November 20, 2020 Vertex Project #: 20E-00141-036

Spill Closure Report: Shaqtus 26 State Com 1H
Unit D, Section 35, Township 21 South, Range 31 East
County: Eddy
API: 30-015-39819
Tracking Number: NAB1819142828

Prepared For: Devon Energy Production Company
6488 Seven Rivers Highway
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 an oil release that occurred on June 21, 2018, at Shaqtus 26 State Com 1H, API 30-015-39818 (hereafter referred to as "Shaqtus 26"). Devon provided notification of the release to New Mexico Oil Conservation Division (NM OCD) District 2 and the New Mexico State Land Office (SLO), who owns the property, on July 6, 2018, via submission of an initial C-141 Release Notification (Attachment 1). The NM OCD incident tracking number assigned to this release is NAB1819142828.

This letter provides a description of the release 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 June 21, 2018, a release occurred at Devon's Shaqtus 26 site when the mechanical seals on a LACT unit began to leak. This incident resulted in the release of approximately 2 barrels (bbls) of oil and 3.6 bbls of rainwater onto the wellpad. Upon discovery of the release, the LACT unit was isolated to stop the release and a hydrovac truck was dispatched to the site to recover free-standing liquid. Approximately 2 bbls of oil and 2 bbls of rainwater were recovered and removed for disposal off-site. The spill was contained on-lease; no oil was released into undisturbed areas or waterways.

Site Characterization

The release at Shaqtus 26 occurred on New Mexico state-owned land, N 32.439803, W 103.752975, approximately 25 miles east of Carlsbad, New Mexico. The legal description for the site is Unit D, Section 35, Township 21 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.

Shaqtus 26 is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production, and storage. The following sections specifically describe the area surrounding Shaqtus 26.

The surrounding landscape is associated with plains and alluvial fans typical of elevations of 3,100 to 4,200 feet above sea level. The climate is semi-arid, with average annual precipitation ranging between 10 and 14 inches. Litter and, to a lesser extent, bare ground are a significant proportion of ground cover, while grasses compose the remainder. The dominant grass species are black grama, dropseeds and bluestems, with scattered shinnery oak and sand sage (United States Department of Agriculture, Natural Resources Conservation Service, 2020).

The *Geological Map of New Mexico* indicates the surface geology at Shaqtus 26 is comprised of Qep – Eolian and piedmont deposits, that include eolian sands interlaid with piedmont-slope deposits (New Mexico Bureau of Geology and Mineral Resources, 2020). The Natural Resources Conservation Service Web Soil Survey indicates the soil at the release site is Kermit-Berino fine sands, characterized by deep, fine sands. This type of soil tends to be excessively-drained with negligible runoff and low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near Shaqtus 26 (United States Department of the Interior, Bureau of Land Management, 2020).

There is no surface water located at Shaqtus 26. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 4 miles southeast of the site (United States Department of the Interior, United States Geological Survey, 2020). A freshwater stock pond is located approximately 0.84 miles east of the release site (United States Fish and Wildlife Service, 2020). At Shaqtus 26, there are no continuously flowing watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features nearby as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest active well to Shaqtus 26 is a New Mexico Office of the State Engineer (NM OSE) exploratory well from 2003, located approximately 0.75 miles southwest of the site. This well has no groundwater shown and a well depth of 970 feet below ground surface (bgs; New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

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

Based on data included in the closure criteria determination worksheet, the release at Shaqtus 26 is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site is determined

to be associated with depth to groundwater. As the nearest groundwater well is further than the NM OCD recommended 0.5 miles from the release site, the depth to groundwater cannot be accurately determined. The closure criteria for the site is then determined to be associated with the following constituent concentration limits.

Table 1. Closure Criteria for Soils Impacted by a Release

Depth to Groundwater	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH[1] (GRO + DRO + MRO)	100 mg/kg
	BTEX[2]	50 mg/kg
	Benzene	10 mg/kg

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

Remedial Actions

An initial spill inspection, completed on March 26, 2020, identified and mapped the boundaries of the release using field screening methods to estimate the level of hydrocarbons and chloride levels in the soil. Once the vertical and horizontal extents of the release had been identified, characterization soil samples were collected and submitted for laboratory analysis to confirm the field screening data. The release area was determined to be two distinct sections, each approximately 55 feet long and 30 feet wide; the total affected area was determined to be approximately 1,900 square feet as shown on Figure 1 (Attachment 2). The Daily Field Report associated with the initial spill inspection and release characterization is included in Attachment 4. Characterization sampling analytical data are summarized in Table 2 (Attachment 5). Laboratory data reports and chain of custody forms are included in Attachment 6.

On September 30, 2020, Vertex provided 48-hour notification of confirmation sampling to NM OCD and the SLO, as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC (Attachment 7). Remediation via excavation of contaminated materials was conducted between October 1 and 3, 2020, to a depth of approximately 1-foot bgs. Following completion of remediation activities on October 3, 2020, 15 five-point composite samples were collected from the base and walls of the excavation. Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NM OCD approval. The confirmatory samples were placed into laboratory-provided containers, preserved on ice and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sampling analytical data are summarized in Table 3 (Attachment 5). Laboratory data reports and chain of custody forms are included in Attachment 6.

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

Of the 15 confirmatory samples, one sample (BS20-06) failed to meet NM OCD closure criteria as shown in Table 1. Vertex returned to site to conduct additional remediation of the affected area and re-collect the confirmatory sample. The final laboratory results for this sample point are presented with the original confirmatory sampling data in Table 3 (Attachment 5).

Closure Request

Vertex recommends no additional remediation action to address the release at Shaqtus 26. Laboratory analyses show constituent of concern concentration levels below NM OCD closure criteria for areas where depth to groundwater is less than 50 feet, or cannot be determined. The excavation was backfilled with non-waste-containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent ponding of water and erosion. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that incident NAB1819142828 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 June 21, 2018, release at Shaqtus 26.

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

Sincerely,

Natalie Gordon
PROJECT MANAGER

Attachments

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

References

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

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

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

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

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

United States Fish and Wildlife Service. (2020). *National Wetlands Inventory*. Retrieved from https://www.fws.gov/wetlands/data/Mapper.html.

Limitations

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

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

ATTACHMENT 1

RECEIVED

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

JUL 06 2018

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

DISTRICT II-ARTESIA O.C.D.

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1819142828

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company 6137	Contact Merle Lewis, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No. 575-748-3371
Facility Name Shaqtus 26 State Com 1H	Facility Type Oil

Surface Owner State	Mineral Owner State	API No. 30-015-39819

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	35	21S	31E					Eddy

Latitude_32.439803_ **Longitude**_103.752975_ NAD83

NATURE OF RELEASE

Type of Release Oil/Rainwater	Volume of Release 2bbls oil & 3.6bbls rain water	Volume Recovered 2bbls oil & 2bbls rain water
Source of Release LACT unit	Date and Hour of Occurrence June 21, 2018 @ 3:17 AM MST	Date and Hour of Discovery June 21, 2018 @ 3:17 AM MST
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
The mechanical seals on LACT unit leaked. The LACT unit was isolated by closing the suction and discharge valves to stop the release from occuring

Describe Area Affected and Cleanup Action Taken.*
Approximately 2bbls oil & 3.6bbls rain water was released onto location. A vacuum truck was dispatched and recovered 2bbls oil & 2bbls rainwater from location. An environmental contractor will be contacted to assist with delineation and remediation efforts.

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

Signature: Michael Shoemaker	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Signed By Brandesha	
Printed Name: Michael Shoemaker		
Title: Environmental Professional	Approval Date: 7/9/18	Expiration Date: N/A
E-mail Address: mike.shoemaker@dvn.com	Conditions of Approval: See attached	Attached ☒ 224844
Date: 07/06//18 Phone: 575.748.3371		

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 7/6/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4844 has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 8/6/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

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

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

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

- Composite sampling is not generally allowed.

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

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAB1819142828
District RP	2RP-4844
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

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State of New Mexico
Oil Conservation Division

Incident ID	NAB1819142828
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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: 11/21/2020

email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: Cristina Eads Date: 11/24/2020

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Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAB1819142828
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Closure

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

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

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

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

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

[X] Description of remediation activities

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

Printed Name: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 11/21/2020

email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: Cristina Eads Date: 11/24/2020

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: Date: 02/03/2021

Printed Name: Cristina Eads Title: Environmental Specialist

ATTACHMENT 2

Borehole

Surface Sample

Approximate Spill Area (~1,900 sq. ft)

VERTEX

0 25 50 Feet

Map Center:
Lat/Long: 32.439902, -103.753054

NAD 1983 UTM Zone 13N
Date: Mar 24/20

N

Initial Characterization and Site Schematic
Shaqtus 26 State Com 1H

FIGURE:
1

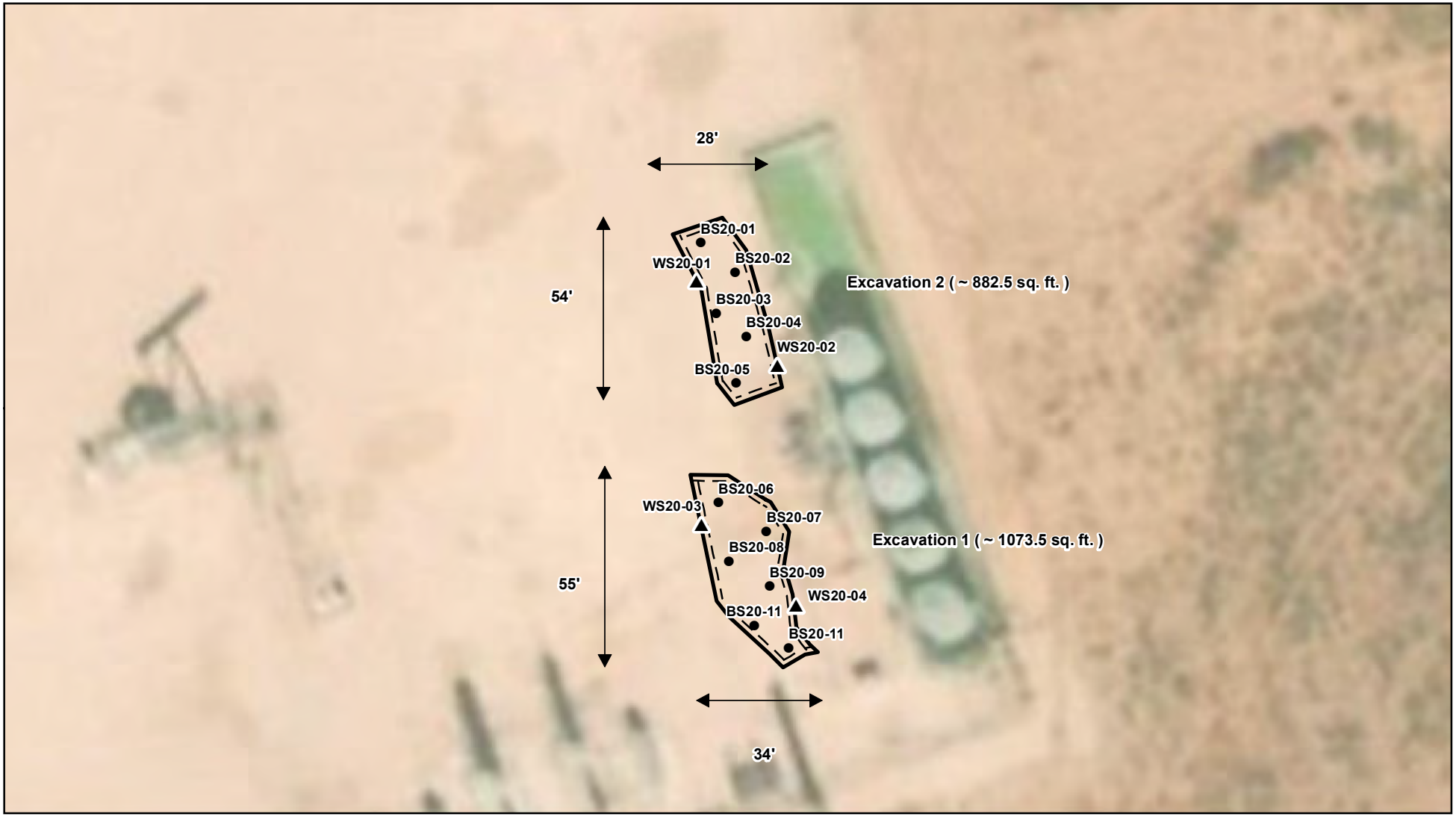
devon

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

Note: Imagery from ESRI, 2016.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-001411036 - Shaqtus 26 State Com 1H\Figure 1 Site Characterization Shaqtus 26 State Com 1H.mxd



● Base Sample

▲ Wall Sample

Excavation Extent (~1,956 sq ft)

