        | 78.2   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 2:46:33 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB         |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 2:46:33 AM |
| Toluene                                          | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 2:46:33 AM |
| Ethylbenzene                                     | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 2:46:33 AM |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 2/15/2020 2:46:33 AM |
| Surr: 4-Bromofluorobenzene                       | 86.4   | 80-120   |      | %Rec  | 1  | 2/15/2020 2:46:33 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: JMT         |
| Chloride                                         | 200    | 60       |      | mg/Kg | 20 | 2/14/2020 3:37:39 PM |

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

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

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-02 6"

Project: Todd 26 M Fed 9

Collection Date: 2/6/2020 2:15:00 PM

Lab ID: 2002519-006

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | ND     | 9.6      |      | mg/Kg | 1  | 2/14/2020 6:56:22 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 48       |      | mg/Kg | 1  | 2/14/2020 6:56:22 PM |
| Surr: DNOP                                       | 122    | 55.1-146 |      | %Rec  | 1  | 2/14/2020 6:56:22 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1  | 2/15/2020 3:09:46 AM |
| Surr: BFB                                        | 79.5   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 3:09:46 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB         |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 3:09:46 AM |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1  | 2/15/2020 3:09:46 AM |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1  | 2/15/2020 3:09:46 AM |
| Xylenes, Total                                   | ND     | 0.098    |      | mg/Kg | 1  | 2/15/2020 3:09:46 AM |
| Surr: 4-Bromofluorobenzene                       | 87.5   | 80-120   |      | %Rec  | 1  | 2/15/2020 3:09:46 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: CJS         |
| Chloride                                         | 180    | 60       |      | mg/Kg | 20 | 2/17/2020 5:37:26 PM |

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

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

Page 6 of 18

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-03 6"

Project: Todd 26 M Fed 9

Collection Date: 2/6/2020 2:30:00 PM

Lab ID: 2002519-007

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | ND     | 9.3      |      | mg/Kg | 1  | 2/14/2020 7:05:24 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 46       |      | mg/Kg | 1  | 2/14/2020 7:05:24 PM |
| Surr: DNOP                                       | 93.6   | 55.1-146 |      | %Rec  | 1  | 2/14/2020 7:05:24 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 5.0      |      | mg/Kg | 1  | 2/15/2020 3:32:59 AM |
| Surr: BFB                                        | 78.3   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 3:32:59 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB         |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 3:32:59 AM |
| Toluene                                          | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 3:32:59 AM |
| Ethylbenzene                                     | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 3:32:59 AM |
| Xylenes, Total                                   | ND     | 0.10     |      | mg/Kg | 1  | 2/15/2020 3:32:59 AM |
| Surr: 4-Bromofluorobenzene                       | 87.0   | 80-120   |      | %Rec  | 1  | 2/15/2020 3:32:59 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: CJS         |
| Chloride                                         | 1200   | 60       |      | mg/Kg | 20 | 2/17/2020 6:14:27 PM |

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

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

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-04 6"

Project: Todd 26 M Fed 9

Collection Date: 2/6/2020 2:45:00 PM

Lab ID: 2002519-008

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | ND     | 9.6      |      | mg/Kg | 1  | 2/14/2020 7:14:25 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 48       |      | mg/Kg | 1  | 2/14/2020 7:14:25 PM |
| Surr: DNOP                                       | 101    | 55.1-146 |      | %Rec  | 1  | 2/14/2020 7:14:25 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1  | 2/15/2020 3:56:13 AM |
| Surr: BFB                                        | 79.2   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 3:56:13 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB         |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 3:56:13 AM |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1  | 2/15/2020 3:56:13 AM |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1  | 2/15/2020 3:56:13 AM |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 2/15/2020 3:56:13 AM |
| Surr: 4-Bromofluorobenzene                       | 88.7   | 80-120   |      | %Rec  | 1  | 2/15/2020 3:56:13 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: CJS         |
| Chloride                                         | 110    | 60       |      | mg/Kg | 20 | 2/17/2020 6:26:48 PM |

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

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

Page 8 of 18

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-05 6"