VERTEX

10 5 0 10 20 30 40 ft

Map Center:
Lat/Long: 32.439876, -103.753021

NAD 1983 UTM Zone 13N
Date: Oct 13/20

N

Confirmatory Schematic
Shaqtus 26 State Com 1H

FIGURE:
2

devon

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

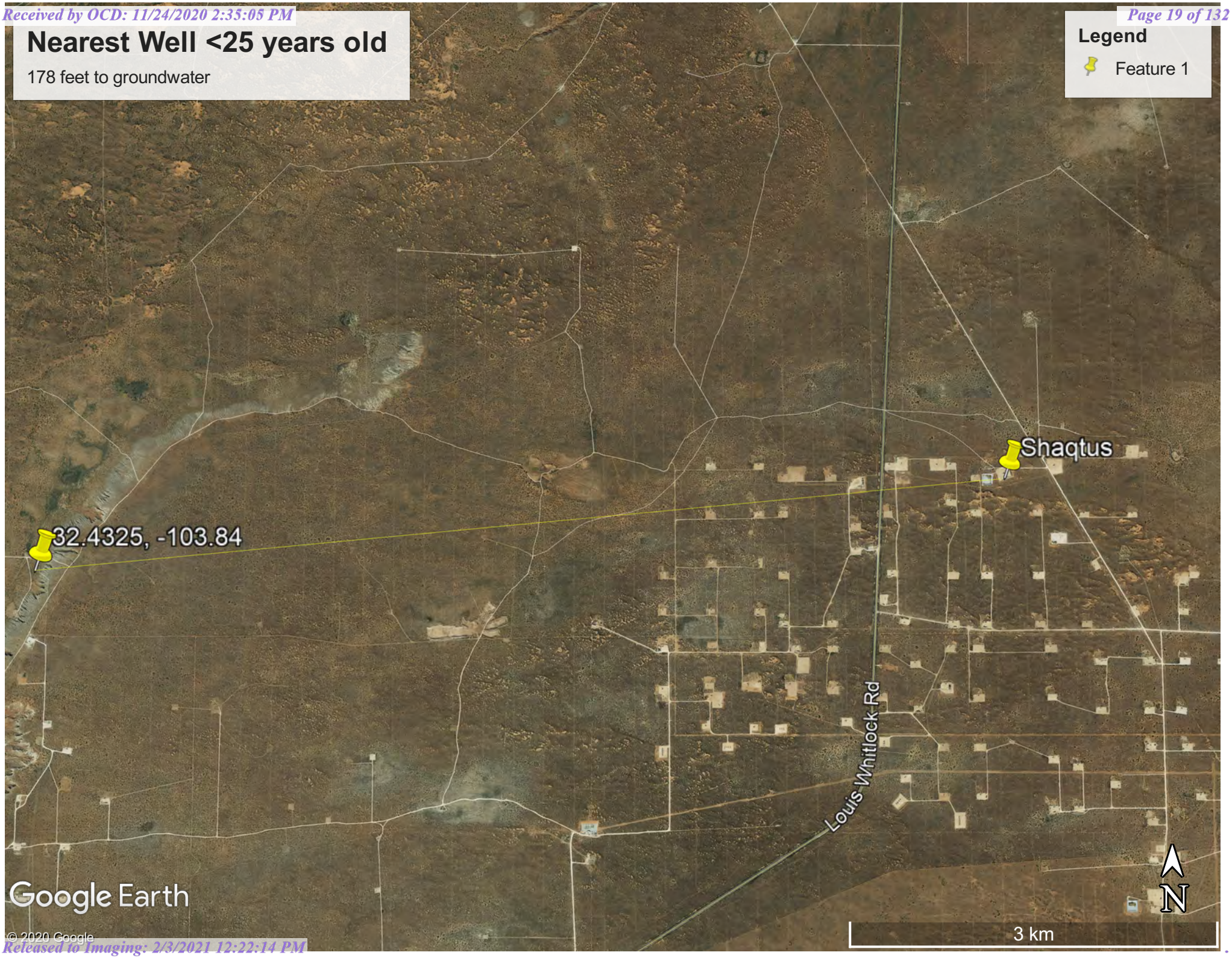
Note: Imagery from ESRI, 2016.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\036 - Shaqtus 26 State Com 1H\Figure 3 Confirmatory Schematic Shaqtus 26 State Com 1H.mxd

ATTACHMENT 3

Closure Criteria Worksheet			
Site Name: Closure Criteria Determination Shaqtus 26 State Com 1H			
Spill Coordinates:		X: 32.439803	Y: -103.752975
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**Not Determined**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	50,683	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	4,441	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	25,786	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	4,133	feet
	ii) Within 1000 feet of any fresh water well or spring	4,133	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	21,341	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	no	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		< 50'	<50' 51-100' >100'


Nearest Well <25 years old
178 feet to groundwater
Legend
Feature 1
Shaqtus
32.4325, -103.84
Louis Whitlock Rd
Google Earth
© 2020 Google
N
3 km

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

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02949 EXPL	CUB	ED	1	1	4	34	21S	31E	616140	3589231*	1260	970		
C 02744	CUB	ED	3	2	1	11	22S	31E	617374	3586631*	3242	4911		
C 02727	CUB	ED	3	1	1	33	21S	31E	613716	3589809*	3510	913		
C 03233 EXPLORE	CUB	ED	4	4	4	20	21S	31E	613489	3591816*	4213	566		
C 03112 EXPLORE	CUB	ED	3	1	1	09	22S	31E	613753	3586590*	4777	3567		
C 02745	CUB	ED	4	2	2	15	22S	31E	616789	3585013*	4877	925		
C 02746	CUB	ED	4	2	2	15	22S	31E	616789	3585013*	4877	930		
C 02747	CUB	ED	4	2	2	15	22S	31E	616789	3585013*	4877	1076		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 8

UTMNAD83 Radius Search (in meters):

Easting (X): 617226.42 **Northing (Y):** 3589870.6 **Radius:** 5000

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

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322557103502401

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322557103502401 21S.30E.36.31321

Eddy County, New Mexico
Latitude 32°25'57", Longitude 103°50'24" NAD27
Land-surface elevation 3,231 feet above NAVD88
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source o measure
1976-12-09		D	180.94			2		U		
1983-01-18		D	178.70			2		U		
1987-10-14		D	181.71			2		U		
1988-03-17		D	182.76			2		U		
1992-12-09		D	179.72			2		S		
1998-02-19		D	178.73			2		S		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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

U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2020-07-06 16:16:58 EDT
8.32 0.27 nadww01

Publicly Generated Map

11/19/2020, 4:10:35 PM

GIS WATERS PODs

- Active
- OSE District Boundary
- SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

USDA FSA, GeoEye, Maxar, Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC

OSE POD Locations

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 02949 EXPL	1	1	4	34	21S	31E	616140	3589231*

Driller License: 1184 **Driller Company:** WEST TEXAS WATER WELL SERVICE

Driller Name: RONNY KEITH

Drill Start Date: 08/14/2003 **Drill Finish Date:** 09/11/2003 **Plug Date:**

Log File Date: 09/23/2003 **PCW Rcv Date:** **Source:** Artesian

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

Casing Size: **Depth Well:** 970 feet **Depth Water:**

Water Bearing Stratifications:

Top	Bottom	Description
0	2	Other/Unknown
2	16	Sandstone/Gravel/Conglomerate
16	29	Sandstone/Gravel/Conglomerate
29	95	Sandstone/Gravel/Conglomerate
95	225	Sandstone/Gravel/Conglomerate
225	577	Sandstone/Gravel/Conglomerate
577	610	Sandstone/Gravel/Conglomerate
610	622	Sandstone/Gravel/Conglomerate
622	639	Sandstone/Gravel/Conglomerate
639	662	Sandstone/Gravel/Conglomerate
662	722	Sandstone/Gravel/Conglomerate
722	735	Sandstone/Gravel/Conglomerate
735	754	Sandstone/Gravel/Conglomerate
754	775	Sandstone/Gravel/Conglomerate
775	782	Sandstone/Gravel/Conglomerate
782	792	Sandstone/Gravel/Conglomerate
792	863	Sandstone/Gravel/Conglomerate
863	932	Sandstone/Gravel/Conglomerate

932	948	Sandstone/Gravel/Conglomerate
948	970	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	755	773

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

11/19/20 4:08 PM POINT OF DIVERSION SUMMARY

Legend | Basemap | Query

Legend

All Layers On/Off

All Layer Transparency

- Active Fire Perimeters
- Historic Wildfires
- Water Quality Stations
- USGS Stream Gages
- Climatological Stations
- NPDES Permits
- 20.6.4.97 NMAC
- Impaired Waters 2020 DRAFT
- Impaired Waters 2018 IR FINAL
- Assessed Waters 2020 DRAFT
- Assessed Waters 2018 IR FINAL
- Air-Water Temperature Correlation
- Nonpoint Source Program
- Fish
- Beaver Habitat
- Outstanding National Resource Waters
- Roads
- Legislative
- Counties
- Urban Areas
- Points of Diversion
- National Hydrography Dataset

National Hydrography Dataset

- Points
  - Gaging Station
  - Rapids
  - Spring/Seep
  - Waterfall
  - Well
- Lines
  - Connector
  - Canal/Ditch
  - Aqueduct: At or Near Surface
  - Aqueduct: Underground
  - Pipeline: Siphon
  - Intermittent Stream
  - Perennial Stream
  - Artificial Path
- Waterbodies
  - Playa
  - Intermittent Lake
  - Perennial Lake
  - High Water Stage Intermittent Lake
  - Average Water Stage Intermittent Lake
  - Normal Pool Stage Perennial Lake
  - Aquaculture Reservoir

1:9,028

Louis Whitlock Rd

Louis Whitlock Rd

Louis Whitlock Rd

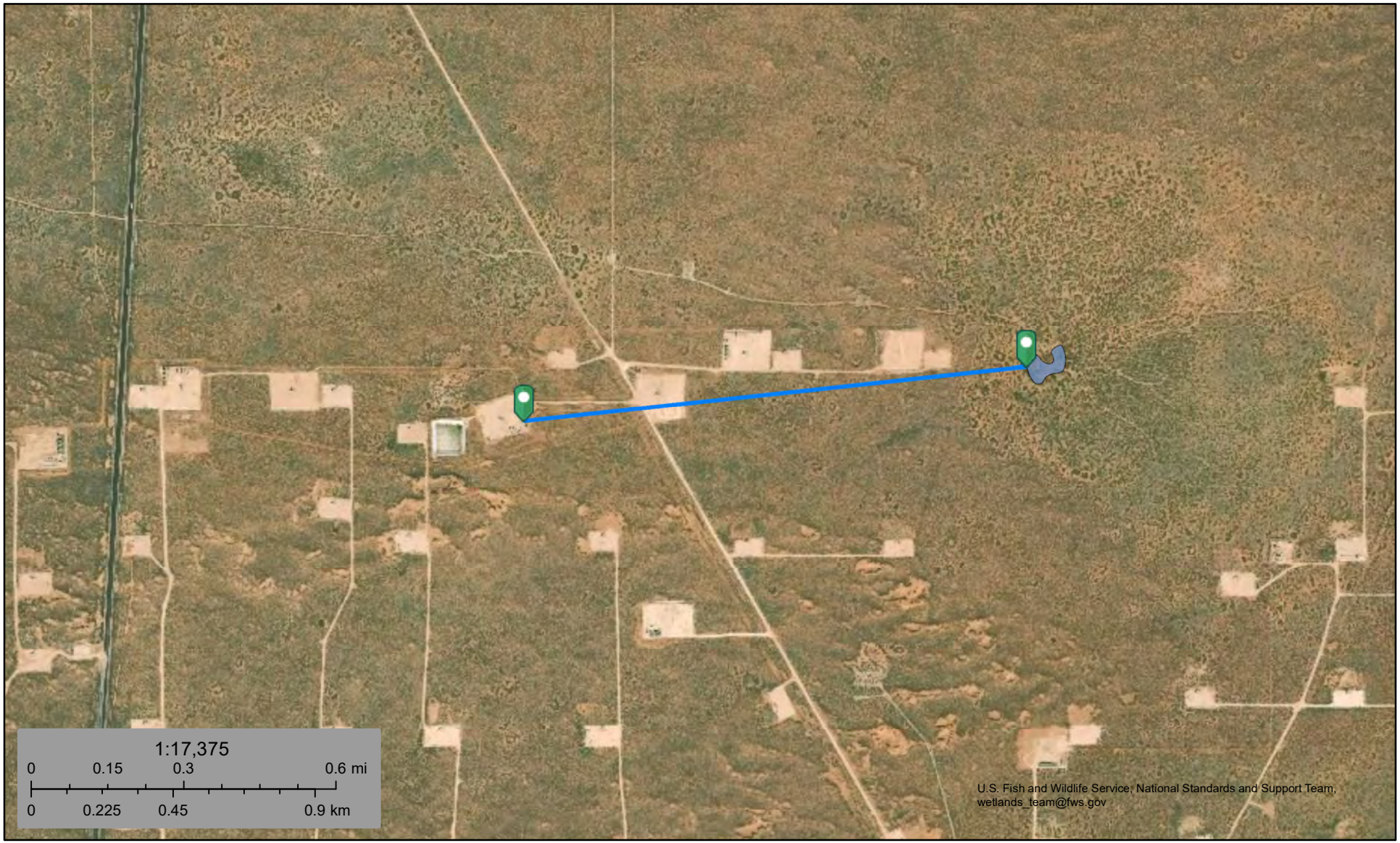
0 300 600ft

Lon: -103.74975°, Lat: 32.44362°

Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS | New M...

U.S. Fish and Wildlife Service
National Wetlands Inventory

Shaqtus 26 State Fed Come 1H Lake 4,44



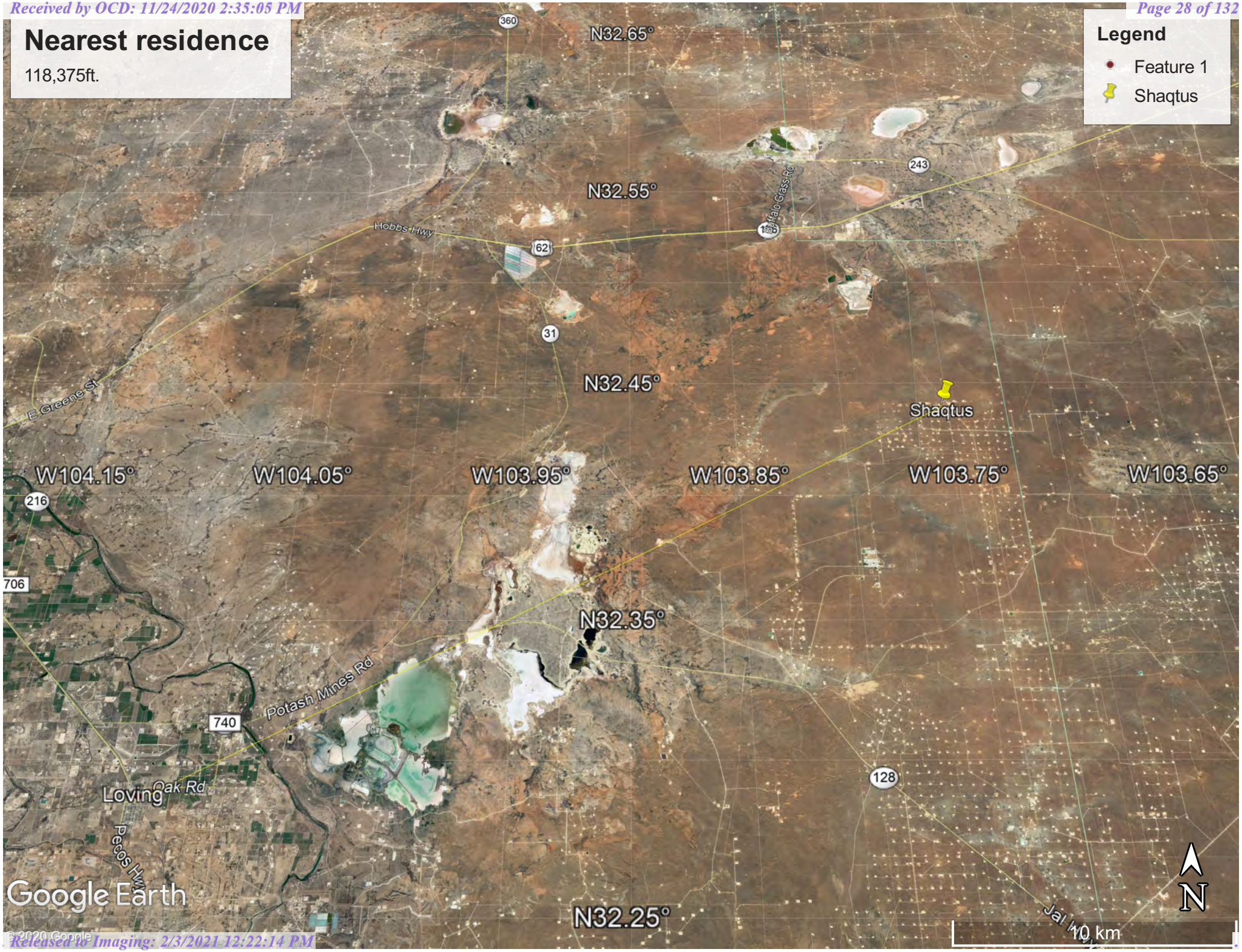
February 29, 2020

Wetlands

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

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

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


Nearest residence
118,375ft.
Legend
Feature 1
Shaqtus
N32.65°
N32.55°
N32.45°
N32.35°
N32.25°
W104.15°
W104.05°
W103.95°
W103.85°
W103.75°
W103.65°
Shaqtus
Hobbs Hwy
E Greene St
Potash Mines Rd
Oak Rd
Loving
Pecos Hwy
Buffalo Grass Rd
360
62
31
243
216
706
740
128
Google Earth
© 2020 Google
10 km
N

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum) (R=POD has been replaced and no longer serves this file, C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416	4	Sec	Tws	Rng	X	Y	Distance
C 02949	CUB	EXP	0	US DEPT OF ENERGY CARLSBAD FIELD OFFICE, WIPP	ED	C 02949 EXPL				Artesian	1 1	4	34	21S	31E	616140	3589231*	1260

Record Count: 1

UTMNAD83 Radius Search (in meters):

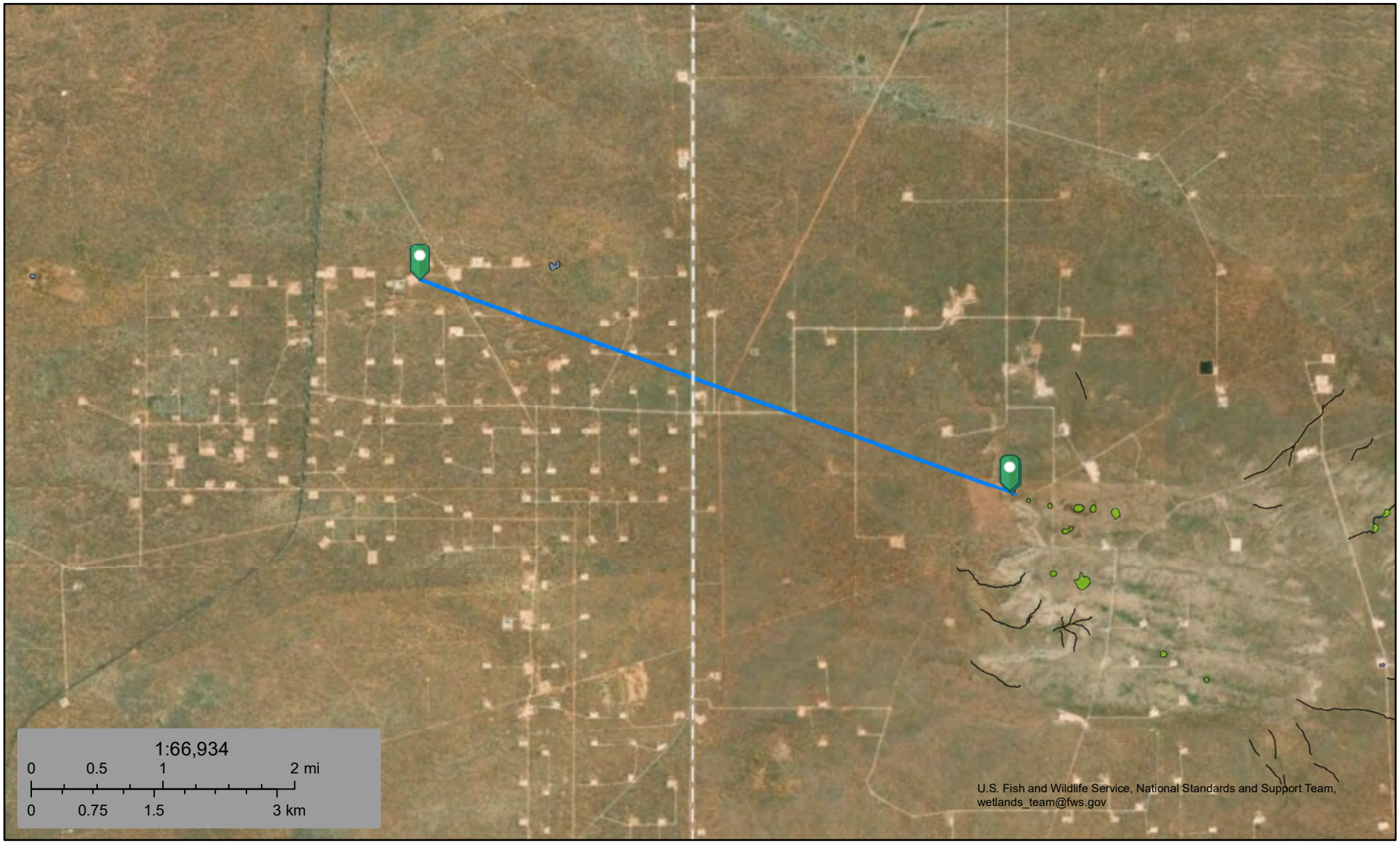
Easting (X): 617226.42 **Northing (Y):** 3589870.6 **Radius:** 1610

Sorted by: Distance

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Shaqtus 26 State Com 1H_Lake 21,341ft



March 1, 2020

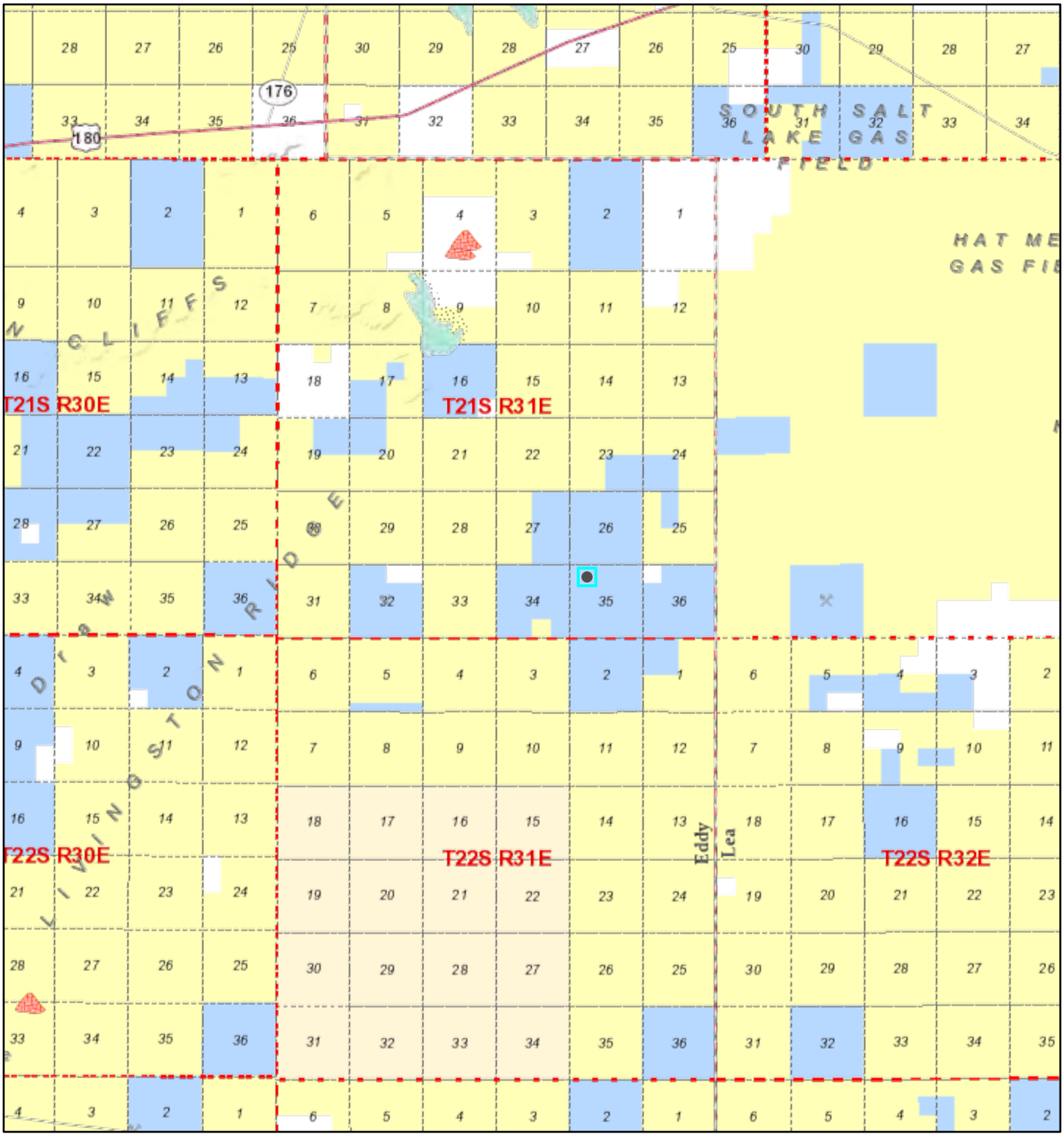
Wetlands

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

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

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

Active Mines in New Mexico



2020-03-01 3:34:22 PM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

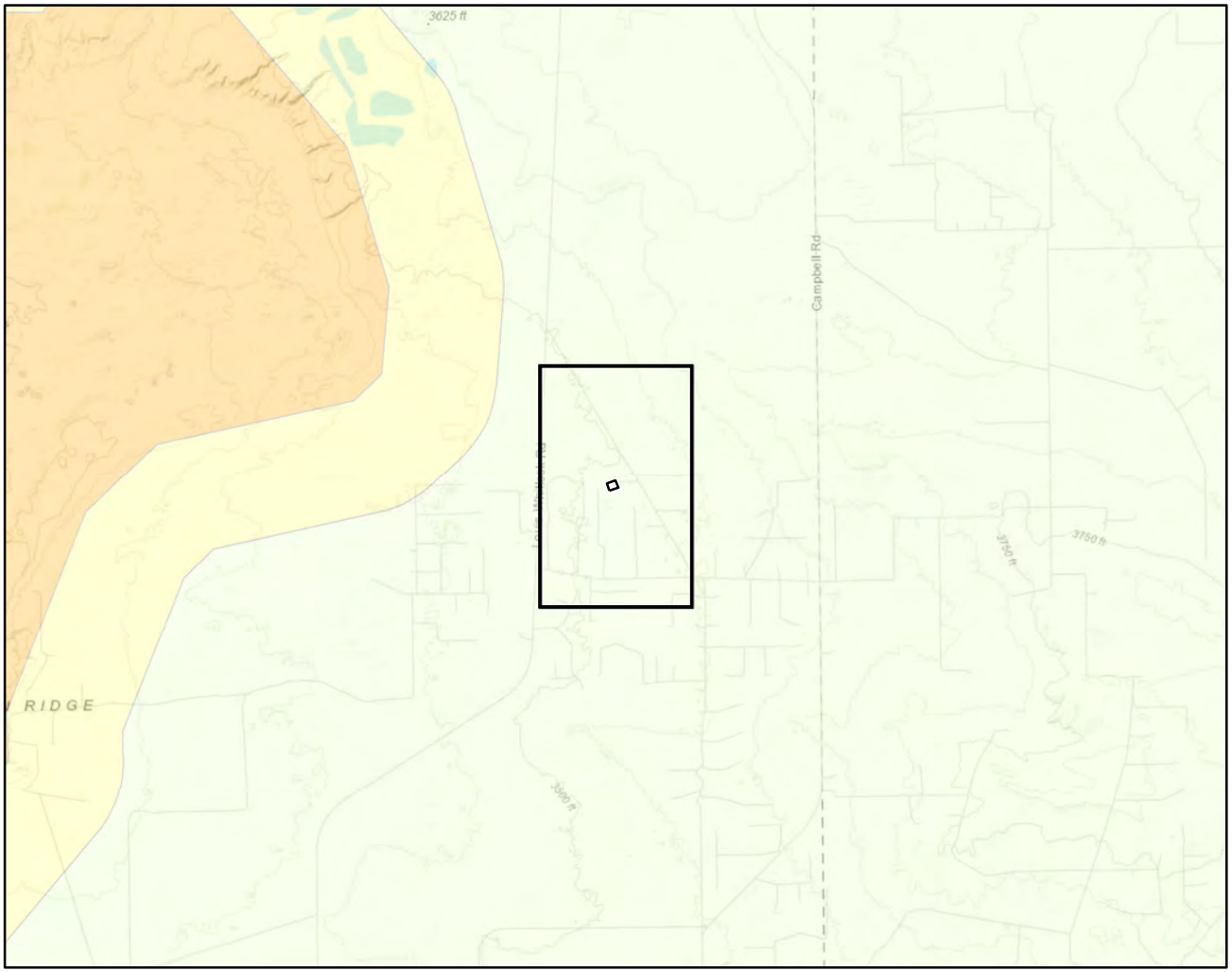
Registered Mines

- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Potash

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

EMNRD MMD GIS Coordinator

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



Karst Potential

- Critical
- High
- Medium
- Low

Approximate Lease Boundary

Overview Map

0 0.25 0.5 1 1.5 mi

Detail Map

0 750 1,500 ft.