Project: Todd 26 M Fed 9

Collection Date: 2/7/2020 10:00:00 AM

Lab ID: 2002519-009

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | ND     | 9.0      |      | mg/Kg | 1  | 2/14/2020 7:23:26 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 45       |      | mg/Kg | 1  | 2/14/2020 7:23:26 PM |
| Surr: DNOP                                       | 87.2   | 55.1-146 |      | %Rec  | 1  | 2/14/2020 7:23:26 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 5.0      |      | mg/Kg | 1  | 2/15/2020 4:19:25 AM |
| Surr: BFB                                        | 79.3   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 4:19:25 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB         |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 4:19:25 AM |
| Toluene                                          | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 4:19:25 AM |
| Ethylbenzene                                     | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 4:19:25 AM |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 2/15/2020 4:19:25 AM |
| Surr: 4-Bromofluorobenzene                       | 88.8   | 80-120   |      | %Rec  | 1  | 2/15/2020 4:19:25 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: CJS         |
| Chloride                                         | 1100   | 60       |      | mg/Kg | 20 | 2/17/2020 6:39:09 PM |

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

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

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-06 6"

Project: Todd 26 M Fed 9

Collection Date: 2/7/2020 10:30:00 AM

Lab ID: 2002519-010

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | ND     | 9.3      |      | mg/Kg | 1  | 2/14/2020 7:32:27 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 47       |      | mg/Kg | 1  | 2/14/2020 7:32:27 PM |
| Surr: DNOP                                       | 94.0   | 55.1-146 |      | %Rec  | 1  | 2/14/2020 7:32:27 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 5.0      |      | mg/Kg | 1  | 2/15/2020 4:42:36 AM |
| Surr: BFB                                        | 79.5   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 4:42:36 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB         |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 4:42:36 AM |
| Toluene                                          | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 4:42:36 AM |
| Ethylbenzene                                     | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 4:42:36 AM |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 2/15/2020 4:42:36 AM |
| Surr: 4-Bromofluorobenzene                       | 88.5   | 80-120   |      | %Rec  | 1  | 2/15/2020 4:42:36 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: CAS         |
| Chloride                                         | 4000   | 150      |      | mg/Kg | 50 | 2/19/2020 1:01:56 AM |

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

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

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-07 1'

Project: Todd 26 M Fed 9

Collection Date: 2/7/2020 10:45:00 AM

Lab ID: 2002519-011

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|--------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: CLP         |
| Diesel Range Organics (DRO)                      | ND     | 9.3      |      | mg/Kg | 1   | 2/14/2020 7:41:27 PM |
| Motor Oil Range Organics (MRO)                   | ND     | 47       |      | mg/Kg | 1   | 2/14/2020 7:41:27 PM |
| Surr: DNOP                                       | 95.7   | 55.1-146 |      | %Rec  | 1   | 2/14/2020 7:41:27 PM |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1   | 2/15/2020 5:05:48 AM |
| Surr: BFB                                        | 77.7   | 66.6-105 |      | %Rec  | 1   | 2/15/2020 5:05:48 AM |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |     | Analyst: NSB         |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1   | 2/15/2020 5:05:48 AM |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1   | 2/15/2020 5:05:48 AM |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1   | 2/15/2020 5:05:48 AM |
| Xylenes, Total                                   | ND     | 0.098    |      | mg/Kg | 1   | 2/15/2020 5:05:48 AM |
| Surr: 4-Bromofluorobenzene                       | 86.6   | 80-120   |      | %Rec  | 1   | 2/15/2020 5:05:48 AM |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |     | Analyst: CAS         |
| Chloride                                         | 5300   | 300      |      | mg/Kg | 100 | 2/19/2020 1:14:16 AM |

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

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

## Analytical Report

Lab Order 2002519

Date Reported: 2/20/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-08 1'