VERTEX

Map Center:
Lat/Long: 32.439803, -103.752975

NAD 1983 UTM Zone 13N
Date: Mar 02/20

N

Karst Potential
Shaqtus 26 State Com 1H

FIGURE:
X

devon

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

Note: Inset Map, ESRI 2016; Overview Map: ESRI World Topographic

VERSATILITY. EXPERTISE.

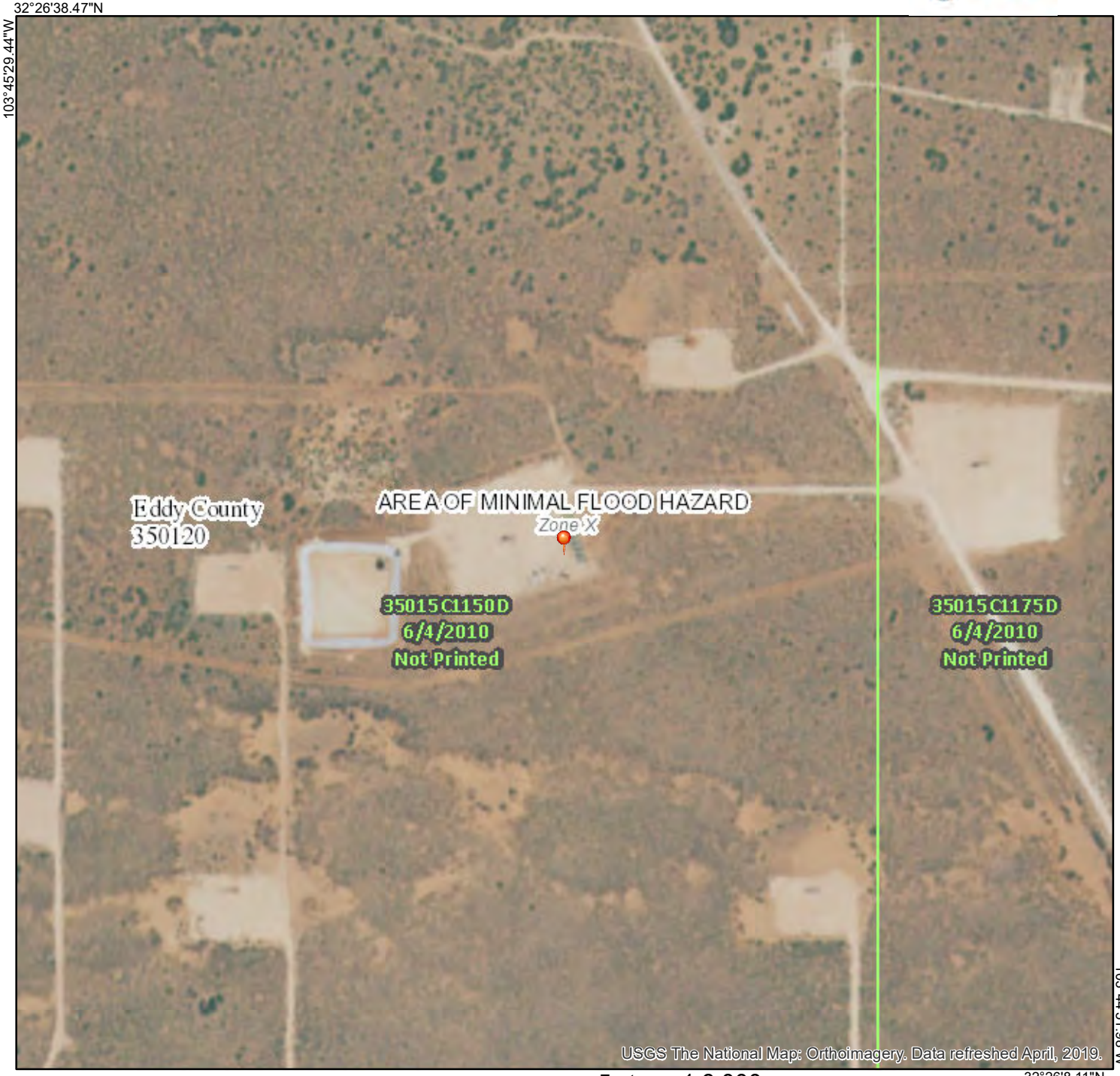
Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\036 - Shaqtus 26 State Com 1H\Shaqtus 26 State Com 1H Karst Potential (20E-00141).mxd

National Flood Hazard Layer FIRMette

FEMA

32°26'38.47"N

103°45'29.44"W



103°44'51.98"W

32°26'8.11"N

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

1:6,000

Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/1/2020 at 5:45:17 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

March 1, 2020

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: 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
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	11.3	100.0%
Totals for Area of Interest		**11.3**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Eddy Area, New Mexico

KM—Kermit-Berino fine sands, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w4q
Elevation: 3,100 to 4,200 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 50 percent
Berino and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kermit

Setting

Landform: Plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 7 inches: fine sand
H2 - 7 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
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: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Deep Sand (R042XC005NM)
Hydric soil rating: No

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 50 inches: fine sandy loam
H3 - 50 to 58 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 7.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Minor Components

Active dune land

Percent of map unit: 15 percent
Hydric soil rating: No

References

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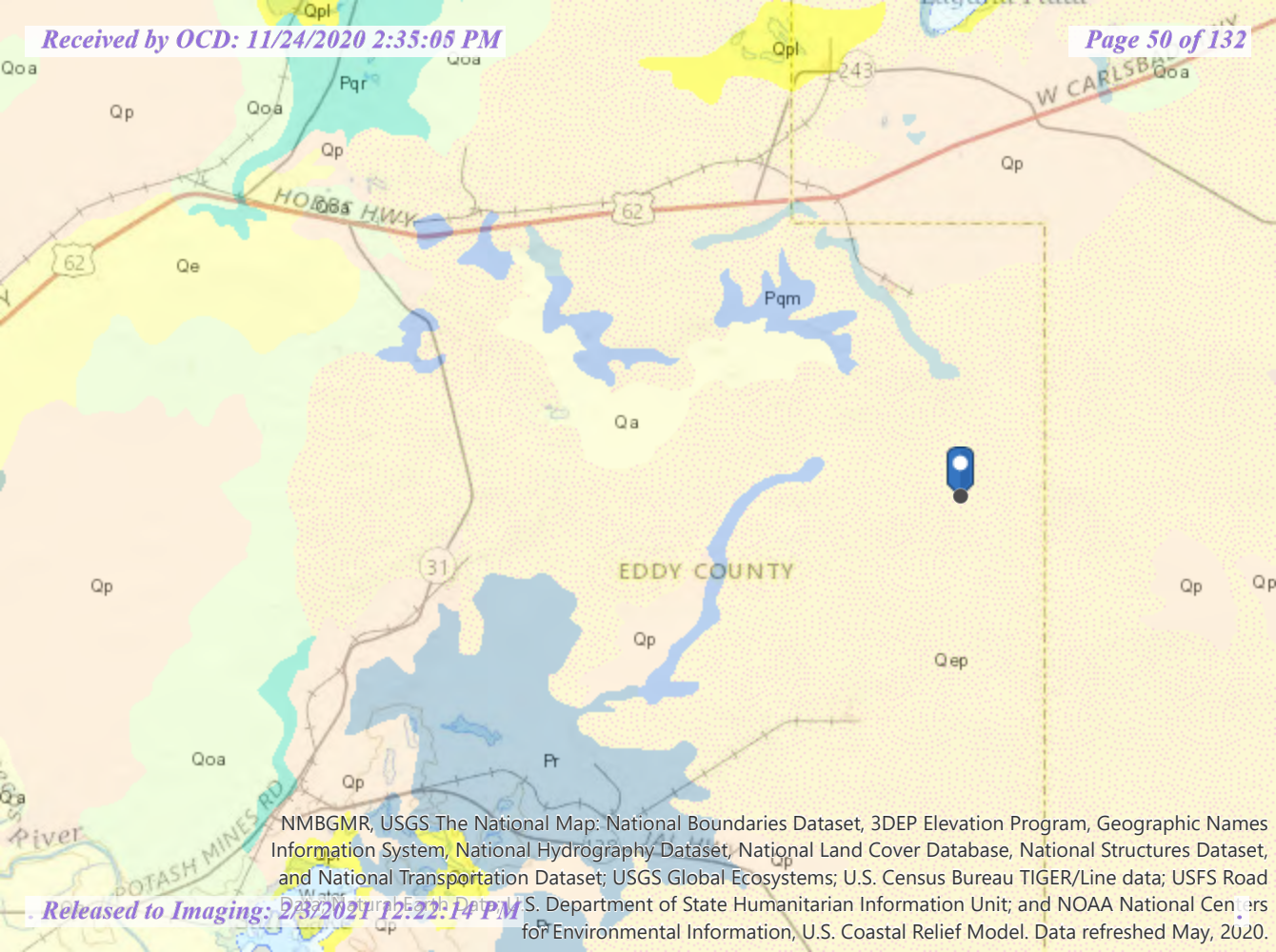


NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed May, 2020.

ATTACHMENT 4

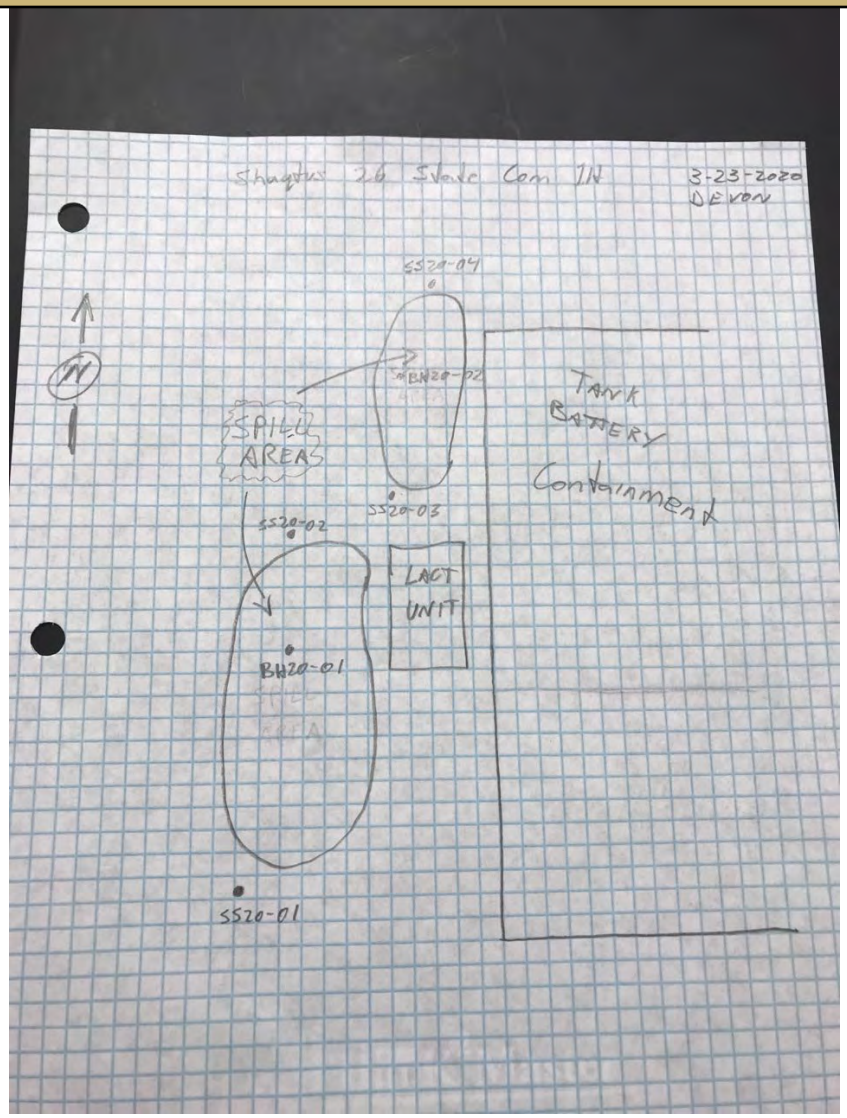
Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/23/2020
Site Location Name:	Shaqtus 26 State Com 1H	Report Run Date:	3/24/2020 12:09 AM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-39819
Client Contact Name:	Amanda Davis	Reference	2RP-4844, 2RP-5153
Client Contact Phone #:	(575) 748-0176		

Summary of Times	
Left Office	3/23/2020 9:45 AM
Arrived at Site	3/23/2020 10:30 AM
Departed Site	3/23/2020 4:15 PM
Returned to Office	3/23/2020 4:53 PM

Daily Site Visit Report

Site Sketch



Daily Site Visit Report

Summary of Daily Operations

10:32 Arrive on site.
Complete safety paperwork.
Conduct unofficial liner inspection.
Delineate spill and take samples.
Complete DFR.
Return to office.

17:38 Liner inspection was official inspection *

Next Steps & Recommendations

1 Schedule excavation and remediation

Sampling

BH20-01

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.			Low (30-600 ppm)	0.1 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.43981907, -103.75302715	Yes
0.5 ft.		8 ppm	Low (30-600 ppm)	0.1 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.43981907, -103.75302715	

BH20-02

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.			High (300-6000ppm)	8634 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.43998402, -103.75304634	Yes

Daily Site Visit Report

	0.5 ft.		33 ppm	High (300-6000ppm)	1674 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.43998402, -103.75304634	

SS20-01

	Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
	0 ft.		454 ppm	High (300-6000ppm)	2427 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.43971135, -103.75298479	Yes

SS20-02

	Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
	0 ft.		615 ppm	Low (30-600 ppm)	74 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.43984606, -103.75301251	Yes

SS20-03

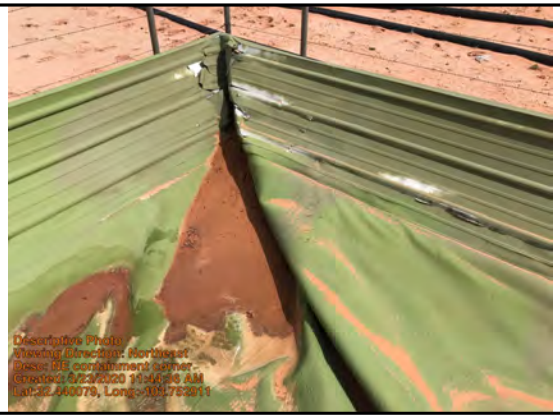
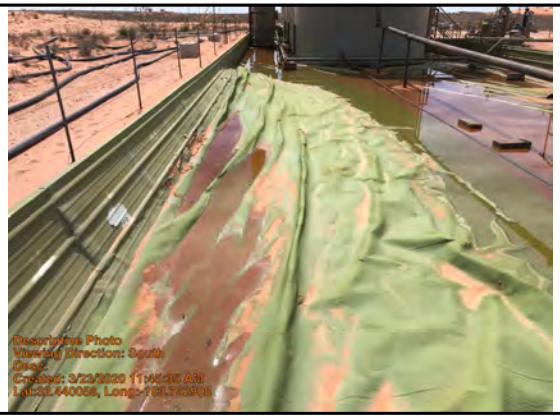
	Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
	0 ft.		92 ppm	Low (30-600 ppm)	0.1 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.43989995, -103.75301371	Yes

SS20-04

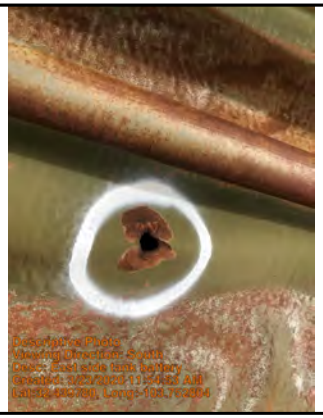
	Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
	0 ft.		77 ppm	Low (30-600 ppm)	565 ppm	BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	✓	32.44007022, -103.75304496	Yes

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast	**Viewing Direction**: Northeast
	
NE containment corner holes	NE containment corner
Viewing Direction: North	**Viewing Direction**: South
	
NE containment corner holes	

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: West
	
Liner degradation revealing metal on Northeast side of containment	Liner puncture between middle 2 tanks by separator inside tank battery
Viewing Direction: South	**Viewing Direction**: North
	
East side tank battery	Stained area outside northwest corner of containment as well as spoil pile

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: South
	
Stained area outside northwest corner of containment as well as spoil pile	Stained area outside northwest corner of containment as well as spoil pile
Viewing Direction: South	**Viewing Direction**: South
	
Spill area near LACT unit	Spill area near LACT unit

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: North
	
Spill area near LACT unit	Spill area near LACT unit

Daily Site Visit Report

Depth Sample Photos

Sample Point ID: SS20-01

Depth: 0 ft.

Sample Point ID: SS20-02

Depth: 0 ft.

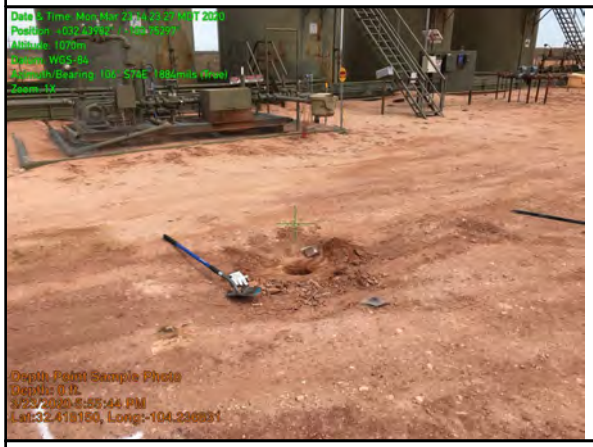
Sample Point ID: SS20-03

Depth: 0 ft.

Sample Point ID: SS20-04

Depth: 0 ft.

Daily Site Visit Report

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

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Austin Harris

Signature: 
Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/26/2020
Site Location Name:	Shaqtus 26 State Com 1H	Report Run Date:	3/27/2020 12:09 AM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-015-39819
Client Contact Name:	Amanda Davis	Reference	2RP-4844, 2RP-5153
Client Contact Phone #:	(575) 748-0176		

Summary of Times

Left Office	3/26/2020 8:35 AM
Arrived at Site	3/26/2020 10:05 AM
Departed Site	3/26/2020 5:10 PM
Returned to Office	3/26/2020 6:08 PM

Summary of Daily Operations

11:40 Scrape, sample and stockpile 2 spill locations

Next Steps & Recommendations

1 Backfill once samples come back from lab

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: North
	
Scrape location 1	Scrape 1 in process
Viewing Direction: Southeast	**Viewing Direction**: North
	
Scrape location 2 in progress	Scrape 2 in process

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: Southeast
	
Scrape location 1	Scrape location 2

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Tommy Odell

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	10/1/2020
Site Location Name:	Shaqtus 26 State Com 1H	Report Run Date:	10/6/2020 12:31 AM
Client Contact Name:	Amanda Davis	API #:	30-015-39819
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Shaqtus 26 State Com 1H	Project Owner:	Amanda Davis
Project Reference #	2RP-4844, 2RP-5153	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	10/1/2020 9:00 AM
Departed Site	10/1/2020 3:39 PM

Field Notes

11:17 Starting excavation and taking out 10-12 inches on both areas. Sampling areas as excavation is ongoing to ensure area is clean

13:10 Field screened northern area. Taking out a bit more on the east wall

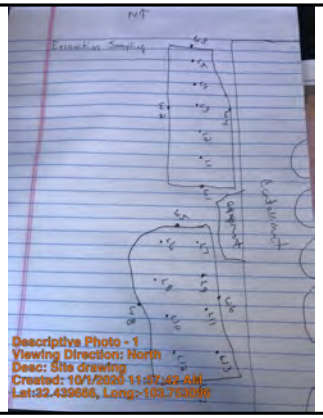
15:32 On southern excavation area taking down to 1.5 ft. At 1 ft coming back around 1200 and need to be at 600

Next Steps & Recommendations

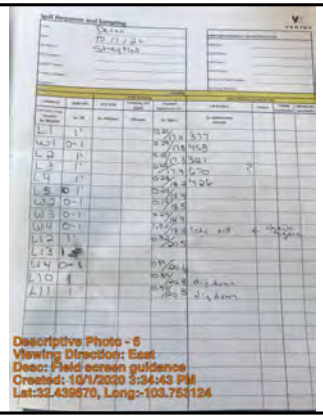
1 Continue excavation with guidance of field screens

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: South
	
Site drawing	Excavation area
Viewing Direction: North	**Viewing Direction**: North
	
Area two excavation area	Excavation on southern area 1

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: East
	
Excavation area 1	Field screen guidance

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	10/2/2020
Site Location Name:	Shaqtus 26 State Com 1H	Report Run Date:	10/6/2020 12:57 PM
Client Contact Name:	Amanda Davis	API #:	30-015-39819
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Shaqtus 26 State Com 1H	Project Owner:	Amanda Davis
Project Reference #	2RP-4844, 2RP-5153	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	10/2/2020 7:55 AM
Departed Site	10/2/2020 2:17 PM

Field Notes

6:39 Complete excavation on southern spill Area. Field screens will be collected to ensure concentrations of soil are below 600 ppm chloride and 100 ppm TPH.

6:45 Collect confirmation samples when excavation is completed. Total area is approximately 2,000 square feet. A total of 11 base samples and four sidewall samples will be collected.

Next Steps & Recommendations

1 Submit confirmation samples for laboratory analysis. Await data results to determine next course of action.

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: Southeast
	
Excavation footprint	Excavation footprint
Viewing Direction: North	**Viewing Direction**: North
	
Excavation footprint	Excavation footprint

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: Southeast
	
Excavation footprint	Excavation footprint

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Kevin Smith

Signature: 

VERTEX

Spill Response and Sampling

Client:	Devon Energy
Date:	10-02-2020
Site Name:	Shaggy Fed 26
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

		Field Screening			Data Collection (Check for Yes)			
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	Quantab (High/Low) + or -	Lab Analysis	Picture	Trimble Coordinates	Marked on Site Sketch
SS/TP/BH - Year - Number Ex. BH18-01	Ex. '2ft	Ex. 400 ppm	200 ppm	Ex. 'High +	Ex. Hydrocarbon Chloride			
BS20-01	1'			0.24				
02			50	0.21				
03				0.13				
04				0.15				
05			33	0.31				
06				0.36				
07				0.21				
08				0.16				
09			20	0.13				
10				0.09				
11				0.21				
WS20-01	0-1'			0.23				
2			41	0.19				
3				0.14				
4				0.16				

VERSATILITY. EXPERTISE.

ATTACHMENT 5

Client Name: Devon Energy
Site Name: Shaqtus 26 State Com 1H
NM OCD Tracking #: NAB1819142828
Project #: 20E-00141-036
Lab Report: 2003C64

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

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH20-01	0.5	March 26, 2020	<0.024	<0.217	<4.8	71	140	71	**211**	**2,100**
BH20-01	1	March 26, 2020	<0.024	<0.219	<4.9	25	66	25	91	**1,500**
BH20-02	0.5	March 26, 2020	<0.024	<0.216	<4.8	26	52	26	78	**14,000**
BH20-02	1	March 26, 2020	<0.024	<0.215	<4.8	13	<45	13	13	**7,900**
SS20-01	0-0.5	March 26, 2020	<0.024	<0.216	<4.8	19	59	19	78	**1,900**
SS20-02	0-0.5	March 26, 2020	<0.024	<0.213	<4.7	170	97	170	**267**	**1,700**
SS20-03	0-0.5	March 26, 2020	<0.025	<0.221	<4.9	13	<48	13	13	**9,000**
SS20-04	0-0.5	March 26, 2020	<0.023	<0.211	<4.7	120	150	120	**270**	**7,700**
SS20-05	0-0.5	March 26, 2020	<0.025	<0.224	<5.0	28	66	28	94	**17,000**

Bold and shaded indicates exceedance outside of NM OCD Closure Criteria

VERTEX

Client Name: Devon Energy Production Company
Site Name: Shaqtus 26 State Com 1H
NM OCD Tracking Number: NAB1819142828
Project #: 20E-00141-036
Lab Report: 2010219; 2010B14

Table 3. Confirmatory Sample Laboratory Results - Depth to Groundwater < 50 feet

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS20-01	1	October 3, 2020	<0.024	<0.220	<4.9	<8.7	<44	<13.6	<59.6	68
BS20-02	1	October 3, 2020	<0.024	<0.212	<4.7	<9.6	<48	<14.3	<62.3	370
BS20-03	1	October 3, 2020	<0.024	<0.217	<4.8	<9.5	<48	<14.3	<62.3	250
BS20-04	1	October 3, 2020	<0.025	<0.225	<5.0	<9.4	<47	<14.4	<61.4	<59
BS20-05	1	October 3, 2020	<0.025	<0.224	<5.0	<9.6	<48	<14.6	<62.6	150
BS20-06	1	October 3, 2020	<0.023	<0.207	<4.6	<9.4	<47	<14.0	<61	**690**
BS20-06	1.25	October 14, 2020	<0.025	<0.222	<4.9	<9.4	<47	<14.3	<61.3	**96**
BS20-07	1	October 3, 2020	<0.024	<0.219	<4.9	<9.0	<45	<13.9	<58.9	140
BS20-08	1	October 3, 2020	<0.023	<0.211	<4.7	<9.6	<48	<14.3	<62.3	87
BS20-09	1	October 3, 2020	<0.024	<0.213	<4.7	<9.6	<48	<14.3	<62.3	160
BS20-10	1	October 3, 2020	<0.024	<0.216	<4.8	<9.4	<47	<14.2	<61.2	<60
BS20-11	1	October 3, 2020	<0.024	<0.212	<4.7	<9.9	<50	<14.6	<64.6	380
WS20-01	1	October 3, 2020	<0.025	<0.225	<5.0	<8.8	<44	<13.8	<57.8	<60
WS20-02	1	October 3, 2020	<0.023	<0.207	<4.6	<9.6	<48	<14.2	<62.2	84
WS20-03	1	October 3, 2020	<0.024	<0.213	<4.7	<9.7	<48	<14.4	<62.4	240
WS20-04	1	October 3, 2020	<0.024	<0.219	<4.9	<9.8	<49	<14.7	<63.7	96

"-" - Not assessed/analyzed
Bold and gray shaded indicates exceedance outside of NM OCD Closure Criteria
Bold and green shaded indicates a re-sample of areas previously exceeding closure criteria

ATTACHMENT 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 06, 2020

Amanda Davis

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

RE: Shaqtus 26 State Com 1H OrderNo.: 2003C64

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 9 sample(s) on 3/28/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 1H
Lab ID: 2003C64-001 **Matrix:** SOIL