Project: Todd 26 M Fed 9

Collection Date: 2/7/2020 11:00:00 AM

Lab ID: 2002519-012

Matrix: SOIL

Received Date: 2/13/2020 10:18:00 AM

| Analyses                                         | Result | RL       | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: CLP          |
| Diesel Range Organics (DRO)                      | ND     | 9.1      |      | mg/Kg | 1  | 2/14/2020 7:50:26 PM  |
| Motor Oil Range Organics (MRO)                   | ND     | 45       |      | mg/Kg | 1  | 2/14/2020 7:50:26 PM  |
| Surr: DNOP                                       | 129    | 55.1-146 |      | %Rec  | 1  | 2/14/2020 7:50:26 PM  |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    | Analyst: NSB          |
| Gasoline Range Organics (GRO)                    | ND     | 5.0      |      | mg/Kg | 1  | 2/15/2020 5:28:59 AM  |
| Surr: BFB                                        | 79.3   | 66.6-105 |      | %Rec  | 1  | 2/15/2020 5:28:59 AM  |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    | Analyst: NSB          |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 2/15/2020 5:28:59 AM  |
| Toluene                                          | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 5:28:59 AM  |
| Ethylbenzene                                     | ND     | 0.050    |      | mg/Kg | 1  | 2/15/2020 5:28:59 AM  |
| Xylenes, Total                                   | ND     | 0.10     |      | mg/Kg | 1  | 2/15/2020 5:28:59 AM  |
| Surr: 4-Bromofluorobenzene                       | 88.3   | 80-120   |      | %Rec  | 1  | 2/15/2020 5:28:59 AM  |
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    | Analyst: CJS          |
| Chloride                                         | 110    | 60       |      | mg/Kg | 20 | 2/18/2020 12:00:14 AM |

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

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

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

WO#: 2002519

20-Feb-20

**Client:** Devon Energy  
**Project:** Todd 26 M Fed 9

| Sample ID: <b>MB-50458</b>  | SampType: <b>mblk</b>           | TestCode: <b>EPA Method 300.0: Anions</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50458</b>          | RunNo: <b>66563</b>                       |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/14/2020</b> | Analysis Date: <b>2/14/2020</b> | SeqNo: <b>2288253</b> Units: <b>mg/Kg</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                       | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride                    | ND                              | 1.5                                       |           |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-50458</b> | SampType: <b>lcs</b>            | TestCode: <b>EPA Method 300.0: Anions</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50458</b>          | RunNo: <b>66563</b>                       |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/14/2020</b> | Analysis Date: <b>2/14/2020</b> | SeqNo: <b>2288254</b> Units: <b>mg/Kg</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                       | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride                    | 14                              | 1.5                                       | 15.00     | 0           | 92.9 | 90       | 110       |      |          |      |

| Sample ID: <b>MB-50487</b>  | SampType: <b>mblk</b>           | TestCode: <b>EPA Method 300.0: Anions</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50487</b>          | RunNo: <b>66591</b>                       |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/17/2020</b> | Analysis Date: <b>2/17/2020</b> | SeqNo: <b>2288952</b> Units: <b>mg/Kg</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                       | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride                    | ND                              | 1.5                                       |           |             |      |          |           |      |          |      |

| Sample ID: <b>LCS-50487</b> | SampType: <b>lcs</b>            | TestCode: <b>EPA Method 300.0: Anions</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50487</b>          | RunNo: <b>66591</b>                       |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/17/2020</b> | Analysis Date: <b>2/17/2020</b> | SeqNo: <b>2288953</b> Units: <b>mg/Kg</b> |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                       | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride                    | 14                              | 1.5                                       | 15.00     | 0           | 92.2 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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

WO#: 2002519

20-Feb-20

**Client:** Devon Energy  
**Project:** Todd 26 M Fed 9

| Sample ID: <b>MB-50437</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>50437</b>          | RunNo: <b>66547</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/13/2020</b>    | Analysis Date: <b>2/14/2020</b> | SeqNo: <b>2288190</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                        | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND                              | 10                                                         |           |             |      |          |           |      |          |      |
| Motor Oil Range Organics (MRO) | ND                              | 50                                                         |           |             |      |          |           |      |          |      |
| Surr: DNOP                     | 16                              |                                                            | 10.00     |             | 163  | 55.1     | 146       |      |          | S    |

| Sample ID: <b>LCS-50437</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50437</b>          | RunNo: <b>66547</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/14/2020</b> | SeqNo: <b>2288191</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 66                              | 10                                                         | 50.00     | 0           | 132  | 70       | 130       |      |          | S    |
| Surr: DNOP                  | 6.2                             |                                                            | 5.000     |             | 124  | 55.1     | 146       |      |          |      |

| Sample ID: <b>MB-50496</b>     | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|--------------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>50496</b>          | RunNo: <b>66605</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/18/2020</b>    | Analysis Date: <b>2/18/2020</b> | SeqNo: <b>2289090</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                        | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND                              | 10                                                         |           |             |      |          |           |      |          |      |
| Motor Oil Range Organics (MRO) | ND                              | 50                                                         |           |             |      |          |           |      |          |      |
| Surr: DNOP                     | 8.9                             |                                                            | 10.00     |             | 88.8 | 55.1     | 146       |      |          |      |