Client Sample ID: FPS 1
Collection Date: 3/26/2020 11:15:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	71	19		mg/Kg	2	4/5/2020 8:53:06 PM
Motor Oil Range Organics (MRO)	140	96		mg/Kg	2	4/5/2020 8:53:06 PM
Surr: DNOP	88.6	55.1-146		%Rec	2	4/5/2020 8:53:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/4/2020 1:04:16 AM
Surr: BFB	99.7	66.6-105		%Rec	1	4/4/2020 1:04:16 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/4/2020 1:04:16 AM
Toluene	ND	0.048		mg/Kg	1	4/4/2020 1:04:16 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/4/2020 1:04:16 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/4/2020 1:04:16 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/4/2020 1:04:16 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	2100	60		mg/Kg	20	4/2/2020 12:19:36 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: FPS 2
Project: Shaqtus 26 State Com 1H
Collection Date: 3/26/2020 11:20:00 AM
Lab ID: 2003C64-002 **Matrix:** SOIL
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	25	9.3		mg/Kg	1	4/1/2020 3:14:40 PM
Motor Oil Range Organics (MRO)	66	46		mg/Kg	1	4/1/2020 3:14:40 PM
Surr: DNOP	71.1	55.1-146		%Rec	1	4/1/2020 3:14:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 1:28:10 AM
Surr: BFB	101	66.6-105		%Rec	1	4/4/2020 1:28:10 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/4/2020 1:28:10 AM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 1:28:10 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 1:28:10 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/4/2020 1:28:10 AM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	4/4/2020 1:28:10 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	1500	60		mg/Kg	20	4/2/2020 12:56:49 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 1H
Lab ID: 2003C64-003 **Matrix:** SOIL

Client Sample ID: FPS 3
Collection Date: 3/26/2020 11:31:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	19	9.8		mg/Kg	1	4/1/2020 3:36:44 PM
Motor Oil Range Organics (MRO)	59	49		mg/Kg	1	4/1/2020 3:36:44 PM
Surr: DNOP	70.8	55.1-146		%Rec	1	4/1/2020 3:36:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/4/2020 1:52:04 AM
Surr: BFB	101	66.6-105		%Rec	1	4/4/2020 1:52:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/4/2020 1:52:04 AM
Toluene	ND	0.048		mg/Kg	1	4/4/2020 1:52:04 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/4/2020 1:52:04 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/4/2020 1:52:04 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/4/2020 1:52:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	1900	60		mg/Kg	20	4/2/2020 1:09:14 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 1H
Lab ID: 2003C64-004 **Matrix:** SOIL

Client Sample ID: FPS 4
Collection Date: 3/26/2020 11:44:00 AM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	170	19		mg/Kg	2	4/5/2020 9:41:25 PM
Motor Oil Range Organics (MRO)	97	94		mg/Kg	2	4/5/2020 9:41:25 PM
Surr: DNOP	89.8	55.1-146		%Rec	2	4/5/2020 9:41:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/4/2020 2:15:53 AM
Surr: BFB	101	66.6-105		%Rec	1	4/4/2020 2:15:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/4/2020 2:15:53 AM
Toluene	ND	0.047		mg/Kg	1	4/4/2020 2:15:53 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/4/2020 2:15:53 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/4/2020 2:15:53 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/4/2020 2:15:53 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	1700	60		mg/Kg	20	4/2/2020 1:21:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 1H
Lab ID: 2003C64-005 **Matrix:** SOIL

Client Sample ID: FPS 5
Collection Date: 3/26/2020 12:15:00 PM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	26	9.4		mg/Kg	1	4/1/2020 4:20:49 PM
Motor Oil Range Organics (MRO)	52	47		mg/Kg	1	4/1/2020 4:20:49 PM
Surr: DNOP	72.9	55.1-146		%Rec	1	4/1/2020 4:20:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/4/2020 2:39:45 AM
Surr: BFB	101	66.6-105		%Rec	1	4/4/2020 2:39:45 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/4/2020 2:39:45 AM
Toluene	ND	0.048		mg/Kg	1	4/4/2020 2:39:45 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/4/2020 2:39:45 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/4/2020 2:39:45 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/4/2020 2:39:45 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	14000	600		mg/Kg	200	4/3/2020 11:08:52 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 1H
Lab ID: 2003C64-006 **Matrix:** SOIL

Client Sample ID: FPS 6
Collection Date: 3/26/2020 12:30:00 PM
Received Date: 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	13	9.1		mg/Kg	1	4/1/2020 4:42:53 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/1/2020 4:42:53 PM
Surr: DNOP	79.4	55.1-146		%Rec	1	4/1/2020 4:42:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/4/2020 3:03:35 AM
Surr: BFB	102	66.6-105		%Rec	1	4/4/2020 3:03:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	4/4/2020 3:03:35 AM
Toluene	ND	0.048		mg/Kg	1	4/4/2020 3:03:35 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/4/2020 3:03:35 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/4/2020 3:03:35 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/4/2020 3:03:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	7900	300		mg/Kg	100	4/3/2020 11:21:13 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy **Client Sample ID:** FPS 7
Project: Shaqtus 26 State Com 1H **Collection Date:** 3/26/2020 12:40:00 PM
Lab ID: 2003C64-007 **Matrix:** SOIL **Received Date:** 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	13	9.7		mg/Kg	1	4/1/2020 5:05:06 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/1/2020 5:05:06 PM
Surr: DNOP	70.8	55.1-146		%Rec	1	4/1/2020 5:05:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2020 3:27:26 AM
Surr: BFB	102	66.6-105		%Rec	1	4/4/2020 3:27:26 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 3:27:26 AM
Toluene	ND	0.049		mg/Kg	1	4/4/2020 3:27:26 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2020 3:27:26 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/4/2020 3:27:26 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/4/2020 3:27:26 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	9000	300		mg/Kg	100	4/3/2020 11:33:33 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy **Client Sample ID:** SW 1
Project: Shaqtus 26 State Com 1H **Collection Date:** 3/26/2020 2:30:00 PM
Lab ID: 2003C64-008 **Matrix:** SOIL **Received Date:** 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	120	19		mg/Kg	2	4/5/2020 10:29:43 PM
Motor Oil Range Organics (MRO)	150	94		mg/Kg	2	4/5/2020 10:29:43 PM
Surr: DNOP	86.4	55.1-146		%Rec	2	4/5/2020 10:29:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/4/2020 3:51:14 AM
Surr: BFB	102	66.6-105		%Rec	1	4/4/2020 3:51:14 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.023		mg/Kg	1	4/4/2020 3:51:14 AM
Toluene	ND	0.047		mg/Kg	1	4/4/2020 3:51:14 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/4/2020 3:51:14 AM
Xylenes, Total	ND	0.094		mg/Kg	1	4/4/2020 3:51:14 AM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/4/2020 3:51:14 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	7700	300		mg/Kg	100	4/3/2020 11:45:53 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2003C64**
Date Reported: **4/6/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy **Client Sample ID:** SW 2
Project: Shaqtus 26 State Com 1H **Collection Date:** 3/26/2020 2:40:00 PM
Lab ID: 2003C64-009 **Matrix:** SOIL **Received Date:** 3/28/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	28	9.7		mg/Kg	1	4/1/2020 5:49:34 PM
Motor Oil Range Organics (MRO)	66	49		mg/Kg	1	4/1/2020 5:49:34 PM
Surr: DNOP	75.8	55.1-146		%Rec	1	4/1/2020 5:49:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/4/2020 4:15:04 AM
Surr: BFB	97.8	66.6-105		%Rec	1	4/4/2020 4:15:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2020 4:15:04 AM
Toluene	ND	0.050		mg/Kg	1	4/4/2020 4:15:04 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/4/2020 4:15:04 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/4/2020 4:15:04 AM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	4/4/2020 4:15:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	17000	600		mg/Kg	200	4/3/2020 11:58:13 PM

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C64**
06-Apr-20

Client: Devon Energy
Project: Shaqtus 26 State Com 1H

Sample ID: **MB-51492**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51492**	RunNo: **67782**							
Prep Date: **4/1/2020**	Analysis Date: **4/2/2020**	SeqNo: **2341201**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51492**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51492**	RunNo: **67782**							
Prep Date: **4/1/2020**	Analysis Date: **4/2/2020**	SeqNo: **2341202**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Sample ID: **MB-51509**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51509**	RunNo: **67778**							
Prep Date: **4/2/2020**	Analysis Date: **4/2/2020**	SeqNo: **2342104**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51509**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51509**	RunNo: **67778**							
Prep Date: **4/2/2020**	Analysis Date: **4/2/2020**	SeqNo: **2342105**	Units: **mg/Kg**						
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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C64**
06-Apr-20

Client: Devon Energy
Project: Shaqtus 26 State Com 1H

Sample ID: **LCS-51419**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51419**	RunNo: **67718**							
Prep Date: **3/30/2020**	Analysis Date: **3/31/2020**	SeqNo: **2339279**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.8		5.000		75.9	55.1	146			

Sample ID: **MB-51419**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51419**	RunNo: **67718**							
Prep Date: **3/30/2020**	Analysis Date: **3/31/2020**	SeqNo: **2339280**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		95.3	55.1	146			

Sample ID: **MB-51432**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51432**	RunNo: **67718**							
Prep Date: **3/31/2020**	Analysis Date: **4/2/2020**	SeqNo: **2340291**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		95.7	55.1	146			

Sample ID: **LCS-51432**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51432**	RunNo: **67768**							
Prep Date: **3/31/2020**	Analysis Date: **4/1/2020**	SeqNo: **2340345**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.5	70	130			
Surr: DNOP	3.7		5.000		74.1	55.1	146			

Sample ID: **LCS-51460**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51460**	RunNo: **67718**							
Prep Date: **3/31/2020**	Analysis Date: **4/2/2020**	SeqNo: **2341419**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		100	55.1	146			

Sample ID: **MB-51460**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51460**	RunNo: **67718**							
Prep Date: **3/31/2020**	Analysis Date: **4/2/2020**	SeqNo: **2341420**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		113	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C64**
06-Apr-20

Client: Devon Energy
Project: Shaqtus 26 State Com 1H

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **G67819**	RunNo: **67819**							
Prep Date:	Analysis Date: **4/3/2020**	SeqNo: **2342508**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		110	66.6	105			S

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **G67819**	RunNo: **67819**							
Prep Date:	Analysis Date: **4/3/2020**	SeqNo: **2342518**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		109	66.6	105			S

Sample ID: **lcs-51420**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **51420**	RunNo: **67819**							
Prep Date: **3/30/2020**	Analysis Date: **4/3/2020**	SeqNo: **2343527**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.6	80	120			
Surr: BFB	1100		1000		109	66.6	105			S

Sample ID: **mb-51420**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **51420**	RunNo: **67819**							
Prep Date: **3/30/2020**	Analysis Date: **4/3/2020**	SeqNo: **2343529**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.6	66.6	105			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003C64**
06-Apr-20

Client: Devon Energy
Project: Shaqtus 26 State Com 1H

Sample ID: **100ng btex lcs** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **R67819** RunNo: **67819**
Prep Date: Analysis Date: **4/3/2020** SeqNo: **2342520** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **R67819** RunNo: **67819**
Prep Date: Analysis Date: **4/3/2020** SeqNo: **2342530** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		114	80	120			

Sample ID: **LCS-51420** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **51420** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/3/2020** SeqNo: **2343576** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.4	80	120			
Toluene	0.95	0.050	1.000	0	95.2	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.0	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID: **mb-51420** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **51420** RunNo: **67819**
Prep Date: **3/30/2020** Analysis Date: **4/3/2020** SeqNo: **2343578** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: DEVON ENERGY Work Order Number: 2003C64 RcptNo: 1

Received By: **Erin Melendrez** 3/28/2020 8:15:00 AM

Completed By: **Erin Melendrez** 3/28/2020 3:11:15 PM

Reviewed By: JR 3/30/20.

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: DAD 3/30/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	Good				
2	5.0	Good				

Chain-of-Custody Record

Client: Devon Energy

Mailing Address: ON FILE

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 DAY TAT
☒ Standard ☐ Rush

Project Name: Shaqtus 26 State Com 1H

Project #: 20715694

Project Manager: Natalie Gordon

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 2.9-0.2(CF)=2.7 (°C)
5.2-0.2(CF)=5.0°C

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)					
3/26/2020	11:15	Soil	FPS 1	4oz jar	ICE	2003C64-001	X	X					X								
"	11:20	"	FPS 2	"	"	-002	X	X					X								
"	11:31	"	FPS 3	"	"	-003	X	X					X								
"	11:44	"	FPS 4	"	"	-004	X	X					X								
"	12:15	"	FPS 5	"	"	-005	X	X					X								
"	12:30	"	FPS 6	"	"	-006	X	X					X								
"	12:40	"	FPS 7	"	"	-007	X	X					X								
"	2:30	"	SW1	"	"	-008	X	X					X								
"	2:40	"	SW2	"	"	-009	X	X					X								

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3/27/20	9:45	Kevin Smith	[illegible]		3/27	1345
3/27	1900	[illegible]	[illegible]	Courier	3/28/20	0815

Remarks: cc Natalie Gordon; ngordon@vertex.

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 13, 2020

Amanda Davis

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

RE: Shaqtus 26 State Com 01H OrderNo.: 2010219

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 15 sample(s) on 10/6/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-001 **Matrix:** SOIL

Client Sample ID: BS20-01 1'
Collection Date: 10/3/2020 12:20:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	10/7/2020 12:18:52 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/7/2020 12:18:52 PM
Surr: DNOP	127	30.4-154		%Rec	1	10/7/2020 12:18:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	68	60		mg/Kg	20	10/12/2020 3:06:03 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/7/2020 8:34:30 PM
Toluene	ND	0.049		mg/Kg	1	10/7/2020 8:34:30 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/7/2020 8:34:30 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/7/2020 8:34:30 PM
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%Rec	1	10/7/2020 8:34:30 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/7/2020 8:34:30 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	10/7/2020 8:34:30 PM
Surr: Toluene-d8	99.4	70-130		%Rec	1	10/7/2020 8:34:30 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/7/2020 8:34:30 PM
Surr: BFB	101	70-130		%Rec	1	10/7/2020 8:34:30 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-002 **Matrix:** SOIL

Client Sample ID: BS20-02 1'
Collection Date: 10/3/2020 12:25:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/7/2020 12:28:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2020 12:28:35 PM
Surr: DNOP	138	30.4-154		%Rec	1	10/7/2020 12:28:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	370	60		mg/Kg	20	10/12/2020 3:43:17 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/7/2020 9:03:08 PM
Toluene	ND	0.047		mg/Kg	1	10/7/2020 9:03:08 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/7/2020 9:03:08 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/7/2020 9:03:08 PM
Surr: 1,2-Dichloroethane-d4	89.5	70-130		%Rec	1	10/7/2020 9:03:08 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/7/2020 9:03:08 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	10/7/2020 9:03:08 PM
Surr: Toluene-d8	103	70-130		%Rec	1	10/7/2020 9:03:08 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/7/2020 9:03:08 PM
Surr: BFB	107	70-130		%Rec	1	10/7/2020 9:03:08 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-003 **Matrix:** SOIL

Client Sample ID: BS20-03 1'
Collection Date: 10/3/2020 12:30:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/7/2020 12:38:20 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2020 12:38:20 PM
Surr: DNOP	131	30.4-154		%Rec	1	10/7/2020 12:38:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	250	60		mg/Kg	20	10/12/2020 3:55:41 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/9/2020 4:09:57 AM
Toluene	ND	0.048		mg/Kg	1	10/9/2020 4:09:57 AM
Ethylbenzene	ND	0.048		mg/Kg	1	10/9/2020 4:09:57 AM
Xylenes, Total	ND	0.097		mg/Kg	1	10/9/2020 4:09:57 AM
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	10/9/2020 4:09:57 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/9/2020 4:09:57 AM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	10/9/2020 4:09:57 AM
Surr: Toluene-d8	103	70-130		%Rec	1	10/9/2020 4:09:57 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/10/2020 3:58:16 AM
Surr: BFB	107	70-130		%Rec	1	10/10/2020 3:58:16 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-004 **Matrix:** SOIL

Client Sample ID: BS20-04 1'
Collection Date: 10/3/2020 12:35:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/7/2020 12:48:05 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/7/2020 12:48:05 PM
Surr: DNOP	128	30.4-154		%Rec	1	10/7/2020 12:48:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	59		mg/Kg	20	10/12/2020 4:08:05 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	10/9/2020 4:38:32 AM
Toluene	ND	0.050		mg/Kg	1	10/9/2020 4:38:32 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/9/2020 4:38:32 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/9/2020 4:38:32 AM
Surr: 1,2-Dichloroethane-d4	90.6	70-130		%Rec	1	10/9/2020 4:38:32 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	10/9/2020 4:38:32 AM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	10/9/2020 4:38:32 AM
Surr: Toluene-d8	101	70-130		%Rec	1	10/9/2020 4:38:32 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/10/2020 4:26:51 AM
Surr: BFB	100	70-130		%Rec	1	10/10/2020 4:26:51 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-005 **Matrix:** SOIL

Client Sample ID: BS20-05 1'
Collection Date: 10/3/2020 12:40:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/7/2020 1:27:06 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2020 1:27:06 PM
Surr: DNOP	140	30.4-154		%Rec	1	10/7/2020 1:27:06 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	150	60		mg/Kg	20	10/12/2020 4:45:19 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	10/8/2020 1:19:42 AM
Toluene	ND	0.050		mg/Kg	1	10/8/2020 1:19:42 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/8/2020 1:19:42 AM
Xylenes, Total	ND	0.099		mg/Kg	1	10/8/2020 1:19:42 AM
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%Rec	1	10/8/2020 1:19:42 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	10/8/2020 1:19:42 AM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	10/8/2020 1:19:42 AM
Surr: Toluene-d8	101	70-130		%Rec	1	10/8/2020 1:19:42 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/8/2020 1:19:42 AM
Surr: BFB	104	70-130		%Rec	1	10/8/2020 1:19:42 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-006 **Matrix:** SOIL

Client Sample ID: BS20-06 1'
Collection Date: 10/3/2020 12:45:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/7/2020 1:56:52 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/7/2020 1:56:52 PM
Surr: DNOP	165	30.4-154	S	%Rec	1	10/7/2020 1:56:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	690	59		mg/Kg	20	10/12/2020 4:57:43 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.023		mg/Kg	1	10/8/2020 2:45:27 AM
Toluene	ND	0.046		mg/Kg	1	10/8/2020 2:45:27 AM
Ethylbenzene	ND	0.046		mg/Kg	1	10/8/2020 2:45:27 AM
Xylenes, Total	ND	0.092		mg/Kg	1	10/8/2020 2:45:27 AM
Surr: 1,2-Dichloroethane-d4	95.3	70-130		%Rec	1	10/8/2020 2:45:27 AM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/8/2020 2:45:27 AM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	10/8/2020 2:45:27 AM
Surr: Toluene-d8	103	70-130		%Rec	1	10/8/2020 2:45:27 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/8/2020 2:45:27 AM
Surr: BFB	104	70-130		%Rec	1	10/8/2020 2:45:27 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-07 1'
Project: Shaqtus 26 State Com 01H
Collection Date: 10/3/2020 12:50:00 PM
Lab ID: 2010219-007 **Matrix:** SOIL
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	10/7/2020 2:06:45 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/7/2020 2:06:45 PM
Surr: DNOP	106	30.4-154		%Rec	1	10/7/2020 2:06:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	140	60		mg/Kg	20	10/12/2020 5:10:08 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/8/2020 4:11:14 AM
Toluene	ND	0.049		mg/Kg	1	10/8/2020 4:11:14 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/8/2020 4:11:14 AM
Xylenes, Total	ND	0.097		mg/Kg	1	10/8/2020 4:11:14 AM
Surr: 1,2-Dichloroethane-d4	91.2	70-130		%Rec	1	10/8/2020 4:11:14 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/8/2020 4:11:14 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	10/8/2020 4:11:14 AM
Surr: Toluene-d8	104	70-130		%Rec	1	10/8/2020 4:11:14 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/8/2020 4:11:14 AM
Surr: BFB	106	70-130		%Rec	1	10/8/2020 4:11:14 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-008 **Matrix:** SOIL

Client Sample ID: BS20-08 1'
Collection Date: 10/3/2020 12:55:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/7/2020 2:16:40 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2020 2:16:40 PM
Surr: DNOP	187	30.4-154	S	%Rec	1	10/7/2020 2:16:40 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	87	60		mg/Kg	20	10/12/2020 5:22:33 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.023		mg/Kg	1	10/8/2020 4:39:48 AM
Toluene	ND	0.047		mg/Kg	1	10/8/2020 4:39:48 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/8/2020 4:39:48 AM
Xylenes, Total	ND	0.094		mg/Kg	1	10/8/2020 4:39:48 AM
Surr: 1,2-Dichloroethane-d4	87.5	70-130		%Rec	1	10/8/2020 4:39:48 AM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	10/8/2020 4:39:48 AM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	10/8/2020 4:39:48 AM
Surr: Toluene-d8	98.9	70-130		%Rec	1	10/8/2020 4:39:48 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/8/2020 4:39:48 AM
Surr: BFB	104	70-130		%Rec	1	10/8/2020 4:39:48 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-09 1'
Project: Shaqtus 26 State Com 01H
Collection Date: 10/3/2020 1:00:00 PM
Lab ID: 2010219-009 **Matrix:** SOIL
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/7/2020 2:26:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2020 2:26:35 PM
Surr: DNOP	154	30.4-154	S	%Rec	1	10/7/2020 2:26:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	160	59		mg/Kg	20	10/12/2020 5:34:58 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/8/2020 5:08:21 AM
Toluene	ND	0.047		mg/Kg	1	10/8/2020 5:08:21 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/8/2020 5:08:21 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/8/2020 5:08:21 AM
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	10/8/2020 5:08:21 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/8/2020 5:08:21 AM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	10/8/2020 5:08:21 AM
Surr: Toluene-d8	101	70-130		%Rec	1	10/8/2020 5:08:21 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/8/2020 5:08:21 AM
Surr: BFB	103	70-130		%Rec	1	10/8/2020 5:08:21 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-010 **Matrix:** SOIL

Client Sample ID: BS20-10 1'
Collection Date: 10/3/2020 1:05:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/7/2020 2:36:26 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/7/2020 2:36:26 PM
Surr: DNOP	154	30.4-154	S	%Rec	1	10/7/2020 2:36:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	10/12/2020 5:47:23 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/8/2020 8:05:32 PM
Toluene	ND	0.048		mg/Kg	1	10/8/2020 8:05:32 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/8/2020 8:05:32 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/8/2020 8:05:32 PM
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	10/8/2020 8:05:32 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/8/2020 8:05:32 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	10/8/2020 8:05:32 PM
Surr: Toluene-d8	104	70-130		%Rec	1	10/8/2020 8:05:32 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/8/2020 8:05:32 PM
Surr: BFB	106	70-130		%Rec	1	10/8/2020 8:05:32 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-011 **Matrix:** SOIL

Client Sample ID: BS20-11 1'
Collection Date: 10/3/2020 1:10:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/7/2020 2:46:17 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/7/2020 2:46:17 PM
Surr: DNOP	146	30.4-154		%Rec	1	10/7/2020 2:46:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	380	59		mg/Kg	20	10/12/2020 5:59:47 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/8/2020 8:34:07 PM
Toluene	ND	0.047		mg/Kg	1	10/8/2020 8:34:07 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/8/2020 8:34:07 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/8/2020 8:34:07 PM
Surr: 1,2-Dichloroethane-d4	92.6	70-130		%Rec	1	10/8/2020 8:34:07 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/8/2020 8:34:07 PM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	10/8/2020 8:34:07 PM
Surr: Toluene-d8	101	70-130		%Rec	1	10/8/2020 8:34:07 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/8/2020 8:34:07 PM
Surr: BFB	104	70-130		%Rec	1	10/8/2020 8:34:07 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-012 **Matrix:** SOIL

Client Sample ID: WS20-01 0-1'
Collection Date: 10/3/2020 1:15:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	10/7/2020 2:56:07 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/7/2020 2:56:07 PM
Surr: DNOP	141	30.4-154		%Rec	1	10/7/2020 2:56:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	10/12/2020 6:12:12 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	10/8/2020 9:02:42 PM
Toluene	ND	0.050		mg/Kg	1	10/8/2020 9:02:42 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/8/2020 9:02:42 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/8/2020 9:02:42 PM
Surr: 1,2-Dichloroethane-d4	95.1	70-130		%Rec	1	10/8/2020 9:02:42 PM
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	10/8/2020 9:02:42 PM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	10/8/2020 9:02:42 PM
Surr: Toluene-d8	99.3	70-130		%Rec	1	10/8/2020 9:02:42 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/8/2020 9:02:42 PM
Surr: BFB	97.9	70-130		%Rec	1	10/8/2020 9:02:42 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-013 **Matrix:** SOIL

Client Sample ID: WS20-02 0-1'
Collection Date: 10/3/2020 1:20:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/7/2020 3:05:57 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2020 3:05:57 PM
Surr: DNOP	147	30.4-154		%Rec	1	10/7/2020 3:05:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	84	60		mg/Kg	20	10/12/2020 7:14:15 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.023		mg/Kg	1	10/8/2020 9:31:12 PM
Toluene	ND	0.046		mg/Kg	1	10/8/2020 9:31:12 PM
Ethylbenzene	ND	0.046		mg/Kg	1	10/8/2020 9:31:12 PM
Xylenes, Total	ND	0.092		mg/Kg	1	10/8/2020 9:31:12 PM
Surr: 1,2-Dichloroethane-d4	96.9	70-130		%Rec	1	10/8/2020 9:31:12 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/8/2020 9:31:12 PM
Surr: Dibromofluoromethane	111	70-130		%Rec	1	10/8/2020 9:31:12 PM
Surr: Toluene-d8	98.8	70-130		%Rec	1	10/8/2020 9:31:12 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/8/2020 9:31:12 PM
Surr: BFB	102	70-130		%Rec	1	10/8/2020 9:31:12 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-014 **Matrix:** SOIL

Client Sample ID: WS20-03 0-1'
Collection Date: 10/3/2020 1:25:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/7/2020 3:15:46 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2020 3:15:46 PM
Surr: DNOP	138	30.4-154		%Rec	1	10/7/2020 3:15:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	240	60		mg/Kg	20	10/12/2020 7:26:40 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/8/2020 9:59:41 PM
Toluene	ND	0.047		mg/Kg	1	10/8/2020 9:59:41 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/8/2020 9:59:41 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/8/2020 9:59:41 PM
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%Rec	1	10/8/2020 9:59:41 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/8/2020 9:59:41 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	10/8/2020 9:59:41 PM
Surr: Toluene-d8	97.0	70-130		%Rec	1	10/8/2020 9:59:41 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/8/2020 9:59:41 PM
Surr: BFB	103	70-130		%Rec	1	10/8/2020 9:59:41 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2010219**
Date Reported: **10/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shaqtus 26 State Com 01H
Lab ID: 2010219-015 **Matrix:** SOIL

Client Sample ID: WS20-04 0-1'
Collection Date: 10/3/2020 1:30:00 PM
Received Date: 10/6/2020 8:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/7/2020 3:25:35 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/7/2020 3:25:35 PM
Surr: DNOP	132	30.4-154		%Rec	1	10/7/2020 3:25:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	96	60		mg/Kg	20	10/12/2020 7:39:04 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	10/8/2020 10:28:05 PM
Toluene	ND	0.049		mg/Kg	1	10/8/2020 10:28:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/8/2020 10:28:05 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/8/2020 10:28:05 PM
Surr: 1,2-Dichloroethane-d4	93.3	70-130		%Rec	1	10/8/2020 10:28:05 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/8/2020 10:28:05 PM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	10/8/2020 10:28:05 PM
Surr: Toluene-d8	104	70-130		%Rec	1	10/8/2020 10:28:05 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/8/2020 10:28:05 PM
Surr: BFB	104	70-130		%Rec	1	10/8/2020 10:28:05 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010219**