| Sample ID: <b>LCS-50496</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50496</b>          | RunNo: <b>66605</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/18/2020</b> | Analysis Date: <b>2/18/2020</b> | SeqNo: <b>2289092</b> Units: <b>mg/Kg</b>                  |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 50                              | 10                                                         | 50.00     | 0           | 99.7 | 70       | 130       |      |          |      |
| Surr: DNOP                  | 4.2                             |                                                            | 5.000     |             | 84.7 | 55.1     | 146       |      |          |      |

| Sample ID: <b>MB-50486</b>  | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b> |           |             |      |          |           |      |          |      |
|-----------------------------|---------------------------------|------------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50486</b>          | RunNo: <b>66605</b>                                        |           |             |      |          |           |      |          |      |
| Prep Date: <b>2/17/2020</b> | Analysis Date: <b>2/18/2020</b> | SeqNo: <b>2289790</b> Units: <b>%Rec</b>                   |           |             |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                                        | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP                  | 11                              |                                                            | 10.00     |             | 111  | 55.1     | 146       |      |          |      |

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2002519  
20-Feb-20

Client: Devon Energy  
Project: Todd 26 M Fed 9

|                      |                          |                                                     |           |             |      |          |           |      |          |      |
|----------------------|--------------------------|-----------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: LCS-50486 | SampType: LCS            | TestCode: EPA Method 8015M/D: Diesel Range Organics |           |             |      |          |           |      |          |      |
| Client ID: LCSS      | Batch ID: 50486          | RunNo: 66605                                        |           |             |      |          |           |      |          |      |
| Prep Date: 2/17/2020 | Analysis Date: 2/18/2020 | SeqNo: 2289791                                      |           | Units: %Rec |      |          |           |      |          |      |
| Analyte              | Result                   | PQL                                                 | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP           | 5.1                      |                                                     | 5.000     |             | 102  | 55.1     | 146       |      |          |      |

Qualifiers:

- \*

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2002519

20-Feb-20

**Client:** Devon Energy  
**Project:** Todd 26 M Fed 9

| Sample ID: <b>MB-50443</b>  | SampType: <b>MBLK</b>           |     |           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |      |                    |           |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|---------------------------------------------------|------|--------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50443</b>          |     |           | RunNo: <b>66571</b>                               |      |                    |           |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/14/2020</b> |     |           | SeqNo: <b>2287764</b>                             |      | Units: <b>%Rec</b> |           |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                       | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB                   | 780                             |     | 1000      |                                                   | 78.3 | 66.6               | 105       |      |          |      |

| Sample ID: <b>LCS-50443</b> | SampType: <b>LCS</b>            |     |           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |      |                    |           |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|---------------------------------------------------|------|--------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50443</b>          |     |           | RunNo: <b>66571</b>                               |      |                    |           |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/14/2020</b> |     |           | SeqNo: <b>2287765</b>                             |      | Units: <b>%Rec</b> |           |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                       | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB                   | 890                             |     | 1000      |                                                   | 88.9 | 66.6               | 105       |      |          |      |

| Sample ID: <b>mb-50430</b>    | SampType: <b>MBLK</b>           |     |           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |      |                     |           |      |          |      |
|-------------------------------|---------------------------------|-----|-----------|---------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>         | Batch ID: <b>50430</b>          |     |           | RunNo: <b>66571</b>                               |      |                     |           |      |          |      |
| Prep Date: <b>2/13/2020</b>   | Analysis Date: <b>2/14/2020</b> |     |           | SeqNo: <b>2287845</b>                             |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                       | Result                          | PQL | SPK value | SPK Ref Val                                       | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                              | 5.0 |           |                                                   |      |                     |           |      |          |      |
| Surr: BFB                     | 810                             |     | 1000      |                                                   | 80.6 | 66.6                | 105       |      |          |      |

| Sample ID: <b>lcs-50430</b>   | SampType: <b>LCS</b>            |     |           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |      |                     |           |      |          |      |
|-------------------------------|---------------------------------|-----|-----------|---------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>        | Batch ID: <b>50430</b>          |     |           | RunNo: <b>66571</b>                               |      |                     |           |      |          |      |
| Prep Date: <b>2/13/2020</b>   | Analysis Date: <b>2/14/2020</b> |     |           | SeqNo: <b>2287846</b>                             |      | Units: <b>mg/Kg</b> |           |      |          |      |
| Analyte                       | Result                          | PQL | SPK value | SPK Ref Val                                       | %REC | LowLimit            | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 22                              | 5.0 | 25.00     | 0                                                 | 88.4 | 80                  | 120       |      |          |      |
| Surr: BFB                     | 920                             |     | 1000      |                                                   | 92.0 | 66.6                | 105       |      |          |      |

| Sample ID: <b>mb-50435</b>  | SampType: <b>MBLK</b>           |     |           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |      |                    |           |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|---------------------------------------------------|------|--------------------|-----------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50435</b>          |     |           | RunNo: <b>66571</b>                               |      |                    |           |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/15/2020</b> |     |           | SeqNo: <b>2287867</b>                             |      | Units: <b>%Rec</b> |           |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                       | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB                   | 790                             |     | 1000      |                                                   | 78.7 | 66.6               | 105       |      |          |      |

| Sample ID: <b>lcs-50435</b> | SampType: <b>LCS</b>            |     |           | TestCode: <b>EPA Method 8015D: Gasoline Range</b> |      |                    |           |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|---------------------------------------------------|------|--------------------|-----------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50435</b>          |     |           | RunNo: <b>66571</b>                               |      |                    |           |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/15/2020</b> |     |           | SeqNo: <b>2287868</b>                             |      | Units: <b>%Rec</b> |           |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                       | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB                   | 870                             |     | 1000      |                                                   | 87.4 | 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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

WO#: 2002519

20-Feb-20

**Client:** Devon Energy  
**Project:** Todd 26 M Fed 9

| Sample ID: <b>MB-50443</b>  | SampType: <b>MBLK</b>           |     |           | TestCode: <b>EPA Method 8021B: Volatiles</b> |      |          |                    |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|----------------------------------------------|------|----------|--------------------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50443</b>          |     |           | RunNo: <b>66571</b>                          |      |          |                    |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/14/2020</b> |     |           | SeqNo: <b>2287894</b>                        |      |          | Units: <b>%Rec</b> |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                  | %REC | LowLimit | HighLimit          | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene  | 0.87                            |     | 1.000     |                                              | 87.2 | 80       | 120                |      |          |      |

| Sample ID: <b>LCS-50443</b> | SampType: <b>LCS</b>            |     |           | TestCode: <b>EPA Method 8021B: Volatiles</b> |      |          |                    |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|----------------------------------------------|------|----------|--------------------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50443</b>          |     |           | RunNo: <b>66571</b>                          |      |          |                    |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/14/2020</b> |     |           | SeqNo: <b>2287895</b>                        |      |          | Units: <b>%Rec</b> |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                  | %REC | LowLimit | HighLimit          | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene  | 0.89                            |     | 1.000     |                                              | 89.2 | 80       | 120                |      |          |      |

| Sample ID: <b>mb-50430</b>  | SampType: <b>MBLK</b>           |       |           | TestCode: <b>EPA Method 8021B: Volatiles</b> |      |          |                     |      |          |      |
|-----------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|----------|---------------------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50430</b>          |       |           | RunNo: <b>66571</b>                          |      |          |                     |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/14/2020</b> |       |           | SeqNo: <b>2287905</b>                        |      |          | Units: <b>mg/Kg</b> |      |          |      |
| Analyte                     | Result                          | PQL   | SPK value | SPK Ref Val                                  | %REC | LowLimit | HighLimit           | %RPD | RPDLimit | Qual |
| Benzene                     | ND                              | 0.025 |           |                                              |      |          |                     |      |          |      |
| Toluene                     | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Ethylbenzene                | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Xylenes, Total              | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.90                            |       | 1.000     |                                              | 89.5 | 80       | 120                 |      |          |      |