13-Oct-20

Client: Devon Energy

Project: Shaqtus 26 State Com 01H

Sample ID: **MB-55772** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **55772** RunNo: **72606**

Prep Date: **10/12/2020** Analysis Date: **10/12/2020** SeqNo: **2549424** Units: **mg/Kg**

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

Sample ID: **LCS-55772** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **55772** RunNo: **72606**

Prep Date: **10/12/2020** Analysis Date: **10/12/2020** SeqNo: **2549425** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.9	90	110			

Sample ID: **MB-55789** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **55789** RunNo: **72606**

Prep Date: **10/12/2020** Analysis Date: **10/12/2020** SeqNo: **2549456** Units: **mg/Kg**

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

Sample ID: **LCS-55789** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **55789** RunNo: **72606**

Prep Date: **10/12/2020** Analysis Date: **10/12/2020** SeqNo: **2549457** 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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010219**
13-Oct-20

Client: Devon Energy
Project: Shaqtus 26 State Com 01H

Sample ID: **2010219-005AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-05 1'** Batch ID: **55683** RunNo: **72464**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2542990** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	9.8	49.07	0	115	15	184			
Surr: DNOP	6.1		4.907		124	30.4	154			

Sample ID: **2010219-005AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-05 1'** Batch ID: **55683** RunNo: **72464**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2542991** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	9.5	47.57	0	113	15	184	4.80	23.9	
Surr: DNOP	5.8		4.757		121	30.4	154	0	0	

Sample ID: **LCS-55670** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **55670** RunNo: **72464**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2542994** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	117	70	130			
Surr: DNOP	6.3		5.000		125	30.4	154			

Sample ID: **MB-55670** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **55670** RunNo: **72464**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2542996** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		131	30.4	154			

Sample ID: **MB-55683** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **55683** RunNo: **72464**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2542997** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	14		10.00		137	30.4	154			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010219**
13-Oct-20

Client: Devon Energy
Project: Shaqtus 26 State Com 01H

Sample ID: **LCS-55683** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **55683** RunNo: **72458**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2543939** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	111	70	130			
Surr: DNOP	5.9		5.000		118	30.4	154			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010219**
13-Oct-20

Client: Devon Energy
Project: Shaqtus 26 State Com 01H

Sample ID: **lcs-55665** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **55665** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2544439** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.1	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.2	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		103	70	130			
Surr: Toluene-d8	0.50		0.5000		99.6	70	130			

Sample ID: **mb-55665** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **55665** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2544440** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.9	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.49		0.5000		98.5	70	130			

Sample ID: **lcs-55678** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2544454** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.2	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.7	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.57		0.5000		114	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID: **mb-55678** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/8/2020** SeqNo: **2544455** Units: **mg/Kg**

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010219**
13-Oct-20

Client: Devon Energy
Project: Shaqtus 26 State Com 01H

Sample ID: **mb-55678** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/8/2020** SeqNo: **2544455** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		93.0	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			

Sample ID: **2010219-006ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-06 1'** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/8/2020** SeqNo: **2544460** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9775	0	92.2	71.1	115			
Toluene	1.1	0.049	0.9775	0	110	79.6	132			
Ethylbenzene	1.1	0.049	0.9775	0	111	83.8	134			
Xylenes, Total	3.5	0.098	2.933	0	121	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.44		0.4888		90.2	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.4888		104	70	130			
Surr: Dibromofluoromethane	0.48		0.4888		98.1	70	130			
Surr: Toluene-d8	0.52		0.4888		106	70	130			

Sample ID: **2010219-006amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-06 1'** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/8/2020** SeqNo: **2544461** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.024	0.9794	0	95.5	71.1	115	3.69	20	
Toluene	1.0	0.049	0.9794	0	105	79.6	132	4.71	20	
Ethylbenzene	1.0	0.049	0.9794	0	107	83.8	134	3.61	20	
Xylenes, Total	3.3	0.098	2.938	0	111	82.4	132	8.25	20	
Surr: 1,2-Dichloroethane-d4	0.46		0.4897		93.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.50		0.4897		102	70	130	0	0	
Surr: Dibromofluoromethane	0.52		0.4897		107	70	130	0	0	
Surr: Toluene-d8	0.48		0.4897		97.9	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010219**
13-Oct-20

Client: Devon Energy
Project: Shaqtus 26 State Com 01H

Sample ID: **lcs-55665** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **55665** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2544467** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.8	70	130			
Surr: BFB	510		500.0		101	70	130			

Sample ID: **mb-55665** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **55665** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2544468** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		102	70	130			

Sample ID: **lcs-55678** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/7/2020** SeqNo: **2544484** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.8	70	130			
Surr: BFB	520		500.0		104	70	130			

Sample ID: **mb-55678** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/8/2020** SeqNo: **2544485** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		102	70	130			

Sample ID: **2010219-005ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-05 1'** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/8/2020** SeqNo: **2544487** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.73	0	92.1	49.2	122			
Surr: BFB	500		494.6		102	70	130			

Sample ID: **2010219-005amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-05 1'** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/8/2020** SeqNo: **2544488** Units: **mg/Kg**

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010219**
13-Oct-20

Client: Devon Energy
Project: Shaqtus 26 State Com 01H

Sample ID: **2010219-005amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-05 1'** Batch ID: **55678** RunNo: **72492**
Prep Date: **10/6/2020** Analysis Date: **10/8/2020** SeqNo: **2544488** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	24.04	0	88.9	49.2	122	6.36	20	
Surr: BFB	480		480.8		100	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy Work Order Number: 2010219 RcptNo: 1

Received By: **Juan Rojas** 10/6/2020 8:03:00 AM

Completed By: **Juan Rojas** 10/6/2020 8:43:33 AM

Reviewed By: JR 10/6/20

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: CM 10/6/20

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good				
2	1.6	Good				

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Devon Energy

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day Turn

☒ Standard ☐ Rush

Project Name: Shaqtus 26 State Com #01H

Project #: 20715694 20E-00141-036

Project Manager: Natalie Gordon

Sampler: Kevin Smith

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 2.0 -0 =2.0 (°C)

1.6 -0 =1.6

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2010219
10/03/20	12:20	Soil	BS20-01 1'	4oz jar	~~4 oz jar~~ ICE	-001
	12:25		BS20-02 1'			-002
	12:30		BS20-03 1'			-003
	12:35		BS20-04 1'			-004
	12:40		BS20-05 1'			-005
	12:45		BS20-06 1'			-006
	12:50		BS20-07 1'			-007
	12:55		BS20-08 1'			-008
	1:00		BS20-09 1'			-009
	1:05		BS20-10 1'			-010
	1:10		BS20-11 1'			-011
	1:15		WS20-01 0-1'			-012

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
10/5/20	13:00	Kevin Smith			10/5/20	1300
10/5/20	1900			courier	10/6/20	8:03

Remarks:

cc Natalie Gordon

Bill Devon Energy

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

Chain-of-Custody Record

Client: Devon Energy

Mailing Address: on file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day Turn
☒ Standard ☐ Rush

Project Name: Shaqtus 26 State Com #01H

Project #: 2071564

Project Manager: Natalie Gordon

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 2.0-0=2.0 (°C)

1.6-0=1.6

HEAL No. 2010219

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/03/20	1:20	soil	WS20-02 0-1'	4oz jar	ICE	-013	X	X					X			
"	1:25	"	WS20-03 0-1'	"	"	-014	"	"					"			
"	1:30	"	WS20-04 0-1'	"	"	-015	"	"					"			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/5/20	13:00	Kevin Smith			10/5/20	1300
10/5/20	1900			courier	10/6/20	8:03

Remarks:
cc Natalie Gordon
Bill Devon Energy

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 30, 2020

Amanda Davis

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX

RE: Shagtu 526 State Com 1H OrderNo.: 2010B14

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/23/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2010B14**
Date Reported: **10/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Shagtu 526 State Com 1H
Lab ID: 2010B14-001 **Matrix:** SOIL

Client Sample ID: BS20-06 1'
Collection Date: 10/14/2020 12:00:00 PM
Received Date: 10/23/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/26/2020 2:32:37 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/26/2020 2:32:37 PM
Surr: DNOP	88.6	30.4-154		%Rec	1	10/26/2020 2:32:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	96	60		mg/Kg	20	10/29/2020 10:41:03 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	10/25/2020 6:01:47 AM
Toluene	ND	0.049		mg/Kg	1	10/25/2020 6:01:47 AM
Ethylbenzene	ND	0.049		mg/Kg	1	10/25/2020 6:01:47 AM
Xylenes, Total	ND	0.099		mg/Kg	1	10/25/2020 6:01:47 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	10/25/2020 6:01:47 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/25/2020 6:01:47 AM
Surr: Dibromofluoromethane	111	70-130		%Rec	1	10/25/2020 6:01:47 AM
Surr: Toluene-d8	101	70-130		%Rec	1	10/25/2020 6:01:47 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/25/2020 6:01:47 AM
Surr: BFB	88.9	70-130		%Rec	1	10/25/2020 6:01:47 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B14**

30-Oct-20

Client: Devon Energy

Project: Shagtu 526 State Com 1H

Sample ID: **MB-56097**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **56097**	RunNo: **73010**							
Prep Date: **10/29/2020**	Analysis Date: **10/29/2020**	SeqNo: **2567071**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56097**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **56097**	RunNo: **73010**							
Prep Date: **10/29/2020**	Analysis Date: **10/29/2020**	SeqNo: **2567073**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B14**

30-Oct-20

Client: Devon Energy

Project: Shagtu 526 State Com 1H

Sample ID: **LCS-56014** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **56014** RunNo: **72917**

Prep Date: **10/24/2020** Analysis Date: **10/26/2020** SeqNo: **2563396** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	70	130			
Surr: DNOP	5.3		5.000		106	30.4	154			

Sample ID: **MB-56014** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **56014** RunNo: **72917**

Prep Date: **10/24/2020** Analysis Date: **10/26/2020** SeqNo: **2563397** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		105	30.4	154			

Sample ID: **LCS-56030** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **56030** RunNo: **72933**

Prep Date: **10/26/2020** Analysis Date: **10/27/2020** SeqNo: **2565384** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.3	30.4	154			

Sample ID: **MB-56030** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **56030** RunNo: **72933**

Prep Date: **10/26/2020** Analysis Date: **10/27/2020** SeqNo: **2565385** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		90.5	30.4	154			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B14**
30-Oct-20

Client: Devon Energy
Project: Shagtu 526 State Com 1H

Sample ID: **mb-56003** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **56003** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562554** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.1	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID: **lcs-56003** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **56003** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562555** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.4	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.9	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B14**
30-Oct-20

Client: Devon Energy
Project: Shagtu 526 State Com 1H

Sample ID: **mb-56003**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **56003**	RunNo: **72903**
Prep Date: **10/23/2020**	Analysis Date: **10/25/2020**	SeqNo: **2562591** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	450		500.0		89.3	70	130			

Sample ID: **lcs-56003**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **56003**	RunNo: **72903**
Prep Date: **10/23/2020**	Analysis Date: **10/25/2020**	SeqNo: **2562592** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.4	70	130			
Surr: BFB	440		500.0		88.5	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Devon Energy** Work Order Number: **2010B14** RcptNo: 1

Received By: **Cheyenne Cason** **10/23/2020 8:00:00 AM**

Completed By: **Desiree Dominguez** **10/23/2020 8:44:04 AM** DD

Reviewed By: SPA 10.23.20

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☑	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑ Not Frozen	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 ☑	# of preserved bottles checked for pH: (<2 or >12 unless noted)
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 ☐	Adjusted?
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 ☐	Checked by: JR 10/23/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good	Not Present			
2	4.0	Good	Not Present			
3	-0.6	Good	Not Present			

Chain-of-Custody Record

Client: Devon Energy on file

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day TAT
☑ Standard ☐ Rush

Project Name: Shaqtus26 State Com 1H

Project #: 20715694
20E-00141-

Project Manager: Natalie Gordon

Sampler: Kevin Smith

On Ice: ☑ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): Sea Band (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2010B14	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/14/20	12:00	Soil	BS20-06 1'	4 oz jar	ICE	-001	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/22/20	1200				10/22/20	1200
10/22/20	1900				10/23/20	0800

Remarks:
0.2 ± 0 = 0.2
4.0 ± 0 = 4.0
-0.6 ± 0 = -0.6
Samples not frozen
cc Natalie Gordon
Direct Bill Devon

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

ATTACHMENT 7

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Wednesday, September 30, 2020 2:24 PM
To: Natalie Gordon
Subject: Fwd: NAB1819142828: Shaqtus 26 State Com 1H - 48-hr Notification of Confirmation Sampling

---------- Forwarded message ---------
From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Wed, Sep 30, 2020 at 2:23 PM
Subject: NAB1819142828: Shaqtus 26 State Com 1H - 48-hr Notification of Confirmation Sampling
To: <OCD.Enviro@state.nm.us>, <spills@slo.state.nm.us>, <tom.bynum@dvn.com>, <amanda.davis@dvn.com>, <wesley.mathews@dvn.com>, <Lupe.Carrasco@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services Inc. has scheduled remediation activities and confirmatory sampling to be conducted at Shaqtus 26 State Com 1H for the following open release:

NAB1819142828 - DOR: June 21, 2018

On Friday, October 2, 2020 at approximately 9 a.m., Kevin Smith of Vertex will be onsite to guide final remediation activities. As those activities finish up around approximately 1:00 p.m., Kevin will conduct confirmatory sampling. He can be reached at 575-988-0871. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

Natalie Gordon
Project Manager

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

P 575.725.5001 ext 709
C 505.506.0040
F

www.vertex.ca

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 11329

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
DEVON ENERGY PRODUCTION COMPAN	333 West Sheridan Ave.	Oklahoma City, OK73102	6137	11329	C-141

OCD Reviewer	Condition
ceads	None