| Sample ID: <b>LCS-50430</b> | SampType: <b>LCS</b>            |       |           | TestCode: <b>EPA Method 8021B: Volatiles</b> |      |          |                     |      |          |      |
|-----------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|----------|---------------------|------|----------|------|
| Client ID: <b>LCSS</b>      | Batch ID: <b>50430</b>          |       |           | RunNo: <b>66571</b>                          |      |          |                     |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/14/2020</b> |       |           | SeqNo: <b>2287929</b>                        |      |          | Units: <b>mg/Kg</b> |      |          |      |
| Analyte                     | Result                          | PQL   | SPK value | SPK Ref Val                                  | %REC | LowLimit | HighLimit           | %RPD | RPDLimit | Qual |
| Benzene                     | 0.87                            | 0.025 | 1.000     | 0                                            | 87.4 | 80       | 120                 |      |          |      |
| Toluene                     | 0.90                            | 0.050 | 1.000     | 0                                            | 89.7 | 80       | 120                 |      |          |      |
| Ethylbenzene                | 0.92                            | 0.050 | 1.000     | 0                                            | 91.8 | 80       | 120                 |      |          |      |
| Xylenes, Total              | 2.8                             | 0.10  | 3.000     | 0                                            | 92.7 | 80       | 120                 |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.94                            |       | 1.000     |                                              | 93.7 | 80       | 120                 |      |          |      |

| Sample ID: <b>mb-50435</b>  | SampType: <b>MBLK</b>           |     |           | TestCode: <b>EPA Method 8021B: Volatiles</b> |      |          |                    |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|----------------------------------------------|------|----------|--------------------|------|----------|------|
| Client ID: <b>PBS</b>       | Batch ID: <b>50435</b>          |     |           | RunNo: <b>66590</b>                          |      |          |                    |      |          |      |
| Prep Date: <b>2/13/2020</b> | Analysis Date: <b>2/17/2020</b> |     |           | SeqNo: <b>2288662</b>                        |      |          | Units: <b>%Rec</b> |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                  | %REC | LowLimit | HighLimit          | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene  | 0.94                            |     | 1.000     |                                              | 93.8 | 80       | 120                |      |          |      |

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT  
Hall Environmental Analysis Laboratory, Inc.

WO#: 2002519  
20-Feb-20

Client: Devon Energy  
Project: Todd 26 M Fed 9

|                             |        |                                 |           |             |                                              |          |                    |      |          |      |
|-----------------------------|--------|---------------------------------|-----------|-------------|----------------------------------------------|----------|--------------------|------|----------|------|
| Sample ID: <b>Ics-50435</b> |        | SampType: <b>LCS</b>            |           |             | TestCode: <b>EPA Method 8021B: Volatiles</b> |          |                    |      |          |      |
| Client ID: <b>LCSS</b>      |        | Batch ID: <b>50435</b>          |           |             | RunNo: <b>66590</b>                          |          |                    |      |          |      |
| Prep Date: <b>2/13/2020</b> |        | Analysis Date: <b>2/17/2020</b> |           |             | SeqNo: <b>2288663</b>                        |          | Units: <b>%Rec</b> |      |          |      |
| Analyte                     | Result | PQL                             | SPK value | SPK Ref Val | %REC                                         | LowLimit | HighLimit          | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene  | 0.90   |                                 | 1.000     |             | 89.9                                         | 80       | 120                |      |          |      |

Qualifiers:

- \*

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit



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

## Sample Log-In Check List

Client Name: DEVON ENERGY

Work Order Number: 2002519

RcptNo: 1

Received By: Leah Baez <sup>2/13/2020</sup> 2/13/2020 10:18:00 AM

Completed By: Isaiah Ortiz 2/13/2020 10:59:37 AM

Reviewed By: YG 2/13/20

Leah Baez  
I-Ox

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

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

Adjusted? \_\_\_\_\_

Checked by: JP 2/13/20Special Handling (if applicable)

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

|                      |                      |       |                                                                                                                               |
|----------------------|----------------------|-------|-------------------------------------------------------------------------------------------------------------------------------|
| Person Notified:     | <input type="text"/> | Date: | <input type="text"/>                                                                                                          |
| By Whom:             | <input type="text"/> | Via:  | <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person |
| Regarding:           | <input type="text"/> |       |                                                                                                                               |
| Client Instructions: | <input type="text"/> |       |                                                                                                                               |

16. Additional remarks:

17. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 4.2     | Good      | Not Present |         |           |           |

If necessary, samples submitted to Hail 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 11024

**CONDITIONS OF APPROVAL**

|                                |                |        |                |              |
|--------------------------------|----------------|--------|----------------|--------------|
| Operator:                      |                | OGRID: | Action Number: | Action Type: |
| PIMA ENVIRONMENTAL SERVICES, L | 1601 N. Turner | 329999 | 11024          | C-141        |
| Suite 500                      | Hobbs, NM88240 |        |                |              |

|              |           |
|--------------|-----------|
| OCD Reviewer | Condition |
| ceads        | None      |